From: Sol Bobst
To: Knott, Steven
Subject: <self nomination Sol Bobst> EPA Seeks Nominations for Science Advisory Committee on Chemicals
Date: Thursday, March 19, 2020 3:57:06 PM
Attachments: BOBST Business Long CV February 2020.pdf
TSCA Compliance Presentation FINAL 02052020.pptm

Steven Knott, EPA

I self-nominate.
See CV attached.
Let me know any additional information / forms etc I can provide.
References available upon request.
Also attached is recent Webinar I gave on TSCA to a global reg chem audience.
Editor of Book on Risk Assessment.

Thank you for sharing this nomination opportunity.
Stay Safe and Healthy

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From: U.S. EPA Office of Chemical Safety and Pollution Prevention <oppt.epa@public.govdelivery.com>
Sent: Thursday, March 19, 2020 1:39 PM
To: Sol Bobst <Sol@toxsciadvisors.com>
Subject: EPA Seeks Nominations for Science Advisory Committee on Chemicals

EPA Seeks Nominations for Science Advisory Committee on Chemicals

EPA is announcing its request for nominations of candidates for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Nominations are

due no later than April 20, 2020. Any interested person or organization may nominate qualified persons to be considered for appointment to the SACC. Individuals also may self-nominate. Further details of information to be included in a nomination are provided in the March 20, 2020, Federal Register Notice in docket EPA-HQ-OPPT-2020-0135. The preferred method for submitting nominations is via email to Steven Knott, the SACC's Designated Federal Officer (knott.steven@epa.gov).

The agency is seeking nominations for individuals who have demonstrated high levels of expertise in scientific/technical fields relevant to chemical safety and risk assessment including, but not limited to: human health and ecological risk assessment, biostatistics, epidemiology, pediatrics, physiologically-based pharmacokinetics, toxicology and pathology, and the relationship of chemical exposures to women, children, and other potentially exposed or susceptible subpopulations.

In addition, nominees should have backgrounds and experiences that would contribute to the diversity of scientific viewpoints on the committee, including professional experiences in government, labor, public health, public interest, animal protection, industry, and other groups, as the EPA Administrator determines to be advisable (e.g., geographical location; social and cultural backgrounds; and professional affiliations).

The TSCA SACC serves as a primary scientific peer review mechanism of EPA's Office of Chemical Safety and Pollution Prevention and is structured to provide independent scientific advice and recommendations to EPA on the scientific basis for risk assessments, methodologies, and pollution prevention measures and approaches for chemicals regulated under the Toxic Substances Control Act.

For more information on the TSCA SACC, visit: https://www.epa.gov/tsca-peer-review

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This email was sent to sol@toxsciadvisors.com using GovDelivery Communications Cloud on behalf of: U.S. EPA Office of Chemical Safety and Pollution Prevention · 707 17th St, Suite 4000 · Denver, CO 80202 · 1-800-439-1420

Sol Bobst, PhD, DABT, MBA

2016 Main Suite #1901, Houston, Texas 77002, USA
e: (b) (6) @yahoo.com**; Cell:** (b) (6) **; Home:** (b) (6)
Office: 832-581-2686; **Fax**: 832-581-2587
LinkedIn: Sol Bobst, 8K MBA MS-EDE PhD DABT

Professional Profile

Dr. Bobst is a global business leader, consultant, and entrepreneur, whom has led, managed, and supervised several program development projects / consulting jobs to successful completion with positive feedback. He is currently President and Principal Advisor of ToxSci Advisors LLC; www.toxsciadvisors.com and President of Solar Ranch Development Company www.solaranchdev.com .

Dr. Bobst is a board-certified toxicologist with business expertise including an MBA and a Masters in Economic Development and Entrepreneurship at the University of Houston-Victoria. He is also a leading expert in Utility Scale Solar Project Development. Industrial career expertise is in HSSE, food safety, forensics, risk assessment, toxic tort litigation support, pharmaceutical drug and medical device approval, occupational toxicology (including hazard banding and ADI/PDE/ADE development) product safety & compliance professional 16 years of experience in environmental supply chain, petrochemical, upstream and downstream HSE safety and regulatory compliance. He has been a contributing author or editor several books also published a book as a co-editor with Springer Publishing, titled “Toxicological Risk Assessment for Beginners.” Dr. Bobst has been a retained expert in over 25 forensic and toxic tort legal cases, including being deposed twice and in court testimony, as an expert witness. He is an enthusiastic mentor and has helped several mentees start successful careers. Dr. Bobst is passionate about using his work experience and interest in teaching to provide valuable training and education opportunities with Universities. Education, on the job and in the community, has always been important to him, as both of his parents were teachers.

Professional Skills

Utility Scale Solar Project (Solar Farm) Development
Toxicology, Exposure Assessment, Risk Assessment and Emergency Response
Environmental Modeling, Human and Environment
QSAR, Biological Modeling, Computational Toxicology
Forensic Laboratory / Forensic Toxicology / Analytical Chemistry / QA/QC Procedures
Leadership Management / Team Leadership
Product Stewardship, Regulatory Compliance in Global Chemical Regulations
Strategic Planning & Implementation, Management of Change. Project Management
Program Development, Cost Management, Scorecard Setup, Financial Ratio Analysis
Able to work with multiple disciplines and virtual work environments
Global / International Experience
Business Process Development & Enhancement
Business Planning / Strategic Marketing
Training employees in Regulatory, Product Stewardship, Hazard Communication
Knowledge Management
Effective communication of risk & scientific terminology
Legal Tort Advisement, Litigation Support, Expert Witness Services
Scientific problem solving
Use of social media in networking and business development
Report writing and oral presentations
Data Analysis
Technical and Detailed Project Work
Computer proficiency in Word Processing, Spreadsheets and Internet technologies
Strong business and organizational development skills
Able to leverage opportunities by working across organizational boundaries
Entrepreneurial with an ability to create new programs
Strong presentation and communication skills
Strong interpersonal, executive consulting and influencing skills
Ability to research and document findings and conclusions.
Ability to quickly understand the key business strategies and challenges and build a plan around for successful implementation.
Proven ability in working very effectively across virtual teams, ensuring stakeholder engagement and input to business management process.
Strong project and process management skills.
Broad business perspective and proven ability to generate key insights from experience, industry information resources, and key contacts.
Excellent analytical skills with proven skills in managing self and others across different organizational boundaries.

Key Areas

Toxicology & Risk Assessment
Regulatory Chemical Laws & Compliance
FDA Compliance
Forensic Analysis & Analytical Chemistry
Project Management
Program Development
Renewable Energy – Solar Energy
Oil & Gas, Upstream, Supply Chain, and Downstream
Food, Cosmetics, Drugs, Paints, Coatings, Adhesives, Solvents, and Plastics
Transportation
Entrepreneurship
Merger and Acquisitions, Business Viability Assessment, Business Models
Opportunity Assessment
Strategic Definition and Planning
Strategic Marketing
Corporate Accounting / Strategic Cost Management
Business Ethics / Corporate Social Responsibility
Economic Development, Local and Regional
Economic Development Finance
Economic Development Methods and Metrics

EPA Regulations, Environmental Management
Canadian, European, Asian Regulations
Risk Assessment Regulatory & Product Stewardship
- REACH Compliance, RoHS, Conflict Minerals, SVHC Reviews
- Canada CEPA, DSL, NSN Notifications, Health Canada Regulations, Environment Canada
- ACC – Responsible Care
- TSCA compliance / Monitoring TSCA Reform
- EPA HPV Testing Program / EPA IRIS Review, FIFRA, CDR,
- FDA - EFSA / cGMP Compliance; Food Safety, CMC, IND, NDA Applications
- CDC ATSDR Review
- ACGIH TLV / BEI Review

Education:

8/2010 – 5/2015
MBA University of Houston-Victoria GPA 3.63

·International Exchange Student; Central University of Finance & Economics. Beijing and Jinan, CHINA. July 2014

Master of Science in Economic Development and Entrepreneurship, University of Houston-Victoria,

·Capstone Project: Strategic Plan Implementation for Economic Alliance – Port of Houston.

8/1997 – 12/2003
Ph.D., Toxicology, Human and Molecular Genetics, University of Texas Health Science Center-Houston, 2003

·International Exchange Student, Imperial College London / Richmond College, London UK, Summer 1998.

8/1993 – 5/1997
B.A., Chemistry, Drake University *(magna cum laude*) University Honors

8/1989 – 5/1993
Diploma, Hastings Senior High School, Hastings, Nebraska, graduated 9th / 202

Professional Work History, Academic Appointments, and Teaching Experience

12/2016 – Present – President, Solar Ranch Development Company; Project Development for Utility Scale Solar projects, focusing on Texas and New Mexico markets. http://www.solaranchdev.com

9/2018 – Present: Adjunct Assistant Professor, Department of Pharmacology and Toxicology and Graduate Program in Pharmacology and Toxicology, Graduate School of Biomedical Sciences, University of Texas Medical Branch, Galveston, Texas. Fall 2018, Taught Toxicological Risk Assessment for Beginners PHTO 6224 to T32 graduate students and post-docs. 9 students enrolled.

5/2017 – Present: Adjunct Assistant Professor. 2017- 2020 Appointment. Department of Pharmacology and Toxicology, Boonshoft School of Medicine. Wright State University, Dayton, Ohio. Taught Clinical Pharmacology Online, Fall 2017, Spring 2018 and summer 2018, fall of 2018, and risk assessment journal club Spring 2018. Spring 2019 Pharamcology and Journal Club. Summer 2019, Pharmcology Course (5 week session, 3 credit hour)

8/2016 – 8/2018
Senior Instructor, Graduate School of Biomedical Sciences (GSBS), Department of Pharmacology/Toxicology (School of Medicine), University of Texas Medical Branch (UTMB), Galveston, Texas. Taught Introduction to Risk Assessment, Fall 2016, and scheduled for fall 2018. All students earned as with overall positive feedback from students on the course. Hybrid lecture / blackboard format. Teaching in Principles of Toxicology Course, 2-3 Lectures, Fall 2017.

7/2016 - Present
Contract Reviewer; National Institute of Health, National Institute of Environmental Health Sciences (NIH / NIEHS). July 13th – 15th 2016: Research Triangle Park, North Carolina: NIEHS Bioinformatics Support; ZES RAM-D (BI), Includes Loan Repayment Review Panel in 2/2017. Telephone Review Panel for R31 meeting grants in December 2017.

6/2016
Review Panel Member: Proclamation 2017: Texas Education Agency Career and Technical Education Review of Texts and Online course material for state adoption. Approximately 40 hours of review work, volunteer activity, June 27th – July 1st, 2016, Austin, Texas.

May 2016 – Present
President and Principal Advisor: ToxSci Advisors;
www.toxsciadvisors.com Start-Up Consultancy based on Dr. Bobst's 15 years of professional experience in toxicology, regulatory requirements, and product stewardship.

4/2015 – 4/2017
Guest Lecturer Department of Pharmacology and Toxicology, Boonshoft School of Medicine, Wright State University, Dayton, Ohio; Guest Seminar Speaker in October 2015 and April 2016; Spring 2016 Taught 1 credit online journal club for Masters / PhD Students, focused on Risk Assessment publications. Facilitated Department Retreat in October 2016, Taught Risk Assessment Journal Club again in Spring 2016, and Introduction to Pharmacology Online in Fall of 2017.

8/2015 - Present
Adjunct Faculty, Department of Business Administration, North American University Taught Operations Management, fall 2015; 16 Students, all students passed. Taught Marketing Management Online to MBA students in spring of 2016, Class of 6, projects in class include writing a case study and marketing plan. Teaching Small Business Management and Entrepreneurship Fall 2017. Online / Face to face hybrid class.

4/2012 – 4/2016
Senior Regulatory Compliance & Toxicology Advisor, Nexeo Solutions, LLC,
The Woodlands, Texas; Regulatory Compliance Management, EPA, FDA, REACH,
Process Development and Implementation.

11/2008 – 4/2012
Toxicologist, Global HAZCOM, Shell Oil Company, Houston, Texas. Risk Assessment, Trade Organization Committee Management, Emergency Response, SDS Authoring, REACH data management.

6/2007 – 10/2008
Senior Scientist, Exponent, Inc., Houston, Texas. Litigation Support

6/2004 - Present
Visiting Research Scientist, National Institute of Chemistry, Ljubljana, Slovenia
·Successfully awarded research grant twice for QSAR method development in 2004 and 2007 by the Republic of Slovenia Science Ministry.

12/2004 – 10/2008
Principal, CERATOX Consulting
Litigation Support and Expert Witness work.

8/1997 – 12/2003
Graduate Research Assistant, University of Texas-Houston Health Science Center / MD Anderson Cancer Center.

Other Volunteer Appointments

Volunteer Activities

Editor, Pharmacology of Drug Action, Ocimum Publishers.

Editor, Journal of Strategic Change Management, Inderscience Submissions.

July 2017 - Present
Instructional Assistant, Master Mason, Holland Lodge #1, AF&AM, Houston, Texas Grand Lodge of Texas.

Nov 2017 – Present
Noble, Arabia Shrine, Shriner's International, Houston, Texas. Volunteer with Annual Circus.

2015 to 2017
Director, Student & Alumni Relations, Member, Board of Directors, University of Houston-Victoria Student & Alumni Association

6 – 10/2015
Member, Board of Directors, No Identity Inc.,

2014 – Present;
Member, Houston District Export Council, US Dept of Commerce.
·Advocate US exports in the Houston area.

2013 – Present Associate Editor, Journal of Management Value and Ethics
Also, Guest Reviewer, International Journal of Strategic Management

2012 – Present Councilor, Council of Stewards, New Academy for (Beyond) Sustainability; non-paid position, providing review and guidance for collaborative learning and deep sustainability, systems thinking.

2005 - Present
Communion Steward, St. Paul's United Methodist Church

Training/Certificates

2020
Texas DWI All Stars CLE Workshop, Houston, Texas, 77002.
2019
Society of Forensic Toxicology, Oral Fluid and DUID Workshop, Dallas, Texas

2013-2019
SOT CE Workshops on Medical Devices; Epi, and Risk Assessment

2012
Tox21 Workshop, Washington DC

2011
Best Practices in PBPK Modeling, Society of Toxicology, Washington DC,
SOT CE courses on lung and eye toxicology. Online

2009
Diplomate, American Board of Toxicology; November 2009.
Board Certificate in General Toxicology

Toxicity of Chemical Mixtures, Workshop, Society of Risk Analysis, December 2009.

General Refining Course, March 2009.
Toxicity Testing in the 21st Century Workshop,
Society of Toxicology, Baltimore, March.
Globally Harmonized System, Society for Chemical Hazard Communication,

2008

PBPK Workshop for Human Health Risk Assessment, The Hamner Institute, Research Triangle Park, NC, Feb 11 – 15th, 2008.
Method Validation Workshop, Society of Forensic Toxicology, October 2006 Austin, Texas.
QA / QC Workshop, Society of Forensic Toxicology, October 2006, Austin, Texas.
Post-Mortem Pharmacokinetics, Society of Forensic Toxicology, Oct 2006, Austin, Texas.

2005 TABC certification #A715775

Rice University Workshop on Entrepreneurship, Summer 2005

2003

American Industrial Hygiene Association training certificates: Introduction to Risk Assessment, Integrating Industrial Hygiene into Business Practice, Calculation Methods for Industrial Hygiene, & Basic Industrial Hygiene.
Forensic Botany, Forensic Osteology, Forensic Entomology, Expert Witness Training certificates, Southwestern Association of Forensic Scientists, Fort Worth, Texas, November 2003.
Forensic Workshop, Wichita, Kansas, November 2003.
Forensic Toxicology Review, San Antonio Texas, April 2003.

2002

Forensic Medical Investigation Certificate, Wichita, Kansas, November 2002.

1998

Summer Research Fellow, Imperial Cancer Research Fund, London, UK

Languages

English, Native, Fluent
French, Intermediate
Spanish, Basic to Intermediate
Slavic Languages: Slovenian, Bulgarian, Basic.

Peer Reviewed Publications

7. Ruiz, P., Sack, A., Wampole, M. , Bobst, S, Vracko, M. *In silico* methods for prediction of endocrine-disrupting chemical binding with nuclear hormone receptors**.** Chemosphere July 2017 178:99-109.

6. Vracko M, and Bobst, S "Prediction of mutagenicity and carcinogenicity using in silico modelling: A case study of polychlorinated biphenyls" *SAR and QSAR Environmental Research* 26:7-9, 667-682, December 4th, 2015.

5. Bobst S and Vracko M "Performance Evaluation of CAESAR-QSAR output using PAHs as a case study. *Journal of Chemometrics*, December 2013

4. Bobst S "Building Trust in a Global, Virtual Environment: Development of a Practical Model" Journal *of Management Value & Ethics*, 2013; Jan-March Volume 3; No 1; p29-36.

3. Snellings WM, Corley RA, McMartin KE, Kirman CR, Bobst SM. Oral Reference Dose for Ethylene Glycol Based on Oxalate Crystal-Induced Renal Tubule Degeneration as the Critical Effect. *Regulatory Toxicology & Pharmacology*. 2013; Mar; 65(2) 229-41.

2. Bobst SM, Day MC, Gilstrap LC 3rd, Xia Y, Kellems RE. Maternal autoantibodies from pre-eclamptic patients activate angiotensin receptors on human mesangial cells and induce interleukin-6 and plasminogen activator inhibitor-1 secretion. *Am J Hypertens* 2005; 18(3):330–336.

1. Xia Y, Wen H, Bobst S, Day MC, Kellems RE. Maternal autoantibodies from preeclamptic patients activate angiotensin receptors on human trophoblast cells. *J Soc Gynecol Investig* 2003; 10(2):82–93.

Manuscripts in preparation, submitted, in review, or in press

Skin sensitization in silico protocol. Johnson et al Submitted to Regultory Toxicology & Pharmacology, January 2020.

Books & Book Chapters

4. Bobst S. Part of Editorial Team, Information Resources in Toxicology, 5th Edition, Elsevier. Target Publication Date, 2018-2019. Revising Chapters on Forensic Toxicology and Target Sites: Gastrointestinal Tract Directly.

3.Bobst S, Editor, History of Risk Assessment, 125 page; 6 Chapter Booklet, Elsevier Publishing, Under Contract, Target Publication Date: Summer 2017

2. Bobst S, Invited Chapter Author, "Regulatory Toxicology," 3rd Edition, CRC / Taylor & Francis Press, Target Date, Early 2017

1. Torres J and Bobst S, Editors, Toxicological Risk Assessment for Beginners, Springer Publishing. http://www.springer.com/us/book/9783319127507

White Papers and Internal Business Reports

19. Evaluating Drug and Alcohol Evidence in DWI/DUID Cases. Article for Defender Magazine, Submitted, January, 2020. Pending Publication Feb 2020.

18. Evaluating Drug and Alcohol Evidence in DWI/DUID Cases. Article for Defender Magazine, Submitted, January, 2020. Pending Publication Feb 2020.

17. Bobst S & Sumar, G Genotoxic Impurities, How to safely and effectively manage the risks. European Pharmaceutical Review, Volume 24, Issue 6, pgs 56 - 58

16. Issue Statement: Gulf Oil Spill, Chaired Ad hoc team, Society of Toxicology, publication online November, 2011. Revised November 2015: Website: http://www.toxicology.org/pubs/docs/pr/ToxTopics/Deepwater_oil_spill.pdf

15. Issue Statement: (Shell Internal, restricted) Human Health Risk Assessment of Methane in Groundwater.

14. Bobst S. The Role of Forensic Drug Evidence in Civil and Criminal Cases, White Paper,
July 2007.

13. Bobst S. Legal strategies for assessing claims against Ortho Evra and Venous Thromboembolism. Mealey's Publications, September 2006.

12. Bobst S. Lead fumes and analysis of exposure tort claims. HarrisMartin Publishing, May–June, 2006.

11. Bobst S. Specific causation and toxic tort claims. The Legal News, White House Legal Publishing, April 2006.

10. Bobst S. Worker's compensation and cocaine testing. The Legal News, White House Legal Publishing, March 2006.

9. Bobst S. Drug testing and worker's compensation. The Legal News, White House Legal Publishing, March 2006.

8. Bobst S. Asbestos and specific causation. Asbestos Litigation, Mealey's (Lexis-Nexis Publications), March 2006.

7. Bobst S. Toxic mold as a misnomer. Mold Litigation, HarrisMartin Publishing, December 2005.

6. Bobst S. Liquid wrench and benzene exposure. Benzene Litigation, HarrisMartin Publishing, October 2005.

5. Bobst S. Symptoms v. pathology: manganism and Parkinson's disease. Litigation Watch: Welding Rods, Harris Martin Publishing, August 2004.

4. Bobst S. n-Hexane and peripheral neuropathy. Toxic Tort Watch: Pesticides, Solvents, and Fumes, 2004 June; 1(5):2–3,6.

3. Bobst S. An analysis of Androstenedione. Columns: Drugs and Supplements 2004; 3(4):2–3,67.

2. Bobst S. An analysis of green tea extract. Columns: Drugs and Supplements 2004; 3(3):2–3, 67.

1.Bobst S. An analysis of bitter orange extract. Columns: Drugs and Supplements 2004; 3(2):2–3, 65.

Invited & Formal Presentations

Society of Toxicology Presentations

Workshop Chair (Scheduled 2020); Cannabis Science and Safety, Anaheim 2020.

Workshop Co-Chair 2018, Cannabis Regulatory, Legal, and Ethics, San Antonio, 2018.

Workshop Co-Chair: Cannabis In the Courtroom: Society of Toxicology: New Orleans, March 2016.

Workshop Co-Chair: Skeptically Examining Toxicology Evidence in the Courtroom, Part II: Phoenix, AZ, March 2014

Roundtable Co-chair: Skeptically Examining Toxicology Evidence in the Courtroom, Part I, San Antonio, March 2013.

Other Presentations

59. Evaluating Marijuana Evidence in Liability Investigations. Scheduled for Fr. Bend County Bar Association. February 2020.

58. TSCA Update, Online Webinar Summit, OnlyCoreChem Host, February 2020.

57. Facilitating Speaker / Moderator, Applying the Use of NAMS, NURA Meeting, December, 2019. Houston, Texas.

56. Evaluating Marijuana Evidence in Liability Investigations. Presented to North Harris County Bar Association. October 2019.

55. Evaluating Marijuana Evidence in Liability Investigations. Harris County Criminal Defense Lawyers Association, September 2019.

54. Evaluating Marijuana Evidence in Liability Investigations. Brazoria County Bar Association August 2019

53. Evaluating Marijuana Evidence in Liability Investigations. Presented to Houston Northwest Bar Association, June 2019.

52. THC and Driving Intoxication, Poster Presentation Scheduled at IUTOX, Hawaii, July 2019.

51. TSCA Update, REACH Conference, www.reachconference.eu , September 5th, 2019, Bratislava, Slovakia.

50. Chemical Fires and Human Health Exposure, Presented to Houston Metropolitan Paralegals Association, May 2019.

49. Evaluating Marijuana Evidence in Liability Investigations. Presented to Hays County Bar Association, April, 2019.

48. The Use of QSAR for Regulatory Evaluations: Overview and Case Studies, February 2019. University of Texas Medical Branch.

47. Evaluating Marijuana Evidence in Liability Investigations. Presented to Met Life Auto Casualty Adjusters, Dallas Texas, February 2019.

46. Switching Sails, Career Webinar, Society of Toxicology, October, 2018.

45. Career Workshop Leader, Lone Star Society of Toxicology, Waco, Texas, October, 2017.

44. Invited Panelist, Solar Business Festival, Austin, Texas, Scheduled November, 2017.

43. Contributing Workshop Host, Forensic Toxicology Workshop, Texas Southern University, Houston, Texas, May 2017.

42. Workshop Co-chair, and Speaker, Marijuana Safety, legal, regulatory, and medical aspects. Society of Toxicology, San Antonio, Texas, March 2018.

41. Webinar Presentation, Intentional Adulteration and Food Safety Modernization Act" National Association of Chemical Distributors" April 2017.

40.Invited Speaker, Chemical Department, Wayne State University, Detroit, Michigan. February 17th, 2016.
39.Invited Panel Member, National Institute of Health funded Broadening Experiences in Scientific Training (BEST) program, Wayne State University, Detroit, Michigan Scheduled February 18th, 2016

38. Panel Member, Communication in Toxicology, Lone Star Toxicology Meeting, Baylor University, Waco, Texas. Oct 22nd, 2016

37. Department of Pharmacology & Toxicology, University of Texas Medical Branch, Galveston, Texas, Scheduled October 21st, 2016. Title: Risk Assessment in Theory, Application, and Practice.

36. Invited Guest Lecturer, Department of Pharmaceutical Sciences & Department of Environmental Sciences, Wayne State University, Detroit, Michigan, September 13th – 15th 2016. Title: The Role of the Toxicologist In the Courtroom. The 5 Question Approach.

35. In Silico methods for prediction of endocrine disrupting chemical binding with nuclear hormone receptors and related endpoints. – Presented at QSAR2016, June 13th, 2016, Miami Beach, Florida.

34. TSCA Reform: An Industry Perspective; Grocery Manufacturers Association; Washington, DC, April 2016

33. Internal FDA cGMP Training Presentations; 2014-2016.

32. Workshop Co-Chair: Cannabis In the Courtroom: Society of Toxicology: New Orleans, March 2016.

31. Skype Webinar Presentation: Career Planning in Industry for Toxicology Careers: Texas Tech University Department of Toxicology: February 2016.

30. Kidney Toxicology: Guest Lecture: Department of Pharmacology & Toxicology: University of Texas Medical Branch, Galveston, Texas: October 2015.

29. Risk Assessment Lecture: Guest Class Lecture: LSU Health Science Center Shreveport, Louisiana: October 2015

28. Risk Assessment 101: Ethylene Glycol Case Study: Guest Lecturer: LSU Health Science Center Shreveport, : October 2015

27. Risk Assessment 101: Ethylene Glycol Case Study: Guest Lecturer: Wright State University Department of Pharmacology/Toxicology, Dayton, Ohio, October 2015

26. China and Innovation; Building Trust in a Global Environment; Leadership Management International Workshop, Jinan, CHINA, July 2014.

25. Comparative Analysis of PCB as a case study using VEGA. Poster Presentation at QSAR Workshop, Milan, Italy, June 2014

24. Specific Causation Version I: Presented at the Society of Toxicology Workshop, March 2014, San Antonio.

23. FDA and cGMP Compliance, National Association of Chemical Distributors, Webinar, February 2014

22. Specific Causation, a Five Question Approach: Presented at Toxicology & Law Roundtable, Society of Toxicology 2013 San Antonio

21. Comparative Analysis of Free QSAR Software Programs: Poster, Presented at Society of Toxicology 2013 San Antonio.

20. SOT Webinar: Texas Commission of Environmental Quality, approach to Air Quality Monitoring and Management; January 2013.

19. SOT Webinar: Pesticides & Pollinator Health: Moderator: June 2012.

18. Internal Corporate Workshops on GHS, CLP, and WHMIS Authoring, 2009 – 2012.

17. Bobst S "Building Trust in a Global, Virtual Environment, Development of a Practical Model." Presented at the International Academy of Business and Public Administration Disciplines (IABPAD), Dallas, Texas, April 2011.

16. Bobst S. "So You Have A Positive Drug Test, Now What?" DRI Trucking Conference, September 2008, Fayetteville, Arkansas.

15. Bobst S. "So You Have A Positive Drug Test, Now What?" DRI Trucking Law Teleconference, January 22nd, 2008.

14. Bobst S. Emerging Issues in Industrial Hygiene: The Impact of Biomonitoring Data, Presented to the Gulf Coast Section of the American Industrial Hygiene Association, September, 2007.

13. Bobst S. Application of Graph Theory to 2D Proteomic Gels. Presented at the XXII Southwest Theoretical Chemistry Conference, Austin, TX, November, 2006.

12. Bobst S. Application of Graph Theory to 2D Proteomic Gels. Presented at the National Institute of Chemistry, Ljubljana, Slovenia, August 2006.

11. Bobst S. Risk assessment and Seveso II compliance. Presented to Chimcomplect Engineering and Ministry of Water and Environment, Sofia, Bulgaria, June 2006.

10. Bobst S. CLE Workshop on toxicology: drugs, tort and environmental. 6 Hour CLE Course, State Bar of New Mexico, March 2006.

9. Bobst S. Benzene and specific causation. Booth Presentation at Harris Martin Benzene 101 Conference, San Antonio, TX, February 2006.

8. Bobst S. Hydrogen sulfide and sulfide dioxide: toxicology and offshore safety. Presented to Amec-Paragon – Chevron, January 2006.

7. Bobst S. Real world toxicology. Presented to the National Institute of Chemistry, Ljubljana, Slovenia, September 2005.

6. Bobst S. Real world toxicology: cocaine, marijuana, and alcohol. Presented to the Criminal Defense Section, Houston Bar Association, Houston, TX, April 21, 2005.

5. Bobst S, Vracko M, Novic M, Randic M. Application of NN to Proteomic Data. Presented at the Southwest Theoretical Chemistry Conference, Galveston, TX, October 2004.

4. Bobst S. Kosmata! Forensic issues: cocaine in hair. Presented at the National Institute of Chemistry, Ljubljana, Slovenia, September 2004.

3. Bobst S. Drug testing and Daubert. Presented to the Criminal Defense Section, Houston Bar Association, Houston, TX, August 2004.

2. Bobst S. Bradford-Hill and specific causation. Presentation for North Harris County Bar Association, May 2004.

1.,Bobst S, Zheng N, Thomas B. Effective testimony: five key points. Paper presented at the Southwestern Association of Toxicology, Austin, TX. November 2003.

Poster Presentations

12. Bobst & Plunkett, "THC and Driving Impairment, Is there an Equivalent to 0.08 BAC?" Presented at IUTOX Meeting, July 2019, Honolulu, Hawai'i.

11., P., Sack, A., Wampole, M. , Bobst, S, Vracko, M. *In silico* methods for prediction of endocrine-disrupting chemical binding with nuclear hormone receptors**.** Society of Toxicology, Scheduled March 2017, Baltimore, Maryland.

10. Comparative Analysis of PCB as a case study using several software Platforms, SOT 2014, SOT Phoenix.

9. Comparative Analysis of PCB as a case study using VEGA. Poster Presentation at QSAR Workshop, Milan, Italy, June 2014

8. Marjan Vračko[1], Sol Bobst[2] Comparative Analysis of QSAR methods using CAESAR and VEGA with a PAH case study, Poster Presented at Society of Toxicology, March 2013, San Antonio.

7. Abstract & Poster "The Importance of Economic Development in Sustainable Agriculture" New Academy for Sustainability Conference, June 2012, Fairfield, Iowa.

6. Marjan Vračko[1], Sol Bobst[2] ESTIMATION OF FIVE ENDPOINTS FOR SET OF PAH COMPOUNDS USING THE CAESAR Presented at CMPTI, Maribor, Slovenia, September 2011

5. Bobst, Zheng, and Thomas, Specific Causation, a 5 Question Approach, Society of Toxicology, New Orleans, LA. 2005

4. Randić M., Gu X, Bobst S. Use of path matrices for a characterization of molecular structures. DIMACS Series in Discrete Mathematics and Computer Science, 51:305–322, 2000.

3. Randić M., Gu X, Bobst S. Use of path matrices for a characterization of molecular structures. DIMACS Series in Discrete Mathematics and Computer Science, 51:305–322, 2000.

2. Bobst, S Kellems, Graduate Student Poster Presentation; Title? At a Small Gordon Like Research Conference, Saxton's River, Vermont.

1.Bobst, S Kellems, Internal Research Day Presentations, UT Houston, Won 1st Place in Poster Competition for Research Day: 2000.

Professional Societies

Society of Toxicology

Member ECDC Committee 2019-2020 Appointed to Career Resource and Development Committee, 2017, CRAD Co-Chair 2018-2019, Member,

Chair, Society of Toxicology Mentoring Breakfast Committee, 2014-2015

Society of Toxicology, Councilor, Lone Star Chapter 2016-2017; Meeting Planning Committee 2018-2019 at UTMB, Galveston, Texas.

Society of Toxicology, VP 2011, President 2012-3, Ethical, Legal, & Social Issues Specialty Section,

Other
University of Houston-Victoria Student Alumni Association – Director of Student/Alumni Relations, 2015-2017
University of Texas-Houston GSBS Alumni Steering Committee, President, 2012
Gamma Beta Phi, University of Houston-Victoria Sugar Land – Cinco Ranch Chapter, Vice President 2012
Member, National Society of Leadership and Success, 2014-2015
Member, Phi Kappa Phi, 2015
Member, Planning Committee, New Academy for Sustainability, 2012
American Chemical Society, 2005 - Present
Society of Chemical Hazard Communication (Past Member)
Society of Risk Analysis (Past Member)

Other Major Projects / Reports

Solar Ranch Development Company, Invited Panel Speaker, Solar Storage Fest, August 2019, San Antonio.

Solar Ranch Development Company, Invited Speaker on Utility Scale Solar Projects in Texas. North Texas Renewable Energy Group, Dallas, Texas, August 2019.

Solar Ranch Development Company, Invited Webinar Speaker on Utility Scale Solar for EarthX, Dallas, Texas April, 2019.

Solar Ranch Development Company, Invited Panel Speaker, Texas Solar Business Festival, November 2018, Austin, Texas.

Solar Ranch Development Company, Invited Panel Speaker, Texas Solar Business Festival, November 2017, Austin, Texas

Solar Ranch Development Case Studies in West Texas, Presented at 9th Annual SouthWest Energy Summit, Roscoe, Texas June, 2017.

Solar Ranch Development Case Studies in West Texas, Presented at 9th Annual Transmission Conference, San Angelo, Texas, January 2017.

Strategic Plan Implementation for New Business Development Committee, Economic Alliance Port of Houston, December, 2014

Economic Impact Report for Camin Cargo, City of Pasadena, Texas, December 2014

TSCA Compliance Presentation

OnlyCoreChem Webinar
February 2020

Sol Bobst MBA PhD DABT
President, ToxSci Advisors LLC
Houston, Texas USA
Houston District Export Council
US Department of Commerce

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Not ***TOSCA*** By Giacomo Puccini…

Overview

- Toxic Substance Control Act (TSCA)
- https://www.epa.gov/laws-regulations/summary-toxic-substances-control-act
- Lautenberg Act Updates
  - ***List of 20 High Priority Substances***
  - ***Current Status***
- Practical Considerations for Compliance / Reporting
  - PMNs
  - **TSCA** 8c / 8e
  - Inventory
  - Active Inactive Rules (Polymers)
  - SNURs (Similar to Canadian SNACs)
  - **CDR 2020** Reporting (Importer of Record)
  - Compliance Checklist
  - California Prop65

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TSCA

- The Toxic Substances Control Act (15 U.S.C. 2601 *et seq.*) authorizes the EPA to screen existing and new chemicals used in manufacturing and commerce to identify potentially dangerous products or uses

- Both naturally occurring and synthetic chemicals are subject to TSCA

- Exceptions: Chemicals regulated by *other federal laws* concerning food, drugs, cosmetics, firearms, ammunition, pesticides, tobacco, or mixtures

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TSCA Con't

(Historically) Three Key Sections:

- Section 4: Chemical Testing
- Section 5: New Chemical Review
- Section 6: *Permissive* authority to regulate chemicals if EPA determines it has a reasonable basis to conclude the chemical may present unreasonable risk to health or the environment

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Why Was TSCA Reformed?

- Limited Enforcement Capabilities….
  - Grandfathered Chemicals
  - CBI
  - Non-Mandatory Requirements

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The Lautenberg Act, June 22nd 2016

- Aims to fix the TSCA problems by:
  - Broadening the coverage of the Act - applies to all chemicals in commerce or intended for commerce
  - https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/frank-r-lautenberg-chemical-safety-21st-century-act
  - Giving EPA the power to act - EPA must conduct risk assessments on all new chemicals and existing high priority chemicals and EPA must take action on chemicals deemed to present an unreasonable risk
  - Giving EPA the tools to act - EPA can issue an order or enter into a consent agreement requiring testing and additional information regarding a chemical, instead of going through rulemaking process

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Sections of Lautenberg Act

- Existing Chemicals
- New Chemicals
- Testing and Data
- Confidential Business Information
- Preemption
- Funding

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Existing Chemicals

- Inventory Reset (Remove Outdated)

https://www.epa.gov/tsca-inventory/tsca-inventory-notification-active-inactive-rule

- Report all Chemicals Manufactured / Imported for past 10 years in 2018.

- Reorganize Active / Inactive Categories

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Prioritization

- EPA to establish a rule that sets forth a ***risk-based process*** to prioritize chemicals as either "high" or low"

- The process must include a consideration of:
  (i) the ***hazard and exposure potential*** of a chemical;
  (ii) the ***conditions*** of use;
  (iii) the ***volume*** of the chemical substance manufactured or processed

  - Rule must require EPA must post notice and request comment
  - *High priority* – EPA determines the chemical "may present an unreasonable risk of injury to health or the environment because of a potential hazard and a potential route of exposure under the conditions of use, including an unreasonable risk to a potentially exposed or susceptible subpopulation identified as relevant by the Administrator"
  - *Low priority* – the chemical fails to satisfy standard for high-priority, based upon sufficient information
  - Insufficient information - EPA can require testing

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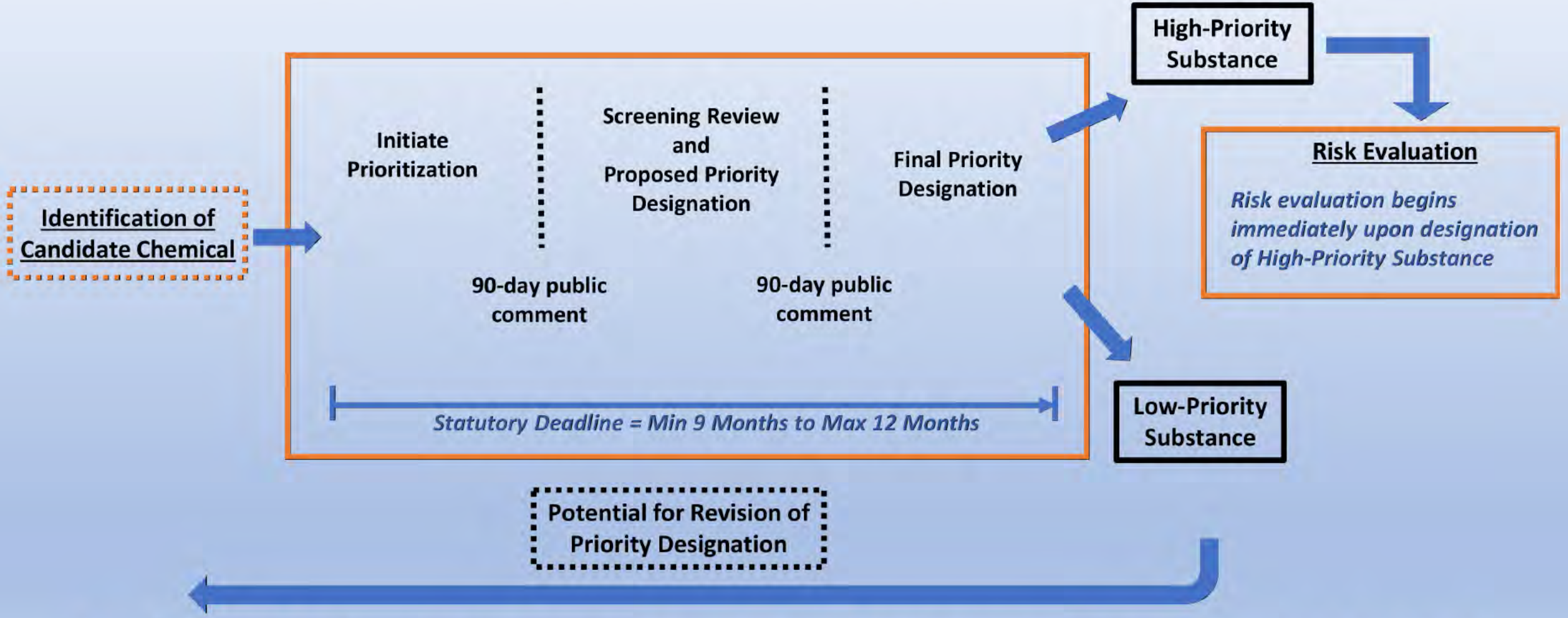
Chemical Prioritization Process



https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/prioritizing-existing-chemicals-risk-evaluation

Risk Evaluations

- *High priority* designations evaluated to determine whether they actually do present "an unreasonable risk of injury to health or the environment" without regard to cost (Companies pay 50% of cost). Companies can request risk evaluations and pay full cost.
    - Each evaluation cannot take more than 3 years and draft evaluations will be subject to notice and comment
- *Low priority* designation does not require further action

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Risk Evaluation Workflow

High Priority List (Di/Tri Chloros & Phthalates)

Name	CAS #
p-Dichlorobenzene	106-46-7
1,2-Dichloroethane	107-06-2
trans-1,2- Dichloroethylene	156-60-5
o-Dichlorobenzene	95-50-1
1,1,2-Trichloroethane	79-00-5
1,2-Dichloropropane	78-87-5
1,1-Dichloroethane	75-34-3
Dibutyl phthalate (DBP) (1,2-Benzene- dicarboxylic acid, 1,2- dibutyl ester)	84-74-2
Butyl benzyl phthalate (BBP) - 1,2-Benzene-dicarboxylic acid, 1- butyl 2(phenylmethyl) ester	85-68-7
Di-ethylhexyl phthalate (DEHP) - (1,2-Benzene-dicarboxylic acid, 1,2- bis(2-ethylhexyl) ester)	117-81-7
Di-isobutyl phthalate (DIBP) - (1,2-Benzene-dicarboxylic acid, 1,2- bis-(2methylpropyl) ester)	84-69-5
Dicyclohexyl phthalate	84-61-7

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High Priority List Con't

Name	CAS #
4,4'-(1-Methylethylidene)bis[2, 6-dibromophenol] (TBBPA)	79-94-7
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8
Phosphoric acid, triphenyl ester (TPP)	115-86-6
Ethylene dibromide	106-93-4
1,3-Butadiene	106-99-0
1,3,4,6,7,8-Hexahydro-4,6,6,7,8,8-hexamethylcyclopenta [g]-2-benzopyran (HHCB)	1222-05-5
Formaldehyde	50-00-0
Phthalic anhydride	85-44-9

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The First 10 Substances for Risk Evaluations

- Asbestos
- 1-Bromopropane
- Carbon Tetrachloride
- 1, 4 Dioxane
- Cyclic Aliphatic Bromide Cluster (HBCD)
- Methylene Chloride
- N-Methylpyrrolidone
- Perchloroethylene
- Pigment Violet 29
- Trichloroethylene

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Manufacturer Requested Risk Evaluations

- Special Consideration for manufacturing conditions that manage risk.
- Outlined in 40 CFR 702.37
- Diisodecyl Phthalate (DIDP)
- Diisononyl Phthalate (DINP)

Current Draft Risk Evaluations

- HBCD: https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/draft-risk-evaluation-cyclic-aliphatic-bromide-cluster No unreasonable risks found.
- 1-Bromopropane https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/draft-risk-evaluation-1-bromopropane **Unreasonable risks to workers, occupational non-users, and consumers under certain conditions of use. No unreasonable risk to environment.**
- **Methylene Chloride:** https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/draft-risk-evaluation-methylene-chloride Comment Period Still Open

- **N-Methylpyrrolidone (NMP)** https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/draft-risk-evaluation-n-methylpyrrolidone-nmp Comment Period Still Open

Controls (Post Risk Evaluation) Major Update of TSCA

- If chemical presents an unreasonable risk, EPA *must* impose prohibitions or restrictions "to the extent necessary so that the chemical no longer presents an unreasonable risk"
- Rulemaking
  - includes a consideration of costs
  - available alternatives

- EPA *must* take final risk management action within 2 years (limited extensions)

- If risk is not unreasonable, no action is taken

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Actions Taken Under TSCA Risk Management

- Actions Taken since 2016 Lautenberg Act
- https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/current-chemical-risk-management-activities

- Alkylpyrrolidones
- Hexabromocyclododecane (HBCD)
- Methylene chloride
- N-Methylpyrrolidone (NMP)
- Trichloroethylene (TCE)
- Persistent, Bioaccumulative and Toxic Chemicals under TSCA section 6(h)
    - Decabromodiphenyl ether (DecaBDE)
    - Phenol, isopropylated phosphate (3:1) (PIP (3:1))
    - 2,4,6-Tris(tert-butyl)phenol (2,4,6-TTBP)
    - Hexachlorobutadiene (HCBD)
    - Pentachlorothiophenol (PCTP)

Practical Considerations

- If you Export Into the USA, Or Work with an US Importer
  - Make Sure someone has looked at Inventory and has checked TSCA compliance of Products
  - Make sure someone is responsible for CDR reporting

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TSCA Criminal Provisions

https://www.epa.gov/enforcement/criminal-provisions-toxic-substances-control-act-tsca

- **Knowing or Willful Reporting Violations**
- 1 year and/or up to $25,000 per day violation

- **PCB Violations**
- 1 year and/or up to $25,000 per day violation

- **Knowing or Willful Denial of Entry**
- 1 year and/or up to $25,000 per day violation

- **Pre-Manufacture Notice Requirements**
- 1 year and/or up to $25,000 per day violation

- Knowing or Willful Violations of TSCA
  - **15 U.S.C. 2615(b) /** 40 C.F.R. 700 – 766
  - 1 year and/or up to $50,000 per day violation

Pre-Manufacturing Notice (PMN)

1) Submit Notice 90 days before Manufacture/Process/Import of New Substance (Includes Reactive Isolated Intermediates, though lower fee / potentially faster tracked process)

2) EPA Can Order Submitter to Provide Additional Data

3) Plan Good Data Strategy
   - Can Include READ-Across, QSAR, Use of ECHA Data…

4) EPA makes risk decision
   - Test Orders

5) Controls Set In Place (SNURs), May / May Not be able to proceed.

- https://www.epa.gov/reviewing-new-chemicals-under-toxic-substances-control-act-tsca/filing-pre-manufacture-notice-epa

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TSCA 8c / 8e and other Section 8s…

- 8c If you have any new health allegations…
  - Need to be reported to EPA

- 8e If you come across any new data….
  - Need to be reported to EPA within 15 working days…
  - Unless Known to Administrator

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TSCA Inventory Rules (Polymer Exemptions)

- Eligibility
  - Polymers with molecular weight (MW) of 1,000 daltons or greater and less than 10,000 daltons are eligible, with restrictions on low MW species and reactive functional groups;
  - Polymers with MW of 10,000 daltons or greater, with restrictions on low MW species

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TSCA Polymer Exclusions

- Polymers which degrade, decompose, or depolymerize are ineligible for the exemption. Also ineligible are several classes of polymers:
- polymers that are prepared from monomers or other reactants that are not on the TSCA (Toxic Substances Control Act) Inventory are ineligible,
- as are water-absorbing polymers with number-average MW equal to or greater than 10,000, and
- polymers containing as an integral part of their composition, except as impurities, certain perfluoroalkyl moieties consisting of a CF3- or longer chain length.

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TSCA Polymers

- **Reporting Requirements**
- The manufacturer (which includes import) of any substance for which the polymer exemption is claimed under 40 CFR 723.250 must submit a report of manufacture (which includes import) by mail or courier to EPA by January 31 of the year subsequent to the year in which the substance was manufactured for the first time. This report should be submitted as follows:
- **US Postal Service:**
- U.S. Environmental Protection Agency (7407M)
  WJC North Building
  1200 Pennsylvania Ave, NW
  Washington, DC 20460
  Attn: Polymer Exemption
- https://www.epa.gov/reviewing-new-chemicals-under-toxic-substances-control-act-tsca/polymer-exemption-new-chemicals

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Significant New Use Rules (SNURs)

- TSCA Section 5(a) Significant New Use Rules (SNURs) can be used to require notice to EPA before chemical substances and mixtures are used in new ways that might create concerns. EPA must make this determination by rule after considering all relevant factors, including those listed in TSCA section 5(a)(2):
  - Projected volume of manufacturing and processing of a chemical substance.
  - Extent to which a use changes the type or form of exposure of humans or the environment to a chemical substance.
  - Extent to which a use increases the magnitude and duration of exposure of humans or the environment to a chemical substance.
  - Reasonably anticipated manner and methods of manufacturing, processing, distribution in commerce, and disposal of a chemical substance.

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If a SNUR applies to you….

- You need to file a SNUN
  - TSCA section 5(a) requires persons to submit a significant new use notice (SNUN) to EPA at least 90 days before they manufacture (including import), or process the chemical substance for that use.

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Chemical Data Reporting Rule (CDR)

- Next Data Reporting Period Opens June 1st, 2020.

- Get Ready! (Get your Importers Ready)
  - Includes four years of Importing, 2016, 2017, 2018, 2019
  - All Chemical Substances under TSCA have to be accounted to determine reporting.
  - Audits are Common
  - Use CDX for Reporting

- https://www.epa.gov/chemical-data-reporting/how-report-under-chemical-data-reporting

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TSCA Section 13 Compliance Checklist for Importers (Exporting Into..)

- https://www.epa.gov/sites/production/files/2015-03/documents/checklist.pdf

- Remember, Always Check TSCA 5,6,7,4,8,12b too…

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Don’t Forget California Prop65! And Other States (Right to Know)

- New Jersey, Pennsylvania etc,.. Right to Know states.
- Require Statements on SDS

- State of California OEHHA
  - https://oehha.ca.gov/proposition-65/proposition-65-list
  - Prop65 Listed Chemicals
  - Require Warning Label for Cancer, Reproductive / Developmental Toxicity unless
    - Risk Assessment is done to show exposure is below existing NSRL / MADL
    - Or
    - Risk Assessment to propose an NSRL / MADL and show exposure is below.

References

- https://www.epa.gov/chemicals-under-tsca
- TSCA Compliance Checklist
- https://www.epa.gov/sites/production/files/2015-03/documents/checklist.pdf
- Priority List of Substances
  - https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/chemical-substances-undergoing-prioritization
  - https://d11m3yrngt251b.cloudfront.net/images/content/8/7/v4/87108/presentation-TSCA-v3-283-29-v1.ppt

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Thank You!

- Sol Bobst MBA PhD DABT

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Environmental Toxicology Expert
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Corinth, KY 41010
Contact: (b) (6) @yahoo.com
Direct Line (b) (6)

EDUCATION

Raymond Walters College Cincinnati, Ohio	A.S., 1977 Environmental Science
University of Cincinnati Cincinnati, Ohio	B.S., 1979 Major: Biology Minor: Chemistry
University of Cincinnati Cincinnati, Ohio	M.S./MEn, 1980 Major: Env. Science and Engineering
University of Cincinnati Cincinnati, Ohio	Ph.D., 1986 Environmental Toxicology

PROFESSIONAL EXPERIENCE

Dr. Frank Mink has been active in the environmental/occupational health education, policy, product stewardship, risk assessment, disease causation, health effects research and administration for over 40 years, during which time he has contributed to the development of government regulations, public policy, patent development and fundamental research primarily concerning public health (PCBs, dioxins, heavy metals, glyphosate/pesticides, PFOA, diacetyl, etc…). He also has been recognized in 2019 by the US Dept. of Justice and Drug Enforcement Agency for exceptional expert assistance in criminal cases involving opioids and other narcotics effects. As a Research Toxicologist for the USEPA, Health Effects Research Laboratory, Dr. Mink received national recognition for his work with in vivo production of carcinogens with exposure to chlorinated water supplies. As Chief of the Health and Environmental Effects Documentation Section, he assisted in the development of the Superfund Public Health Evaluation Manual and associated risk assessment criteria. He has also been involved in

over 200 federal public health assessments under CERCLA Section 106(a)/RCRA Section 7003 over the last 30 years. Dr. Mink was involved in the formulation of the Risk Assessment Guidelines for Superfund of 1986 USEPA, as well as many other USEPA national risk policy documents. Dr. Mink was listed by the USEPA (1987) as one of the top twenty risk assessment experts in the country and was offered the first Senior Environmental Science Advisor position with Region V in early 1988. During his eleven years with the USEPA, Dr. Mink published over 120 publications on health risk related topics and has been on advisory committees for WHO, CDC/ATSDR, DOD, DOE, and Academia. He has been certified as a national expert in over 80 toxic tort suits during his career. Dr. Mink left a decade of public health service managing a staff of 75 professionals and overseeing a combined office research budget of over 30 million dollars (1988 dollars) as the youngest acting director in USEPA history.

Internationally he has worked on several research/policy projects with the World Health Organization since 1979. He has appeared in the national media numerous times, including CNN, as a Science Advisory Board panel member during both the Reagan and Bush Administrations (most recent panel was on health effects of PFOA 05-07). In 2015 he was nominated to serve on the Science Advisory Board Chemical Assessment Panel, the OPPT advisory committee, the ATSDR/CDC Advisory Board and Congress for testimony on the new electric utility environmental regulations. His testimony for Capitol Hill was instrumental in the selection of the 100 priority pollutants in 1978-79. He was nominated for the President's Citizen's Award in January 2010. Dr. Mink has earned numerous awards including being the only two-time Distinguished Alumni in the University of Cincinnati's 186 year history (Science, 1994 and Engineering, 2000) as well as being nominated for one of science's highest honors, the Templeton Prize, in 2005 (environmental cancer research). He has authored/co-authored over 300 publications and developed over 20 technical patents in the last 35 years while investigating over 500 unique research/consulting projects (dioxin, diacetyl, hexachlorophene, dioxins. PCBs, heavy metals, pesticides, phenols, c8, etc…).

As President and Principal Toxicologist at MAI (1989 -1998, 2012-2017) he directed all corporate expert testimony, toxicology/public health research, and risk/endangerment assessment functions. MAI focused on public health assessments, industrial waste sites, causation research, and related regulatory environmental health issues with industry, universities and law firms throughout the United States. Because of his extensive regulatory and technical background, Dr. Mink played a key role in representing clients during state and federal agency negotiations. MAI, is a small selective corporation that has worked with over 400 multinational clients worldwide since 1988.

Dr. Mink served on the management board of the International firm PPDI/Environ from 1998 – 2000. He oversaw all environmental health related research and consulting projects with a combined budget of 900 million dollars and managed over 80 professionals.

In 2001and 2002 during his limited compete agreement from the multimillion dollar sale of his environmental consulting practice Dr. Mink was recruited to join the faculty at the

nation's largest single campus medical school as an associate dean. He oversaw a budget of 550 million dollars annually and over 1079 faculty members. He was deeply involved in translational research related to occupational/environmental cancers causation and genetic markers of exposure as well as medical device patent development. He raised millions of research dollars from private corporations for research in the areas of Environmental and Occupational Health

From 2002-2004 he served as CEO of the start up patent develop firm of RTC Inc. in Detroit which was sold in 2004 to the investor group Indentix for a profit of over 200% of licensing fees from over 30 high technology University-Private Corporation developed patents (20 million dollars).

Dr. Mink's passion is public health and science research/education. He was asked to serve on the board in 2002 (board 2002-2007, president 2004-2007) of a new Liberal Arts University in Suburban Detroit, Michigan. The small college represented a major challenge requiring his immersion in every aspect of higher education from accreditation and faculty recruitment, to board formation to fundraising. In his 4 1/2 year tenure he raised over 22 million dollars of commitment with the purchase of a 65 acre initial campus, building over 100, 000 square feet of educational buildings, approval by the State of Michigan for 5 degree programs in liberal arts, national accreditation submittals and an unique landmark agreement with the large adjacent public university (Oakland) to share student serves/facilities.

In late 2006 he joined Entrix Corp. as VP of Corporate Environmental Health Services. He was in charge of all 66 offices human health consulting/research projects with a 200 million dollar annual budget and approx. 500 professional employees. He also has led the REACH effort for product stewardship in the EU for several major global corporations.

In 2012 Dr. Mink was recruited to lead the National Disease Research Interchange (NDRI) the largest NIH-funded provider of biomaterials to university, hospital and Pharma researchers nationwide since 1982. After an international search and he was selected by the Board as the transition executive to accelerate growth through expanded government and private partnerships internationally while mentoring a growing staff of over 50 direct reports.

- Obtained increased NIH funding in biomaterials during a time of overall Federal spending cuts in research.
- Contacted 7 major global Pharma corporations at the executive levels with outstanding commitments to double funding for biomaterials in 2013.
- Developed the strategic vision to included larger federal agencies into the funding matrix for 2012-2014 (i.e. WHO, FDA, CDC, Military Medicine, etc…)
- Drove the search for a permanent president and CEO (after declining the role from the board in July 2012).

In late 2012 Dr. Mink returned to private practice as an environmental health expert consulting to industry, law firms and academic institutions.

Dr. Mink served on several corporate boards and has served on 3 other non-profit boards from 1991-1998. He has served as a senior decision maker in industry, federal government, and academia.

Dr. Mink has an extensive list of volunteer contributions made over the last two decades and has spoke in large international conventions/meetings. He has worked on environmental health projects and international policies since 1979.

PROFESSIONAL EMPLOYMENT HISTORY

USEPA, Chemical Support Branch, Health Effects Research Laboratory, Section Chief, 1977-80

USEPA, Environmental Health Criteria and Assessment Office, Section Chief 1980-1983, Acting Director, 1986-88

Dunn Geosciences Corp., Vice President and Corporate Director of Toxicology, 1988-89

Mink & Associates Inc., President and Principal Toxicologist, 1989-98

Environ Corp., Principal Toxicologist and Managing Partner, 1998-2000

Wayne State School of Medicine, Assoc. Dean, 2001-2002

RTC Inc., CEO, 2002-2003

Great Lakes University, President, 2003-2007

Entrix Corp., SVP Corporate Environmental Health Services, 2006-2011

NDRI, Interim president, 2012

President, MAI, 2012-present

REPRESENTATIVE MAJOR PROFESSIONAL SOCIETIES

American College of Toxicology
American Chemical Society
Diplomat Eligible: American Board of Toxicology
National Environmental Health Association
Society for Risk Analysis
National Directory for America's Professionals and Executives
USEPA/NIOSH Biotechnology Association, Vice President, 1987-88
Association of Government Toxicologists, USEPA 1986-89
City of Cincinnati Environmental Advisory Council, 1991-94
Inner Circle Senate Committee, 1999-2003

NATIONAL/INTERNATIONAL HONORS/AWARDS

Sigma XI
Delta Tau Kappa
International Leaders in Achievement, 1st edition, International Biographical Centre, Cambridge, CB23QP, England, 1987-88
Men of Achievement, 13th edition, International Biographical Centre, Cambridge, CB23QP, England, 1987-88
UC Graduate Scholarship, 1982-85
USEPA Excellence in Graduate Education Intern, 1979-80
USEPA Science and Technology Award Nominee (Innovative Research), 1984
University of Cincinnati, Distinguished Alumni Award (Science), 1994
University of Cincinnati, Distinguished Alumni Award (Engineering), 2000
Metal of Freedom, US Senate, 3/2002
U.S. Senate Spirit Award, 7/2002
USEPA Science Advisory Board Service, 1979-1982, 2005-2007
Templeton Prize Nominee, 2005-2006
USDOJ/DEA Award of Exceptional Expert Service, 2019
International Council Ag. Science and Tech. Reviewer, 2019

TEACHING

Great Lakes University, 2003-2006
Oakland University – SOM, 2002-2003
Wayne State – SOM, Professor of Toxicology, December 2001 – July 2002

University of Kentucky Graduate Center for Toxicology, Adjunct Professor 1993 – 1997
University of Louisville Medical School, Adjunct Professor, 1991 – 1998
University of Cincinnati, Adjunct Professor Toxicology/Biology 1986 – 1999

ESSAYS/THESES/DISSERTATIONS DIRECTED

1995 M.S., Todd Williams, Findlay University, Patterns in Whitetail Deer Migration after Toxic Food Source Depletion
1996 M.S., James Coleman, University of Cincinnati, Bird Migrations in Response to Wetland Disturbances in Southern Ohio
2003 Ph.D., University of Cincinnati, Hydrologic Impacts on Biological Communities of Increasing Urbanization

SELECTED PUBLICATIONS

Original Observation in Referred Journals

Mink, F.L., Brown, T.J. and Lingg, R.D.: Absorption, Distribution and Excretion of Radiolabeled Trihalomethanes.
The Pharmacologist 11: Vol. 2:2, 1982

Mink, F.L., Coleman, W.E., Munch, J.W., Kaylor, W.H. and Bull, R.J.: Chlorine Induced Spermhead Abnormalities Associated with Production of Halogenated Reaction Products In Vivo.
The Toxicologist 85: Vol. 3:1, 1983

Mink, F.L., Coleman, W.E., Munch, J.W., Kaylor, W.H. and Ringhand, H.P.: In Vivo Formation of Halogenated Reaction Products Following Peroral Sodium Hypochlorite
Bull. Env. Contam. Toxicol. 30:394-399, 1983

Mink, F.L., Brown, T.J., and Richabaugh, J.R.: Absorption, Distribution and Excretion of THM's
Bull. Env. Contam. Toxicol. 37:3, 1986

Risher, J.R., Mink, F.L. and Stara, J.F.: The Toxicologic Effects of the Carbamate Insecticide Aldicarb in Mammals Env.
Health Perspectives 72:267-281, 1987

Mink, F.L., Risher, J.R. and Stara, J.F.: The Environmental Transportation, Distribution and Fate of the Carbarmate Insecticide Aldicarb
Env. Pollution Vol. 61, 1989

Mink, F.L., Coleman, J.C., Evans, R.L., Schroeder, W.P. and Williams, T.M.: Application of Risk Analysis in Determining Potential Environmental Harm Associated with Discharge of Water from Tow Motor Vessels into Inland Waterways.
Risk Analysis, in press

Review Articles

Meylan, W., Choudhury, H., Mink, F.L., DeRosa, C.T. and Stara, J.F.: Chemical of Current Interest Pentachloronitrobenzene: Health and Environmental Effect Profile
Toxicology and Industrial Health Vol. 3, No. 1:5-69, 1987

Norman, M.A. and Mink, F.L.: Negotiating Practical Risk Assessment with Governments and in Business Transactions
Natural Resources & Environment Vol. 9, No. 1:8-10, 1994

Mink, F.L., Nash, D.E. and Coleman, J.C.: Superfund Site Contamination: Apportionment of Liability, American Bar Association Journal
National Resources & Environment Vol. 12, No. 1, 1997

Books and Chapters

Mink, F.L. and Rickabaugh, J.R.: Ozonation of the Herbicide Alachlor: Water Chlorination Vol. 6, 1990
Mink, Frank, "The Unnecessary Woman" – (Cloning), Barnes & Noble/iUniverse, 1999

Case Reports

Mink, F.L.: Risk Assessment in the Southeast, Inside Env., 1990

Mink, F.L.: Risk Based or Science Based Cleanup, Inside Env., 1992

Educational Materials

Mink, F.L., Pharmacokinetics of Trihalomethanes, M.S. Thesis, 1980

Mink, F.L.: The Mechanism of Alachlor Destruction in Aqueous Solution by Ozone, Ph.D. Dissertation, 1986

Coleman, J.C., Miller, M.C. Styler, D. and Mink, F.L.: Monitoring Wetland Quality Through Analysis of Bird Surveillance Data, A Poster Presented at a Meeting of the Society of Wetland Scientists, Minneapolis, MN, 1998

Coleman, J.C., Miller, M.C. and Mink, F.L.: Hydrological Disturbance and Increasing Urbanization, A Poster Ohio Hydrological Society, June 5, 2003

375 Health Effects Profiles, USEPA, 1982-1988

SELECTED PATENTS, 1999-Present

US Patent No. 09/494,058:
US Patent No. 09/651,216 (09/498,550, 09/494,058, 60/176,642):
US Patent No. 09/661,508: Method and System for Using Biometric Sample to Electronically Access and Authorize Transactions
US Patent No. 09/710,033: Method and System for Using Biometric Sample to Electronically Access and Authorize Health Care Service Transactions
US Patent No. USO1/01604: Interlocking Slide able Assembly
US Patent No. 09/784,459: Slide able Assembly with Interlocking Guide
US Patent No. PCT/USO1/21485: Method and System for Using Biometric Sample to Electronically Access and Authorize Transactions
US Patent No. US/02/04456: Slide able Assembly with Interlocking Guide

Multiple medical and media device patents 2004-2012

SELECTED PRESENTATIONS

<u>Invited International or National Meetings</u>

May 6-8, 1980 – Bull, R.J., Robinson, M., Brown, T.J., Mink, F.L., Lingg, R.D., and Whitmore, C.: In-Depth Biochemical, Pharmacological and Metabolic Studies on Trihalomethanes in Water. NCI/EPA/NIOSH Workshop on Environmental and Occupational Carcinogenesis

March 21-24, 1981 – Lingg, R.D., Kaylor, W.H., Mink, F.L.: Potential of Residual Disinfectants to Form Organic Chemicals In Situ. International Symp. on Health Effects of Drinking Water on Disinfection and Disinfectant By-Prod.

April 22-23, 1988 – Risk Assessment at Non-NPL Hazardous Waste Sites, DOE Officials Conference, Idaho State University

February, 1992 – Risk Assessment and Regulatory Standards Across the US, University of Louisville, Louisville, KY

March, 1992 – Risk Assessment at USEPA, USEPA Region IV

February 15, 1994 – Directions in Risk Assessment and Management, University of Cincinnati, Cincinnati, OH

January 10, 1995 – Case Studies in Risk Assessments, USEPA/CSC

June 13, 1998 – Risk Assessment at Non-NPL Hazardous Waste Sites, DOE Officials Conference, Utah State University

July 12, 1998 – Risk Assessment at Non-NPL Hazardous Waste Sites, DOE Officials Conference, Oak Ridge National Laboratories, Oak Ridge, TN

August 12, 1998 – Risk Assessment at Non-NPL Hazardous Waste Sites, DOE Officials Conference, Savannah River Group, Augusta, GA

Invited Local/Regional Meetings

April 1993 – Risk Assessment in RCRA, CERCLA, and the E.C., Columbus Bar Association, Columbus, OH

July 1993 – Risk Assessment, Louisville Area Chamber of Commerce Environmental Affairs Committee, Louisville, KY

May 23, 1994 – Training Session on Risk Assessment, Indiana Department of Environmental Management, Indianapolis, IN

April 8, 1997 – Presentation on Remediation and Risk Management, Fundamentals of Kentucky Environmental Law Compliance Seminar, KY

Invited Seminars (Last Five Years)

March 5, 1996 – Community Conversations – Science & Ecology, University of Cincinnati, Raymond Walters College, Cincinnati, OH

April 11, 1996 – Legal Issues in Risk Assessment, College of Law, University of Cincinnati, Cincinnati, OH

Other Scholarly Work

March 1993 – Problems in Environmental Regulation, College of Law, University of California

July 1993 – Risk Assessment, Coalition on Public Waste Reduction, Columbus, OH

July 1993 – Toxicology 780, An Introduction to Risk Assessment, Graduate Center for Toxicology, University of Kentucky

January 10, 1995 – Advanced Problems in Environmental Law, College of Law, University of Cincinnati, Cincinnati, OH

SELECTED TRIALS, HEARINGS, DEPOSITIONS AND MEDIATED SETTLEMENTS

G. Aldrich et. al. v. International Flavors & Fragrances, et. al., Case No. AO700451, Depo 12/17/08

C. Blood, et. al. v. International Flavors & Fragrances, et. al., Case No. AO700449, Depo. 7/2/08

B. Walker, et. al. v. Guvaudan Flavors Corp.et. al., Case No. AO700446, Depo 5/8/08

K. Eckhardt et. Al v. Gold Cross Services, Case No. 070908116, Utah , 4/08 Depo/Affidavit

Description: VOC/Metals grn water, indoor air and soil contamination

Agere Systems et. Al. v. Advanced Env. Technologies, et. Al (Boarhead Farms PA NPL Site), Eastern District, PA, Case No. 02-cv-3830, Trial 12/07

Description: Complex Inorganic, VOC and SVOC grn water/soil contamination NPL

Car Preservation Centers of Ohio, et. al. v. Ziebart Corporation, Case No. 01-127769 CK, 2003- (Settled 11/03)

Attorney:

Butzel Long
100 Bloomfield Hills Parkway, Suite 200
Bloomfield Hills, MI 48304

Description: Complex Organic Inhalation Toxic Tort

Caples Ranch, LLC v. Quicksilver Resources, Inc., Terra Energy, Mercury Exploration and CMS, Circuit Court of Otsego, MI, Case # 00-8908-CZ(M), Settled 6/2003

Attorney:

Kerr, Russell and Weber, PLC
Detroit Center
Suite 2500
500 Woodward Ave.
Detroit, MI 48226-3427

Description: Gas/Oil Assoc. GW Contamination

Jack W. Leach et. al. v. E.I.Dupont de Nemours and Company and Lubeck Public Service District, Circuit Court of Wood Cty, WVA, Civil Action No. 01-C-608, 2001-(Settled for 22.8 M in 9/04)

Attorney:

Taft, Stettinus & Hollister, LLP
425 Walnut Street
Cincinnati, OH 45202-3957

Description: Complex Organic GW Contamination

Nancy A. Beukema, et. al. v. Michigan Consolidated Gas Co., Settled 9/2002

Attorney:

Mika, Meyers, Beckett & Jones, PLC
900 Monroe Ave., NW
Grand Rapids, MI 49503-1423

Description: CO exposure limits

Class vs. Smirnoff LTD, Confidential Ongoing, International Court, London 2002-2003

Attorney:

CMS Cameron McKenna
Mitre House
160 Aldergate Street
London, EC1A 4DD
44-020 7367 3000

Description: Distillate Solvent Contaminant Toxicity

Lovelace vs. Norfolk & Western Railway Co. Case #C-1-00-532, Dave Lovelace et. al. v CSX Transportation et. al. Federal Court, Cincinnati, Ohio, Deposition, March 29, 2002

Attorney:

Frost, Brown & Todd
Cincinnati, OH

Description: Mixed Waste Toxic Tort

George Bareis, et. al. v Reynolds Metals Company and Paul D. Webb, Circuit Court of Saline County, State of Arkansas, Case #97-703-2, Deposition: October 2, 2000; Daulbert Hearing: October 3, 2000; and Trial October 17, 2000.

Attorney:

McMath Law Firm
711 West Third Street

Little Rock, Arkansas 72201

Description: Toxic Tort Litigation

Vicki McBrayer, et. al. v Laidlaw Environmental Services, Inc., et. al., Common Pleas Court, Franklin County, State of Ohio, Case #97CVC01-2057, Deposition: October 28, 1999

Attorney:

Thompson, Hine & Flory
One Columbus
10 West Broad Street
Columbus, OH 43215-3435

Description: Toxic Tort Litigation

ASARCO, Inc. v Blue Tee Corporation and J. Doe Corp., US District Court, Central District of Illinois at Springfield, Case #97-CV-3113, Deposition: May 12, 1998

Attorney:

Babst, Calland, Clements & Zomnir
Two Gateway Center, 8th floor
Pittsburg, PA 15222

Description: Cost Recovery Under CERCLA, VAP and TACO

Danny W. Birdwell et. al. v Stewart-Warner South Wind Corp. and BTR, Inc., United States District Court, Western Division of Kentucky at Bowling Green, Case #1:96CV-189-R, Deposition: January 23, 1998

Attorney:

Verga, Berger, Ledsky & Hayes
Santa Fe Building
224 S. Michigan Ave., Suite 350
Chicago, IL 60604-2507

Description: Cadmium Exposure Toxic Tort

Sterling/Hilton Davis – Direct Examination ~August 19, 1991

Attorney:

Taft, Stettinius & Hollister
1800 Star Bank Center
425 Walnut Street
Cincinnati, OH 45202-3957

Description: Lagoon Contamination and Associated Risks
(VOCs, SVOCs and Metals)

Dayton Walther v State of Ohio, Montgomery County Court of Common Pleas ~1990

Attorney:
Taft, Stettinius & Hollister
1800 Star Bank Center
425 Walnut Street
Cincinnati, OH 45202-3957

Description: Air Pollutant Effects Associated With Fugitive
Dust Emissions (Foundry)

EEI v State of Ohio, Hamilton County Court of Common Pleas ~1989

Attorney:
Taft, Stettinius & Hollister
1800 Star Bank Center
425 Walnut Street
Cincinnati, OH 45202-3957
Description: Relative and Comparative Risks for a Variety of Wastes

USEPA (Approximately 5 – under confidentiality of former government services)

BTR Dunlop, Inc. et. al. v Rockwell International Corp., et. al., US District Court for the Northern District of Illinois, Eastern Division, Case #90-C-7414

Attorney:
Holleb & Coff
55 East Monroe Stret, Suite 4100
Chicago, IL 60603

Attorney: Mayer, Brown & Platt
190 S. LaSalle Street
Chicago, IL 60603

Description: Consistency with the NCP of the Remedial Investigations
Performed and the Risk Assessment Process Involving
PCBs, SVOCs and Metals

Eastbelle Company v Elano Corporation, et. al., Court of Common Pleas, Greene County, OH, Case #90CV035, Deposition: October 15, 1992

Attorney:

Brown, Cummins & Brown
3500 Carew Tower
441 Vine Street
Cincinnati, OH 45202

Vorys, Sater, Seymour and Pease
52 East Gay Street
Columbus, OH 43216-1008

Description: Contaminants in the Groundwater Aquifer Underlying a Portion of the Property

Solar Turbines Inc. v Navistar International Transportation Corp., US District Court, Southern District of California, Case #921612 GT (BTM), Settlement: August, 1995

Attorney:

Latham & Watkins
Sears Tower, Suite 5800
Chicago, IL 60606

Description: Soil and Groundwater Contamination in the Form of Petroleum Products, VOCs and Metals at a Large Industrial Facility

TRP Associates v Comair, Inc., et. al., US District Court, Eastern District of Kentucky at Covington, Civil Action #92-74, Deposition May 25, 1993

Attorney: Taft, Stettinius & Hollister
1800 Star Bank Center
425 Walnut Street
Cincinnati, OH 452a02-3957

Keating, Muething & Klekamp
1800 Provident Tower
One East Fourth Street
Cincinnati, OH 452a02

Description: Surface Water Contamination (Metals, SOVCs and VOCs)
And Environmental Affects

Carl Klapper, et. al. v Waste Management of Kentucky, Inc., et. al., Bullitt County (KY) Circuit Court, Claim Co. 89-CI-187, Deposition: 3/9/94

Attorney:

Hart Block Building, 5th Floor
730 West Main Street
Louisville, KY 40202

Counsel for Defendant, Dow Corning
1500 Market Tower
10 West Market Street
Indianapolis, IN 46204-2968

Counsel for Defendant, Waste Management
621 West Main Street
Louisville, KY 40202

Description: Tetrachloroethylene Found in or Detected in Certain Drinking Water Wells

Teresa Boggs, et. al. v Divested Atomic Corporation, et. al., US District Court, Southern District of Ohio, Eastern Division. Civil Action #C-2-90-840, Deposition: August 17, 1993 and February 29, 1996

Attorney:

Waite, Schneider, Bayless & Chesley
1513 Central Trust Tower
Cincinnati, OH 45202

Voys, Sater, Seymour & Pease
52 East Gay Street
Columbus, OH 43215

Description: Fluoride/Fluorine Compounds in Air and Their Toxicological Affects at a DOE Facility

Plasti-Line, Inc. v Kraft General Foods, Inc. and Dart Industries, Inc., US District Court, Eastern District of Tennessee, Northern Division, Case #3:93-CV-0272 (Jury), Deposition April 15, 1994, Settlement Agreement reached October, 1994

Attorney:

Counsel for Plantiff
Taft, Stettinius & Hollister
1800 Star Bank Center
425 Walnut Street
Cincinnati, OH 45202-3957

Counsel for Defendants
Barnes & Thornburg
600 First Source Bank Center
100 North Michigan Street
South Bend IN 46601-1632

Counsel for Defendants
Holdges, Coughty & Carson
617 West Main Ave.
P.O. Box 869
Knoxville, TN 37901

Description: Risk of VOC, SVOC and Metals in Soil and Groundwater

North American Philips Corp. v. Aetna Casualty & Surety Co., et. al. Superior Court of the State of Delaware in and for New Castle County, Case #88C-JA-155-1-CV, Deposition/Trial: October 26-27, 1994

Attorney:

Smith, Katzenstein, Furlow
1220 Market Building
P.O. Box 410
Wilmington, DE 19899

Potter, Anderson & Corroon
350 Delaware Trust Building
P.O. Box 951
Wilmington, DE 19899

Description: Ecological and Human Health Assessment of Pesticides
And VOCs at Site in Southern California

Julianne C. Buchholz, et. al. v Dayton International Airport, et. al., US District Court, Southern District of Ohio, Case #C-3-94-435, Deposition: March 31, 1995, Hearing: April 19-20, 1995

Attorney:

Thompson, Hine and Flory
312 Walnut St., 14th Floor
Cincinnati, OH 45202-4029

Altman & Caladro Co.
414 Walnut St., Suite 1006
Cincinnati, OH 45202

Description: Ecological and Human Health Assessment of Risk to
VOCs/SVOCs in a Stream Environment

City of Middletown v AEP Flexo, Inc., Billy L. Robinson, US District Court, Southern District of Ohio, Western Division, Case #C-1-93-139

Attorney:

Taft, Stettinius & Hollister
1800 Star Bank Center
425 Walnut Street
Cincinnati, OH 45202

Description: VOC Contamination in Groundwater

AT&T, et. al. v Elgin Salvage and Supply Co., Inc., et. al., Expert Report Submitted, Deposition: March 25-26, 1996

Attorney:

McDermott, Will & Emery
227 West Monroe Street
Chicago, IL 60606-5096

Description: Allocation and Source Assessment for Lead, Polychlorobiphenyls (PCBs) and Dioxins

United States ex rel. Darrell Edward Stevens v McGinnis, Inc. and Ashland Petroleum Co., Ashland Oil Co. US District Court, Southern District of Ohio, Western Division, Civil Action #C-1-93-422, Deposition: 3/1/96

Attorney:

Schroeder, Maundrell, Barbiere & Powers
Governor's Knoll, Suite 110
11935 Mason Road
Cincinnati, OH 45249

Description: Petroleum and Metals Discharged into Waters of the United States

United States of America v M/G Transport Services, Inc., et. al., US District Court, Southern District of Ohio, Western Division, Criminal Case #CR1 95-18, Trial Commenced November 6, 1995

Attorney:

Vorys, Sater, Seymour and Pease
Atrium Two, Suite 200
221 East Fourth Street
Cincinnati, OH 45202

Schroeder, Maundrell, Barbiere & Powers
Governor's Knoll, Suite 110
11935 Mason Road
Cincinnati, OH 45249

Description: Petroleum and Metals Discharged into Waters of the United States

The Goodyear Tire & Rubber Company v The Aetna Casulaty and Surety Company, et. al., Court of Common Pleas for Summit County, Ohio, Case #CV 93 09 3226, Deposition: November 11, 1997

Attorney:

Lord, Bissell & Brook
115 South LaSalle Street
Chicago, IL 60603

Choate, Hall & Stewart
53 State Street
Boston, MA 02109

Description: Cost Allocation Litigation

United States ex rel v Kanawha River Towing, Inc. et. al., US District Court, Southern District of Ohio, Western Division, Case #C-1-93-790, Deposition: May 28, 1997

Attorney:

Kirkpatrick & Lockhart, LLP\
1500 Oliver Building
Pittsburgh, PA 15222-2312

Description: Disposal of Bilge Waste into the Kanawha River

ELDA Landfill, Administrative Adjustification Hearing Before an Ohio EPA Examiner, Case #95-SI-015, Hearing: July 16 & 18, 1996.

Wilkins v CSX Transportation, Inc. US District Court, Western District of Kentucky, Bowling Green Division, Case #C92-0136BG(H)

Attorney: Woodward, Hobson & Fulton
2500 National City Tower
Louisville, KY 40202

Description: Disposal/spill of Agent Orange and Potential Dioxin Contamination in the Soil

CLIENTS

Conrail
CSX Real Property
CSX Transportation
Diamler-Chrysler Inc.
Dinsmore & Shol
Dayton Walther Inc.
Dayton International Airport
Detroit Edison
E.I. DuPont
Eagle-Picher Plastics
Eagon & Associates, Inc.
Earth Science & Technology Inc.
Eastman & Smith
Eastman Kodak Co.
Ecosolve
EEI Corp.
Eichhorn, Eichhorn & Link
Eihorn, Yaffee, & Prescott
Ekco-Alcoa Container
Elgin Salvage & Supply
Eli Lilly Corporation
EM Science
Employers Mutual Casualty Company
Ensafe
Environet, Inc.
Environmental Assessment Services, Inc.
Envirosafe Services of Idaho, Inc.
ERAtech Environmental, Inc.
ERM-Midwest, Inc.
ERM-North Central, Inc.
ERM-Northeast
EMR-Southeast, Inc.
Evanston Insurance Company
Exxon
Federal Insurance Company
Federal Mogul
Fiberglass Evercoat Corp.
Figgie Property's Inc.
Fireman's Fund Insurance Company
Firestone Rubber Co.
First State Insurance Company
FMC Corporation
FMSM Engineers
Foley & Lardner
Ford Motor Co.
Formica Co.
Forst & Jacobs (OH)
Fuji Photo USA
Galvin, Stalmack, Kirshner & Clark
(The) Gates Corp.
(The) Gates Rubber Company
GenCorp. Inc.
General Electric Appliances
General Electric Corp.
General Electric Plastics
General Motors Corp.
General Reinsurance Corporation
German, Gallagher & Murtagh
Gibralter Casualty Company
Gilberg & Kurent
Glidden Company
B.F. Goodrich Co.
Gorham, Metge, Bowman, Hourigan

Gradient Corp.
Granite State Insurance Company
Grant, Konvalinka & Grubbs (TN)
Graydon, Head, & Ritchey
Great Lakes Steel
Greenebaum Doll & McDonald
Gripco Fastener
Grow Group, Inc.
GTE (General Telephone and Electronics)
GTI
Hargis & Associates, Inc.
Hartford Accident and Indemnity Company
Hatcher-Sayre, Inc.
Helena Chemical Co.
Heritage Remediation/Engineering, Inc.
Holleb & Coff (IL)
Home Insurance Company
Honigman, Miller & Schwartz & Cohn (MI)
Howard & Howard
Hughes Aircraft Corporation
Hunter Environmental Services, Inc.
Huntington Specialty Products
IBM
Ice, Miller, Denado & Ryan
ICF-Clemens
ICI America Incorporated
Indemnity Insurance Company of North America
Indiana Michigan Power Co.
Insilco Company
Insurance Company of the State of PA
Insurance Company of North America
International Insurance Company
International Surplus Lines Insurance Co.
ITT Corp.
James Graham Brown Foundation
Johnson & Bell, Ltd.
S. C. Johnston & Son, Inc.
Jones & Scheich
Joslyn Manufacturing Co.
Joyce Dayton Co.
K-mart
Kanawha River Towing
Karaganis & White
KCI Technologies
James T. Keating
Keating, Muething & Klekamp
Keck, Mahin & Cate
Kelsey-Haynes Corp.
Kemron Environmental Services
Kentucky Dept. of Environmental Protection
Kimball International
Kimberly-Clark Corp.
King & Spaulding
Kirkland & Ellis
Krueger Ringier, Inc.
Latham & Watkins
Law Environmental, Inc.
Law Office of James T. J. Keating
Lexington Insurance Company
Liberty Mutual Insurance Company
Lloyd's London
London Market Insurance Companies
Lord, Bissell & Brook
Louisville Downs
Louisville Waterfront Development Corp.
Luce, Forward, Hamilton & Scripps
Magnavox
Martin Marietta Energy Systems, Inc.
Material Sciences Corporation
Maupin Taylor Ellis & Adams
McBride, Baker & Coles
McDermott, Will & Emery
McMath Law Firm
McNeal, Schick, Archibald & Biro Co., LPA
Mead Corp.
Melito & Adolfsen, P.C.
Mercury Instruments, Inc.
Merlo, Kanofsky & Brinkmeier, Ltd.
Meyer Stamping
M/G Transport
Midland Corp.
Midwest Environmental Services, Inc.
Midwest Research Institute
Midwest Sintered Products Corporation

Millikin & Fitton Law Firm
Milton Bradley Company
Mobil Oil Corporation
Mobil Mining & Minerals
Modular Remediation Systems, Inc.
Monsanto Agricultural Company
Montgomery Ward
Montrose Chemical
Morgan Lewis & Bockius
Mosler
Motorola, Inc.
Murphy Welch & Spadaro
MWR/ETG Environmental, Inc.
Steve Napper
NASA
National Casualty Company
National Football League (NFL)
National Plastics Corp.
National Steel CO.
National Union Fire Insurance Co. of Pittsburgh, PA
Navistar
NCR
North Star Reinsurance Corporation
Northwestern National Insurance Co.
Ogden Environmental & Energy Services
Ohio State University
Old Republic Insurance Company
Outboard Marine Corporation
Oxy-USA
Pacific Environmental Services, Inc.
Pacific Insurance Company
(The Payne Firm, Inc.
Payne-Reimer Corp.
Pennsylvania Power & Light Company
Pepper, Hamilton & Scheetz
Pepsi-Cola Bottling Co.
Phelan, Cahill & Quinlan, Ltd.
Popham Haik
J. Chester Porter & Associates
Porter, Wright, Morris & Arthur
PPG Industries, Inc.
Prestolite Wire Corporation
Procter & Gamble
Protective Coatings, Inc.
Prudential Reinsurance Company
Psara Technologies Inc.
Quantum Chemical Corp.
Raybestos
Rea Magnet Wire Co.
Reed & Smith
Reedsmith, Shaw, McClay
T. M. Reagan, Inc.
Remnet, Inc.
Republic Insurance Company
Resource Consultants, Inc.
Reynolds Metal Company
Rhone-Poulenc
Rick Coy & Cliffknaggs
Ringier America Company
Roadway Express, Inc.
Robbins & Myers, Inc.
Roderick, Myers & Linton
Ropes & Gray
Ross & Hardies
Ruetgers & Nease Chemical Co., Inc.
Rust Environment & Infrastructure, Inc.
Ryder Truck Co.
Safety-Kleen Corp.
St. Joseph Medical Center
Schimpeler-Corradino Associates
Schroeder, Maundrell, Barbiere & Powers
Sciences International, Inc.
Scott Paper Co.
Scott R. Smith Environmental Management, Inc.
G. D. Serle & Company
Sears, Roebuck & Company
Senco Products, Inc.
Seyfarth, Shaw, Fairweather & Geraldson
(The) Sherwin-Williams Company
Shield Environmental
Sidley & Austin
Skadden, Arps, Slate, Meagher & Flom
Smith Katzenstein Furlow
Snell & Wilmer
Society Bank
Solar Turbines
Solid Waste Authority of Central Ohio

Squire, Sanders & Dempsey
Star Bank
State of Indiana Air National Guard
Stauffer Chemical
Stauffer Management Company
Sterling Winthrop Corp.
Stone, Pogrund, Korey & Spagat
Stonewall Insurance Company
Stony Hollow Recycling & Disposal Facility
Strauss & Troy
Superior Tube Company
T and N Industries
Taft, Stettinius & Hollister (OH)
Target Stores, Inc.
Technical Environmental Consultants, Inc.
Thiokol Corporation
3M Corp.
3M Environmental Engineering and Pollution Control
Thompson, Hine and Flory
Tinkham, Schreiner, Clark & Mallory
Transport Indemnity Company
Traub, Eglin, Lieberman & Strauss
Travelers Indemnity Company
Tressler, Soderstrom, Maloney & Priess
Trinity Engineering Associates
Tufts University
Twin City Fire Insurance Co.
Ungers & Associates, Inc.
Union Carbide Corporation
Union Oil Company of California
United States Environmental Protection Agency (Fees Waived)
United States Fire Insurance Company
United Technologies, Inc.
University of Louisville
University of Kentucky
University of Cincinnati
University of California
Upjohn Co.
Vandeveer Garzia Professional Corp.
Varga, Berger, Ledsky & Hayes
Vedder, Price, Kaufman & Kammholtz
Vichem
Vorys, Sater, Seymour and Pease
Vulcan Oil & Chemical Products
Wald Manufacturing Co.
Warner, Norcross & Judd
Warzyn, Inc.
Waste Management, Inc.
Wayne Co. (MI)
Paul Werth Associates, Inc.
Weston Hurd, Fallon, Paisley & Howley
Westport Insurance Corporation
Whiteman, Osterman & Hanna (NY)
Wildman, Harrold, Allen & Dixon
Wiley, Rein & Fielding
Willbrook Plantation
Winston & Strawn
Woodward Clyde
Woodward, Hopson & Fulton
Wyatt, Tarrant & Combs

From:	Coleman, Jamie
To:	Knott, Steven
Subject:	2020 TSCA SACC Nomination for Dr. Frank Mink
Date:	Friday, March 20, 2020 5:14:21 PM
Attachments:	ATT00001.txt FL Mink_cv env expert 14.pdf

Dear Mr. Knott,

My name is Jamie Coleman and I am submitting a nomination for Dr. Frank Mink, a former SAB panelist, to serve on the TSCA SACC. I am attaching his updated CV, which also includes his new physical and mailing address (I believe it has changed since he last served on the SAB). Thank you very much for your consideration of this nomination, as I believe Dr. Mink would make extremely valuable contributions to the SACC. I wish you well in your efforts coordinating the critical work performed by this distinguished panel of experts.

Sincerely,

James (Jamie) C. Coleman II, PhD, DABT, ERT
Senior Manager Product Safety

Kao USA, Inc.
2535 Spring Grove Avenue,
Cincinnati, OH 45214-1729
Office: +1-513-977-2988
Cell: + (b) (6)
Email: jamie.coleman@kao.com

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From:	Messerlian, Carmen
To:	Knott, Steven
Subject:	Advisory Committee Nomination
Date:	Thursday, March 19, 2020 3:09:55 PM
Attachments:	HarvardChan_logo_hrz_RGB-email-96.jpg Messerlian_03_11_2020.pdf

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Dear Steven,

I would like to self-nominate for the TSCA Scientific Advisory Committee on Chemicals.

I am attaching my CV. Please let me know what is required for the nomination. I can provide letters of reference from Drs. Russ Hauser Philippe Grandjean, and others if needed.

Thank you for your consideration.

Sincerely,

Carmen

Carmen Messerlian, PhD | Assistant Professor of
Environmental Reproductive, Perinatal, and Pediatric Epidemiology
Departments of Epidemiology and Environmental Health
Director, Scientific Early Life Environmental Health & Development (SEED) Program
Harvard T.H. Chan School of Public Health
cmesser@hsph.harvard.edu
https://www.hsph.harvard.edu/carmen-messerlian/

03/11/2020

CARMEN MESSERLIAN, PhD, MSc, BSc (N)
Assistant Professor of Environmental Reproductive, Perinatal, and Pediatric Epidemiology
Director, Scientific Early Life Environmental Health & Development (SEED) Program
Department of Environmental Health
Department of Epidemiology
Harvard T.H. Chan School of Public Health
665 Huntington Avenue, Boston, MA, 02115
Building 1, 1310C
cmesser@hsph.harvard.edu
www.hsph.harvard.edu/carmen-messerlian/

EDUCATION:

1994-1998	Bachelor of Science, Nursing	BSc (N)	McGill University
1999-2000	Master of Science, Public Health	MSc	London School of Hygiene and Tropical Medicine
2008-2014	Doctor of Philosophy, Epidemiology	PhD	McGill University

ACADEMIC APPOINTMENTS:

2014-2017 Canadian Institutes of Health Research Fellow/Visiting Scientist, Department of Environmental Health, Occupational Medicine & Epidemiology Program, Harvard T.H. Chan School of Public Health

2018-2019 Research Scientist, Department of Environmental Health, Occupational Medicine & Epidemiology Program, Harvard T.H. Chan School of Public Health

2019 - Assistant Professor of Environmental Reproductive, Perinatal and Pediatric Epidemiology, Harvard T.H. Chan School of Public Health

LICENSURE AND CERTIFICATION:

1998-present Quebec Order of Nurses

OTHER PROFESSIONAL APPOINTMENTS:

1998-1999 Clinical Nurse, Montreal Children's Hospital, McGill University Health Center
2000-2001 Health Promotion Consultant, Department of Public Health, Hamilton, Ontario
2001-2002 Public Health Consultant, Ontario Maternal-Child Health Resource Center
2002-2006 Director of Programs and Research, McGill University
2003-2004 Health and Nutrition Consultant, Canadian International Development Agency
2008-2013 Doctoral Research Fellow, Department of Epidemiology, McGill University

COMMITTEE SERVICE:

PROFESSIONAL SOCIETIES:

2013-present Member, Society for Epidemiologic Research (SER)
2013-present Member, Society for Pediatric and Perinatal Epidemiologic Research (SPER)
2014-present Member, American Society for Reproductive Medicine (ASRM)
2017-present Member, International Society for Environmental Epidemiology (ISEE)
2017-2018 Executive Committee Member, SPER
2019-2020 Vice-Chair, Environmental Reproductive Special Interest Group, ASRM

FEDERAL GOVERNMENT PUBLIC ADVISORY:

2018-2019 Committee Member, National Academies of Sciences, Engineering, and Medicine, Committee to Develop a Scoping Plan to Assess the Hazards of Organohalogen Flame Retardants

2019-2021 Committee Member, The French Agency for Food, Environmental and Occupational Health and Safety (ANSES, France) to Assess Perinatal and Child Health Effects of Insecticides

EDITORIAL ROLES:

Ad hoc reviewer

Human Reproduction (Top 10% best reviewers: 2013, 2015, 2016)
New England Journal of Medicine
American Journal of Epidemiology
Epidemiology
Environmental Health Perspectives
Environment International
Environmental Research
Fertility & Sterility
Pediatrics
Pediatric and Perinatal Epidemiology
Reproductive Toxicology
International Journal of Hygiene and Environmental Health

Other editorial roles

2017-present Associate Editor Human Reproduction

Other review and service

2016-2019	Abstract Reviewer	American Society for Reproductive Medicine
2016-2020	Abstract Reviewer	International Society for Environmental Epidemiology
2017	Abstract Reviewer	Society for Epidemiologic Research
2018	Poster Judge	Harvard Chan Poster Day
2018	Session Chair	ISEE Annual Meeting, Ottawa
2018-2020	Abstract Reviewer	HSPH Postdoctoral Association Travel Award

2018-2020	Abstract Reviewer	European Society for Human Reproduction & Embryology
2019-	Grant Reviewer	National Institute of Environmental Health Sciences, Epidemiology Branch, Intramural Program
2020	Abstract Reviewer	Society for Pediatric and Perinatal Epidemiologic Research

HONORS AND DISTINCTIONS:

1997	Alumnae Scholarship	McGill University
1998	Magna Cum Laude	McGill University
2008	Provost Graduate Fellowship Award	McGill University
2008-2011	Doctoral Research Award (declined)	Quebec Institute for Health Research
2008-2011	Doctoral Research Award	Canadian Institutes of Health Research
2011-2012	Ferring Pharmaceuticals Fellowship James O. Maria Meadows Fellowship Faculty of Medicine Studentship	McGill University
2014-2016	Post-Doctoral Fellowship (declined) 1st place ranking (of 79)	Quebec Institute for Health Research
2014-2017	Post-Doctoral Research Fellowship 1st place ranking (of 98)	Canadian Institutes of Health Research
2014-2017	Bisby Fellowship Prize	Canadian Institutes of Health Research
2015	Scientific Prize Paper	American Society for Reproductive Medicine
2016	Scientific Prize Paper	American Society for Reproductive Medicine
2017	Corporate Member Council In-Training Travel Grant	American Society for Reproductive Medicine Given to top 5% of applicants on scientific merit and credentials
2018	Outstanding Academic Faculty Teaching Award	Harvard Chan School of Public Health Department of Environmental Health Occupational and Environmental Medicine Residency Program
2018	Scientific Prize Paper	American Society for Reproductive Medicine

FUNDED GRANTS AND UNFUNDED PROJECTS:

COMPLETED GRANTS:

2008-2011 Causes of Infertility, Assisted Reproduction, and the Risk of Preterm Birth
Canadian Institutes of Health Research (CIHR)

Role: Principal Investigator

The goal of this competitive award was to determine whether the underlying causes of infertility or medically assisted reproduction are associated with the risk of preterm birth.

2014-2017 The Effect of Male and Female Exposure to Mixtures of Endocrine Disrupting Compounds on Fertility, Pregnancy, and Infant Development

Canadian Institutes of Health Research (CIHR) Postdoctoral Fellowship Award

CIHR 320826

Role: Principal Investigator

Competitive grant funded to investigate the effects of phthalates and mixtures of endocrine disrupting chemicals on fertility, pregnancy and infant development using the data from the Environment and Reproductive Health Study.

2015-2020 Human Exposure to Bisphenol A and Phthalates and Fertility, Pregnancy Outcomes

NIEHS R01ES009718 (PI: Hauser)

Role: Investigator

The study is designed to determine the developmental and reproductive toxicity of phthalates and bisphenol A in couples undergoing assisted reproductive technologies, which can be used as a model for the assessment of the early stages of human development.

2017-2021 Sources, Transport, Exposure and Effects of PFASs (STEEP)

NIEHS P42ES027706-03 (PI: Grandjean)

Role: Co-Investigator

The study examines an existing cohort of 490 children up to the age of 9 to determine the possible impact of age-related polyfluoroalkyl substances exposure on immune and metabolic health.

GRANTS SUBMITTED, FUNDED, OR UNDER CONSIDERATION:

2020-2025 The Impact of Maternal and Paternal Polyfluoroalkyl Substance (PFAS) Exposure on Reproductive and Perinatal Outcomes

National Institute of Environmental Health Sciences

R01 ES031657-01

Role: Principal Investigator

The proposed study will leverage the Environment and Reproductive Health Study to measure serum concentrations of 11 PFAS analytes in men and women before conception in relation to semen quality parameters, fertilization, implantation, pregnancy loss, live birth, birthweight, and gestational age.

2019-2020 Environmental Chemicals, Fertility Status, and the Role of Epigenetic Aging: A Unifying Hypothesis to Age-related Diseases

Harvard Chan NIEHS Center for Environmental Health

Pilot Grant (awarded); R21 (to be resubmitted to NIEHS)

Role: Principal Investigator

The proposed study will leverage the Environment and Reproductive Health Study and measure DNA methylation in whole blood among subfertile women in order to examine the extent to which DNA methylation epigenetic age is associated with clinical measures of fertility and determine if environmental chemicals accelerate epigenetic aging in the context of infertility.

2020-2025 Preconception Intervention for Healthy Reproduction (PIPER) Project

National Institute of Environmental Health Sciences

Outstanding New Environmental Scientist (ONES) Award

R01 ES032545-01

Role: Principal Investigator

The objective of this innovative proposal is to develop and test a preconception intervention program on reducing paternal and maternal phthalate and phenol exposures through diet and personal care product behavior modification and evaluate via a randomized control trial design its effect on time to pregnancy, pregnancy loss, and birthweight among couples attempting conception.

2020-2022 Kids in Daycare: Chemicals, Air, Environment (KIDCARE) Study

Hood Foundation

Role: Principal Investigator

The goal of this study is to recruit a cohort of infants and toddlers 2-18 months of age attending daycares and evaluate the role of indoor built environments (home and childcare spaces) on risk of respiratory symptoms, asthma, and illness.

TEACHING AND TRAINING:

TEACHING IN HARVARD UNIVERSITY COURSES:

2017	EPI 269	Epidemiologic Research in Obstetrics-Gynecology	Lecturer
2017-18	ID 215	Environmental and Occupational Epidemiology	Lecturer
2017-19	EH 504	Principles of Toxicology	Lecturer
2018-19	EH 298	Environmental Epigenetics	Lecturer
2018	EPI 269	Epidemiologic Research in Obstetrics-Gynecology	Co-Director
2019	EPI 269	Reproductive Perinatal Epidemiology I	Director
2020	GenEd1045	Can We Choose to be Healthy?	Lecturer

TEACHING COURSES AT OTHER INSTITUTIONS:

2017	QBS 131	Foundations of Epidemiology II Geisel School of Medicine Dartmouth College	Lecturer

ADVISORY AND SUPERVISORY RESPONSIBILITIES:

2015-2018	Irene Dimitriadis, MD	Clinical Fellow Research Mentor Reproductive, Endocrinology & Infertility Fellow Harvard Medical School Massachusetts General Hospital Fertility Center
2016-2018	Allison Lange, MD	Clinical Fellow Research Mentor Reproductive, Endocrinology & Infertility Fellow Harvard Medical School Massachusetts General Hospital Fertility Center
2016-2018	Vicente Mustieles	Visiting Student Mentor PhD in Environmental Health University of Granada **Granted: October 2018**
2017-2018	Jennifer Yland	Graduate Degree Mentor SM, Reproductive Epidemiology Harvard T.H. Chan School of Public Health **Granted: May 2018**
2018-2019	Nathan Jones	Graduate Degree Mentor MPH, Occupational Medicine Resident Harvard T.H. Chan School of Public Health **Granted: May 2019**
2019-present	Yu Zhang	Visiting Student Mentor Bachelor degree in Biomedical English Peking University, China **Expected: June 2020**

INVITED PRESENTATIONS:

2013	Infertility, Low Technology Treatment, and the Risk of Adverse Outcomes. Invited presentation, McGill University Department of Epidemiology Annual Research Day Symposium, Montreal, Quebec (1st place prize for best oral).
2013	Infertility, Assisted Reproduction and the Risk of Preterm Birth. Invited presentation, Harvard T.H. Chan School of Public Health, Department of Environmental Health, Boston, MA.
2016	Endocrine Disrupting Chemicals and Fertility, Pregnancy and Child Health Outcomes. Invited presentation, Massachusetts General Hospital Vincent Center for Reproductive Biology, Boston, MA
2017	Common Causes of Adverse Pregnancy Outcomes: Infertility, Assisted Reproduction, and Endocrine Disrupting Chemicals. Invited lecture, University of Aberdeen, School of Medicine, Aberdeen, Scotland.
2017	Linking Phthalates to Fertility, Pregnancy, and Child Health Outcomes: Results from the Environment and Reproductive Health (EARTH) Study. Invited presentation at the Massachusetts General Hospital Fertility Center, Reproductive Endocrinology Didactic Lecture Series, Boston, MA.

2017 Translating Science into Practical Advice for Patients: Environment and Dietary Research. Invited Panelist for the American Society for Reproductive Medicine Annual Meeting, San Antonio, TX.

2017 Are Endocrine Disrupting Chemicals Associated with Perinatal Outcomes among Subfertile Women? Invited lecture for Reproductive Endocrinology Didactic Lecture Series, Massachusetts General Hospital, Boston, MA.

2017 Impact of Environmental Chemicals on Fertility, Pregnancy, and Child Health. Invited seminar, Yale School of Public Health, New Haven, CT.

2017 Connecting the Dots: Impact of Environmental Chemicals on Fertility, Pregnancy, Child Health. Invited seminar, Columbia School of Public Health, New York NY.

2018 Understanding the Role of Environmental Chemicals in Fertility and Reproduction: From Research to Prevention. Invited Grand Rounds speaker, Pediatric Environmental Health Specialty Units, American Academy of Pediatrics, National Webinar Series.

2018 Military Firefighter Exposure to Perfluoroalkyl Substances and Adverse Reproductive Outcomes. Invited Grand Rounds Discussant, Harvard T.H. School of Public Health, April 2018, Boston, MA.

2018 Describing and Defining Windows of Vulnerability: From Preconception to Childhood. Invited Roundtable Speaker, Society for Pediatric and Perinatal Epidemiologic Research, June 2018, Baltimore, MD.

2018 Exposure Misclassification in Epidemiological Studies: Implications for Environmental Risk Assessment. Invited Symposium Speaker, Developmental Neurotoxicology and Teratology Society Meeting, June 2018, Clearwater, FL.

2018 Understanding the Impact of Environmental Chemicals on Reproductive and Child Health. Invited seminar, Department of Epidemiology, Dartmouth Geisel School of Medicine, October 2018, Dartmouth, NH.

2019 Cohort Studies in Obstetric and Gynecologic Research. Invited webinar presentation for Society for Maternal-Fetal Medicine Webinar Series.

2019 Endocrine Disrupting Chemicals and Fertility. Invited roundtable, American Society for Reproductive Medicine, October 2019, Philadelphia, PA.

2019 Quest to Understand the Impact of Environmental Chemicals on Adverse Pregnancy Outcomes. Invited seminar, Department of Epidemiology and Biostatistics, University of Massachusetts, November 2019, Amherst, MA.

2019 Vulnerability Before Conception: How Parental Preconception Exposure Influences Fertility and Pregnancy Outcomes. Invited seminar, Willow Impact Series, Harvard Chan School of Public Health, December 2019, Boston, MA.

2020 Challenges and Opportunities for Women in Reproductive Epidemiology. Accepted Symposium, Society for Pediatric and Perinatal Epidemiologic Research (SPER), Co-Chair with Dr. Martha Werler, Boston, June 2020.

BIBLIOGRAPHY: † denotes supervised student, postdoctoral fellow, or clinical fellow

Peer reviewed publications

1. **Messerlian C**, Derevensky J, Gupta R. A Public Health Perspective for Youth Gambling: A Prevention and Harm Minimization Framework. *International Gambling Studies*. 2004; 4:147-160.

2. **Messerlian C**, Byrnes, A, Derevensky J. Gambling, Youth and the Internet: Should we be Concerned? *Canadian Child and Adolescent Psychiatry Review*. 2004; 13(1):3-6.

3. **Messerlian C**, Derevensky J, Gupta R. Youth Gambling Problems: A Public Health Framework. *Health Promotion International*. 2005; 20(1):69-79.

4. **Messerlian C**, Derevensky J. Youth Gambling: A Public Health Perspective. *Journal of Gambling Issues*. 2005; 14:1-20.

5. **Messerlian C**, Derevensky J. Social Marketing Campaigns for Youth Gambling Prevention: Lessons Learned from Youth. *International Journal of Mental Health Addiction*. 2006; 4:294-306.

6. **Messerlian C**, Derevensky J, Gillespie M. Beyond Drugs and Alcohol: Including Gambling in our High-risk Behavior Framework. *Paediatrics & Child Health*. 2007; 12(3):199-204.

7. **Messerlian C,** Derevensky J. Evaluating the Role of Social Marketing Campaigns to Prevent Youth Gambling Problems: A Qualitative Study. *Canadian Journal of Public Health*. 2007; 98(2): 101-4.

8. **Messerlian C**, Maclagan L, Basso O. Infertility and the Risk of Adverse Pregnancy Outcomes: A Systematic Review and Meta-analysis. *Human Reproduction.* 2013; 28(1):12.

9. **Messerlian C**, Fishman J. Less is More: Improving Outcomes and Cutting Costs to Quebec's Assisted Reproduction Program. *Canadian Medical Association Journal*. 2014; 186(6):405-6.

10. Dayan N, Pilote L, Opatrny L, Basso O, **Messerlian C**, El-Messidi A, Daskalopoulou SS. Combined Impact of High Body Mass Index and In Vitro Fertilization on Preeclampsia Risk: A Hospital-based Cohort Study. *Obesity*. 2015; 23(1):200-6.

11. **Messerlian C**, Platt RW, Tan SL, Gagnon R, Basso O. Low Technology Assisted Reproduction and the Risk of Preterm Birth in a Hospital-Based Cohort. *Fertility & Sterility*. 2015; 103(1):81-8.e2.

12. **Messerlian C**, Platt RW, Ata B, Tan SL, Basso O. Do the Causes of Infertility Play a Direct Role in the Etiology of Preterm Birth? *Pediatric & Perinatal Epidemiology*. 2015; 29(2):101-1.

13. Oskoui M, **Messerlian C**, Pampalon R, Gamache P, Shevell M. Variation in Cerebral Palsy Profile by Socioeconomic Deprivation. *Developmental Medicine & Child Neurology*. 2016 Feb; 58(2): 160-166. doi: 10.1111/dmcn.12808.

14. **Messerlian C**, Souter I, Gaskins AJ, Williams PL, Ford JB, Calafat AM, Hauser R. Urinary Phthalate Metabolites and Ovarian Reserve among Women Seeking Infertility Treatment. *Human Reproduction*. 2016 Jan; 31(1): 75-83. doi: 10.1093/humrep/dev292.

15. Minguez-Alarcon L, Chiu HY, **Messerlian C**, Williams PL, Sabatini ME, Toth TL, Ford JB, Calafat AM, Hauser R. Urinary Parabens Concentrations and In Vitro Fertilization Outcomes among Women from a Fertility Clinic. *Fertility & Sterility*. 2016 Mar; 105(3): 714-21. doi: 10.1016/j.fertnstert.2015.11.021.

16. **Messerlian C**, Wylie B, Minguez-Alarcon L, Williams P, Ford J, Souter I, Calafat A, Hauser R. Urinary Concentrations of Phthalate Metabolites in Relation to Pregnancy Loss among Women Conceiving with Medically Assisted Reproduction. *Epidemiology*, 2016 Nov; 27(6): 879-888. doi: 10.1097/EDE.0000000000000525.

17. Chiu YH, Minguez-Alarcon L, Ford JB, Keller M, Seely E, **Messerlian C**, Petrozza J, Williams PL, Ye X, Calafat A, Hauser R, James-Todd T. Trimester-specific urinary bisphenol A concentrations and blood glucose levels among women from a fertility clinic. *Journal of Clinical Endocrinology and Metabolism*, 2017; 102(4): 1350-1357.

18. Wylie BJ, Ae-Ngibise KA, Boamah EA, Mujtaba M, **Messerlian C**, Hauser R, Coull B, Calafat AM, Jack D, Kinney PL, Whyatt R, Owusu-Agyei S, Asante KP. Urinary Concentrations of Insecticide and Herbicide Metabolites among Pregnant Women in Rural Ghana: A Pilot Study. *Int J Environ Res Public Health*. 2017 Mar; 14(4).

19. Minguez-Alarcon L, Christou G, **Messerlian C**, Williams PL, Carignan CC, Souter I, Ford JB, Calafat AM, Hauser R. Urinary triclosan concentrations and diminished ovarian reserve among women undergoing treatment in a fertility clinic. *Fertility & Sterility*. 2017 Aug; 108(2): 312-319. doi.org/10.1016/j.fertnstert. 2017.05.020.

20. Braun JM, **Messerlian C**, Hauser R. Fathers Matter: Why It's Time to Consider the Impact of Paternal Environmental Exposures on Children's Health. *Current Epidemiology Report*. 2017. doi:10.1007/s40471-017-0098-8.

21. **Messerlian C**, Braun JM, Minguez L, Williams P, Ford JB, Calafat A, Hauser R. Paternal and Maternal Urinary Phthalate Metabolite Concentrations and Birth Weight of Infants Conceived by Subfertile Couples. *Environment International*. 2017; 107: 55-64. doi: 10.1016/j.envint.2017.06.015.

22. **Messerlian C**, Bellinger D, Williams PL, Minguez L, Ford JB, Calafat AM, Hauser R, Braun JM. Paternal and Maternal Preconception Urinary Phthalate Metabolite Concentration and Child Behavior. *Environmental Research*. 2017 Jul 21;158:720-728. doi: 10.1016/j.envres.2017.07.032.

23. **Messerlian C**, †Mustieles V, Williams PL, Calafat AM, Hauser R. Ultrasound Gel as a Source of Exposure to Phthalates and Phenols among Pregnant Women Undergoing Routine Scan. *International Journal of Hygiene and Environmental Health*. 2017. doi: 10.1016/j.ijheh.2017.08.003.

24. **Messerlian C**, †Martinez R, Hauser R, Baccarelli A. 'Omics' and Endocrine Disrupting Chemicals – New Paths Forward. *Nature Reviews Endocrinology*. 2017. doi: 10.1038/nrendo.2017.81.

25. Chiu YH, Bellavia A, James-Todd T, Correia KF, Valeri L, **Messerlian C**, Ford JB, Mínguez-Alarcón L, Calafat AM, Hauser R, and Williams PL, for the EARTH Study Team. Evaluating Effects of Prenatal Exposure to Phthalate Mixtures on Birth Weight: A Comparison of Three Statistical Approaches. *Environment International*. 2018 April; 113: 231-239. doi.org/10.1016/j.envint.2018.02.005.

26. **Messerlian C**, †Mustieles V, Minguez-Alarcon L, Ford JB, Williams PL, Hauser R. Preconception and Prenatal Urinary Concentrations Phenols and Birth Size of Singleton Infants Born to Mothers and Fathers from the EARTH Study, *Environment International*. 2018 May; 114: 60-68. doi.org/10.1016/j.envint.2018.02.017.

27. **Messerlian C**, Williams PL, Ford JB, Chavarro J, Mínguez-Alarcón L, Dadd R, Braun J, Gaskins AJ, Meeker JD, James-Todd T, Chiu Y-H, Nassan FL, Souter I, Petrozza J, Keller M, Toth T, Calafat AM, Hauser R. The Environment and Reproductive Health (EARTH) Study: A Prospective Preconception Cohort, *Human Reproduction Open*. 2018: 1-11. doi: 10.1093/hropen/hoy001.

28. James-Todd T, Chiu Y-H, **Messerlian C,** Minguez-Alarcon L, Ford JB, Keller M, Petrozza J, Williams PL, Xiaoyun Y, Calafat AM, Hauser R. Trimester-specific Phthalate Concentrations and Glucose Levels among Women from a Fertility Clinic, *Environmental Health*, 2018;17 (1): 55. doi: 10.1186/s12940-018-0399-5.

29. Korevaar T, Mínguez-Alarcón L, **Messerlian C**, de Poortere RA, Williams PL, Broeren M, Hauser R, Souter S. The Association of Thyroid Function and Autoimmunity with Ovarian Reserve in Women Seeking Infertility Care, *Thyroid*, 2018. doi: 10.1089/thy.2017.0582.

30. †Mustieles V, Williams PL, Fernandez MF, Minguez-Alarcon L, Ford JB, Hauser R, **Messerlian C**. Maternal and Paternal Preconception Exposure to Bisphenols and Size at Birth, *Human Reproduction*, 2018: doi: 10.1093/humrep/dey23.

31. Minguez-Alarcon L, Gaskins A, Chiu YH, **Messerlian C**, Williams PL, Ford JB, Souter I, Hauser R, Chavarro J. Type of Underwear Worn and Markers of Testicular Function among Men Attending a Fertility Center. *Human Reproduction*, 2018; 33(9); 1749-1756: doi: 10.1093/humrep/dey259.

32. **Messerlian C**, Williams PL , Mínguez-Alarcón L, Carignan CC, Ford JB, Butt CM, Meeker JD, Stapleton HM, Souter I, Hauser R. Organophosphate Flame Retardant Metabolite Concentrations and Pregnancy Loss Among Women Conceiving with Assisted Reproduction Technology. *Fertility & Sterility*, 2018; 110(6); 1137-1144: doi:10.1016/j.fertnstert.2018.06.045.

33. †Mustieles V, Minguez-Alarcon L, Ford J, Hauser R, Souter I. **Messerlian C**. Placental Weight in Relation to Maternal and Paternal Preconception and Prenatal Urinary Phthalate Metabolite Concentrations, *Environmental Research*, 2019; 169: 272-279. doi: 10.1016/j.envres.2019.11.022.

34. †Yland Y, **Messerlian C**, Minguez-Alarcon L, Ford JB, Hauser R, Williams PL. Methodological Approaches to Analyzing In Vitro Fertilization Data with Multiple Cycles, *Human Reproduction*, 2019; 34(3):549-557. doi: 10.1093/humrep/dey374.

35. Minguez-Alarcon L, **Messerlian C**, Bellavia A, Gaskins A, Chiu YH, Ford JB., Azavedo A, Petrozza J, Calafat AM, Hauser R, Williams PL. Urinary Concentrations of Phenols and Phthalates Mixtures and Reproductive Success among Women Undergoing *In Vitro* Fertilization, *Environmental International*, 2019; 126: 355-362. doi: 10.1016/j.envint.2019.02.025.

36. Chen YJ, Chen C, Meng TQ, Duan P, Hu SH, Liu Y, Chen HG, Sheng LT, Sun B, Wang Q, Wang L, Chavarro J, Arvizu M, Xiong CL, †Wang YX, Pan A, Lu WQ, **Messerlian C.** Associations of Blood Trihalomethanes with Semen Quality among Healthy Chinese Men Screened as Potential Sperm Donors. *Environment International,* 2019; 134. doi: doi.org/10.1016/j.envint.2019.105335.

37. Sun B, **Messerlian C**, Sun ZH, Duan P, Chen HG, Chen YJ, Wang L, Meng TQ, Wang Q, Arvizu M, Chavarro J, Xiong CL, Pan A, †Wang YX. Physical Activity and Sedentary Time in Relation to Semen Quality in Healthy Men Screened as Sperm Donors. *Human Reproduction*, 2019; 34(12):2330-2339. doi: 10.1093/humrep/dez226.

38. Chen HG, Sun B, Chen YJ, Chavarro J, Hu SH, Xiong CL, Pan A, Meng TQ, †Wang YX, **Messerlian C**. Sleep duration and quality in relation to semen quality in healthy men screened as potential sperm donors. *Environment International*, 2020; 135. doi: doi.org/10.1016/j.envint.2019.105368.

39. †Skarha J, **Messerlian C**, Bellinger B, Mínguez-Alarcón L, Romano ME, Ford JB, Williams PL, Calafat AM, Hauser R, Braun JM. Parental Preconception and Prenatal Urinary Bisphenol A and Paraben Concentrations and Child Behavior. *Environmental Epidemiology*, 2020; 4e082; doi: 10.1097/EE9.0000000000000082.

40. †Mustieles V, †Zhang Y, Yland J, Braun JM, Williams PL, Attaman J, Ford JB, Azevedo A, Calafat AM, Hauser R, **Messerlian C**. Maternal and Paternal Preconception Exposure to Phenols and Preterm Birth. *Environment International*, In Press.

41. Liu C, Chen YJ, †Sun Y, Huang LL, Cheng YH, Liu EN, Ai SH, Lu WQ, †Wang YX, **Messerlian C**. Blood and Urinary Biomarkers of Prenatal Exposure to Disinfection Byproducts and Oxidative Stress: A Repeated Measurement Analysis. *Environment International*, In Press.

42. Severe MNg P, **Messerlian C**, Anderson J, Buckley D, Fehlings D, Kirton A, Koclas L, Pigeon N, Resenburg E, Wood E, Shevell M, Oskoui M. Congenital Malformations in Children with Cerebral Palsy: Is Prematurity Protective? *Pediatric Neurology*, In Press.

43. †Zhang Y, †Mustieles V, †Yland J, Braun JM, Williams PL, Attaman J, Ford JB, Azevedo A, Calafat AM, Hauser R, **Messerlian C**. Association of Parental Preconception Exposure to Phthalates and Phthalate Substitutes with Preterm Birth Risk. *JAMA Open*, In Press.

Invited reviews and commentaries, peer-reviewed

44. **Messerlian C** and Gaskins AJ. Epidemiologic Approaches for Studying Assisted Reproductive Technologies: Design, Methods, Analysis, and Interpretation. *Current Epidemiology Reports*. 2017; 4(2): 124-132. doi: 10.1007/s40471-017-0105-0.

45. **Messerlian C** and Basso O. Cohort Studies in the Context of Obstetric and Gynecologic Research: A Methodologic Overview. *Acta Obstetricia Gynecologica Scandinavica*. 2018; 97: 371-379. doi: 10.1111/aogs.13272.

46. †Mustieles V, **Messerlian C**, Reina I, Rodriguez-Carrillo A, Olea N, Fernandez MF. Is Bisphenol A (BPA) A Threat to Children's Behavior? *Mental Health & Clin Psychology*. 2018; 2(1): 6-9.

47. Oskoui M and **Messerlian C.** How Socio-economic Disadvantage Modifies Health Outcomes among Children with Cerebral Palsy. *Developmental Medicine and Child Neurology*, 2019; doi:10.1111/dmcn.14099.

Manuscripts Submitted or in Advanced Preparation

48. †Jones N, McDonnel M, Sparer E, Rosner B, Dennerlein J, Kales S, **Messerlian C**. Correlations Between the Break Facility Physical Environment and Worker Health Habits, Health Outcomes, and Work Performance: A Pilot Study Among Public Transit Workers. *Journal of Occupational and Environmental Medicine,* Under Review.

49. †Wang YX, †Sun Y, Wang Q, Liu C, Chen YJ, Chen C, Wang L, Arvizu M, Huang LL, Zeng Q, Chavarro J, Pan A, Lu WQ, **Messerlian C.** Concentrations of Blood Trihalomethanes and Urinary Haloacetic Acids Measured during Early-, Mid- and Late Pregnancy in Relation to Adverse Birth Outcomes: A Cohort Study. To be submitted, *Environmental Health Perspectives*.

50. †Zhang Y, †Mustieles V, Braun JM, Williams PL, †Yland J, Wylie B, Ford JB, Calafat AM, Hauser R, **Messerlian C**. Trimester-Specific Phenol Exposure and the Risk of Preterm Birth: Modelling Approaches to Explore Windows of Vulnerability. To be submitted, *Human Reproduction.*

51. †Yland J, †Zhang Y, Williams PL, †Mustieles V, Braun JM, Wylie B, Vagios S, Souter I, Calafat AM, Hauser R, **Messerlian C**. Trimester-Specific Maternal Exposure to Phthalates During Pregnancy and the Risk of Preterm Birth. To be submitted, *Epidemiology*.

52. †Zhang Y, †Mustieles V, Braun JM, Williams PL, Wylie B, Souter I, Vagios S, Calafat AM, Hauser R, **Messerlian C**. Parental Preconception Environmental Chemical Mixtures and Increased Risk of Preterm Birth. To be submitted, *Environment Health Perspectives*.

53. †Zhang Y, †Mustieles V, Vagios S, Williams PL, Wylie B, Ford JB, Calafat AM, Hauser R, Souter I, **Messerlian C**. Paternal and Maternal Urinary Phthalate Metabolite Concentrations and Risk of Pregnancy Loss. In preparation.

Government reports

1. National Academies of Sciences, Engineering, and Medicine. 2019. *A Class Approach to Hazard Assessment of Organohalogen Flame Retardants*. Washington, DC: The National Academies Press. doi: https://doi.org/10.17226/25412.

2. Aide Memoir: World Bank-Canadian International Development Agency joint mission. *Early Childhood Education Enhancement Project.* Report for the Ministry of Education, Arab Republic of Egypt, 2003. (Contribution: developed and wrote the health and nutrition recommendations and implementation plans based on fieldwork consultation).

Doctoral Thesis

Carmen Messerlian. *Causes of Infertility, Assisted Reproduction, and the Risk of Preterm Birth*. 2014. Thesis submitted in partial fulfillment of the degree of Doctor of Philosophy, McGill University. Online access: http://digitool.library.mcgill.ca/webclient/StreamGate?folder_id=0&dvs=1571877163082~425

Abstracts, poster presentations and exhibits presented at professional meetings

1. **Messerlian C**, Maclagan L, Platt RW, Gagnon R, Tan SL, Basso O. Infertility and Adverse Pregnancy Outcomes: A Systematic Review. Poster presented at the 24th Annual Society for Pediatric and Perinatal Epidemiology Research Conference, June 2011, Montreal, QC.

2. **Messerlian** C, Maclagan, L, Platt RW, Gagnon R, Tan SL, Basso O. Infertility and Adverse Pregnancy Outcomes: A Systematic Review. Poster presented at the 3rd North American Congress of Epidemiology, June 2011, Montreal, QC.

3. **Messerlian C**, Tan SL, Platt RW, Gagnon R, Basso O. Low Technology Assisted Reproduction and Preterm Birth. Paper presented at the 46th Annual Meeting of the Society for Epidemiologic Research, June 2013, Boston, MA. Published in *American Journal of Epidemiology*; 177(11): S116-S116.

4. **Messerlian C**, Platt RW, Gagnon R, Tan SL, Basso O. Low Technology Assisted Reproduction and Preterm Birth in a Hospital-based cohort. Paper presented at the 26th Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research, June 201, Boston, MA.

5. **Messerlian C,** Platt RW, Gagnon R, Tan SL, Basso O. Causes of infertility and the risk of preterm birth. Invited presentation at the European Congress of Epidemiology, August 2013, Aarhus, Denmark.

6. **Messerlian C,** Platt RW, Ata B, Tan SL, Basso O. Do the causes of infertility play a role in the etiology of adverse pregnancy outcomes? Paper accepted at 27th Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research, June 2014, Seattle, WA.

7. **Messerlian C,** Platt RW, Ata B, Tan SL, Basso O. Do the Causes of Infertility Play a Role in the Etiology of Adverse Pregnancy Outcomes? Poster presented at the 47h Annual Meeting of the Society for Epidemiologic Research, June 2014, Seattle, WA.

8. Oskoui M, **Messerlian C**, Pampalon R, Gamache P, Shevell M. Socioeconomic Deprivation in Cerebral Palsy: A Population-based Study. Poster presented at the Child Neurology Society Meeting, October 2014, Austin, Texas.

9. **Messerlian C**, Souter I, Williams P, Chiu YH, Calafat A, Hauser R. Urinary Phthalate Metabolites and Ovarian Reserve among Women Seeking Infertility Treatment. Poster presented at the 8th Copenhagen Workshop on Endocrine Disruptors, April, 2015, Copenhagen, Denmark.

10. **Messerlian C**, Souter I, Williams P, Chiu YH, Calafat A, Hauser R. Urinary Phthalate Metabolites and Ovulatory Potential among Women Seeking Infertility Treatment. Poster

presented at the 48h Annual Meeting of the Society for Epidemiologic Research, June 2015, Denver, CO.

11. **Messerlian C**, Wylie B, Williams P, Ford J, Calafat A, Hauser R. Urinary Phthalate Metabolite Concentrations were Associated with Pregnancy Loss among Women Conceiving with Medically Assisted Reproduction. Scientific Prize Paper presented at the American Society for Reproductive Medicine Annual Meeting, October 2015, Baltimore, MD.

12. James-Todd T, Chiu Y-H, **Messerlian C**, Mínguez-Alarcón L, Ford JB, Keller M, Petrozza JC, Williams PL, Hauser R. Trimester-specific Urinary Phthalate Metabolite Concentrations and Impaired Glucose Tolerance in Pregnant Women. Poster presented at the Epidemiology Congress of the Americas Meeting, June 2016, Miami, FL.

13. **Messerlian C**, Braun JM, Minguez L, Williams P, Ford JB, Calafat A, Hauser R. Maternal and Paternal Urinary Phthalate Metabolite Concentrations and Birth Weight of Singletons Conceived by In-Vitro Fertilization. Poster presented at the Gordon Research Conference on Endocrine Disruptors, June 2016, Sunday River, ME.

14. †Lange A, Yeh J, **Messerlian C**, Hauser R, Toth T. Smartphone Fertility App Use among Couples of Reproductive Age: Potential Use of Big Data to Improve Fertility Care and Advance Reproductive Health Research. Poster presented at the American Society for Reproductive Medicine, Salt Lake City, UT. Published in *Fertility & Sterility*. 2016; 106; 3: e111.

15. Chiu Y, Minguez-Alarcon L, **Messerlian C**, Ford J, Petrozza JC, Williams P, Hauser R, James-Todd T. Trimester-specific Urinary Paraben Concentrations and Pregnancy Glucose Levels among Women from a Fertility Clinic. Poster presented at the American Society for Reproductive Medicine, Salt Lake City, UT. Published *Fertility & Sterility*; 2016; 106;3: e284-e285.

16. Souter I, †Dimitriadis I, Murtadi G, Bormann C, R Hauser, **Messerlian C**. Maternal Predictors of Morphokinetic Embryo Parameters Using Time-Lapse Imaging. Poster presented at the American Society for Reproductive Medicine, October 2016, Salt Lake City, UT.

17. **Messerlian C**, Braun JM, Minguez L, Williams P, Ford JB, Calafat A, Hauser R. Maternal and Paternal Urinary Phthalate Metabolite Concentrations and Birth Weight of Infants Born after In-Vitro Fertilization. Scientific Prize Paper presented at the American Society for Reproductive Medicine, October 2016, Salt Lake City, UT.

18. **Messerlian C,** †Mustieles V, Slama R, Minguez-Alarcon L, Ford B, Williams P, Hauser R. Infant Birth Weight in Relation to Paternal and Maternal Exposure to Phenols among Subfertile Couples. Paper presented at the 9th Copenhagen Workshop on Endocrine Disrupters, May 2017, Copenhagen, Denmark.

19. Chiu YU, Bellavia A, James-Todd T, Correia KF, **Messerlian C**, Ford JB, Mínguez-Alarcón L, Hauser R and Williams PL. Statistical Methods for Assessing Chemical Mixtures in Environmental Studies, Applied to Prenatal Phthalate Mixtures and Birthweight among Pregnant Women from a Fertility Clinic. Paper presented at the 50th Annual Meeting for the Society for Epidemiologic Research, June 2017, Seattle, WA.

20. **Messerlian C**, †Mustieles V, Williams P, Calafat A, Hauser R. Ultrasound Gel Exposure to Parabens and Phthalates among Pregnant Women Undergoing Routine Scan. Published abstract at the 50th Annual Meeting for the Society for Epidemiologic Research, June 2017, Seattle, WA.

21. **Messerlian C,** Braun J, Bellinger D, Minguez-Alarcon L, Ford B, Williams P, Calafat A, Hauser R. Maternal and Maternal Phthalate Exposure and their Children's Behavior. Published abstract at the 50th Annual Meeting for the Society for Epidemiologic Research, June 2017, Seattle, WA.

22. **Messerlian C,** †Mustieles V, Slama R, Braun J, Minguez-Alarcon L, Ford B, Williams P, Hauser R. Fathers Matter, Too: Paternal and Maternal Exposure to Phenols and Size at Birth. Published abstract at the 50th Annual Meeting for the Society for Epidemiologic Research, June 2017, Seattle, WA.

23. **Messerlian C**, Carignan C, Minguez-Alarcon L, Meeker J, Stapleton H, Ford JB, Williams PL, Hauser R. Organophosphate Flame Retardants and Pregnancy Loss among Women Undergoing Assisted Reproductive Technology. Published abstract at the 50th Annual Meeting for the Society for Epidemiologic Research, June 2017, Seattle, WA.

24. **Messerlian C,** †Plaku-Alakbarova B, †Lange A, Yeh J, Toth T. Self-reported Home and Work Stress and Trying to Conceive – Using Big Data in the Study of Infertility. Poster presented at the American Society for Reproductive Medicine, Oct.2017, San Antonio, TX.

25. †Lange A, †Plaku-Alakbarova B, Yeh J, **Messerlian C,** Toth T. Female, Male, and Joint Couple BMI are Associated with Infertility among Users of a Large US Fertility App. Poster presented at the American Society for Reproductive Medicine, October 2017, San Antonio, TX.

26. **Messerlian C,** Christou G, Dimitriadis I, Ford J, Hauser R, Souter I. Placental Weight in Relation to Maternal and Paternal Phthalate Exposure. Paper presented at the American Society for Reproductive Medicine, October 2017, San Antonio, TX.

27. †Mustieles V, Minguez-Alarcon L, Williams PL, Ford JB, Hauser R, **Messerlian C**. Preconception Bisphenol A (BPA) and Bisphenol S (BPS) among Subfertile Couples in Relation to Offspring Birth Size. Poster presented at the Gordon Research Conference on Endocrine Disruptors, June 2018, Les Diablerets, Switzerland.

28. †Mustieles V, Williams PL, Minguez-Alarcon L, Ford JB, Hauser R, **Messerlian C**. Impact of Maternal and Paternal Preconception Urinary Bisphenol A (BPA) and Bisphenol S (BPS) Concentrations on Birth Outcomes. Oral presentation at the International Society for Environmental Epidemiology, August 2018, Ottawa, Canada.

29. †Yland J, Minguez-Alarcon L, Ford JB, Williams PL, Azevedo A, Attaman JA, Hauser R, **Messerlian C.** Preconception and Prenatal Exposure to Environmental Chemicals and the Risk of Preterm Birth, Scientific Prize Paper to be presented at the American Society for Reproductive Medicine, October 2018, Denver, CO.

30. **Messerlian C**, †Yland J, Minguez-Alarcon L, Ford JB, Williams PL, Azavedo A, Attaman JA, Hauser R. Preterm Birth in Relation to Maternal Preconception and Prenatal Phenol and Urinary Phthalate Metabolite Concentrations: Exploring Windows of Vulnerability. Invited oral presentation to the Developmental Origins and Adult Disease (DOHaD) USA Annual Meeting, October 2018, Chapel Hill, NC.

31. **Messerlian C,** †Zhang Y, †Mustieles V, †Yland J, Braun JM, Minguez-Alarcon L, Williams PL, Azevedo A, Ford JB, Calafat AM, Hauser R. Trimesters Specific Urinary Phenol, Paraben, and Phthalate Metabolite Concentrations in Relation to Singleton Preterm Birth. Thematic poster presentation at International Society for Environmental Epidemiology, August 2019, Utrecht, The Netherlands.

32. **Messerlian C.** Health Effects and Medical Monitoring of Perfluoroalkyl Substances. Presented at Sources, Transport, Exposure and Effects of Perfluoroalkyl Substance (STEEP) Science Day, October 2019, Barnstable, MA.

33. **Messerlian C** and Grandjean P. Illuminating the Immune-Modulating Effects of Perfluoroalkyl Substances (PFAS) Exposure in Pregnancy and Childhood. Accepted Abstract, Northeastern Conference, The Science of PFAS: Public Health and The Environment, March 2020, Framingham, MA.

34. †Zhang Y, †Mustieles V, Williams PL, †Vagios S, Souter I, Hauser R, Braun JM, **Messerlian C**. Exploring Paternal Preconception Windows of Vulnerability on Offspring Birthweight in Relation to Bisphenol and Phthalate Exposure. Abstract submitted to Society for Pediatric and Perinatal Epidemiologic Research Annual Meeting, June 2020, Boston, MA.

35. †Mustieles V, †Zhang Y, Williams PL, Wylie B, Calafat AM, Hauser R, Souter I, **Messerlian C**. Paternal and Maternal Preconception Exposure to Phenol and Phthalate Mixtures in Relation to Preterm Birth Risk. Abstract submitted to European Society for Embryology and Human Reproduction Annual Meeting, July 2020, Copenhagen, Denmark.

36. †Zhang Y, †Mustieles V, Braun JM, Williams PL, Wylie B, Souter I, Calafat AM, Hauser R, **Messerlian C**. Parental Preconception Phenol and Phthalate Mixtures in Relation to Birthweight. Abstract submitted to International Society for Environmental Epidemiology Annual Meeting, August 2020, Washington DC, USA.

37. **Messerlian C**, Krogsgaard Andersen A, Paarup H, Budtz-Jorgensen E, Weihe E, Heilmann C, Grandjean P. Lifetime PFAS Exposures and Childhood Vaccine Response. Abstract submitted to International Society for Environmental Epidemiology Annual Meeting, August 2020, Washington DC, USA.

38. †Sun Y, †Wang YX, Liu C, Chen YJ, Lu WQ, **Messerlian C.** Associations of Trimester-Specific Blood Trihalomethanes Concentrations with Adverse Birth Outcomes. **Accepted oral presentation**, Society for Epidemiologic Research Annual Meeting, June 2020, Boston, MA, USA.

39. †Zhang Y, †Mustieles V, Wylie B, Williams PL, Calafat AM, Souter I, Hauser R, **Messerlian C**. Paternal Preconception Exposure to Plasticizers and Risk of Pregnancy Loss. **Accepted oral presentation**, Society for Epidemiologic Research Annual Meeting, June 2020, Boston, MA, USA.

40. †Zhang Y, †Mustieles V, Williams PL, †Vagios S, Souter I, Hauser R, Braun JM, **Messerlian C**. Exploring Paternal Preconception Windows of Vulnerability on Offspring Birthweight in Relation to Bisphenol and Phthalate Exposure. **Accepted oral presentation**, Society for Epidemiologic Research Annual Meeting, June 2020, Boston, MA, USA.

From:	Rothenberg, Sarah E
To:	Knott, Steven
Subject:	application for TSCA SACC
Date:	Monday, April 20, 2020 4:18:39 PM
Attachments:	1_2020_04_20_tsca_all.pdf

Dear Dr. Knott,

Please find my attached application (self-nomination) to serve on the Toxic Substances Control Act, Science Advisory Committee on Chemicals.

Thank you,
Sarah Rothenberg

Sarah E. Rothenberg, D.Env.
Assistant Professor
Oregon State University
School of Biological and Population Health Sciences
Environmental and Occupational Health Program
103 Milam Hall
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P 541-737-2643
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April 20, 2020

To whom it may concern,

I am applying to serve on the Toxic Substances Control Act, Science Advisory Committee on Chemicals. As an environmental scientist, I will contribute to a diversity of scientific viewpoints on the Science Advisory Committee on Chemicals. Please see attached Curriculum Vitae and biosketch, including required information.

Thank you for your attention.

Sincerely,

Sarah E. Rothenberg, D.Env.
Assistant Professor
Oregon State University
School of Biological and Population Health Sciences
Environmental and Occupational Health Program
103 Milam Hall
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Curriculum Vitae

Sarah E. Rothenberg, D.Env.
Assistant Professor
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Cell: (b) (6)

As an environmental scientist, I will contribute to a diversity of scientific viewpoints on the Science Advisory Committee on Chemicals. With my training, I am able to characterize environmental cycling of pollutants, which affect the toxicity and bioavailability of pollutants. I was also the Principal Investigator on two NIH-funded studies, concerning methylmercury exposure (through rice ingestion) and child neurodevelopment in rural China. Thus my training as an environmental scientist informs my approach to environmental health and mitigation.

1. Education

2000	B.S.	Applied Mathematics	University of California, Los Angeles
2002	M.S.	Statistics	University of California, Los Angeles
2007	D.Env.	Environmental Science & Engineering	University of California, Los Angeles

2. Postdoctoral Training

2007-2008	San Francisco Estuary Institute, Oakland, California
2008-2011	Institute of Geochemistry, Chinese Academy of Sciences, Guiyang, China, NSF International Research Fellowship Program (Grant 0802014 PI: Rothenberg)
2011	Department of Epidemiology and Health Promotion, College of Dentistry, New York University, NY, NY (NRSA, T32, PI: Katz)

3. Academic Appointments

2011-2017	Assistant Professor, University of South Carolina, Department of Environmental Health Sciences
2017-present	Assistant Professor, Oregon State University School of Biological and Population Health Sciences Environmental and Occupational Health Core Program

4. Federal/State Grants (since 2011)

Active:

2020-2022	Oregon Sea Grant: PBDEs/Methylmercury and Immune Function in Non-Stranded Male California Sea Lions (*Zalophus californianus*) (**PI: Rothenberg**)

Completed:

2016-2020	NIEHS: Methylmercury Exposure Through Rice Ingestion, Gut Microbes, and Offspring Development (Award R21 ES026412) (**PI: Rothenberg**)
2013-16	NIEHS: Maternal Methylmercury Exposure Through Rice Ingestion and Offspring Development (Award R15 ES022409) (**PI: Rothenberg**)

2012-15 USDA-AFRI The Effect of Aerobic and/or Intermittently Flooded Rice Cultivation on AQP Transcription Levels and the Nutritional Quality of Rice Grain (Award 2012-69002-19796) (**PI: Rothenberg**)

5. University of South Carolina (USC), Internal Funding, completed

2017 Office of the Provost, Visiting Scholars Award: Catalyzing new research partnerships to investigate environmental and community health impacts due to sanitary sewage overflows in Columbia, S.C. (**PI: Rothenberg**)

2015-16 Office of Research: The Contribution of Gut Microbiota to Prenatal Methylmercury Exposure (**PI: Rothenberg**)

2015-16 Teaching Innovation Grant in Integrative Learning: Climate Change and Global Environmental Health (**PI: Rothenberg**)

2015-2016 Office of Research: Sewage Overflows from the 1000-Year Rain Event and their Impacts on the Cycling of Carbon and Toxic Metals in the Congaree River Watershed (**PI: Rothenberg**)

6. Federal Grants (postdoctoral)

2008-10 National Science Foundation, International Research Fellowship Program (Award 0802014) The influence of sulfur cycling on mercury methylation in rice paddies in the mining areas of Guizhou Province, China (**PI: Rothenberg**)

7. Awards for student advisees

2015 Anna Lynn (B.S., University of South Carolina, Honors College)
National Oceanic and Atmospheric Administration (NOAA) Ernest F. Hollings scholarship program, and the SULI National Laboratory internship program

2012 Chris Paget (MPH, University of South Carolina, Environmental Health Sciences)
National Science Foundation, East Asia and Pacific Summer Institute in Japan
Pharmaceutical biodegradation and attenuation by biofilms in aquatic systems

8. Publications in peer-reviewed journals
(student advisees are underlined)

Rothenberg, S.E., Wagner, C.L., Hamidi, B., Alekseyenko, A.V., Azcarate-Peril, M.A. (2019). Longitudinal changes during pregnancy in gut microbiota and methylmercury biomarkers, and reversal of microbe-exposure correlations. Environmental Research. 172, 700-712. PMID: 30903970.

Loosli, F., Wang, J, **Rothenberg, S**., Bizimis, M., Winkler, C., Borovinskaya, O., Flamigni, L., Baalousha, M. (2019). Sewage spills are a major source of titanium dioxide engineered (nano)- particle release into the environment. Environmental Science: Nano, 6, 763-777.

Emmons, A.M., Bizimis, M., Lang, S.Q., Stangler, W., Geidel G., Baalousha, M., Wanamaker, E., **Rothenberg, S.E**. (2018). Enrichments of metals, including methylmercury, in sewage spills in South Carolina, USA. Journal of Environmental Quality. 47, 1258-1266.

Donohue, A., Wagner, C.L., Burch, J.B., **Rothenberg, S.E.,** 2018. Blood total mercury and methylmercury among pregnant mothers in Charleston, South Carolina, USA. Journal of Exposure Science and Environmental Epidemiology. 28,494-504. PMID: 29670220.

Rothenberg, S.E., Jackson, B.P., McCalla, G.C., Donohue, A., Emmons, A.M. (2017). Co-exposure to methylmercury and inorganic arsenic in baby rice cereals and rice-containing teething biscuits. Environmental Research. 159, 639-647. PMID: 28938205 PMCID: PMC5661960.

Rothenberg, S.E., Yin, R., Hurley, J.P., Krabbenhoft, D.P., Ismawati, Y., Hong, C., Donohue, A. (2017). Stable mercury isotopes in polished rice (*Oryza sativa* L.) and hair from rice consumers. Environmental Science and Technology. 51, 6480-6488. PMID: 28482656 PMCID: PMC5464010.

Sen, I.S., Mitra, A., Peuker-Ehrenbrink, B., **Rothenberg. S.E.**, Tripathi S.N., Debajyoti, P., Bizimis, M. (2016). Emerging airborne contaminants in India: platinum group elements from catalytic converters in motor vehicles. Applied Geochemistry. 75, 100-106.

Rothenberg, S.E., Anders, M., Ajami, N., Petrosino, J.F., Balogh, E. (2016). Water management impacts rice methylmercury and the soil microbiome. Science of the Total Environment. 572, 608-617. PMID: 27450246 PMCID: PMC5099098.

Rothenberg, S.E., Yu, X., Liu, J., Biasini, F.J., Hong, C., Jiang, X., Nong, Y., Yue, C., Korrick, S.A. (2016). Maternal methylmercury exposure through rice ingestion and offspring neurodevelopment: A prospective cohort study. International Journal of Hygiene and Environmental Health, 219, 832-842. PMID: 27503636 PMCID: PMC5086436

Hong, C., Yu, X., Liu, J., Cheng, Y., **Rothenberg, S.E.** (2016). Low-level methylmercury exposure through rice ingestion in a cohort of pregnant mothers in rural China. Environmental Research. 150, 519-527. PMID: 27423706 PMCID: PMC5003649

Drevnick, P.E., Cooke, C.A., Barraza, D., Blais, J.M., Coale, K.H., Cumming, B.F., Curtis, C.J., Das, B., Donahue, W.F., Eagles-Smith, C.A., Engstrom, D.R., Fitzgerald, W.F., Furl, C.V., Gray, J.E., Hall, R.I., Jackson, T.A., Laird, K.R., Lockhart, W.L., Macdonald, R.W., Mast, M.A., Mathieu, C., Muir, D.C.G., Outridge, P.M., Reinemann, S.A., **Rothenberg, S.E**., Ruiz-Fernández, A.C., St. Louis, V.L., Sanders, R.D., Sanei, H., Skierszkan, E.K., Van Metre, P.C., Veverica, T.J., Wiklund, J.A. 2016. Spatiotemporal patterns of mercury accumulation in lake sediments of western North America. Science of the Total Environment. 568, 1157-1170. PMID: 27102272.

Rothenberg, S.E., Keiser, S., Ajami, N.J., Wong, M.C., Gessell, J., Petrosino, J.F., Johs, A., (2016). The role of gut microbiota in fetal methylmercury exposure: insights from a pilot study. Toxicology Letters 242, 60-67. PMID: 26626101 PMCID: PMC4707065

Rothenberg, S.E., Korrick, S.A., Fayad, R., (2015). The influence of obesity on blood mercury levels for U.S. non-pregnant adults and children: NHANES 2007-2010. Environmental Research. 138, 173-180. PMID: 25721244 PMCID: PMC4385493

Rothenberg, S.E., Mgutshini, N.L., Bizimis, M., Johnson-Beebout, S.E., Ramanantsoanirina, A., (2015). Retrospective study of methylmercury and other metal(loid)s in Madagascar unpolished rice (*Oryza sativa* L.). Environmental Pollution. 196, 1-9. PMID: 25463705 PMCID: PMC4352114

Rothenberg, S.E., Windham-Myers, L., Creswell, J.E. (2014). Rice methylmercury exposure and mitigation: a comprehensive review. Environmental Research. 133, 407-423. PMID: 24972509 PMCID: PMC4119557

Rothenberg, S.E., Yu, X., Zhang, Y., (2013). Prenatal methylmercury exposure through maternal rice ingestion: Insights from a feasibility pilot in Guizhou Province, China. Environmental Pollution. 180, 1-8. PMID: 23800416

Rothenberg, S.E., Feng, X., Zhou W., Tu, M., Jin, B., You, J. (2012). Environment and genotype controls on mercury accumulation in rice (*Oryza sativa* L.) cultivated along a contamination gradient in Guizhou, China. Science of the Total Environment, 426, 272-280.

Rothenberg, S.E., Feng, X (2012). Mercury cycling in a flooded rice paddy. Journal of Geophysical Research- Biogeosciences. Vol. 117, G03003, doi:10.1029/2011JG001800.

Rothenberg, S.E., Feng, X., Dong, B., Shang, L., Yin, R. Yuan, X., (2011). Characterization of mercury species in brown and white rice (*Oryza sativa* L.) grown in water-saving paddies. Environmental Pollution, 159, 1283-1289.

Rothenberg, S.E., Feng, X., Li, P. (2011). Low-level maternal methylmercury exposure through rice ingestion and potential implications for offspring health. Environmental Pollution, 159, 1017-1012.

Rothenberg, S.E., McKee, L., Gilbreath, A., Yee, D., Connor, M., Fu, X., (2010c), Evidence for short-range transport of atmospheric mercury to a rural, inland site. Atmospheric Environment, 44, 1263-1273.

Rothenberg, S.E., McKee, L., Gilbreath, A., Yee, D., Connor, M., Fu, X., (2010), Wet deposition of mercury within the vicinity of a cement plant before and during cement plant maintenance. Atmospheric Environment, 44, 1255-1262.

Rothenberg, S.E, Kirby, M.E., Bird, B.W., DeRose, M.B., Lin, C-C., Feng, X., Ambrose, R.F., Jay, J.A., (2010). The impact of over 100 years of wildfires on mercury levels and accumulation rates in two lakes in southern California, USA. Environmental Earth Sciences 60, 993-1005.

Fu, X., Feng, X., Zhu, W., **Rothenberg, S**., Yao, H., Zhang, H. (2010). Elevated atmospheric deposition and dynamics of mercury in a remote upland forest of southwestern China. Environmental Pollution, 158, 2324-2333.

Zhang H., Feng, X, Larssen T., Shang, L., Li, P., **Rothenberg, S.E**., Lin, Y., Zhang, H., Vogt, R.D., (2010). Fractionation, distribution and transport of mercury in rivers and tributaries around Wanshan Hg mining district, Guizhou Province, southwestern China Part 1: Total mercury. Applied Geochemistry, 25, 633-641.

Fu, X.W., Feng, X.B., Wang, S.F., **Rothenberg, S**., Shang, L.H., Li, Z.G., Qiu, G.L. (2009). Temporal and spatial distributions of total gaseous mercury concentrations in ambient air in a mountainous area in southwestern China: implications for industrial and domestic mercury emissions in remote areas in China. Science of the Total Environment 407, 2306-2314.

Rothenberg, S.E, Ambrose, R.F., Jay, J.A., (2008b). Evaluating the potential efficacy of mercury total maximum daily loads on aqueous methylmercury levels in four coastal watersheds. Environmental Science and Technology 42, 5400-5406.

Rothenberg, S.E, Ambrose, R.F., Jay, J.A., (2008a). Mercury cycling in surface water, pore water and sediments of Mugu Lagoon, CA., USA. Environmental Pollution 154, 32-45.

Rothenberg, S.E., Du, X., Zhu,Y.-G., Jay, J.A., (2007). The impact of sewage irrigation on the uptake of mercury in corn plants (*Zea mays*) in suburban Beijing. Environmental Pollution 149, 246-251.

Marcotullio, P.J., **Rothenberg, S.,** Nakahara, M., (2003). Globalization and urban environmental transitions: comparison of New York's and Tokyo's experiences. The Annals of Regional Science, 37, 369-390.

9. Thesis Advisor

Oregon State University

2018 Neville, M. West Nile surveillance in Linn County (Environmental and Occupational Health, MPH, Committee Chair)

2019 Cocks, M. Domestic well safety in Benton County, OR (Environmental and Occupational Health, MPH, Committee Member)

2019 Fitch, S., Safety and health achievement recognition program (SHARP) assessment at the City of Eugene Public Works Department (Environmental and Occupational Health, MPH, Committee Member)

(2020) Munro, T. (Environmental and Occupational Health, MPH, Committee Chair)

(2020) Kruearat, P. (Environmental and Occupational Health, MPH, Committee Chair)

(2023) Asseko, S. (Environmental and Occupational Health, Ph.D., Committee Member)

University of South Carolina

2013 Antle, R. Tidal Flux of Transition Metals and Rare Earth Elements in a Barrier Island Salt Marsh (Earth and Ocean Sciences, M.S., Committee Member)

2014 Heidari, L. Developing a Sustainable After-School Gardening Program that Emphasizes Nutrition and Environmental Education (Baccalaureus Artium et Scientiae in Environmental Health (BArt et Scien) Honors College, Committee Member)

2014 Adelui, A. The Rocky Branch Watershed: Evidence for Mercury Pollution (Environmental Health Sciences, M.P.H., Committee Chair)

2015 Ntihabose, R. Evaluation Des Biomarqueurs D'Exposition Au Manganese Chez Les Enfants Qui Boivent De L'Eau Des Puits Au Nouveau-Brunswick. (M.S. Department of Chemistry and Biochemistry, Universite de Moncton, Canada, External Reviewer)

2015 Jones, S. Uptake of Nanoparticles by *Vibrio Gazogenes*. (Environmental Health Sciences, M.S., Committee Member)

2017 Hong, C. Maternal Methylmercury Exposure Through Rice Ingestion and Offspring Development (Environmental Health Sciences, Ph.D., Committee Chair)

2017 Orekoya, B. Breastfeeding, Gestational Weight Gain, and Offspring Development in a Chinese Cohort. (Epidemiology and Biostatistics, Ph.D., Committee Member)

2017 Donohue, A. Does Vitamin D supplementation influence prenatal methylmercury exposure? (Environmental Health Sciences, M.S., Committee Chair)

2017 Emmons, M. The Impacts of the 1000-Rain Event on Sewage Outfalls and Metals Cycling (Master of Earth and Environmental Resource Management, M.S. Committee Chair)

10. Presentation Abstracts (since 2011)
Presenters are listed, and student and postdoctoral advisees are underlined.

Hoang, V.A.T. and Rothenberg, S.E. (2019) Total Mercury and Methylmercury Concentrations in Rice from Three Cities in Vietnam (Hanoi, Hue, and Ho Chi Minh City). Society for Environmental Toxicology and Chemistry (SETAC), Toronto, Canada

Rothenberg, S.E. (2019) Prenatal Co-Exposure to Methylmercury and Inorganic Arsenic. Society for Environmental Toxicology and Chemistry (SETAC), Toronto, Canada.

Rothenberg, S.E. (2018) Stable Mercury Isotopes in Polished Rice (*Oryza sativa* L.) and Hair from Rice Consumers. Rice Technical Workgroup, Long Beach, Ca.

Rothenberg, S.E. (2017) Maternal Methylmercury Exposure Through Rice Ingestion and Offspring Neurodevelopment: A Prospective Cohort Study. 13th International Conference on Mercury as a Global Pollutant (ICMGP), Providence, RI.

Emmons, M. (2017) The Impact of Sanitary Sewage Overflows on Surface Water Methylmercury and Other Metals, Following the 1000-Year Rain Event in Columbia, South Carolina, USA. 13th International Conference on Mercury as a Global Pollutant (ICMGP), Providence, RI.

Donohue, A. (2017) Speciation of Blood Mercury Among Pregnant Mothers in Charleston, South Carolina, USA. 13th International Conference on Mercury as a Global Pollutant (ICMGP), Providence, RI.

Rothenberg, S.E. (2016) Maternal Methylmercury Exposure Through Rice Ingestion and Offspring Neurodevelopment: A Prospective Cohort Study. U.S. National Institutes of Environmental Health Sciences (NIEHS)-Fest. Durham, N.C.

Rothenberg, S.E. (2016) Maternal Methylmercury Exposure Through Rice Ingestion and Offspring Neurodevelopment: A Prospective Cohort Study. 9th Conference on Metal Toxicity & Carcinogenesis, Lexington, KY.

Orekoya, O. (2016) Maternal gestational weight gain and offspring's weight at 1 year of age in rural Guangxi province, China: the mediating role of birth weight. Society for Epidemiologic Research (SER), Miami, Florida.

Hong, C. (2015) Maternal Methylmercury Exposure Through Rice Ingestion in Rural China. Society for Environmental Toxicology and Chemistry (SETAC), Salt Lake City, Utah.

Rothenberg, S.E. (2015) The Role of Gut Microbiota in Fetal Methylmercury Exposure: Insights from a Pilot Study. Society for Environmental Toxicology and Chemistry (SETAC), Salt Lake City, Utah.

Rothenberg, S.E. (2015) The Influence of Water Management on Arsenic Uptake in Rice Grain and Aquaporin Expression in Rice Roots. Society for Environmental Toxicology and Chemistry (SETAC), Salt Lake City, Utah.

Hong, C. (2014) Maternal Methylmercury Exposure Through Rice Ingestion and Offspring Development: Preliminary Results, Int'l Society for Environmental Epidemiology (ISEE), Seattle, WA.

Rothenberg, S.E. (2014) The Influence of Gut Microbiota on the Speciation and Toxicity of Mercury during Pregnancy: Results from a Feasibility Pilot, Int'l Society for Environmental Epidemiology (ISEE), Seattle, WA.

Rothenberg, S.E. (2014) The Influence of Obesity on Blood Mercury Levels: NHANES (2007-2010) Int'l Society for Environmental Epidemiology (ISEE), Seattle, WA.

Baker, L.M. and Rothenberg, S.E. (2013) The Effect of AWD on AQP Transcriptional Abundance in Rice Plants and the Nutritional Quality of Rice Grain, International Conference on the Biogeochemistry of Trace Elements, Athens, GA.

Rothenberg, S.E. (2013) Rice and Mercury: Biogeochemistry and Implications for Human Health, 11th International Conference on Mercury as a Global Pollutant (ICMGP), Edinburgh, UK

Rothenberg, S.E. (2013) Hg Species & Other Trace Elements (As, Se, Mn, Cu, Zn, Cd & Rb) in Madagascar Rice, 11th International Conference on Mercury as a Global Pollutant (ICMGP), Edinburgh, UK.

Rothenberg, S.E. (2012) Methylmercury Accumulation in Rice Grain (*Oryza sativa* L.): Environment and Genotype Controls, International Conference on Heavy Metals in the Environment (ICHMET), Rome, Italy.

Rothenberg, S.E. (2012) Maternal Methylmercury Exposure Through Rice Ingestion and Offspring Development: Results from a Feasibility Pilot, International Society of Environmental Epidemiologists (ISEE), Columbia, SC.

Rothenberg, S.E. (2011) Mercury species in rice grain grown along a contamination gradient in Guizhou province, China. 10th International Conference on Mercury as a Global Pollutant (ICMGP), Halifax, Nova Scotia, Canada.

Rothenberg, S.E. (2011) Mercury cycling in a flooded rice paddy. 10th International Conference on Mercury as a Global Pollutant (ICMGP), Halifax, Nova Scotia, Canada.

Rothenberg, S.E. (2011) The UNEP Toolkit: Concerns about Over-Estimation of Environment Hg Releases Due to Dental Amalgam Use. 10th International Conference on Mercury as a Global Pollutant (ICMGP), Halifax, Nova Scotia, Canada

11. Academic Service (since 2011)

Conference Chair

2017 International Conference on Mercury as a Global Pollutant (ICMGP), Providence, RI, Rice and Mercury, Session Chair

2011 International Conference of Mercury as a Global Pollutant (ICMGP), Halifax, Canada, Special Session S20, Mercury Research in Developing Countries, Session Chair

Grant reviewer, ad-hoc

2019 NIH Study Sections (multiple)

2018 NIH Study Section

2017 NIH Study Section
2017 NSF, Geobiology and Low Temperature Geochemistry Division
2016 NIH Study Section
2015 NSF, Atmospheric Chemistry Division

Manuscript reviewer, ad-hoc (94 manuscripts reviewed since 2011):

Nature Communications, Biological Trace Element Research, Canadian Journal of Fisheries and Aquatic Science, Chemosphere, Environmental & Experimental Botany, Ecotoxicology & Environmental Safety, Environment International, Environmental Geochemistry, Environmental Health Perspectives, Environmental Monitoring and Assessment, Environmental Pollution, Environmental Research, Environment Science: Processes and Impacts, Environmental Science & Technology, International Journal of Hygiene and Environmental Health, Journal of Environmental Quality, Journal of Environmental Science & Environmental Epidemiology, Journal of Geophysical Research-Biogeosciences (AGU), Journal of Great Lakes Research, Journal of Toxicology & Environmental Health, Libertas Academica, Marine Chemistry, Neurotoxicology, Neurotoxicology & Teratology, Phytoremediation, Plos One, Science of the Total Environment, Scientific Reports, Toxicological Sciences, Water Air & Soil Pollution, Water Environment Research

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: Sarah E. Rothenberg

eRA COMMONS USER NAME (credential, e.g., agency login): SROTHENBERG2

POSITION TITLE: Assistant Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
University of California, Los Angeles	B.S.	06/2000	Applied Mathematics
University of California, Los Angeles	M.S.	06/2002	Statistics
University of California, Los Angeles	D.Env.	06/2007	Environmental Science & Engineering
Institute of Geochemistry, China	Postdoctoral	4/08-1/11	Dept. of Biogeochemistry (NSF IRFP 0802014)
New York University	Postdoctoral	1/11-6/11	Epidemiology & Health Promotion (NRSA T32)

A. Personal Statement

As an environmental scientist, I will contribute to a diversity of scientific viewpoints on the Science Advisory Committee on Chemicals. With my training, I am able to characterize environmental cycling of pollutants, including partitioning, changes in speciation, etc., which alter the toxicity and bioavailability of pollutants.

This process linking environmental science and human health is exemplified by my research concerning exposure to methylmercury through rice ingestion. Between 2008-2011, I was a NSF-funded postdoctoral researcher living in Guizhou province, China, where I characterized mercury cycling in rice paddies over three rice-growing seasons. Results from my research and others indicated that rice paddies were hotspots for microbial mercury methylation, due to cultivation of rice under standing water. Although I wasn't trained as an epidemiologist, it was clear that human studies were needed. From 2013-present, I was PI on two studies funded by NIEHS (R15 ES022409, and R21 ES026412) to investigate the impacts of prenatal methylmercury exposure on children's neurodevelopment in rural China, where rice, not fish, was the primary dietary source of methylmercury. Our findings among 12-month old children indicated that adverse impacts due to prenatal methylmercury exposure were more ascertainable in a rice-eating population, where confounding and potential effect modification due to omega-3 fatty acids and other nutrients were less prominent, the first study to do so. Between 2012-2015, I was also funded by the U.S Department of Agriculture (Award 2012-69002-19796) to investigate the impacts of alternating wetting and drying on the nutritional quality of rice. Draining rice paddies one or three times reduced rice methylmercury concentrations by 38-51%, without significantly reducing rice yield.

Thus my training as an environmental scientist is holistic, and informs my approach to environmental health and mitigation.

a) Rothenberg, S.E., Feng, X (2012). Mercury cycling in a flooded rice paddy. Journal of Geophysical Research- Biogeosciences. Vol. 117, G03003, doi:10.1029/2011JG001800. PMID: 27070857.
b) Rothenberg SE, Yu X, Liu J, Biasini FJ, Hong C, Jiang X, Nong Y, Cheng Y, Korrick SA. (2016). Maternal methylmercury exposure through rice ingestion and offspring neurodevelopment: A prospective cohort study. International Journal of Hygiene and Environmental Health. 219, 832-842. 2016 Jul 22;PubMed PMID: 27503636 PMCID: PMC5086436

c) Hong C, Yu X, Liu J, Cheng Y, Rothenberg SE. (2016) Low-level methylmercury exposure through rice ingestion in a cohort of pregnant mothers in rural China. Environ Res. 2016 Oct;150:519-27. PubMed PMID: 27423706 PMCID: PMC5003649
d) Rothenberg, S.E., Anders, M., Ajami, N.J., Petrosino, J.F., Balogh, E. (2016) Water management impacts rice methylmercury and the soil microbiome. Sci Total Environ. 572, 608-617. 2016 Jul 20. PMID: 27450246 PMCID: PMC5099098

B. Positions and Honors

Positions

6/1998-8/1998	Washington, D.C., House of Representatives, Intern for Representative Julian C. Dixon
6/1999-8/1999	California Institute of Technology (Cal Tech), Summer Undergraduate Research Fellowship, Host: Jet Propulsion Laboratory, Office of Legislative Affairs
12/2004-6/2007	Los Angeles Regional Water Quality Control Board, Los Angeles, California Intern for the Total Maximum Daily Load (TMDL) Unit
8/2007-3/2008	Postdoctoral Fellow, San Francisco Estuary Institute, Oakland, California
1/2011-6/2011	NRSA T32 Postdoctoral fellow, New York University, College of Dentistry, Department of Epidemiology and Health Promotion
7/2011-8/2017	Assistant Professor, University of South Carolina, Department of Environmental Health Sciences.
9/2017-Present	Assistant Professor, Oregon State University, School of Biological and Population Health Sciences, Environmental and Occupational Health program

Honors

1998	Dale Ride Fellowship, for internship in Washington, D.C., House of Representatives
2002	National Science Foundation (USA), Monbukagakushu Ministry of Education, Science and Technology (Japan), Summer Institute in Japan, for research on water resources and supply
2003	Charles F. Scott Fellowship, for doctoral research on mercury cycling in an impaired estuary
2004	National Science Foundation (USA), Ministry of Science and Technology (China), Summer Institute in China, for research on mercury uptake in corn plants
2006	UCLA Dissertation Year Fellowship
2008-2011	National Science Foundation (USA), International Research Fellowship Program, Guiyang, China, for research on methylmercury production in rice paddies and uptake in rice

C. Contributions to Science

1. My most important contribution to science concerns the investigation of methylmercury exposure through rice ingestion. Results from our studies in China indicate that low-level methylmercury exposure (primarily through rice ingestion) was associated with statistically significant decrements in infant cognition (assessed at 12 months). This is the first study, to the best of our knowledge, to focus on mercury and child development in a population where rice (not fish) is the primary dietary source for methylmercury. I am the PI on this study, and I obtained NIH funding for this research, oversaw recruitment of the cohort, analyzed mercury in biomarkers, completed the data analysis, and completed manuscripts.

e) Rothenberg SE, Jackson BP, McCalla GC, Donohue A, Emmons AM (2017) Co-exposure to methylmercury and inorganic arsenic in baby rice cereals and rice-containing teething biscuits. Environ Res 159, 639-647. PMID: 28938205 PMCID: PMC5661960
f) Rothenberg, S.E., Yin, R., Hurley, J.P., Krabbenhoft, D.P., Ismawati, Y., Hong, C., Donohue, A., (2017). Stable mercury isotopes in polished rice (*Oryza sativa* L.) and hair from rice consumers. Environmental Science and Technology. 51, 6480-6488. PMID: 28482656 PMCID: PMC5464010
g) Rothenberg SE, Yu X, Liu J, Biasini FJ, Hong C, Jiang X, Nong Y, Cheng Y, Korrick SA. (2016). Maternal methylmercury exposure through rice ingestion and offspring neurodevelopment: A prospective cohort study. International Journal of Hygiene and Environmental Health. 219, 832-842. 2016 Jul 22;PubMed PMID: 27503636 PMCID: PMC5086436
h) Hong C, Yu X, Liu J, Cheng Y, Rothenberg SE. (2016) Low-level methylmercury exposure through rice ingestion in a cohort of pregnant mothers in rural China. Environ Res. 2016 Oct;150:519-27. PubMed PMID: 27423706 PMCID: PMC5003649

2. Variability in methylmercury metabolism is well documented, and gut microbiota play an important role via demethylation (i.e., detoxification) of methylmercury. Results from my studies among pregnant mothers suggest that maternal methylmercury metabolism differed between early/late gestation. Fetal brain growth is more rapid during the third trimester compared to the first trimester; thus changes in methylmercury metabolism during pregnancy may impact fetal methylmercury exposure. On these pilot studies, I obtained funding, I oversaw enrollment and biomarker collection, I completed mercury analyses of all biomarkers in my lab, I analyzed the data, and completed manuscripts.

a) Rothenberg, S.E., Keiser, S., Ajami, N.J., Wong, M.C., Gesell, J., Petrosino, J.F., Johs, A., (2016) The role of gut microbiota in fetal methylmercury exposure: insights from a pilot study. Toxicology Letters, 242, 60-67. PMID: 26626101 PMCID: PMC4707065.
b) Donohue, A., Wagner, C.L., Burch, J.B., Rothenberg, S.E., 2018. Blood total mercury and methylmercury among pregnant mothers in Charleston, South Carolina, USA. Journal of Exposure Science and Environmental Epidemiology. 28, 494-504. PMID: 2967022, doi: 10.1038/s41370-018-0033-1.
c) Rothenberg, S.E., Wagner, C.L., Hamidi, B., Alekseyenko, A.V., Azcarate-Peril, M.A., 2019. Longitudinal changes during pregnancy in gut microbiota and methylmercury biomarkers, and reversal of microbe-exposure correlations. Environmental Research. 172, 700-712. PMID: 30903970 PMCID: PMC6675619 doi: 10.1016/j.envres.2019.01.014.

3. Between 2008-2011, I was a postdoctoral researcher living in southwestern China (NSF-International Research Fellowship Program, Award 0802014). Over three rice-growing seasons, I investigated mercury cycling in rice paddies, and the impacts of alternating wetting and drying cultivation practices on mercury methylation. Results demonstrated rice paddies were hot spots for mercury methylation, while reductions in water use were associated with spikes in soil methylmercury concentrations, when paddies were re-flooded. I was in charge of all aspects of these studies, including fieldwork, collection and analysis of soil and rice samples, data analysis, and manuscript preparation.

a) Rothenberg, S.E., Feng, X., Dong, B., Shang, L., Yin, R. Yuan, X., (2011). Characterization of mercury species in brown and white rice (*Oryza sativa L*.) grown in water saving paddies. Environmental Pollution, 159, 1283-1289. PMID: 21349615.
b) Rothenberg, S.E., Feng, X., Zhou, W., Tu, M. Jin, B., You, J (2012). Environment and genotype controls on mercury accumulation in rice (*Oryza sativa* L.) cultivated along a contamination gradient in Guizhou, China, Science of the Total Environment, 426, 272-280. PMID: 22513403.
c) Rothenberg, S.E., Feng, X (2012). Mercury cycling in a flooded rice paddy. Journal of Geophysical Research- Biogeosciences. Vol. 117, G03003, doi:10.1029/2011JG001800. PMID: 27070857.
d) Rothenberg SE, Mgutshini NL, Bizimis M, Johnson-Beebout SE, Ramanantsoanirina A. 2015. Retrospective study of methylmercury and other metal(loid)s in Madagascar rice. Environ Pollut 196, 125-133. PMID: 25463705 PubMed Central PMCID: PMC4352114

4. To reduce rice methylmercury levels, I partnered with the USDA Rice Research Center, to investigate whether water management reduced methylmercury uptake in rice plants. Compared to continuously flooded fields, rice methylmercury concentrations averaged 38% lower in the fields utilizing alternating wetting and drying irrigation methods, and 96% lower in the furrow-irrigated fields, which was due in part to changes in the relative abundance of mercury methylators. For this study, I obtained a USDA early career grant, and oversaw all aspects of the study, including fieldwork, collection and analysis of soil and rice samples, data analysis, and manuscript preparation.

a) Rothenberg, S.E., Anders, M., Ajami, N.J., Petrosino, J.F., Balogh, E. (2016) Water management impacts rice methylmercury and the soil microbiome. Sci Total Environ. 572, 608-617. 2016 Jul 20. PMID: 27450246 PMCID: PMC5099098
b) Rothenberg, S.E., Windham-Myers, L., Cresswell, J.E., (2014). Rice methylmercury exposure and mitigation: a comprehensive review. Environmental Research. 133, 407-423. PMID: 24972509, PMCID: PMC4119557.

5. I began studying mercury cycling when I was a graduate student and postdoctoral researcher. For the latter, I measured both wet and dry deposition of atmospheric mercury in the vicinity of a petroleum-coke burning

cement plant. Results verified atmospheric mercury emissions were rapidly oxidized and deposited to local watersheds, thus increasing mercury contamination to the San Francisco Bay. As a postdoctoral researcher, I obtained funding through California Proposition 13 (Costa-Machado Water Act, 2000) to support my study on air deposition of mercury near a cement plant. I oversaw all aspects of the research, including study design, data collection, data analysis, and manuscript preparation.

a) Rothenberg, S.E., McKee, L., Gilbreath, A., Yee, D., Connor, M., Fu, X., (2010), Wet deposition of mercury within the vicinity of a cement plant before and during cement plant maintenance. Atmospheric Environment, 44, 1255-1262.
b) Rothenberg, S.E., McKee, L., Gilbreath, A., Yee, D., Connor, M., Fu, X., (2010), Evidence for short-range transport of atmospheric mercury to a rural, inland site. Atmospheric Environment, 44, 1263-1273.
c) Rothenberg, S.E, Ambrose, R.F., Jay, J.A., (2008). Mercury cycling in surface water, pore water and sediments of Mugu Lagoon, CA., USA. Environmental Pollution 154, 32-45. PMID: 18342417.
d) Rothenberg, S.E, Ambrose, R.F., Jay, J.A., (2008). Evaluating the potential efficacy of mercury total maximum daily loads on aqueous methylmercury levels in four coastal watersheds. Environmental Science and Technology 42, 5400-5406. PMID: 18754452

My complete bibliography URL (30 publications):
http://www.ncbi.nlm.nih.gov/sites/myncbi/14CwxEFmihdk9/bibliography/47308699/public/?sort=date&direction=ascending

D. Research Support

Current

NOAA (Oregon Sea Grant) Sarah Rothenberg (PI) 2/2020-1/2022

Title: PBDEs/Methylmercury and Immune Function in Non-Stranded Male California Sea Lions (*Zalophus californianus*)

Synopsis: California sea lions are a sentinel species for coastal pollution because they share a common prey base with humans; however, most research to date has focused on stranded sea lions, often long after disease first occurs. Results from this study will inform coastal managers concerning sea lion health, ecosystem health, and potential health impacts to human populations, including tribal communities, who ingest the same varieties of seafood as sea lions.

Role: As PI, I will oversee analyses of methylmercury and PBDEs in sea lion biomarkers, data analysis and manuscript preparation.

Completed (last 3 years)

NIH (Award R21 ES026412) Sarah Rothenberg (PI) 2/2016-1/2020

Title: Methylmercury exposure through rice ingestion, gut microbes, and offspring development

Synopsis: Results from this study will clarify our understanding of the mechanisms by which gut microbes contribute to variability in children's methylmercury metabolism and exposure, potentially impacting offspring development.

Role: As PI, I oversaw all aspect of the study, including recruitment, training in human subjects research for Chinese collaborators, biomarker collection, storage and laboratory analyses, data analysis and manuscript preparation.

E. Recent Service

I have not served on federal advisory committees, or on national or international professional organizations.
I have served as a grant reviewer, and as a Session Chair, as follows:

2019 NIH Study Sections (multiple)
2018 NIH Study Section
2017 NIH Study Section
2017 NSF, Geobiology and Low Temperature Geochemistry Division
2016 NIH Study Section
2015 NSF, Atmospheric Chemistry Division

2017 International Conference on Mercury as a Global Pollutant (ICMGP), Providence, RI, Rice and Mercury, Session Chair

From: Gauvin, David
To: Knott, Steven
Subject: Docket ID: EPA-HQ-QPPT-2020-0135
Date: Thursday, August 20, 2020 5:49:42 AM
Attachments: biosketchform.pdf
Gauvin_vitae July 2020.doc
Biographical sketch_Gauvin..docx

I would like to be considered for an appointment on the Science Advisory Committee on Chemicals (SACC) for the EPA. I have attached the published PDF form, a one page biosketch and my curriculum vitae per the docket announcement in the August 17th publication of the Federal Register.

If you have any questions, you can contact me directly at:

(b) (6)

David V. Gauvin, Ph.D.
Senior Director, Neurobehavioral Sciences
Principal Research Scientist
Abuse Liability Testing & Ototoxicity
Charles River Laboratories
Mattawn, MI 49071

David V. Gauvin, Ph.D.

AFFILIATION: Director, Neurobehavioral Sciences Charles River Laboratories, Inc. 54943 North Main St., Mattawan, MI 49071

EXPERTISE: Psychobiology, Behavioral Pharmacology, Safety Pharmacology, Neuroscience, Memory & Learning, Schedule Controlled Behavior, Neurotoxicology

EDUCATION: B.A. Psychology, University of Michigan (Dearborn, MI)
M.A. Biopsychology (Psychopharmacology) Wayne State University (Detroit, MI)
Ph.D. Biopsychology (Psychopharmacology) Wayne State University (Detroit, MI)
NIDA and NIAAA Postdoctoral Fellowship in Psychopharmacology, University of Oklahoma Health Sciences Center, Oklahoma City, OK

EXPERIENCE SUMMARY: Dr. Gauvin is the Director of Neurobehavioral Sciences at Charles River Laboratories, Inc., in Mattawan, MI; the world's largest single-site contract research organization. The laboratory conducts nonclinical research for IND and NDA-enabling studies related to drug abuse liability assessment and ototoxicity. Dr. Gauvin has a diverse history with 11 years in university academics in the Department of Psychiatry and Behavioral Sciences at the University of Oklahoma Health Sciences Center in Oklahoma City, OK (1987-1998), five years of government drug regulatory experiences in the Office of Drug and Chemical Evaluation at the U.S. Drug Enforcement Administration in Washington, D.C. (1998-2003) and over 17 years conducting nonclinical toxicology, pharmacology, and neuroscience contract research at MPI Research, Inc, which later became Charles River Laboratories, Inc (2003- 2020). Dr. Gauvin is the author of over 120 journal articles and book chapters published in peer-reviewed scientific journals. He is a member of the Safety Pharmacology Society, Behavioral Pharmacology Society, Society for Neuroscience, and past-president of the Society for the Stimulus Properties of Drugs. In the past few years Dr. Gauvin has published articles focusing on neurotoxicity, ototoxicity, and cardiovascular safety assessments in purpose bred laboratory animals.

PANEL EXPERIENCE: Dr. Gauvin was an active member of the Interagency Committee on Drug Control (ICDC; 1998-2003) which was composed of members of the Controlled Substance Staff (CSS) of the Center for Drug Evaluation and Research (CDER) at the US Food and Drug Administration, members of the Intramural Departments of the National Institutes on Drug Abuse (NIDA), participants from the Office of National Drug Control Policy (ONDCP) and the Office of Diversion Control at the U.S. Drug Enforcement Administration.

Environmental Protection Agency (EPA)
Office of Science Coordination and Policy (OSCP)
Biosketch Instructions, Example, and Fillable Form

Thank you for your interest in peer reviews at the EPA. As part of the process of soliciting, nominating, and recruiting established members of a panel or committee or adding *ad hoc* members for select meetings, OSCP needs a one-page biographical sketch (a.k.a. biosketch).

We are requesting that you provide information that is focused and appropriate to represent your profession, expertise, scientific or related technical experience, and prior panel or committee experience like that of a Federal Advisory Committee (e.g., Scientific Advisory Panel, Scientific Advisory Board, Board of Scientific Counselors, or similar).

The one-page biosketch will be used in the candidate phase of recruiting and identifying members with the credentials that support the potential participation in a particular meeting and, if placed on a panel or committee meeting roster, will be used to document members who contributed to a meeting.

INSTRUCTIONS

The next page provides a description of the information that is requested by field name.

The following page is an example of a properly formated one-page biosketch.

The last section (2 pages) of this document is a fillable form that corresponds to the fields (sections) that comprise the biosketch. *Fields are character limited*. Scroll bars may appear for a field, but once the maximum characters are used the field will accept no additional information. We will receive the form and extract the information to a document for final review and formatting. If more than one page of information is received, we will contact you about any edits made to conform to the single page format.

NOTE: This PDF file is in an "extended format" and can be opened, fields filled in, and the file saved using either Acrobat Reader or Acrobat Professional. In the extended format you will be able to open the file later and edit the document.

BIOGRAPHICAL SKETCH TEMPLATE

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …); additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests. Usually 200-word count.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

EXAMPLE:

Daniel Schlenk, Ph.D.

Affiliation: Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California Riverside, CA.

Expertise: Research on understanding the biochemical factors that influence susceptibility to environmental and natural chemicals with a focus on Aquatic Ecotoxicology.

Education: PhD in Toxicology, Oregon State University. BS Toxicology Northeast Louisiana University.

Experience Summary: Dr. Daniel Schlenk is Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California-Riverside. He is a Fellow of the American Association for the Advancement of Science, and from 2007-2014. Dr. Schlenk was a member of the Board of Directors for the North American Society of Environmental Toxicology and Chemistry (2003-2006). His research interests focus on mechanisms of action of pesticides, PAHs, and emerging compounds in aquatic organisms.

Panel Experience: Dr. Schlenk is currently a member of EPA Science Advisory Committee on Chemicals (SACC; 2017-present); Dr. Schlenk's experience on Federal panels includes: Permanent Member US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Science Advisory Panel (2007-2012) and Chair US EPA FIFRA Science Advisory Panel (2012-2014). USEPA Chemical Safety Advisory Committee (CSAC) (2016) and the Toxic Substances Control Act (TSCA), Draft Risk Assessment Work Plan Chemical for 1-Bromopropane (2016); Ad hoc reviewer National Institute of Environmental Health Sciences (NIEHS) Freshwater Biomedical Centers (1996); US Department of Agriculture (1997-2000) and National Science Foundation (1996-present); National Oceanic and Atmospheric Administration (NOAA) Oceans and Human Health Initiative Grant Review Panel (2005); US EPA Endocrine Disrupter Mixtures Grant Review Panel (2005); US EPA Science Advisory Board, Aquatic Life Criteria Guidelines (2005); NIEHS P30 Core-Center Applications (2008); and NIEHS Superfund Research Program P42 Center Applications (2016). Dr. Schlenk has also served on numerous State and foundation review panels and committees.

Scroll to the top of this document for Instructions, biosketch template, and example. Use the fields below to enter you biosketch information.

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …) ; additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

CURRICULUM VITAE
David V. Gauvin, Ph.D.

PERSONAL DATA

Business Address: Charles River Laboratories, Inc.
Neurobehavioral Sciences
54943 N. Main St.
Mattawan, MI 49071-9399
Telephone: (269) 668-3336 Ext. 1613
FAX: (269) 668-4151

Home Address: (b) (6)

Birthdate/Place: (b) (6)
Marital Status: (b) (6)
Military Status: U.S. Navy, 1969-1975; Honorable Discharge, 1975; Vietnam Veteran

EDUCATION

1969 - 1975		Basic Electricity and Electronics School (USN) Electrician's Mate Class "A" School Nuclear Power School, Nuclear Power Prototype (DLG-3) School
1976 - 1978		Henry Ford Community College
1980	B.A.	University of Michigan, Dearborn, MI (Psychology/Philosophy)
1985	M.A.	Wayne State University, Detroit, MI (Biopsychology/Psychopharmacology)
1986	Ph.D.	Wayne State University, (Psychopharmacology; Minor: Clinical Neuropsychology)
1987-1990		Postdoctoral Training in Psychopharmacology Department of Psychiatry & Behavioral Sciences University of Oklahoma Health Sciences Center Oklahoma City, OK

AWARDS AND HONORS

1995-96	Excellence in Classroom Teaching Award, Biological Psychology Graduate Students, Univ. of Oklahoma Health Sciences Center, Oklahoma City, OK
1993-1994	Exellence in Classroom Teaching Award, Biological Psychology Graduate Students, Univ. of Oklahoma Health Sciences Center, Oklahoma City, OK
1992-93	Excellence in Classroom Teaching Award, Biological Psychology Graduate Students, Univ. of Oklahoma Health Sciences Center
1992	Provost's Excellence in Research Award, University of Oklahoma Health

	Sciences Center, Oklahoma City, OK
1989	Who's Who in American Education
1980-present	Member, Psi Chi (National Honors Society in Psychology)
1980	James B. Angell Scholar (University of Michigan)

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Behavioral Pharmacology Society
Society for the Stimulus Properties of Drugs (Secretary-Treasurer, 1994-98, President 2001)
Society for Neuroscience
International Society for Biomedical Research on Alcoholism
Research Society on Alcoholism
Sigma Xi
Safety Pharmacology Society

PROFESSIONAL EXPERIENCE

Dec 2019	Senior Principal Research Scientist, Charles River Laboratories, Inc.
Jan 2019 Present	Director Neurobehavioral Sciences, Charles River Laboratories, Inc.
Jan 2008 -Jan 2019	Director Neurobehavioral Sciences, MPI Research, Mattawan, MI
Sept 2007 -Present	Senior Principal Study Director, Safety Pharmacology / Neuroscience, MPI Research, Mattawan, MI
May 2006-2007	Principal Study Director, Safety Pharmacology / Neuroscience, MPI Research, Mattawan, MI
April 2003-May 2006	Senior Study Director, Safety Pharmacology / Neuroscience, MPI Research, Mattawan, MI
Sept 2000-March 2003	Drug Science Officer, Drug Enforcement Administration, Office of Diversion Control, Drug & Chemical Evaluation Section, Washington, D.C.
2000-2002	Executive Committee Society for the Stimulus Properties of Drugs President of the Society - 2001
Oct. 1998 - Sept 2000	Drug Science Specialist, Drug Enforcement Administration, Office of Diversion Control, Drug & Chemical Evaluation Section
May, 1990 - Jun. 1998	Assistant Research Professor, Department of Psychiatry & Behavioral Sciences and Graduate College, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma
Jan. 1992 - Jun. 1998	Associate Director, Psychobiology Research Laboratories, Department of Psychiatry & Behavioral Sciences, Univ. of Oklahoma Health Sciences Center.

May, 1990 - Jun. 1998 Research Psychologist, Veteran Affairs Medical Ctr., Oklahoma City, Oklahoma

Nov. 1990 - Jun. 1998 Full Member, Graduate Faculty, Univ. Oklahoma Health Sciences Center

May, 1987 - Apr., 1990 National Institute on Alcohol Abuse and Alcoholism Postdoctoral Fellow
University of Oklahoma Health Sciences Center, Dept.of Psychiatry and Behavioral Sciences.Sponsor/Advisor: Frank A. Holloway, Ph.D.

1982 - 1987 Teaching Assistantship, Wayne State University, Detroit, MI
Primary Lecturer, Psychology of Perception and Sensation (Psychology 205)

1980 - 1987 Psychiatric Assistant, Adult Acute Psychiatric Rehabilitation Unit, Wyandotte General Hospital, Wyandotte, MI

ADDITIONAL POSTDOCTORAL TRAINING

1. First International Meeting on Microdialysis and Applied Analytical Techniques (One-day workshop), May 17-18, 1989, Indianapolis, IN.

2. Autonomic Nervous System Pharmacology.Department of Pharmacology, University of Oklahoma Health Sciences Center, Oklahoma City, OK (Fall, 1987).

3. Advanced Seminar in Psychopharmacology/Substance Abuse.Department of Psychiatry and Behavioral Sciences, Biological Psychology Ph.D. Program, University of Oklahoma Health Sciences Center, Oklahoma City, OK (Fall, 1987-1990).

4. Prevention: Fetal Alcohol Syndrome and Alcohol-Related Problems. Category 1 Continuing Education Credit (6 hours), Division of Continuing Medical Education, Wayne State University School of Medicine, Detroit, MI (November 8, 1994).

5. Behavioral Test Methods Workshop. Interagency Committee on Neurotoxicity (ICON) in collaboration with U.S. FDA and EPA. June 20 & 21, 2003, Philadelphia, PA.

RESEARCH GRANTS

Previously Funded Grants

Behavioral Effects of Ethanol-Induced Oxidative Stress. Principal Investigator, National Institute on Alcohol Abuse and Alcoholism, 25% time, 04/01/96-03/31/98, $138,200 (direct costs).

Biobehavioral Correlates of Acute Ethanol Withdrawal. Co-Principal Investigator, National Institute on Alcohol Abuse & Alcoholism, 1/01/95-12/31/95, 33% time, $574,319 (direct costs)

Historical Effects on Alcohol's Subjective Attributes. Co-Principal Investigator, 50%, Presbyterian Health Foundation, 09/01/97 - 08/31/98, $59,052.

Drug History Factors in Ethanol's Reinforcing Effects. Co-Principal Investigator, Presbyterian Health

Foundation, Oklahoma City, OK, 04/01/90 - 09/30/91, $37,630.

Effects of Stress/Ethanol on Immune Function in Rats. Faculty Co-Sponsor, Laureate Foundation Medical Student Fellowships, Summer 1991 (J. Nixon).

*Biobehavioral Correlates of Acute Ethanol Withdrawal.*Co-Principal Investigator, National Institute on Alcohol Abuse and Alcoholism, 01/01/90-12/31/92, 25% time, $249,510.

Abuse Liability of Drug Adjuncts for Cocaine Withdrawal. Co-Principal Investigator, National Institute on Drug Abuse, 07/01/90 - 06/30/93, 45% time, $298,123.

*Alcohol Consumption and Intoxication: Effect on Responses to Endotoxemia.*Co-Investigator, Veterans Administration Merit Review, 1990-1992, 0% time, $181,908.

Biobehavioral Correlates of Acute Ethanol Withdrawal. Co-Principal Investigator, 10%, Presbyterian Health Foundation, 07/01/94 - 06/30/95, $43,965.

Drug History Factors in Ethanol's Reinforcing Effects. Co-Principal Investigator, National Institute on Alcohol Abuse and Alcoholism, 02/01/92 - 01/31/97, 30% time, $383,295 (direct costs)

PUBLICATIONS

1. Gauvin, D.V. & Young A.M. (1987). The drug discrimination procedure: A microanalysis of the qualitative properties of quantal responses. *The Psychological Record*, **37,** 167-176.

2. Gauvin, D.V., Harland, R.D., Michaelis, R.C., & Holloway, F.A. (1989). Caffeine-phenylethyl-amine combinations mimic the cocaine discriminative cue. *Life Sciences,* **44**, 67-73.

3. Gauvin, D.V., & Young, A.M. (1989). Evidence for perceptual masking of the discriminative morphine stimulus. *Psychopharmacology*, **98**, 212-221.

4. Gauvin, D.V., & Young, A.M. (1989). Effects of prior saline-morphine discrimination by pigeons on three-way discrimination including two morphine doses. *Psychopharmacology*, **98**, 222-230.

5. Harland, R.D., Gauvin, D.V., Michaelis, R.C., Carney, J.M., Seale, T.W., & Carney, J.M. (1989). Behavioral interactions between cocaine and caffeine: A drug discrimination analysis in rats. *Pharmacology, Biochemistry & Behavior,* **32**, 1017-1023.

6. Gauvin, D.V., Harland, R.D., & Holloway, F.A. (1989). Drug discrimination procedures: A method to analyze adaptation level of affective states. *Drug Development Res.*, **16**, 183-194.

7. Holloway, F.A., & Gauvin, D.V. (1989). Comments on method and theory in drug discrimination: A potpourri of problems, perplexities, and possibilities *Drug Development Research*, **16**, 195-207.

8. Gauvin, D.V., & Young, A.M. (1989). Perceptual masking of drug stimuli. *Drug Development Research,* **16**, 151-162.

9. Gauvin, D.V., Harland, R.D., Criado, J.R., Michaelis, R.C., & Holloway, F.A. (1989). The discriminative stimulus properties of ethanol and acute ethanol withdrawal states in rats. *Drug and Alcohol Dependence,* **24(2)**, 103-114.

10. Gauvin, D.V., Criado, J.R., Moore, K.R., & Holloway, F.A. (1990). Potentiation of cocaine's

discriminative effects by caffeine: A time-effect analysis *Pharmacology, Biochemistry & Behavior*, **36**, 195-197.

11. Gauvin, D.V., & Holloway, F.A. (1991). Cue dimensionality in the 3-choice pentylenetetrazole-saline-chlordiazepoxide discrimination task. *Behavioural Pharmacolology*, **2,** 417-428.

12. Gauvin, D.V., Brackett, D.J., Criado, J.R., Lerner, M.R., Wilson, M.F., & Holloway, F.A. (1991). Pharmacological antagonism of ethanol by *dl*-α-tocopherol. *Proceedings of the International Biomedical Research on Alcoholism Meeting*, Toronto, Ontario, June 15-17.

13. Gauvin, D.V., & Holloway, F.A. (1991). Cross-generalization between an ecologically-relevant stimulus and a pentylenetetrazole discriminative cue. *Pharmacology, Biochemistry & Behavior*, **39**, 521-523.

14. Gauvin, D.V., Dormer, K.N., & Holloway, F.A. (1991). Pentylenetetrazole can induce a conditioned place preference. *Pharmacology, Biochemistry & Behavior*, **40**, 987-990.

15. Gauvin, D.V., & Holloway, F.A. (1991). Historical factors in the development of ETOH conditioned place preference. *Alcohol*, **9**, 1-7.

16. Gauvin, D.V., Youngblood, BD, & Holloway, F.A. (1992). The discriminative stimulus properties of acute ethanol withdrawal (hangover) in rats. *Alcoholism: Clinical and Experimental Research*, **16(2**, 336-341.

17. Holloway, F.A., King, D.A., Bedingfield, J.B., & Gauvin, D.V. (1992). Role of context in ethanol tolerance and subsequent hedonic effects. *Alcohol*, **9**, 109-116

18. Gauvin, D.V., & Holloway, F.A. (1992). Ethanol tolerance developed during intoxicated operant performance in rats prevents subsequent ethanol induced conditioned taste aversion. *Alcohol*, **9,** 167-170.

19. Gauvin, D.V., Sannerud, C.A. & Holloway, F.A. (1992). Second-order environmental conditioning of a taste aversion in rats. *Behavioural Pharmacology*, **3**, 249-254.

20. Holloway, F.A., Michaelis, R.C., Harland, R.D., Criado, J.R., & Gauvin, D.V. (1992). Tolerance to ethanol's effects on operant performance in rats: Role of number and pattern of intoxicated practice opportunities. *Psychopharmacology*, **109**, 112-120.

21. Balla, A.K., Nixon, J., Gauvin, D.V., Lerner, M.R., Holloway, F.A., & Brackett, D.J. (1993). Neutrophil function during psychoneurogenic stress. In: Watson, R.R. (Ed. *Alcohol, Drugs of Abuse and Immunomodulation (AIDS*, Advances in Biosciences, New York: Pergamon Press.

22. Gauvin, D.V., Moore, K.R., & Holloway, F.A. (1993). Do rat strain differences in ethanol consumption reflect differences in ethanol sensitivity or the preparedness to learn? *Alcohol*, **10**, 37-43.

23. Gauvin, D.V., Moore, K.R., Youngblood, B.D., & Holloway, F.A. (1993). The discriminative stimulus properties of legal, over-the-counter stimulants administered singly and in binary and ternary combinations. *Psychopharmacology*, **110**, 309-319.

24. Gauvin, D.V., & Holloway, F.A. (1993). The discriminative stimulus properties of an ethanol-nicotine mixture in rats. *The Journal of Psychopharmacology*, **7(1)**, 52-62.

25. Gauvin, D.V., Cheng E.Y., & Holloway F.A. (1993). Biobehavioral correlates of alcohol hangover In: Galanter, M. (Ed.) *Recent Developments in Alcoholism: Ten Years of Progress* NY: Plenum Press, pp. 281-304.

26. Gauvin, D.V., Carl, K.L., Goulden, K.L., & Holloway, F.A. (1993). Cross-generalization between drug discriminative stimuli and conditioned 'safety' and 'danger' cues. *Experimental and Clinical Psychopharmacology*, **1**, 133-141.

27. Gauvin, D.V., Goulden, K.L., & Holloway, F.A. (1993). State dependent operant stimulus control: Cueing attributes of ethanol hangover in rats. *Alcoholism: Clinical and Experimental Research*, **17**, 1210-1214.

28. Gauvin, D.V., Peirce, J.M., & Holloway, F.A. (1994). Perceptual masking of the chlordiazepoxide discriminative cue by both caffeine and buspirone. *Pharmacology, Biochemistry & Behavior*, **47**, 153-159.

29. Gauvin, D.V., & Holloway, F.A. (1994). Continuous or quantal data in drug discrimination experiments is a measurement issue not a reinforcement issue. *Psychopharmacology*, **113,** 297.

30. Gauvin, D.V., Briscoe, R.J., Goulden, K.L., & Holloway, F.A. (1994). Aversive attributes of ethanol can be attenuated by dyadic social interaction in the rat. *Alcohol,* **11,** 247-251.

31. Gauvin, D.V., Goulden, K.L., & Holloway, F.A. (1994). A three-choice haloperidol-saline-cocaine drug discrimination task in rats. *Pharmacology, Biochemistry & Behavior*, **49,** 223-227.

32. Brackett, D.J., Gauvin, D.V., Lerner, M.R., Holloway, F.A., & Wilson, M.F. (1994). Dose- and time-dependent cardiovascular responses induced by ethanol. *Journal of Pharmacology and Experimental Therapeutics*, **268**, 78-84.

33. Gauvin, D.V., Youngblood, B.D., Goulden, K.L., Briscoe, R.J., & Holloway, F.A. (1994). Multidimensional analyses of an ethanol discriminative cue. *Experimental and Clinical Psychopharmacology*, **2,** 299-309.

34. Gauvin, D.V., Briscoe, R.J., Goulden, K.L., Wojnicki, F.H., Russin, R., Martin, P.R., & Holloway, F.A. (1994). Influence of thiamine on the behavioral sensitivity to ethanol. *Alcoholism: Clinical and Experimental Research,* **18(5),** 1398-1405.

35. Durazzo, T.C., Goulden, K.L., Briscoe, R.J., Gauvin, D.V., & Holloway, F.A. (1994). Cocaine-induced conditioned place approach in rats: The role of dose and route of administration. *Pharmacology, Biochemistry & Behavior*, **49,** 1001-1005.

36. Durazzo, T.C., Goulden, K.L., Briscoe, R.J., Gauvin, D.V., & Holloway, F.A. (1994). Technical report: The subcutaneous administration of cocaine in the rat. *Pharmacology, Biochemistry & Behavior*, **49,** 1007-1010.

37. Gauvin, D.V., & Holloway, F.A. (1994). The subjective effects of caffeine: Bridging the gap between animal and human research. *Pharmacopsychoecologia,* **7**, 179-200.

38. Gauvin, D.V., Carl K.L., Briscoe, R.J., Vallett, M., & Holloway F.A. (1995). Cross-generalization between a cocaine cue and two over-the-counter antihistamines. *European Journal of Pharmacology*, **294**, 281-288.

39. Gauvin, D.V., Briscoe, R.J., Baird, T.J., Vallett, M., Carl, K.L., & Holloway, F.A. (1996). Selective attention to elements of a morphine stimulus: Idiosyncratic stimulus-additivity of incidental cues. *Experimental & Clinical Psychopharmacology,***4(4)**, 379-388.

40. Gauvin, D.V., Briscoe, R.J., Baird, T.J., Vallett, M., Carl, K.L. & Holloway, F.A. (1996). A three-choice chlordiazepoxide, saline, pentylenetetrazole discrimination in rats: cross-generalization between drug and olfactory alarm substance stimuli. *Experimental & Clinical Psychopharmacology*, **4(4)**, 373-378.

41. Vallett, M., Briscoe, R.J., Baird, T.J., Tabatabaie, T., Beatty, W.W., Floyd, R.A., & Gauvin, D.V. (1997). Free radical production during ethanol intoxication, dependence, and withdrawal. *Alcoholism: Clinical and Experimental Research,* 21(2) 275-285.

42. Gauvin, D.V., Briscoe, R.J., Baird, T.J., Vallett, M., & Holloway, F.A. (1997). The paradoxical hedonic valence of acute ethanol withdrawal (hangover) states in rats: Place and taste conditioning. *Alcohol,* 14 (3), 261-268.

43. Gauvin, D.V., Briscoe, R.J., Baird, T.J., Vallett, M., Carl, K.L. & Holloway, F.A. (1997). Cross-generalization of ethanol "hangover" cue to endogenously- and exogenously-induced stimuli. *Pharmacology Biochemistry & Behavior,* **57(1/2)**, 199-206.

44. Gauvin, D.V., Briscoe, R.J., Baird, T.J., Vallett, M., Carl, K.L., & Holloway, F.A. (1997). Cumulative versus acute dose-response procedures produce differential BAC and behavioral functions for ETOH. *Pharmacology Biochemistry & Behavior*, **57(1/2)**, 397-403.

45. Gauvin, D.V., Briscoe, R.J., Baird, T.J., Vallett M., Carl, K.L., & Holloway, F.A. (1997). Physiological and subjective effects of acute cocaine withdrawal (crash) in rats. *Pharmacology Biochemistry & Behavior,* **57(4)**, 923-934.

46. Gauvin, D.V., Baird, T.J., Vanecek, S.A., Briscoe, R.J., Vallett, M., & Holloway, F.A. (1997). The effects of time-of-day and photoperiod phase-shifts on voluntary ethanol consumption in rats. *Alcoholism: Clinical and Experimental Research, **21(5)**, 817-825.*

47. Gauvin, D.V., Vanecek, S.A., Baird, T.J., Vallett, M., Briscoe, R.J., Carl, K.L., Holloway, F.A., & Sannerud, C.A. (1998). The stimulus properties of two common over-the-counter drug mixtures: dextromethorphan + ephedrine and dextromethorphan + diphenhydramine. *Journal of Psychopharmacology*, **12(1)**, 84-92.

48. Gauvin, D.V., Vanecek, S.A., Baird, T.J., Briscoe, R.J., Vallett, M., & Holloway, F.A. (1998). Genetic selection of alcohol preference can be countered by conditioning processes. *Alcohol,* **15(3)**, 199-206.

49. Gauvin, D.V., Vanecek, S.A., Baird, T.J., Briscoe, R.J., Vallett, M., Carl, K.L., & Holloway, F.A. (1998). State-dependent stimulus control: Cuing attributes of acute cocaine withdrawal in rats. *Experimental and Clinical Psychopharmacology,* **6(3),** 264-273.

50. Briscoe, R.J., Gauvin, D.V., Vallett, M., Baird, T.J., & Holloway, F.A. (1998). Reinforcing attributes of caffeine, ephedrine and their binary combination in rats. *Pharmacology, Biochemistry & Behavior,* **60(3)**, 685-693.

51. Baird, T.J., Vanecek, S.A., Briscoe, R.J., Vallett, M., & Gauvin, D.V. (1998). Moderate, long-term alcohol consumption potentiates normal, age-related spatial memory deficits in rats. *Alcoholism: Clinical & Experimental Research*, **22(3)**, 628-636.

52. Baird, T.J., Briscoe, R.J., Vallett, M., Vanacek, S.A., Holloway F.A. & Gauvin, D.V. (1998). Phase- response curve for ethanol: Alterations in circadian rhythms of temperature and activity in rats. *Pharmacology Biochemistry & Behavior*, **61(3)**, 303-315.

53. Briscoe, R.J., Gauvin, D.V. (1999). Effects of ethanol hangover on the operant self-administration of cocaine in rats. *Alcohol*, **17(1),** 41-45.

54. Briscoe, R.J., Lerner, M.R., Brackett, D.J. & Gauvin, D.V. (1999). Cardiovascular effects of ethanol hangover, cocaine, and the interaction between hangover and cocaine. *Alcohol*, **19(2)**, 131-137.

55. Gauvin, D.V. & Baird, T.J. (1999). The discriminative stimulus properties of compound drug stimuli: a focus on attention. *Pharmacology, Biochemistry and Behavior,* **64(2)**, 229-235.

56. Gauvin, D.V., & Holloway, F.A. (1999). The subjective effects of caffeine: bridging the gap between animal and human research. In: B. Gupta, R. Gupta (eds) *Caffeine and Behavior: Current Views and Research Trends*. Baca Raton: CRC Press LLC, pp. 261-285.

57. Baird, T.J., & Gauvin, D.V. (2000). Characterization of cocaine self-administration and pharmacokinetics as a function of time-of-day in the rat. *Pharmacology, Biochemistry and Behavior* **65(2),** 289-299

58. Gauvin, D.V., Baird, T.J., & Briscoe, R.J. (2000). Differential development of behavioral tolerance and the subsequent hedonic effects of alcohol in AA and ANA rats. *Psychopharmacology* **151**, 335-343.

59. Gauvin, D.V. (1999). Letter-to-the-editor: Blood alcohol concentrations in rats drinking or intubated with ethanol. *Alcoholism: Clinical & Experimental Research,* **23(12)**, 1945-1947.

60. Sánchez-Alavez, M., Gombart, L.M., Huitrón-Reséndiz, S., Carr, J.R., Wills, D.N., Berg, G., Campbell, I.L., Gauvin, D.V., Henriksen, S.J., Criado, J.R. (2004). Physiological and behavioral effects of methamphetamine in a mouse model of endotoxemia: a preliminary study. *Pharmacology Biochemistry & Behavior*. **77(2):** 365-370.

61. Gauvin, D.V., Tilley, L.P., Smith, F.W.K. Jr., et al. (2006). Electrocardiogram, hemodynamics, and core body temperatures of the normal freely-moving cynomolgus monkey by remote telemetry. *Journal of Pharmacological and Toxicological Methods* **53**, 140-151.

62. Gauvin, D.V., Tilley, L.P., Smith, F.W.K. Jr., et al. (2006). Electrocardiogram, hemodynamics, and core body temperatures of the normal laboratory freely-moving beagle dog by remote telemetry. *Journal of Pharmacological and Toxicological Methods* **53**, 128-139.

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65. Baird, T.J., Bailie. M., Patrick, D.J., Moddrelle, D., Yoder. J., Gauvin, D.V., Dalton, J.A. (2013). Influence of surgically implantable telemetry solutions on in-life and post-mortem toxicology endpoints. *Journal of Pharmacological and Toxicological Methods*. **67**(3), 148-61.

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80. Gauvin. D.V., Zimmermann, Z.J., Baird, T.J. (2016). Industry Testing of Opioids for Differential Schedule Control Purposes: Abuse-Deterrent Formulations. *Journal of Drug Design and Research* 3(1), 1021-1029.

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68. Paul, R.H., Testa, J.A., Scott, J.G., Ross, E.D., Beatty, W.W., & Gauvin D.V. (1997). History of alcohol abuse and neuropsychological test performance by demented patients. Submitted for presentation, 1997 Society for Neuroscience Meeting, New Orleans, LA, Oct. 25-30.
    Published Abstract: *Society for Neuroscience Abstracts*.

69. Vanecek, S.A., Gauvin, D.V., Baird, T.J., Vallett, M., Carl, K.L., & Holloway, F.A. (1997). Discriminative stimulus properties of acute cocaine withdrawal ("cocaine crash") in rats. Submitted for presentation, 1997 Society for Neuroscience Meeting, New Orleans, LA, Oct. 25-30.
    Published Abstract: *Society for Neuroscience Abstracts*.

70. Baird, T.J., Vanecek, S.A., Briscoe, R.J., Vallett, M., Holloway, F.A., & Gauvin, D.V. (1997). Chronopharmacology of acute ethanol treatment: Immediate and sustained effects on circadian temperature and activity rhythms in rats. Submitted for presentation, 1997 Society for Neuroscience Meeting, New Orleans, LA, Oct. 25-30.
    Published Abstract: *Society for Neuroscience Abstracts*.

71. Sannerud, C.A., & Gauvin, D.V. Discriminative stimulus properties of GHB in rats trained in a 3-choice chlordiazepoxide-saline-pentylenetetrazole discrimination task. 1997 Society for Neuroscience Meeting, New Orleans, LA, Oct. 25-30.
    Published Abstract: *Society for Neuroscience Abstracts*.

72. Gauvin, D.V. & Baird T.J. The discriminative stimulus properties of compound drug stimuli: A focus on attention. Presented at 1998 International Meeting on the Stimulus Properties of Drugs, Beerse, Belgium, Aug 29 - Sept 02.

73. Sannerud C.A., Gauvin D.V., Hutchinson K.D., Lawrence J.K. & Sapienza F. Current Drug Scheduling Reviews Reported by the Drug Enforcement Administration. Presented at the annual meeting of the College on Problems of Drug Dependence, Aculpulco, Mexico, June 1999.

74. Sannerud C.A., Gauvin D.V., Sapienza F. Current "club drug" reviews reported by the Drug Enforcement Administration (1999-2000). Presented at the annual meeting of the College on Problems of Drug Dependence, San Juan, Puerto Rico, June 2000.

75. Gauvin D.V., Sannerud C.A., Snyder D.A., Sapeinza F.L. Current observations of methamphetamine supply trends in the United States. Presented at the annual meeting of the College on Problems of Drug Dependence, San Juan, Puerto Rico, June 2000.

76. Gauvin D.V. Pharmacology of Club Drugs. Presented at the annual meeting of the Demand Reduction Coordinators of the DEA., Seattle, Washington, June 2000.

77. Gauvin D.V. Pharmacology of Club Drugs and Current Drug Updates at DEA. Presented at, "The Straight Dope: Issues, Trends and Responses to Illicit Drugs in Mid-America. Regional Community Policing Training Institute, Topeka, Kansas, July 13, 2000.

78. Sannerud C.A., Gauvin D.V., Strait M.J., Tolliver J.M. & Sapienza F.L. Drug scheduling and projects reported by the Drug Enforcement Administration. Presented at the annual meeting of the College on Problems of Drug Dependence, Scottsdale, Arizona, June 2001.

79. Gauvin D.V., Sannerud C.A. & Sapienza F.L. Fatal adverse drug events associated with single-entity Oxycodone products. Presented at the annual meeting of the College on Problems of Drug Dependence, Montreal, Quebec, June 2002.

80. Gauvin D. V. Rodent and Primate Models for Preclinical Abuse Potential Assessment. Presented at the annual meeting of the Safety Pharmacology Society, San Diego, CA, September 2006.

81. Gauvin D. V., Dalton J.A. & Baird T.J. Validation of an ICH-Compliant functional observational battery in non-human primates. Presented at the annual meeting of the Safety Pharmacology Society, San Diego, CA, September 2006.

82. Gauvin D.V., Code R., Dalton J.A. & Baird T.J. Validation of rodent drug discrimination procedures for abuse liability testing in a contract research organization. Presented at the annual meeting of the Safety Pharmacology Society, San Diego, CA, September 2006.

83. Gauvin D.V., Code R., Dalton J.A.. & Baird T.J. Validation of rodent self-administration procedures for abuse liability testing in a contract research organization. Presented at the annual meeting of the Safety Pharmacology Society, San Diego, CA, September 2006.

84. Gauvin D.V., Resendez J.C., Moddrelle D. & Baird T.J. Validation of methods to assess respiratory function, pleural pressure and diaphragm EMGs in NHP's. Presented at the annual meeting of the Safety Pharmacology Society, San Diego, CA, September 2006.

85. Wall T., Wolfe M., Dalton J., Higdon N., Clark M.S., Gauvin D.V., Baird T.J. Development and characterization of in vitro hyperexcitability induction models for use in screening antiepileptic drugs. Presented at the annual meeting of the Safety Pharmacology Society, Edinburgh, Scotland, 2007.

86. Gauvin D.V., Code R.A., McComb M.M., Select C.D., Shannon B.A., Baird T.J. Cardiovascular effects of contingent (active) versus non-contingent (passive) cocaine administration in cynomolgus monkeys. Presented at the annual meeting of the Safety Pharmacology Society, Madison, WI, 2008.

87. Gauvin D.V., Code R.A., McComb M.M., Select C.D., Shannon B.A., Baird T.J. GLP-compliant drug self-administration in the non-human primate. Presented at the annual meeting of the Safety Pharmacology Society, Madison, WI, 2008.

88. Gauvin D.V., Dalton J.A., Baird T.J. A comparison of (±) verapamil, and (±) sotalol on the body temperature, hemodynamics, and electrocardiogram of cynomolgus monkeys, beagle dogs, and yucatan micropigs. Presented at the annual meeting of the Safety Pharmacology Society, Madison, WI, 2008.

89. Gauvin D.V., Tilley L.P., Smith F.W.K. Jr., Baird T.J. Prevalence and types of spontaneous cardiac arrhythmias in three experimentally- and drug-naïve laboratory species (canine, primate, swine) used in toxicology and safety assessment studies. Presented at the annual meeting of the Safety Pharmacology Society, Madison, WI, 2008.

90. Gauvin D.V., Dalton J.A., Baird T.J. Pulmonary function in rats monitored by Buxco whole-body plethysmography. Presented at the annual meeting of the Safety Pharmacology Society, Madison, WI, 2008.

91. Baird T.J., Tapp R.L., Dolan D.D., Altschuler R.A., Eliel M., Gauvin D.V. Evaluation of the effects of dosage and dose volume on indices of neomycin ototoxicity in the guinea pig. Presented at the annual meeting of the Safety Pharmacology Society, Madison, WI, 2008.

92. Baird T.J., Foy, J.W.-D., Dolan D.D, Wall T., Posthumus T., Eliel M., Tapp R.L., Gauvin D.V. Evaluation of dose, time, and frequency dependent ototoxic response to cisplatin administration in the albino guinea pig. Presented at the annual meeting of the Safety Pharmacology Society, Madison, WI, 2008.

93. Tapp R.L., Eliel M., Dolan D.D., Altschuler R.A., Gauvin, D.V., Baird T.J. Comparison of pigmented and albino guinea pigs for use in ototoxicity modeling. Presented at the annual meeting of the Safety Pharmacology Society, Madison, WI, 2008.

94. Harter M., Holdsworth D, Dalton J., Gauvin D., Baird T.J. Evaluation of quantitative and morphologic characteristics of the electrocardiogram as recorded simultaneously by non-invasive and standard implantable telemetry in beagle dogs and cynomolgus monkeys. Presented at the annual meeting of the American College of Toxicology. Tucson, AZ. 2008.

95. Baird T.J., Gauvin D.V., Yoder J., Dalton J.A. Acclimation to pulmonary plethysmographic chamgers: Where is the point of diminishing returns? Presented at the annual meeting of the Safety Pharmacology Society, Strasbourg, France, 2009.

96. Gauvin D.V., Yoder J., Dalton J.A., Baird T.J. Comparisons of 3 plethysmography techniques for rodent pulmonary function assessment using Ponemah waveform analysis. Presented at the annual meeting of the Safety Pharmacology Society, Strasbourg, France, 2009.

97. Gauvin D.V., Yoder J., Dalton J.A., Baird T.J. Amphetamine and fentanyl-induced alterations in rodent pulmonary function assessed by three plethysmography techniques. Presented at the annual meeting of the Safety Pharmacology Society, Strasbourg, France, 2009.

98. Gauvin D.V., Code B.S., Dalton J.A., Baird T.J. GLP-compliant assessment of the reinforcing properties of NCEs in the NHP. Presented at the annual meeting of the Safety Pharmacology Society, Strasbourg, France, 2009.

99. Baird T.J., May J., Ward S., Souers G., Dalton J.A., Gauvin D.V. Dose-response effects of moxifloxacin on myocardial repolarization in relation to systemic exposure in the Gottingen Minipig. Presented at the annual meeting of the Safety Pharmacology Society, Strasbourg, France, 2009.

100. Abernathy M.M., Gauvin D.V., Baird T.J. Application of plasma sulphapyridine and breath hydrogen assays to measurement of orocaecal transit time in beagle dogs. Presented at the annual meeting of the Safety Pharmacology Society, Strasbourg, France, 2009.

101. Gauvin D.V. Assessing abuse liability during drug development: changing standards and expectations. Aka: Why, when, and how do we assess abuse liability. Presented at the annual meeting of the American College of Toxicology, Palm Springs, CA, 2009.

102. Tapp R.L., Abernathy M.M., Yoder J.D., Koch A.A., Tack S.M., Voci R.N., Toman R.L, Cole P.I.,, Gregorich D.J., Gauvin D.V. An evaluation of staining procedures for cytochochleogram analysis of middle ear organ of corti surface preparations. Presented at the annual meeting of the Safety Pharmacology Society, Boston, MA, 2010.

103. Baird, T.J., O'Donohue, K.P., Posthumus, T.N., Abernathy, M.M., Glidewell, T., May, J.R., Harter, M.L., Holdsworth, D.L., Dalton, J.A., Gauvin, D.V. Influence of the Local Laboratory Environment and Selection of Telemetry Application on Quantitative ECG Sensitivity. Annual Meeting of the Safety Pharmacology Society, Boston, MA, September.

104. Baird, T.J., Posthumus, T.N., O'Donohue, K.P., Moddrelle, D., Burke, C., Herrmann, E., Marshall, N., May, J.R., Harter, M.L., Holdsworth, D.L., Gauvin, D.V., Dalton, J.A., Patrick, D.J. (2010). Effects of External/Implantable Telemetry Instrumentation on Routine In-life and Post-mortem Toxicology Endpoints. Annual Meeting of the Safety Pharmacology Society, Boston, MA, September.

105. Tapp, R., Abernathy, M., Sweet, J., Yoder, J., Koch, A., Gauvin, D., Baird, T. (2011). Bilateral Cannulation of Guinea Pigs for Ototoxicity Studies Allows Multiple Assessments and Reduction of Animals. Annual Meeting of the Safety Pharmacology Society, Innsbruck, Austria, September.

106. Gauvin, D., Dalton, J., Code, R., McComb, M., Baird, T. (2011). Abuse Liability Testing of Dihydrocodeinone in Sprague-Dawley Rats. Annual Meeting of the Safety Pharmacology Society, Innsbruck, Austria, September.

107. Abernathy, M., Holdsworth, D., O'Donohue, K., Dalton, J., Gauvin, D., Baird, T. (2011). Comparative Historical Cardiorespiratory Data Collected by Telemetry with Impedance in Swine, Canine, and Macaques. Annual Meeting of the Safety Pharmacology Society, Innsbruck, Austria, September.

108. Harter, M., VanMiddlesworth, J., O'Donohue, K., Galbraith, B., Gauvin, D., Dalton, J., Baird, T. (2011). Functional Evaluation of a Novel Mouse Implant for Cardiovascular Assessment. Annual Meeting of the Safety Pharmacology Society, Innsbruck, Austria, September.

109. Baird, T., O'Donohue, K., Abernathy, M., Gauvin, D., Dalton, J. (2011). Functional Evaluation of Impedance-Based Telemetric Respiratory Monitoring in Canine, Macaque and Miniature Swine. Annual Meeting of the Safety Pharmacology Society, Innsbruck, Austria, September.

110. Moddrelle, D., Hermann, E., Denton, T., O'Donohue, K., Gauvin, D., Dalton, J., Baird, T. (2011). Comparison of Surgical Techniques for Implanted Telemetry Monitoring of Cardiorespiratory Parameters in Three Species. Annual Meeting of the Safety Pharmacology Society, Innsbruck, Austria, September.

111. O'Donohue, K., Holdsworth, D., Tapp, R., Harter, M., May, J., Abernathy, M., Gauvin, D., Dalton, J., Baird, T. (2011). A Step-wise Approach to Quantitative Arrhythmia Assessment: A Multi-Species and Multi-Drug Validation. Annual Meeting of the Safety Pharmacology Society, Innsbruck, Austria, September.

112. Abernathy, M., Tapp, R., Cole, P., Yoder, J., Koch, A., Hedke, C., Olsen-Urbanek, A., Salinas, J., Gauvin, D., Baird T. (2011). Development of a Histopathological Evaluation Procedure for Preliminary Ototoxicity Screening in Guinea Pigs. Annual Meeting of the Safety Pharmacology Society, Innsbruck, Austria, September.

113. Tapp, R.L., Abernathy, M.M., Yoder, J.D., Sweet, J., Koch, A.A., Gauvin, D.V., and Baird, T.J. (2011). Bilateral Cannulation of Guinea Pigs for Ototoxicity Studies Allows Evaluation of Potential Sympathetic Cochleolabrynthitis of a Known Ototoxic Agent, Neomycin. Annual Meeting of the Society for Neuroscience, Washington D.C., November.

114. Gauvin, D.V. (2012). I Want a New Drug. Annual Meeting of the American Pain Society, Honollulu, Hawaii, May.

115. Jera, M., Gauvin, D.V., Caggiano, A.O., Walter, B., Parry, T.J., Henney III, H. R. (2012). Evaluation of the Abuse Potential of Dalfampridine Extended Release Tablets. European Committee for the Treatment and Research in Multiple Sclerosis (ECTRIMS). Lyons, France, October.

116. Abernathy M, Tapp R, Yoder J, Koch A, Gauvin D.V., Baird T.J. "Age-Related Hearing Loss in the C57BL/6N Mouse: Time Course Analysis of Auditory Function with Implications for Auditory Safety Study Design." Annual Meeting of the Safety Pharmacology Society. Phoenix, AZ. Sept 2012

117. Abernathy M, Tapp R, Yoder J, Gauvin D.V., Baird T.J. "Influence of Collection Site on Cochlear Perilymph Sample Volume." Annual Meeting of the Safety Pharmacology Society. Phoenix, AZ. Sept 2012

118. Holdsworth D.L., O'Donohue K, Dalton J.A., Baird T.J. "Incidence of Ventricular Arrhythmia in Cynomolgus Monkeys Instrumented with Intra-ventricular Pressure Transducers: A One Year Review Post-Implantation." Annual Meeting of the Safety Pharmacology Society. Phoenix, AZ. Sept 2012

119. Baird T.J., O'Donohue K, Ward S, Eliel M.W., Dalton J.A., Gauvin D.V. "Comparison of Telemetry Derived Epicardial and Intravascular Electrocardiogram Characteristics in Cynomolgus Monkeys." Annual Meeting of the Safety Pharmacology Society. Phoenix, AZ. Sept 2012

120. Baird T.J., O'Donohue K, Posthumus T, Eliel M.W., Gauvin D.V., Dalton J.A. "Comparison of Telemetry Derived Epicardial and Intravascular Electrocardiogram Characteristics in Beagle Dogs." Annual Meeting of the Safety Pharmacology Society. Phoenix, AZ. Sept 2012

121. Dalton J.A., Gauvin D.V., Gesaman J, Hermann E, Denton T, Ward S, Baird T.J. "Influence of Telemetry Instrumentation on a Specific Set of Toxicological Biomarkers in Cynomolgus Monkeys." Annual Meeting of the Safety Pharmacology Society. Phoenix, AZ. Sept 2012.

122. Gauvin D.V., Gogas, K., Pfeiffer, J., Harrison, S.D., Riley, T.A., Doberstein, S.K., Riggs-Sauthier, J. NKTR-192: A Novel, Orally Available Mu-Opioid Agonist with Reduced Rate and Extent of CNS Exposure Exhibits Reduced Abuse Liability Compared to Oxycodone . Annual Meeting of the International Study Group Investigating Drugs as Reinforcers. 2012, Palm Springs, CA.

123. Baird, T.J., O'Donohue, K., Posthumus, T., Ward, S., Eliel, M., Dalton, J.A., Gauvin, D.V. "Essential Variability in Standard Clinical Pathology Biomarkers in Beagle Dogs Instrumented with Chronic Indwelling Telemetry Devices." Annual Meeting of the Safety Pharmacology Society. Rotterdam, Netherlands. Sept 2013

124. Tapp, R., Abernathy, M., Yoder, J., Wilson, B., Dolan, D., Gauvin, D.V., Baird, T.J. "Evaluation of a Feline Model for Ototoxicity Testing." Annual Meeting of the Safety Pharmacology Society. Rotterdam, Netherlands. Sept 2013

125. O'Donohue, K., Posthumus, T., Eliel, M., Gauvin, D.V., Dalton, J.A., Baird, T.J. "Epicardial (EPI) and Intravascular (IV) Electrocardiogram (ECG) Signal Characteristics in Beagle Dogs: A Comprehensive 1-Year Review." Annual Meeting of the Safety Pharmacology Society. Rotterdam, Netherlands. Sept 2013

126. O'Donohue, K., Posthumus, T., Eliel, M., Gauvin, D.V., Dalton, J., Baird, T.J. "Epicardial (EPI) and Intravascular (IV) Electrocardiogram (ECG) Signal Characteristics in Cynomolgus Monkeys: A Comprehensive 1-Year Review." Annual Meeting of the Safety Pharmacology Society. Rotterdam, Netherlands. Sept 2013

127. May, J., Dalton, J.A., Aulbach, A., Amuzie, C., Gauvin, D.V., Gesaman, J., Hermann, E., Denton, T., Posthumus, T., Cotey, N., Baird, T.J. "Influence of Chronic Telemetry Instrumentation on Toxicological Biomarkers and Pathology in Cynomolgus Monkeys: A Comprehensive 1-Year Review." Annual Meeting of the Safety Pharmacology Society. Rotterdam, Netherlands. Sept 2013.

128. Dalton, J.A., Adam Aulbach, A., Amuzie, C., Gauvin, D.V., Gesaman, J., Hermann, E., Denton, T., Posthumus, T., Cotey, N., Baird, T.J. "Influence of Chronic Telemetry Instrumentation on Toxicological Biomarkers and Pathology in Beagle Dogs: A Comprehensive One-year Review." Annual Meeting of the Safety Pharmacology Society. Rotterdam, Netherlands. Sept 2013

129. Harter, M., Haskell, M., Schrier, D., Baird, T.J. "Integrated Toxicological and Safety Pharmacology Evaluation of a Novel Monoclonal Therapy for Ocular Disease in the Cynomolgus Monkey." Annual Meeting of the Safety Pharmacology Society. Rotterdam, Netherlands. Sept 2013

130. Abernathy, M., Wilson, B., Yoder, J., Tapp, R., Gauvin, D.V., Baird, T.J. "Predictive Models of Ototoxicity: Evaluation of the Suitability of Common Laboratory Species for Use on Auditory Drug Safety Studies." Annual Meeting of the Safety Pharmacology Society. Rotterdam, Netherlands. Sept 2013

131. Abernathy, M., Richardson, J., Wilson, B., Yoder, J., Tapp, R., Gauvin, D.V., Baird, T.J. "Application of the Distortion Product Otoacoustic Emissions Assessment to Auditory Drug Safety Evaluations: High Throughput Auditory Screening and Impact on Drug Ototoxicity Characterization." Annual Meeting of the Safety Pharmacology Society. Rotterdam, Netherlands. Sept 2013

132. Gauvin, D.V., Dalton, J.A., McComb, M., Code, R., Eliel, M., Baird, T.J. "Critical Issues in Dependence Liability Testing Under the FDA Draft Guidance Document." Annual Meeting of the Safety Pharmacology Society. Rotterdam, Netherlands. Sept 2013.

133. Richardson, J., Yoder, J., Wilson, B., Abernathy, M., Konieczka, R., Koch, A., Tapp, R., Gauvin D., Baird T. Effect of Stimulus Filtering During Intense Noise Exposure on Caspase-3 Expression and Cell Death in the Auditory Hair Cells of C57BL/6J Mice. Presented at the annual meeting of the Society for Neuroscience, San Diego, CA. November, 2013.

134. Yoder, J., Abernathy, M., Wilson, B., Tapp, R., Gauvin, D., Baird, T. Comparative Effects of Valium/Dexdomitor and Ketaset/Dexdomitor, on the Input-Output Characteristics of Auditory

Brainstem Response Waveforms in Guinea Pigs. Presented at the annual meeting of the Society for Neuroscience, San Diego, CA. November, 2013.

135. Wilson, B., Abernathy, M., Yoder, J., Koch, A., Bailey, K., Tapp, R., Gauvin, D., Baird, T. Effects of Paraformaldehyde on the Immunoreactivity and Fluorescence Intensity of Myosin Viia in Mouse Utricles. Annual Meeting of the Society for Neuroscience, San Diego, CA. November, 2014.

136. Baird, T., Tapp, R., Abernathy, M., Dalton, J., Gauvin, D. Challenging Contemporary Status on Drug Safety Evaluation: A Case for the Implementation of Ototoxicity Screening in Toxicology Programs. Presented at the annual meeting of the Safety Pharmacology Society. Washington, D.C. September, 2014.

137. Baird, T., O'Donohue, K., Posthumus, T., Gauvin, D. Validation of Continuous Telemetric Electroencephalography (EEG) with Synchronized Behavioral Scoring in the Beagle Dog. Presented at the annual meeting of the Safety Pharmacology Society. Washington, D.C. September 2014.

138. Abernathy M. Yoder, J., Wilson, B., Richardson, J., Tapp, R., Gauvin, D., Baird, T. Influence of Stimulus Parameters and Stimulus and Speaker Calibration on Auditory Threshold Sensitivity. Presented at the annual meeting of the Safety Pharmacology Society. Washington, D.C. September, 2014.

139. Briscoe, R.J., Markgraf, C., Gauvin, D., Rosenfeld, C. Abuse Potential Assessment of Preladenant, an Adenosine2A Receptor Antagonist: Self Administration in Rats. Safety Pharmacology Society (2014). Washington, D.C.

140. Markgraf, C., Briscoe, R.J., Gauvin, D., Rosenfeld, C. Abuse Potential Assessment of Preladenant, an Adenosine 2A Receptor Antagonist: Physical Dependence in Rats. Presented at the annual meeting of the Safety Pharmacology Society. Washington, D.C. September, 2014.

141. Markgraf, C., Briscoe, R.J., Gauvin, D., Rosenfeld, C. Abuse Potential Assessment of Preladenant, an Adenosine 2A Receptor Antagonist: Drug Discrimination in Rats. Presented at the annual meeting of the Safety Pharmacology Society. Washington, D.C. September, 2014.

142. Harrison SD, Gursahani H, Pfeiffer J,Gogas K, Riggs J, Riley T, Gauvin D, Doberstein S. (2014). Opioids with lower brain uptake are less recognizable in rat drug discrimination tests and thus potentially less subject to abuse. Presented at the annual meeting of the College on Problems on Drug Dependence.
Published Abstract: *Drug and Alcohol Dependence* **140: e81**

143. Gauvin, D.V., Baird, T.J. Challenges, Conundrums, and the "Catch-22" in Abuse Liability Testing for NDA Approvals: The bugaboo of biologics? Presented at the annual meeting of the Society for Toxicology. San Diego, CA. April, 2015.

144. Gauvin, D.V. Ototoxicity, Presented at the annual meeting of Division 8, Michigan AALAS.

145. Zimmermann, Z. J., Yoder, J. D., Baird, T. J., Gauvin, D. V., & Kallman, M. J. "Differential Temporal Response Patterns in Rat Cocaine Self-Administration Studies: The Cumulative

Record Dose-Response Function". Annual Meeting of the Safety Pharmacology Society. Barcelona, Spain. September 23-26 2019.

146. Zimmermann, Z. J., Gauvin, D. V., Yoder, J. D., Baird, T. J., Dalton, J. A., & Kallman, M. J. "Drug Schedule Control Status Does Not Limit Profit Growth: Comparative 4-Year Analysis" Annual Meeting of the Safety Pharmacology Society. Barcelona, Spain. September 23-26 2019.

147. Gauvin, D. V., Z. J. Zimmermann, Yoder, J. D., Dalton, J. A., Baird, T. J., & Kallman, M. J. "Differential Temporal Response Patterns for Cocaine or Hydrocodone in Rat Self-Administration Studies". Annual Meeting of the Safety Pharmacology Society. Barcelona, Spain. September 23-26 2019 November 2015.

TEACHING AND RELATED ACTIVITIES

Department of Psychology, Wayne State University, Detroit, Michigan

Course Instructor, Psychology of Perception and Sensation (Psychology 205) (1982-1987)

University of Oklahoma Health Sciences Center *(Biological Psychology Ph.D. Program)*

◆Dissertation Committee Chair:

Richard J. Briscoe (September, 1997). *Physiological and behavioral interactions of acute ethanol hangover and cocaine.*
Mary Vallett (August, 1998). *Ethanol withdrawal-induced oxygen free radical formation in rat brain following chronic ethanol inhalation.*
Theodore J. Baird (August 1998). *Circadian effects on cocaine's behavioral, pharmacological effects in rats.*

◆Master's Thesis Committee Chair:

Richard J. Briscoe (M.S.,1996). *Reinforcing efficacy of caffeine and ephedrine administered to rats maintained to self-administer cocaine.*
Mary Vallett (M.S.,1996). *Effects of repeated acute ethanol withdrawal on free radical development in rats.*
Theodore J. Baird (M.S., 1997). *Physiological characteristics of circadian phase shifts and ethanol withdrawal states in rats.*

◆Dissertation Committee Member:

Vicki Katzung-Jean (May, 1996)

Robert Paul (June, 1997)

◆Master's Thesis Committee

Jessica M Peirce (defense date: March 15, 1994)
Roxane Osborne (defense date: May 27, 1994)
Roxanna Nees (defense date: July 14, 1994)

◆Advisory Committee Member:
Robert Paul, Michael Harnish

Courses Taught:

PSBS 6970,	Seminar: Psychopharmacology/Substance Abuse, National Institute on Alcohol Abuse & Alcoholism Pre/Postdoctoral Trainees (1990-present) (Course coordinator/instructor)
PSBS 5960,	Directed Readings (1990 - present)
PSBS 5990,	Special Studies (1990 - present)
PSBS 5960,	Introduction to Psychopharmacology (Course coordinator/instructor)
PSBS 6220,	Biological Psychology Seminar (Lecturer: Sensation/Perception)
August, 1999	Mississippi State Board of Narcotics, "Current Trends in Drug Abuse", Training Center, Hattiesburg, MS
March, 2000	New Jersey Drug Enforcement Training Center, "Pharmacology of Club Drugs", Newark, NJ
April, 2000	New England Drug Enforcement Administration District Offices, "Pharmacology of Club Drugs", Boston, MA
May, 2000	New England Drug Enforcement Administration: Worcester MA, "Pharmacology of Club Drugs" May 17
May, 2000	New England Drug Enforcement Administration: Hyannis MA, "Pharmacology of Club Drugs" May 18
May, 2000	Special Operations Division, Drug Enforcement Administration, Springfield, VA, "Ecstasy: Health Hazard and Public Health Threat.
June, 2000	Chicago Field Division, DEA, State & Local Law Enforcement, School Officials from Napeerville, IL, Health Care Professionals, "Pharmacology of Club Drugs", Chicago, DEA Offices , June 10
June, 2000	Demand Reduction Coordinators Training Session, DEA, Seattle, WA, "Pharmacology of Club Drugs", June 26
July, 2000	DEA Diversion Program Managers and State Conference, Cleveland, Ohio, "Pharmacology of Club Drugs" July 26
August, 2000	DEA International Conference on Ecstasy and Club Drugs, Pentagon City, VA, "Pharmacology of Club Drugs", July 31, August 1 & 2
August, 2000	DEA New England Field Division, Portland, Maine, DEA, State & Local Law Enforcement, "Pharmacology of Club Drugs", August 10
August, 2000	DEA New England Field Division, Burlington, Vermont, DEA, State & Local Law Enforcment, "Pharmacology of Club Drugs", August 11

August, 2000 DEA Assistant Special Agents-in-Charge (ASAC) Meeting, Baltimore, MD, "Pharmacology of Club Drugs", August 13

August, 2000 DEA Houston & Dallas Field Divisions, Training Coordinators, Demand Reduction Coordinators, Agents, "Pharmacology of Club Drugs" August 23

August, 2000 NYC Field Division DEA, Training Coordinators, Demand Reduction Coordinators, Public Information Officers for State of NY, "Basic Pharmacology of Abused Drugs" and "Pharmacology of Club Drugs", August 28

Sept, 2000 Partnership for a Drug Free America- 2000 Leadership Conference, "Ecstasy - The Rise of Club Drugs & An Uncertain Chemical Future. Santa Monica, CA, Sept 07-08.

Sept, 2000 DEA New York Division's Supervisory Conference. "The physical effects of MDMA (Ecstasy)", Saratoga Springs, NY, September 13.

Sept, 2000 Rhode Island Attorney General's Law Enforcement Conference. "Pharmacology of Club Drugs", September 28.

Oct, 2000 Ohio Attorney General's Law Enforcement Conference. "Pharmacology of Club Drugs", October 11.

Oct, 2000 Chicago DEA, Naperville ILL Police Dept., Naperville ILL School District, "Ecstasy: Panacea or Path to Destruction", October 17

Oct, 2000 Chicago DEA Training Division, Illinois State Police, Schaumberg Illinois Police Academy. "Pharmacology of Club Drugs", October 18

Nov, 2000 New Orleans DEA Division , Demand Reduction, Louisiana Organization for Drug Safe Schools, Lafayette, LA, November 02

Nov, 2000 International Association of Chiefs of Police (IACP) Meeting, San Diego, CA, Rave Clubs and the "Crack House" Statutes, Presentation organized by New Orleans DEA Division, November 13

Nov, 2000 Houston DEA Division, Demand Reduction, "Club Drugs: Dances with Death", A public forum co-sponsored by ABC affiliate (Channel 2 News), November 16

Nov, 2000 Chicago DEA Division, Demand Reduction sponsored IDEA Conference, Illinois Drug Education Alliance, Peoria, IL, "Club Drugs: Path to Destruction", November 20 & 21.

Nov, 2000 New England Field Division, Training Division, New England Chiefs of Police Organization Meeting, Marlborough, MA, "Pharmacology of Club Drugs", November 27.

Nov, 2000	New England Field Division, Training Division, State and Local Police, Prosecutors, Teachers, Administrators, Health Care Workers: Concord, NH, "Pharmacology of Club Drugs". November 28
Nov, 2000	New England Field Division, Training Division, State and Local Police, Prosecutors, Health Care Workers: Connecticut Police Academy, Meriden, CT, "Pharmacology of Club Drugs". November 29
Dec, 2000	Partnership for a Drug Free America, New York City, NY: "Pharmacology of Club Drugs" December 12
Dec, 2000	Pan-Asian Organized Crime Drug Enforcement Task Force: Monterey, CA, "Pharmacology and Abuse of Club Drugs", December 18
Jan, 2001	MidWest HIDTA: HIDTA/DEA co-sponsored event on: The Threat of Club Drugs in the Heartland. "Use and Abuse of Club Drugs: Ecstasy, GHB & Ketamine, January 17
Jan, 2001	DEA Chicago: Two-week Training School for State and Local Law Enforcement; "Pharmacology of Club Drugs", January 23
Jan, 2001	U.S. Attorney's Office, HIDTA, University of Wisconsin-Milwaukee & DEA co-sponsored event: "The Use and Abuse of Ecstasy"; Local Police, prosecutors, EMT, Poison Control Center, Social Workers, Drug Abuse Treatment Specialists, "Use and Abuse of Ecstasy", January 23
Jan, 2001	DEA Phoenix: University of Arizona & Arizona State University Staff, Administration, and Police Forces: "The Use and Abuse of Club Drugs on College Campuses".
Feb, 2001	DEA San Francisco: State, local, Federal Law Enforcement Conference: "The Pharmacology and Abuse of Club Drugs in the United States.
March, 2001	DEA Boston: New England Narcotic Officers Association (NENOA): "The Use and Abuse of Club Drugs"
April, 2001	Youth Crime Prevention Annual Convention, Dallas Texas: "The Pharmacology, Use, and Abuse of Club Drugs"
April, 2001	DEA Chicago: State & Local Law Enforcement Training: "The Pharmacology, Use and Abuse of Club Drugs in the United States".
April, 2001	Indiana Governor's Council on Safe Driving: "The Use and Abuse of Club Drugs in America", Indianapolis, IN
April, 2001	Maryland Emergency Room Physician's Association: "The Emerging Problem of Emergency Room Episodes involving Ecstasy".
April, 2001	DEA New Orleans, Louisiana Drug-Free Schools Association: "The Use and Abuse of Club Drugs in the United States".

May, 2001 DEA Administrator's Conference on Club Drugs "Dancing in Darkness", Atlantic City, New Jersey: "Pharmacology of Club Drugs"

May, 2001 Mid-Atlantic Organized Crime Drug Enforcement Task Force (OCDETF): "Pharmacology, Use and Abuse of Club Drugs".

May, 2001 DEA New Jersey & New Jersey Drug Free Schools: "The Pharmacology, Use and Abuse of Club Drugs in the United States".

May, 2001 Southwest Organized Crime Drug Enforcement Task Force (OCDETF): "Pharmacology, Use and Abuse of Club Drugs".

June, 2001 DEA Chicago: State and Local Police Training, Fargo, N.D., "Pharmacology, Use and Abuse of Club Drugs"

June, 2001 DEA Houston, Texas: State and Local Police Training; "Pharmacology, Use and Abuse of Club Drugs".

June, 2001 DEA Austin, Texas: State and Local Police Training; "Pharmacology, Use and Abuse of Club Drugs"

July, 2001 DEA Phoenix, Arizona; Arizona Narcotics Officers Association; "Use and Abuse of Club Drugs in the United States."

July, 2001 DEA Phoenix, Arizona; Chandler, AZ: State and Local Police, EMT's, School Police Officers, Drug Treatment Staff; "Use and Abuse of Club Drugs in the United States."

Aug, 2001 DEA Flagstaff, Arizona; State and Local Police, EMT's, Drug Treatment Staff; "Use and Abuse of Club Drugs in the United States."

Aug, 2001 DEA Administrator's "Club Drug" Regional Conference, Chicago, IL: "Pharmacology of Club Drugs".

Sept, 2001 PanAsian Organized Crime Drug Enforcement Task Force, Coeur d'Alene, Idaho; Use and Abuse of Club Drugs in the United States.

Sept, 2001 DEA Pittsburgh, Pennsylvania State and Local Police, EMT's, Drug Treatment Professional; "Use and Abuse of Club Drugs in the United States"

Jan, 2002 Prevention Coalition of Southeast Michigan (PREVCO) and DEA Detroit, "Pharmacology, Abuse, and Toxicology of Club Drugs in the United States."

Mar, 2002 International Drug Enforcement Conference (IDEC XX), Santa Cruz, Bolivia, "The agony of Ecstasy"

Apr, 2002 U.S. Attorney's Office, Western District, Sun Valley, Idaho, "Pharmacology, Abuse, and Toxicology of Club Drugs"

Apr, 2002 DEA Phoenix, Arizona: State and Local Police (DEA 2 week training school) "Pharmacology and Toxicology of Club Drugs"

Apr, 2002 DEA Phoenix, Arizona: State and Local Police (DEA 2 week training school), "Marijuana, Industrial Hemp, and Medical Cannabinoids"

May, 2002 OCDETF Western Region, Vale, Colorado, "Pharmacology, Abuse, and Toxicology of Club Drugs"

May, 2002 DEA Miami Field Division, Management Conference, Tampa, Florida, "Pharmacology, Abuse, and Toxicology of Club Drugs".

May, 2002 OCDETF Mid-Western Region, Wisconsin, "Pharmacology, Abuse, and Toxicology of Club Drugs"

July, 2002 Pan-American Police Chiefs Organization (DEA sponsored), Costa Rica, "Pharmacology, Abuse, and Toxicology of Club Drugs"

Aug, 2002 DEA Phoenix, Arizona: State and Local Police (DEA 2 week training school), "Pharmacology and Toxicology of Club Drugs"

Aug, 2002 DEA Phoenix Arizona: State and Local Police (DEA 2 week training school), "Marijuana, Industrial Hemp, and Medical Cannabinoids"

Aug, 2002 National Guard Demand Reduction Coordinators, Tucson, Arizona (DEA-Phoenix sponsored), "Pharmacology, Abuse, and Toxicology of Club Drugs"

Aug, 2002 U.S. Attorney's Office, 1st District, Howey-in-the-Hills, Florida, "Pharmacology, Abuse, and Toxicology of Club Drugs"

Aug, 2002 DEA Chicago, Milwaukee Field Office, Wisconsin Narcotic Enforcement Officers Association, Oconomowac, Wisconsin, "Pharmacology, Abuse, and Toxicology of Club Drugs"

Sept, 2002 DEA Dallas Field Division, State and Local Police, Drug Treatment Counselors, Medical Professionals, "Pharmacology and Toxicology of Club Drugs"

Sept, 2002 DEA Dallas Field Division, State and Local Police, Drug Treatment Counselors, Medical Professionals, "Pharmacology and Abuse of OxyContin and Hydrocodone"

Sept, 2002 DEA Houston Field Division, State and Local Police (2 week training school), "Pharmacology, Abuse, and Toxicology of Club Drugs"

Sept, 2002 DEA Denver, OCDETF, HIDTA, Ft. Collins, Colorado, "Pharmacology and Abuse of Club Drugs"

Sept, 2002 DEA Chicago, Milwaukee Resident Office, Pewaukee, Wisconsin, State and Local Law Enforcement (2 week training school), "Pharmacology, Abuse, and Toxicology of Club Drugs"

Oct, 2002 DEA Detroit, Demand Reduction, DEA Resident Office Personnel, "Pharmacology, Abuse, and Toxicology of Club Drugs, OxyContin, and Hydrocodone"

Oct, 2002 DEA Madison WI, Wisconsin Narcotic Officer's Association. "Pharmacology, Abuse and Toxicology of Club Drugs"

Dec, 2002 DEA Chicago, "Big Ten" College Police Chiefs Association, Notre Dame University, "Pharmacology and Toxicology of Ecstasy: Abuse on Campus"

Jan, 2003 Coalition of Anti-Drug Councils of America (CADCA), Washington, D.C., "The Public Health Threat of Ecstasy"

Feb, 2003 American Academy of Emergency Medicine Annual Meeting, New Orleans, "Emerging Drug Trends: Challenge to the Emergency Room Physician."

Sept, 2003 Michigan Departments of Mental Health Coalitions, invited address by DEA Detroit Field Office, "Current Drug Trends in the United States".

Sept, 2006 Safety Pharmacology Society Annual Meeting, Continuing Education Course, "Regulatory Guidelines for Preclinical Abuse Liability Screening.

Sept. 2006 Safety Pharmacology Society Annual Meeting, Continuing Education Course, "Abuse Liability Testing"

LABORATORY RESEARCH STUDIES DIRECTED

Rat Strain Differences in Ethanol Sensitivity. Jorge Charneco, 1988-87 Summer Academy of Health Sciences Professions, OU Health Sciences Center.

The Effect of Chronic Cocaine Administration in Ethanol-Induced Activity. Sharmeesha Y. Reddy, 1989 Summer Academy of Health Sciences Professions, OU Health Sciences Center.

Interaction Between Caffeine and Cocaine in the Conditioned Place Preference Paradigm. Rita Tripathy, 1989 Summer Academy of Health Sciences Professions, OUHSC.

Historical Factors in Ethanol Conditioned Place Preference: Drinking with a Buddy Study. Kelly Dormer, Summer, 1990 Graduate Study.

Pentylenetetrazole Can Induce a Conditioned Place Preference. Kelly N. Dormer, Summer, 1991 Graduate Study

The Effects of Chronic Cocaine and Chlordiazepoxide on Radial Arm Maze Performance. Ramona Green, Minority Access to Research Careers (MARC) Program, Grambling University, Grambling, LA (Summer, 1991).

Effects of Stress/Ethanol on Immune Function in Rats. L. James Nixon, MSII, Laureate Foundation Medical Student Fellowship, Department of Psychiatry and Behavioral Sciences (Summer, 1991; Faculty Co-Sponsor).

Ethanol-Induced Cardiovascular Effects in Spontaneously Hypertensive (SHR) Rats. Jeffrey Moffett, MSI, Summer, 1992 (College of Medicine).

Behavioral Economics of Ethanol Self-Administration. Chris Turner, College of Medicine Summer Academy of Health Sciences Professions, OUHSC, Summer, 1992

Effects of Chronic Ethanol Consumption on the Development, Time-Course, and Severity of Endotoxin-Induced Sepsis in the Rat. John Kuhn, MSII, Summer, 1993 (College of Medicine).

PROFESSIONAL SERVICE

Member, Ad-Hoc Review Committee on Small Business Grants, National Institute on Alcohol Abuse and Alcoholism, March, 1994

Secretary-Treasurer, Society for Stimulus Properties of Drugs (1995-99)

President, Society for Stimulus Properties of Drugs (2001)

Peer Reviewer for the following scientific refereed journals:

Psychopharmacology (Berl)
Behavioural Pharmacology
Journal of Psychopharmacology
Journal of the Southwestern Medical Association
Physiology and Behavior
Journal of Pharmacological & Toxicological Methods
Journal Pharmacol Exper Therapeutics
Pharmacology Biochemistry & Behavior
Drug and Alcohol Dependence
Behavioral Neuroscience
Alcoholism: Clinical & Experimental Research

REFERENCES

Douglas A. Snyder
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U.S. Department of Justice
Drug Enforcement Administration
Washington, D.C. 20537
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José R. Criado, Jr., Ph.D.
Neuropharmacology, CVN-13
Scripps Research Institute
10550 N. Torrey Pines Rd.
La Jolla, CA 92037
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Zachary J. Zimmermann, Ph.D.
Charles River Laboratories, Inc.
54943 N. Main St.
Mattawan, MI 49071
(b) (6)

From:	Laura M Plunkett
To:	Knott, Steven
Subject:	EPA Docket identification (ID) number EPA-HQ-OPPT-2020-0135
Date:	Friday, April 10, 2020 9:57:49 AM
Attachments:	letter re nomination TSCA committee April 2020.docx Plunkett CV 2020.pdf

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Dear Mr. Knott,

Attached to this e-mail is a letter and my CV related to my self-nomination for the Toxic Substances Control Act (TSCA), Science Advisory Committee on Chemicals (SACC). My business address is:

Laura M. Plunkett
Integrative Biostrategies LLC
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lmplunkett@inbiostrat.com

INTEGRATIVE BIOSTRATEGIES, LLC
SCIENCE FOR DECISION-MAKING

November 12, 2020

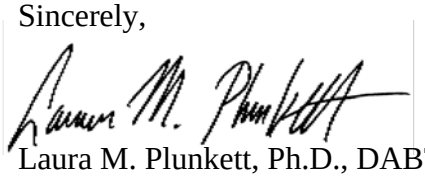
Re: Docket No. EPA-HQ-OPPT-2020-0135

Dear Mr. Knott,

I am writing to nominate myself for a position on the Toxic Substances Control Act (TSCA), Science Advisory Committee on Chemicals (SACC). My name is Laura Plunkett and I am a pharmacologist, board-certified toxicologist and EPA regulatory consultant. I am owner of a consulting company, Integrative Biostrategies, LLC, in Houston, Texas. I have worked on issues related to EPA-regulated chemicals and products since I began my consulting career in 1989 at ENVIRON Corporation, Arlington, VA. Much of my work over the last 30 years has focused on EPA-regulated chemicals including chemicals subject to provisions of TSCA. I have additional expertise in pharmacokinetics, human health risk assessment, and differences in susceptibility to risks posed by chemical exposures based on lifestage and age. I have prepared regulatory submissions for clients that manufacture and market chemicals of all types (*e.g.*, pesticide active ingredients, inert ingredients in consumer products, industrial chemicals, specialty chemicals, *etc.*). I am a registered patent agent and work with inventors to protect their intellectual property and then to translate their laboratory research to commercial products. In addition to working as a consultant, I ran my own research program as an academic researcher and also in a government laboratory (see my curriculum vitae). My clients have included private industry, trade organizations, and governmental bodies. I would truly enjoy the opportunity to serve on an EPA Advisory Committee and believe I can bring a unique perspective based on my broad experience across academic and government research as well as my work more recently as a consultant. Attached to this letter is a copy of my curriculum vita which outlines more on my training and experience.

Please let me know if I can provide any further information that would be useful to you as you select candidates for the committee.

Sincerely,



Laura M. Plunkett, Ph.D., DABT

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CURRICULUM VITAE

Laura M. Plunkett, Ph.D., D.A.B.T

ADDRESS 1127 Eldridge Pkwy, Suite 300335
Houston, TX 77077

EDUCATION

1984	Ph.D.	Pharmacology	University of Georgia
1980	B.S.	Zoology	University of Georgia

PROFESSIONAL EXPERIENCE

Registered Patent Agent Licata & Tyrrell, P.C., Marlton, N.J., 1999 – present
Assists clients with obtaining patent protection, specializing in products used in medical applications (drugs, devices, dietary supplements). Assists clients with developing regulatory strategies for commercialization of their inventions. Provides regulatory support for companies engaged in manufacturing and marketing of products regulated by the U.S. Food and Drug Administration, the U.S. Environmental Protection Agency and other regulatory bodies in the U.S. and worldwide.

President. Integrative Biostrategies (IB) LLC, 2001- present
Consultant to a variety of clients in areas of pharmacology, toxicology, risk assessment and regulatory strategy. Focus on products regulated by the U.S. Food and Drug Administration. Provides litigation support services as both consulting expert and testifying expert.

Owner. Plunkett & Associates, Houston, Texas, 1997 – 2001
Consultant to a variety of clients in areas of pharmacology, toxicology, risk assessment and regulatory strategy. Focus on products regulated by the U.S. Food and Drug Administration. Provided litigation support services as both consulting expert and testifying expert.

Manager. ENVIRON Corporation, Houston, Texas, 1992 – 1997
Consultant to a variety of clients in areas of pharmacology, toxicology, risk assessment and regulatory strategy. Focus on products regulated by the U.S. Food and

Drug Administration. Provided litigation support services as both consulting expert and testifying expert.

Manager. ENVIRON Corporation, Arlington, Virginia, 1989 – 1992

Consultant to a variety of clients in areas of pharmacology, toxicology, risk assessment and regulatory strategy. Focus on products regulated by the U.S. Food and Drug administration.

Assistant Professor. University of Arkansas for Medical Sciences, Department of Pharmacology and Toxicology, 1986 – 1989

Taught medical and graduate student courses in pharmacology (lecture and laboratory), neurosciences, cardiovascular pharmacology, and neuropharmacology. Performed basic research in area of autonomic control of cardiovascular function and neurochemical systems involved in autonomic function. Recipient of extramural funding from the Arkansas Heart Association (principal investigator).

Postdoctoral fellow. National Institute of General Medical Sciences, Pharmacology Research Associate Training Program, 1984 – 1986

Performed basic research in area of neurochemical control of cardiovascular function and neurochemical systems involved in autonomic function.

Research Assistant. University of Georgia, College of Pharmacy, Department of Pharmacology and Toxicology 1980 – 1984

Taught laboratory courses in pharmacology to pharmacy students as part of graduate student assistantship responsibilities.

HONORS AND AWARDS

Chosen for PRAT program at National Institutes of Health. Pharmacology Research Associate Training Program, 1984-1986.

Rho Chi. The University of Georgia, College of Pharmacy, Initiated, 1984.

Recipient of Excellence in Graduate Research Award. The University of Georgia, College of Pharmacy, 1983.

Alpha Lambda Delta. The University of Georgia Chapter, 1978.

PROFESSIONAL CERTIFICATION

Registered patent agent, 1999 [Registration No. 45,015]

Diplomate, American Board of Toxicology, 1993 to present.

ACADEMIC AFFILIATION

Adjunct Professor. Baylor University, Department of Environmental Science, 2017-present

PROFESSIONAL MEMBERSHIPS

Member, Society of Toxicology 1992 – present

Vice-President Elect, Society of Toxicology Risk Assessment Specialty Section (RASS) 2019-2020

Member, Lone Star Chapter Society of Toxicology 2007 – present

Councilor, Lone Star Chapter Society of Toxicology 2010 - 2013

Secretary, Lone Star Chapter Society of Toxicology 2013 – 2015

Vice President, Lone Star Chapter Society of Toxicology 2015-2016

President, Lone Star Chapter, Society of Toxicology 2016-2017

Past President, Lone Star Chapter, Society of Toxicology 2017-2018

Member, American College of Toxicology, 1997 - present

Member, Society for Risk Analysis, 2007- present

President, Lone Star Chapter of the Society for Risk Analysis, 1998

Councilor, Lone Star Chapter of the Society for Risk Analysis, 1999-2000

Member, Regulatory Affairs Professionals Society, 2003 - present

Member, Society for Neuroscience 1985 - present

Member, American Association for Pharmaceutical Sciences 1992 – present

Member, Society for Environmental Geochemistry and Health 1992 - present

Member, ASTM Committee E06, 1990 – present

Member, International Association of Plumbing and Mechanical Officials (IAPMO) Committee Z1123 (Prop 65) Committee, 2020 - present

PUBLICATIONS

1. Rajendran, N, Seagrave, JC, **Plunkett, LM**, MacGregor, JA. A comparative assessment of the acute inhalation toxicity of vanadium compounds. *Inhal. Toxicol.* 2016. 28:618-628.

2. Cox, LA, Popken, DA, Kaplan, AM, **Plunkett, LM**, Becker, RA. How well can in vitro data predict in vivo effects of chemicals? Rodent carcinogenicity as a case study. *Regul. Toxicol. Pharmacol.* 2016. 77:54-64.

3. **Plunkett, LM**, Kaplan, AM, Becker, RA. Challenges in using the ToxRefDB as a resource for toxicity modeling. *Regul. Toxicol Pharmacol*. 2015. 72:610-614.

4. **Plunkett, LM**, Becker, RA, Kaplan, M. An enhanced tiered toxicity testing framework with triggers for assessing hazards and risks of commodity chemicals. *Regul. Toxicol. Pharmacol*. 2010. 58:382-394.

5. Chambers, A, Krewski, D, Birkett, N, **Plunkett, L,** Hertzberg, R, Danzeisen, R, Aggett, PJ, Starr, TB , Baker, S, Dourson, M, Jones, P, Keen, CL , Meek, B, Schoeny, R, and Slob, W *J.* An exposure-response curve for copper excess and deficiency. *Toxicol. Environ. Health.* 2010. 13:546- 578.

6. Krewski, D, Chambers, A, Stern, BA, Aggett, PA, **Plunkett, L,** Rudenko, L. Development of a copper database for exposure-response analysis. *J. Toxicol. Environ. Health.* 2010. 73:208-216.

7. **Plunkett, LM**, Becker, RA. Does the standard toxicological testing paradigm for industrial chemicals apply to screening for children's health risks? *The Open Toxicol. J.* 2008, 2:42-60.

8. Becker, RA, **Plunkett, LM**, Borzelleca, JF, Kaplan, AM. Tiered toxicity testing: Evaluation of toxicity-based decision triggers for human health hazard characterization. *Food Chem. Toxicol*. 2007, 45:2454-2469.

9. MacGregor, JA, **Plunkett, LM**, Youngren, SH, Manley, A, Plunkett, JB, Starr, TB. Humans Appear No More Sensitive than Laboratory Animals to the Inhibition of Red

Blood Cell Cholinesterase by Dichlorvos (DDVP). *Regul. Toxicol. Pharmacol.*, 2005, 43:150-167.

10. **Plunkett, LM.** Do current FIFRA guideline tests protect infants and children? Lead as a case study. *J Regul Toxicol Pharmacol* 1999;29:80-87.

11. **Plunkett, LM,** Seifen E, Kennedy RH. Effect of morphine pretreatment on cocaine cardiotoxicity in anesthetized guinea pigs. *Arch Int Pharmacodyn* 1989;297:60-67.

12. Zorbas M., Owens SM, **Plunkett LM,** Bui H. The pharmacokinetics of [3H]-[1-(2-thienyl)cyclohexyl]piperidine (TCP) in Sprague Dawley rats. *J Drug Metab Disposit* 1989;17:641-645.

13. Seifen E, **Plunkett LM,** Kennedy RH. Cardiovascular and lethal effects of cocaine in anesthetized dogs and guinea pigs. *Arch Int Pharmacodyn* 1989;300:241-253.

14. McCarty R, **Plunkett LM.** Regulation of binding sites for atrial natriuretic factor (ANF) in rat brain. *Peptides* 1988;9(S1):3-8.

15. Stewart RE, Swithers SE, **Plunkett LM,** McCarty R. ANF receptors: distribution and regulation in central and peripheral tissues. *Neurosci Biobehav Rev* 1988;12:151-168.

16. **Plunkett LM,** Tackett RL. Central dopamine receptors and their role in digoxin-induced cardiotoxicity in the dog. *J Pharm Pharmacol* 1987;39:29-34.

17. **Plunkett LM,** Tackett RL. Increases in CSF norepinephrine associated with the onset of cardiac glycoside toxicity. *Eur J Pharmacol* 1987;136:119-122.

18. McCarty R, **Plunkett LM.** Quantitative autoradiographic analysis of somatostatin binding sites in discrete areas of rat brain. *Brain Res Bull* 1987;18:289-94.

19. **Plunkett LM,** Shigematsu K, Kurihara M, Saavedra JM. Localization of angiotensin II receptors along the anteroventral-third ventricle area of the rat brain. *Brain Res* 1987;405:205-212.

20. Israel A, **Plunkett LM,** Saavedra JM. Increased number of angiotensin II binding sites determined by autoradiography in anterior pituitary of water deprived and Brattleboro rats. *Neuroendocrinol* 1986;42:57-63.

21. Saavedra JM, Correa FMA, **Plunkett LM,** Israel A, Kurihara M, Shigematsu K. Angiotensin and atrial natriuretic peptide binding in brain of hypertensive rats. *Nature* 1986;320:758-760.

22. McCarty RM, **Plunkett LM.** Forebrain atriopeptin binding sites: Alterations in spontaneously hypertensive rats. *Neurochem Int* 1986;9:177-183.

23. Shigematsu K, Saavedra JM, **Plunkett LM,** Kurihara M, Correa FMA. Angiotensin II binding sites in the anteroventral-third-ventricle (AV3V) area and related structures of the rat brain. *Neurosci Lett* 1986 67:37-41.

24. Correa FMA, **Plunkett LM,** Saavedra JM. Quantitative distribution of angiotensin-converting enzyme (kininase II) in discrete areas of the rat brain by autoradiography with computerized microdensitometry. *Brain Res* 1986;275:259-266.

25. Saavedra JM, Israel A, **Plunkett LM,** Kurihara M, Shigematsu K, Correa FMA. Quantitative distribution of angiotensin II binding sites in rat brain by autoradiography. Peptides 1986;7:679-687.

26. McCarty R, **Plunkett LM**. Binding sites for atrial natriuretic factor (ANF) in brain: alterations in Brattleboro rats. *Brain Res Bull* 1986;17:767-772.

27. **Plunkett LM,** Gokhale RD, Vallner JJ, Tackett RL. Prazosin alters free and total plasma digoxin in dogs. *Am Heart J* 1985;109:847-851.

28. **Plunkett LM,** Tackett RL. The effects of central beta-receptor antagonism on digoxin cardiotoxicity. *Res Comm Chem Path Pharmacol* 1985;48:209-220.

29. Israel A, Saavedra JM, **Plunkett L.** Water deprivation upregulates angiotensin II receptors in rat anterior pituitary. *Am J Physiol* 1985;248 (Endocrino. Metabl. II):E264-E267.

30. Niwa M, Shigematsu K**, Plunkett L,** Saavedra JM. High affinity substance P binding sites in rat sympathetic ganglia. *Am J Physiol* 1985;249 (Heart Circ. Physiol 18):H694-H697.

31. Correa FMA, **Plunkett LM,** Saavedra JM, Hichens M. Quantitative autoradiographic determination of angiotensin-converting enzyme (kininase II) kinetics in individual rat brain nuclei with 125I-351A, a specific enzyme inhibitor. *Brain Res* 1985;347:192-195.

32. Israel A, Niwa M, **Plunkett LM,** Saavedra JM. High affinity angiotensin receptors in rat adrenal medulla. *Regul Pept* 1985;11:237-243.

33. Israel A, **Plunkett LM,** Saavedra JM. Quantitative autoradiographic

characterization of receptors for angiotensin II and other neuropeptides in individual brain nuclei and peripheral tissues from single rats. *Cell Mol Neurobiol* 1985;5:211-222.

34. **Plunkett LM,** Correa FMA, Saavedra JM. Quantitative autoradiographic determination of angiotensin-converting enzyme kinetics in rat pituitary and adrenal glands with 125I-135A, a specific inhibitor. Regul Pept 1985;12:1-10.

35. **Plunkett LM,** Saavedra JM. Increased angiotensin II binding affinity in the nucleus tractus solitarius of spontaneously hypertensive rats. *Proc Natl Acad Sci* 1985;82:7721-7724.

36. **Plunkett LM,** Tackett RL. Central alpha receptors and their role in digoxin cardiotoxicity. *J Pharmacol Exp Ther* 1983;227:683-686.

ABSTRACTS

1. **Plunkett, LM**. Cannabidiol Incorporation into Consumer Products in the US: Regulatory Challenges to Commercialization. Presenting at the Society of Toxicology annual meeting. March 15-19, 2020, Anaheim, CA.

2. **Plunkett, LM**. Marijuana and Public Safety Concerns: States in Charge. Presenting at Society of Toxicology annual meeting. March 11-15, 2018, San Antonio, Texas.

3. Cox, LA, Popken, DA, Kaplan, AM, **Plunkett, LM**, Becker, RA. How well do High Throughput Screening (HTS) assay data predict in vivo rodent carcinogenicity of pesticides? Presenting at Society for Risk Analysis annual meeting, December 11-15, 2016, San Diego, California.

4. **Plunkett, LM**. THC and legal issues related to the state of the science. Symposium presenter at the Society of Toxicology, New Orleans, LA, March 2016.

5. Goyak, K, Alyea, R, Becker, RA, **Plunkett, LM**, Plunkett, JB. Evaluating the ability of high-throughput screening (HTS) assays to capture the biological activity of industrial chemicals. Poster presentation at the Society of Toxicology, New Orleans, LA, March 2016.

6. MacGregor, JA, Plunkett, JB, **Plunkett, LM.** The occurrence of chemically induced lung tumors in rodents as an outcome in NTP chronic bioassays and the impact on cancer classifications. Presented at the Society of Toxicology, San Diego, CA, March 2015.

7. Urban, JD, Thompson, CM, **Plunkett, LM**, Perry, C, Haws, LC. A state of the science of copper reference dose for soil remediation. Presented at the Society of Toxicology, San Diego, CA, March 2015.

8. **Plunkett, LM**, Kaplan, AM, Becker, RA. Evaluation of a tiered toxicity testing decision trigger for assessing reproductive hazards of commodity chemicals. Submitted for presentation at the Society of Toxicology, Phoenix, AZ, March 2014.

9. **Plunkett, L.M.** Overview of key public and worker health concerns in Texas food production. Presented at the Society of Toxicology, San Antonio, TX, March 2012.

10. **Plunkett, L.M.**, Starr, T.B., MacGregor, J.A., Manley, A. Corn oil as a causative factor for proliferative lesions of the forestaomach in B6C3F1 mice exposed by gavage. Presented at Society of Toxicology, Washington, D.C., March 9, 2011. [Award received for "Best Presentation"]

11. **Plunkett, LM**, MacGregor, JA, Starr, TB, Manley, A. Daily gavage with corn oil is a causative factor for proliferative lesions of the forestaomach in B6C3F1 mice. Toxicology Lett. 189S:S142. Presented at EUROTOX, Dresden, Germany, September 14, 2009.

12. **Plunkett, LM**, MacGregor, JA, Starr, TB, Youngren, SH, Manley, A. Determination of a dichlorvos-specific acute interspecies uncertainty factor. Society of Toxicology, Seattle, WA, March 19, 2008.

13. **Plunkett, LM**, Starr, TB, Youngren, SH, MacGregor, JA, Manley, A. Determination of the magnitude of intraspecies differences in red blood cell cholinesterase inhibition in response to dichlorvos exposure. Society of Toxicology, San Diego, CA, March 6, 2006.

14. **Plunkett, LM**, Licata, JM. What every technology manager needs to know about FDA law. Association of University Technology Managers (AUTM), Orlando, FL, March 4, 2006.

15. **Plunkett, LM,** Licata JM. What every technology manager needs to know about FDA law. Association of University Technology Managers (AUTM), Phoenix, AZ February 2005.

16. **Plunkett, LM**. Qualitative Interpretation of Complex and Disparate Data Sets for Dose-Response Assessment of Essential Trace Elements: Copper as a Case Study. Society for Toxicology, Baltimore, MD March 2004 .

17. **Plunkett, LM.** Evaluating qualitative and quantitative dose-response data in complete data sets for comparative dose-response assessment. Soc. Risk Analysis, Baltimore, MD, December 10, 2003.

18. **Plunkett, LM**, Rieth S, Starr T. Issues in assessing risks for cholinesterase-inhibiting pesticides: A decision tree approach. Soc. Risk Analysis, New Orleans, LA, December 9-12, 1996

19. **Plunkett, LM**, Brown S. Assessment of the potential neuropathic risk to banana workers from dermal exposure to chlorpyrifos. Soc. Risk Analysis, Honolulu, HI, December 3-7, 1995

20. **Plunkett, LM**, Russell K. Cooperation versus Confrontation: Reconciling Lead regulations, exposure studies, and public perception. SEGH Conference, July, Salt Lake City, UT, 1994

21. **Plunkett LM**, Wixtrom RN, Cabrera CR. Evaluation of the long-term safety of inflatable penile prostheses: a critical analysis of potential carcinogenic, reproductive, teratogenic, or adverse immunological effects of silicone. Western Section of American Urological Association Meeting, Seattle, WA, August 21-25, 1994

22. Wixtrom RN, **Plunkett LM**, Clarkin CM. Complications of inflatable penile prostheses: A comprehensive review of infection, mechanical complications, erosion/migration/extrusion, and fibrous capsule formation. 1994.

23. Wixtrom RN, Clarkin CM, Purkait B, **Plunkett LM**. A review of clinical experience with the Mentor Alpha I and Mark II inflatable penile prostheses. 1994.

24. **Plunkett LM**, Rosolowsky LJ, Lerner DM, Washburn ST. A biokinetic model for predicting blood lead levels in adults living near a former battery recycling facility. SEGH Conference, New Orleans, LA, July, 1993.

25. Rosolowsky LJ, Edelmann KG, **Plunkett LM**. A biokinetic model for predicting blood lead levels in adults that accounts for intermittent exposures. Society for Risk Analysis, December, 1993

26. **Plunkett LM**, Owens SM , Gunnell M, Owens RB. The effect of chronic phencyclidine (PCP) and phenylcyclohexene (PC) dosing on [3H]TCP and [3H] haloperidol binding in rat brain. *FASEB J* 1990;4:A329.

27. Owens RB, Owens SM, Gunnell M, **Plunkett LM**. 1990. The effect of chronic phencyclidine (PCP) and phenylcyclohexene (PC) on lymphocyte in subsets in rats. *FASEB J* 1990;4:A337.

28. Zorbas M, Owens SM, **Plunkett LM**, Bui H. [3H]TCP protein binding and pharmacokinetics in Sprague-Dawley rat. *FASEB J* 1989;3:A1036.

29. **Plunkett LM**, Kennedy RH, Seifen E. Effects of chronic stress on myocardial beta-adrenergic receptor binding. *The Pharmacologist* 1988;A1300.

30. Evans, R.E., **Plunkett LM**, Kennedy RH, Seifen E. [3H]Ouabain binding to regions of rat heart as determined by autoradiography. *The Pharmacologist* 1988;A41.

31. Massey BW, **Plunkett LM**, Kennedy RH, Seifen E. Alterations in brain angiotensin II binding in the aged rat. Soc. Neuroscience 1987 Abstracts, p. 722.

32. **Plunkett LM**, Alexander N, Saavedra JM. Altered angiotensin II binding in adrenal gland, pituitary gland and brain of sinoaortic denervated rats. Am. Soc. Hypertension. New York, NY, May 1986.

33. Saavedra JM, **Plunkett LM**, Correa FMA. Increased number of angiotensin II binding sites in the subfornical organ of spontaneously hypertensive rates. Am. Soc. Hypertension, New York, NY, May 1986.

34. **Plunkett LM**, Niwa M, Shigematsu K, Saavedra JM. Increased angiotensin II (ANG) binding in superior cervical ganglia of spontaneously hypertensive rats (SHR). *Fed. Proc* 1985;3: 498.

35. **Plunkett LM**, Saavedra JM. Discrete localization of angiotensin II (ANG) binding sites in rat brainstem by quantitative autoradiography. Neural and Endocrine Peptides and Receptors, Symposium, Washington, D.C., May, 1985.

36. **Plunkett LM**, Israel A, Niwa M, Shigematsu K, Saavedra JM. Alterations in angiotensin II binding in pituitary gland, adrenal gland and superior cervical ganglia of spontaneously hypertensive rats (SHR) as determined by quantitative autoradiography. Neural and Endocrine Peptides and Receptors, Symposium, Washington, DC, May 1985.

37. Shigematsu K, Niwa M, **Plunkett LM**, Saavedra JM. High affinity substance P binding sites in rat sympathetic ganglia. Neural and Endocrine Peptide and Receptors, Symposium '85, Washington, DC, May 1985.

38. McCarty R, **Plunkett LM**, Israel A, Saavedra JM. Quantitation of somatostatin binding sites in rat brain. Neural and Endocrine Peptides and Receptors, Symposium '85, Washington, DC, May, 1985.

39. **Plunkett LM**, Saavedra JM. Increased angiotensin II (ANG) binding in brainstem nuclei of adult spontaneously hypertensive rats (SHR) by quantitative autoradiography. Interamerican Society of Hypertension, Cleveland, OH, May 1985.

40. Saavedra JM, **Plunkett LM**, Niwa M, Israel A, Shigematsu K, R. McCarty, Correa FMA. Autoradiographic-microdensitometric methods for the kinetic analysis of neuropeptide receptors and peptidases in individual brain nuclei. IVth World Congress of Biological Psychiatry, Philadelphia, PA, September, 1985.

41. **Plunkett LM** Saavedra JM. 1985. Altered angiotensin II binding in ganglia and brainstem nuclei of spontaneously hypertensive rats (SHR). Council for High Blood Pressure Research, Cleveland, OH, September 1985.

42. **Plunkett LM**, Correa FMA, Saavedra JM. Quantification of angiotensin-1-converting enzyme kinetics in individual rat pituitary and adrenal glands with 125I-MK351A, a specific enzyme inhibitor. Society for Neuroscience, Dallas, Texas, October 1985.

43. McCarty R**, Plunkett LM**, Shigematsu K, Saavedra JM. Quantitative autoradiographic analysis of somatostatin binding sites in discrete areas of rat brain. Society for Neuroscience, Dallas, Texas, October, 1985.

44. Correa FMA, **Plunkett LM,** Saavedra JM. Quantitative autoradiographic determination of angiotensin-converting enzyme distribution in rat brain with 125I-MK351A, a specific inhibitor. Society for Neuroscience, Dallas, Texas, October 1985.

45. **Plunkett LM,** Saavedra JM. Altered angiotensin II binding kinetics in brainstem, pituitary gland, and adrenal gland in adult SHR. 5th International Symposium on SHR and Related Studies, Tokyo, Japan, October, 1985.

46. **Plunkett LM,** Tackett RL. CSF catecholamine activity decreases during cardiac glycoside-induced arrhythmogenesis. *The Pharmacologist* 1985; 25:745.

47. Tackett RL**, Plunkett LM**. Naloxone inhibits the central hypotensive actions of propranolol. *The Pharmacologist* 1983;25:101.

48. **Plunkett LM,** Vallner JJ, Tackett RL. Prazosin lowers plasma digoxin levels. American Heart Assoc, pp 15, Savannah, GA, 1983.

49. Tackett RL**, Plunkett LM**. 1983. BHT 933 lowers blood pressure and increases cerebrospinal fluid norepinephrine levels. American Heart Assoc, pp 16, Savannah GA, 1983.

50. Bayoumi SM, Gokhale R, **Plunkett L,** Vallner JJ. Pharmacokinetics of clortrimazole in dogs. *Acad. Pharmaceut. Sci* 1983;13(2):204, (Miami meeting).

51. **Plunkett LM,** Tackett RL. Central alpha receptors and their role in digitalis cardiotoxicity. *The Pharmacologist* 1982; 24:489A.

52. **Plunkett LM,** Tackett RL. Central alpha antagonism decreases blood pressure in the dog. Proc. Soc. Exp. Biol. Med. S.E. Sec. 7:12A 1982.

PRESENTATIONS

1. **Plunkett, LM.** Provided public comments at the FDA-sponsored public meeting on "Testing Methods for Asbestos in Talc and Cosmetic Products Containing Talc", February 4, 2020.

2. **Plunkett, L.M.** Practical applications of risk assessment. Lecturer at University of Texas Medical Branch at Galveston, Department of Pharmacology and Toxicology. October 19, 2018.

3. **Plunkett, LM.** Non-obviousness and §103. Lecturer at Rutgers School of Law, Camden Campus. November 6, 2012.

4. **Plunkett, LM.** Regulatory primer for pharmacy students: focus on human therapeutics. Invited speaker for the AAPS Visiting Scientist Program, Texas A&M University, College of Pharmacy, Kingsville, TX, May 1, 2009.

5. **Plunkett, LM.** Strategies for reducing adverse drug reactions: Science versus regulatory considerations. Invited speaker for the AAPS Visiting Scientist Program, Texas A&M University, College of Pharmacy, Kingsville, TX, May 1, 2009.

6. **Plunkett, LM.** Novelty requirement of §102. Lecturer at Drexel University School of Law. September 22 and 24, 2008.

7. **Plunkett, LM.** Novelty requirement of §102. Lecturer at Rutgers School of Law, Camden Campus. September 22 and 24, 2008.

8. **Plunkett, LM.** Discussion of the Adequacy of Current Regulatory Risk Assessment Approaches for Protection of Children's Health and the Health of Other "Sensitive" Human Subpopulations. Testimony before the U.S. Senate Enviornment and Public Works Committee. April, 29, 2008.

9. **Plunkett, LM.** Strategies for reducing adverse drug reactions: Science versus regulatory considerations. Invited speaker for the AAPS Visiting Scientist Program, Florida A&M University, Tallahassee, FL, October 26, 2006.

10. **Plunkett, LM**. The guidance as currently implemented: experience with Minnesota's draft risk levels. Presented at the ISRTP workshop entitled: EPA's New

(Proposed) Guidance for Assessing Cancer Risks from Early Life Exposures. Genotoxic Mode of Action and Implications for Human Health-Based Standards. Baltimore, MD February 10, 2005.

11. **Plunkett, LM.** An overview of the regulation of products of biotechnology: Who's in charge? Lecturer at University of Houston at Clearlake, November 17, 2004.

12. **Plunkett, LM**. Moderator of the symposium entitled "Regulation of genetically modified cells, foods, organisms and animals for consumer and therapeutic use. Meeting of the American Association of Pharmaceutical Sciences (AAPS), Baltimore, MD, November 11, 2004.

13. **Plunkett, LM**. A Road map to the US Food And Drug Administration Regulations. Invited Speaker and Session Co-chair, Federation of European Biochemical Societies (FEBS), Istanbul, Turkey, October 20-24, 2002.

14. **Plunkett, LM.** An overview of the regulation of products of biotechnology: Who's in charge? Lecturer at University of Houston at Clearlake, November 2001.

15. **Plunkett, LM** . Differences and Similarities Between Children and Adults in their Exposure and Response to Environmental Chemicals: An Update Since 1992. Invited Speaker at ToxForum, Aspen CO, July 2001.

16. **Plunkett, LM**. Do current FIFRA guideline tests protect infants and children? Lead as a case study. Invited speaker at the Sixteenth International Neurotoxicology Conference, Pesticides and Susceptible Populations: Who is at Risk and When? Little Rock, Arkansas, September 13-16 1998

17. **Plunkett, LM**. An overview of biotechnology regulations: the USFDA and the USEPA. Lecturer at University of Houston at Clearlake, October 16 1998.

18. Rodricks, JV, Santamaria, AB, **Plunkett, LM**. Risk Assessment as a Tool in Litigation: A Discussion of the Uses and Their Limits [Presented by **Plunkett LM**]. Society for Risk Analysis, , New Orleans, LA. December 10 1996.

19. **Plunkett, LM**. Current Issues in Lead Exposure and Risk Assessment. Symposia at the annual meeting of The American College of Toxicology, Valley Forge, PA. November 9 1996.

20. **Plunkett, LM** . An Overview of Biotechnology Regulations: Environmental Regulations. Lecturer at the South Texas School of Law, October 1995.

21. **Plunkett, LM**. An Overview of Biotechnology Regulations: FDA Regulations. Lecturer at the South Texas School of Law, October 1995.

22. **Plunkett, LM** . A Discussion of Toxicokinetics. Featured speaker at a symposium at the Int. Congress of Toxicol., July 5 1995.

23. **Plunkett, LM**. Chutes and Ladders: The Hazardous Journey for R&D to Market. Featured speaker at the Futurist's Conference, Irvine, CA, June 28, 1995.

BOOK CHAPTERS

1. Anderson, SA**, Plunkett,LM.** 2019. Defending Pesticides in Litigation. Thomson Reuters, Eagan, MN.

2. **Plunkett, LM**, O'Donnell, JT. 2016. Ketorolac abuse and injury in college athletics. In: *O'Donnell's Drug Injury, Fourth Edition*. O'donnell and O'Donnell (eds.), Lawyers & Judges Publishing Company, Inc: Tucson, AZ, pp. 591-602.

3. **Plunkett, LM,** Timmerman, LE. 2011. Pharmacovigilance and Postmarket Surveillance in the United States: The Role of the U.S. Food and Drug Administration. In: Elements of Pharmacovigilance: Be Vigilant, Be Safe. R. Sehgal *et al.* (Eds.), Kongposh Publications: New Dehli.

4. Rodricks, JV, Frankos, VH, **Plunkett, LM**. 1995. Food Additives. In: Regulatory Toxicology. C.P. Chengelis, J.F. Holson and S.C. Gad (eds.) Raven Press, New York, New York, 51-82.

5. **Plunkett, LM**, Turnbull, D, Rodricks, JV. 1992. Differences between adults and children affecting exposure assessment. In: Similarities and Differences Between Children and Adults: Implications for Risk Assessment. P.S. Guzelian, C.J. Henry and S.S. Olin (eds.) ILSI Press, Washington D.C., 79-96.

6. Saavedra JM, **Plunkett LM**, Correa FMA, Israel A, Kurihara M, Shigematsu K.

1986. Quantitative autoradiography of angiotensin and atrial natriuretic factor binding sites in brain nuclei of spontaneously hypertensive rats. In Brain Peptides and Catecholamines in Cardiovascular Regulation in Normal and Disease States.

MISCELLANEOUS

1. **Plunkett LM.** 2008. U.S. Senate Committee on Environment & Public Works. Oral testimony. Full Committee hearing entitled "Oversight on EPA Toxic Chemical Policies". Tuesday, April 29, 2008.

2. **Plunkett LM**, Brett SM. 1991. A new look at lead: sources, exposures, and uptake in populations at risk. ENVIRON Report. 5:6-9.

3. **Plunkett LM**, Frankos VH. 1991. FDA re-examines the safety of silicone gel-filled breast implants. ENVIRON Report. 5:10-13.

From: (b) (6)
To: Knott, Steven
Subject: EPA SAC on Chemicals
Date: Monday, April 20, 2020 5:53:19 PM

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https://(b) (6)Hotchkiss_CV_2020

Hello Steven,
I would like to self nominate myself for the EPA SAC on chemicals.

Current contact info:

Jon A. Hotchkiss, Ph.D.
JAHotchkiss Inhalation Toxicology Consulting L.L.C.
2218 Norwood Drive
Midland MI 48640
(b) (6)@gmail.com
(b) (6)

Disciplinary and specific areas of expertise:

Inhalation toxicologist, pulmonary exposure/response/adaptation, implementation of NAM approach to IVIVE and human health risk assessment from inhaled xenobiotics, ISRB member for the Dow Chemical Company, expertise in morphometric analysis of upper and lower respiratory tract injury/repair.

CV and Biosketch

My CV with Biosketch is attached above (first line).

Recent service on other advisory panels

I served as a member on EPA FIFRA evaluation of NAM approaches to setting human exposure levels (the NAM was submitted by Syngenta to FIFRA)

Best Regards,

Jon A. Hotchkiss, Ph.D.
Inhalation toxicology Consultant

PETER G. MOLEUX

172 River Street • Suite B1 • Waltham, Massachusetts 02453 U.S.A
Mobile: (b) (6)
(b) (6) & peter@pgmadvisors.com

EXPERIENCE

PETER MOLEUX, P.E., a sole proprietor based in Waltham, Massachusetts 1988-2018
Chemical, employee safety, liability & capital project manager specializing in Complex Circumstances

Representative work:

- Retained as an expert to defend a large Polyolefin manufacturing firm (in 2018) in a civil suit alleging damages resulting from and violations of a NPDES permit. Tasks included investigating LLDPE & HDPE (polyethylene), polyvinyl chloride (PVC) and polypropylene (PP) manufacturing areas, pellet recovery and loss prevention methods, stormwater, powder and spill conveyance systems. Discussed Plaintiff's expert opinions, conclusions, and provided my opinions and comments on the existing practices.

- Managed the environmental, chemical equipment and production side for a $45 million-dollar 3-year project for Hewlett-Packard including their construction of a new manufacturing site to produce multilayer printed circuit boards in Puerto Rico. Responsibilities included supervising the selection of, preparing specifications for equipment, and the procurement of equipment, logistics, installation and commissioning services for their chemical processes, process water and wastewater treatment systems, and assisting in the building design, and construction

- Assess quality control procedures at independent chemical laboratories

- Short term assignments include preparing a rebuttal to a defendant's expert comments on proper protective floor and trough coating applications (on concrete) for a Plating-On-Plastics Manufacturer where the adjacent soil was contaminated, deposed by counsel concerning an industrial waste inspection I conducted in 1965 for the State of Massachusetts regarding a lagoon discharge and resulting groundwater contamination from a painting facility, provided options to recover platinum group metals from anode slimes produced from copper refinery and smelting operations in India, and provide remediation and equipment liability practice advice for attorneys

- Provided environmental and product purification advice to a mining company having a surface mining and beneficiation process site that produces foundry grade chromite ore in South Africa.

- Specified equipment and process upgrade to a large food processor of agricultural materials (corn, wheat, and soybeans) to produce Sorbitol describing alternative systems to recover and resell a valuable catalyst component that was a by-product

- Serve as expert witness, providing depositions and testimony in both Federal and State courts during civil litigation involving environmental control systems

- Provide guidance to C-Level stakeholders, for example to a chemical company on merger and acquisition possibilities as a result of recent taxation policy changes concerning the effect of biodiesel subsidy termination on the paper and pulp industry

- Provide technical guidance to a law firm concerning the performance of an ultraviolet drinking water sterilization system on a cargo ship in international waters as a consequence of a fatality that occurred forcing a suit against the shipping line under the Jones Act

- Designed, marketed and sold wastewater treatment equipment including oil removal, process water treatment and wastewater treatment systems

- Documented various toxic chemicals used at various companies to assess alternatives such as manufacturing procedures, chemistry, processes and equipment to mitigate emissions and the use of hazardous materials

- Prepared and submitted permit applications for air emissions from various metal and plastic processes including specifying electrostatic precipitators, fume scrubbers, HEPA filters for paint spraying operations and changes in operating procedures to ensure compliance

- Provided Peer Review services evaluating chromium use alternatives by industries for U.S. EPA's Risk Reduction Engineering Laboratory, in Cincinnati, Ohio, U.S.A.

INTERNATIONAL EXPERIENCE

- TAIWAN: Presented keynote address during a two-day training seminar describing pollution prevention techniques, cost benefit analysis and provided on site advice on operating wastewater treatments systems over 10 days to selected manufacturing companies in Taiwan with coordination by US DOC Foreign Commercial Service advisors

- SINGAPORE: Specified, designed, operated and trained onsite personnel in the operation of an industrial water process and wastewater treatment system, including a packaged ultrafiltration oil-removal unit at an aircraft engine overhaul facility in Singapore

- SINGAPORE: Certified compliance to manufacturing and installation standards of fiberglass exhaust ducts and other equipment assembled and manufactured in Malaysia to A.S.T.M. and S.P.I. standards used to collect, transport and purify emissions produced from tanks, pumping stations and other sources at the Seletar Wastewater Treatment facility in Singapore

- Created Buyer's Guide listing costs and identifying local / international environmental equipment and services suppliers.

Systems Engineering and Manufacturing Corporation, Inc. - Stoughton, MA **1971-1988**

International OEM supplier of environmental equipment and field services to various industries
Vice President of this publicly traded company

- Managed Sellers Conditions and Terms of Sales concerning liabilities and responsibilities for equipment and services provided

- Managed design and supervised operation of drinking water, process water and wastewater treatment systems

- Evaluated costs, selling prices, developed relationships with vendors, oversaw in-house chemical laboratory with pilot plant studies,

- Assessed equipment components to employ within standard and custom designed systems

- Compared in-house versus outsourcing assembly operations, reviewed in-house service and engineering capabilities and installation services

- Wrote operation and maintenance manuals, provided operator training and start-up services

- Directed field service group coordinating personnel for startup/training and solving operating problems
- Oversaw development of new products
- Evaluated options for corporate acquisitions
- Negotiated financial and purchasing contracts with vendors and contractors

Other Environmental and Policy Experience – Massachusetts Division of Water Pollution Control (1967 -1971) and the Massachusetts Department of Public Health (1964 as an undergraduate co-op student – 1967) – both in Boston, Massachusetts

EDUCATION

Northeastern University, Boston, Massachusetts	M.S. in Chemical Engineering
Northeastern University, Boston, Massachusetts	B.S. in Chemical Engineering

CERTIFICATIONS AND SKILLS

- Environmental management, compliance evaluator / consulting, equipment liability issues, and corporate development experience
- Registered Professional Chemical Engineer

HONORS AND LEADERSHIP POSITIONS

- Past Chairman, O.S.H.A. Committee, American Electroplaters & Surface Finishing Society (AESF)
- Environmental Committee within the Institute for Printed Circuits
- Cited in Who's Who Environmental Registry, 1992 Edition

PUBLICATIONS

- Pollution Control / Recovery Systems, chapters, Third Edition (1988), Fourth Edition (1996) and the Sixth Edition (2008), PRINTED CIRCUITS HANDBOOK, edited by Clyde Coombs, Jr., published by McGraw Hill
- Handling Hazardous Chemicals in a Courtroom, by Peter Moleux, copyright and published by the AESF, 1994
- 13 OSHA *Train-the-Trainer* instruction manuals, peer reviewed & prepared for the American Electroplaters & Surface Finishing Society (AESF)

WEBINARS

- Presenter: “Watch Your Back, Jack”, presented on June 10, 2010. A 90-minute webinar, environmental and employee OSHA safety concerns on “Engineering Ethics” sponsored by *Chemical Engineering Magazine*, published by Access Intelligence LLC Inc.
- Presenter: “Proper Environmental Management of Industrial Equipment”, a 60-minute webinar including time for questions and answers, presented on October 18, 2011 to attorneys registered with TASA, the Technical Advisory Service for Attorneys (Blue Bell, PA) – Viewed by attorneys representing employees and end-users of equipment, equipment system suppliers, transportation companies, installation companies, and independent contractors

Peter Moleux, P.E.

Affiliation: Chemical engineering advisor working as a sole proprietor, Waltham, MA

Expertise: Investigating applications and processes involving chemicals in complex circumstances including Chemistry, Environmental Risk Assessment, Exposure Assessment, Environmental Fate, environmental engineering and sustainability.

Education: MS in Chemical Engineering, Northeastern University. BS in Chemical Engineering, Northeastern University, Boston, MA

Experience Summary: Peter Moleux is a chemical, environmental, health and safety engineering advisor serving industrial clients, law and expert witness search firms (from 1988-2018). Peter's background includes developing inhouse procedures for designing and suppling drinking, process water and wastewater treatment systems including pilot testing to provide a performance guarantee for an original equipment manufacturing firm (from 1971 to 1988). Typical clients included defense contractors, electronic firms and printed circuit board suppliers, metal finishers, automotive, aircraft and aerospace manufacturing looking for ways to reduce pollution, recycle water and purify process baths. Peter worked for the Massachusetts Division of Water Pollution Control (from 1965-1971) inspecting (and reviewing engineering reports on methods to reduce pollution from) industrial and municipal wastewater treatment systems including chemical manufacturers and petrochemical firms, paper and pulp firms, and metal plating companies.

Panel Experience: To date, Peter has not had the opportunity to work for any federal panel or agency. Many papers authored by Peter, chapters in handbooks, webinars, training manuals and published articles were peer reviewed by others. Peter contributed to the August 1998 EPA Design for the Environment publication titled "Printed Wiring Board Pollution Prevention and Control Technology: Analysis of Updated Survey Results", publication by EPA as 744-R-98-003. Peter was a speaker on environmental issues and risk assessment throughout the United States as part of the Speakers Bureau Tour for the American Institute of Chemical Engineers.

From:	Peter Moleux
To:	Knott, Steven
Subject:	EPA Seeks Nominations for Science Advisory Committee on Chemicals
Date:	Friday, April 10, 2020 12:27:23 PM
Attachments:	EPA3110-48exp6-30-2021fillableExtnd.pdf CV Peter Moleux 2018.docx Peter Moleux Short Bio.docx

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Dear Mr. Knott,

I hope this e-mail finds you in good health at this crazy time.

My name is Peter Moleux. I am a registered professional chemical engineer specializing in industrial environmental, health and safety issues in complex circumstances, and am self-employed. My mailing address is 172 River Street, Suite B1 (that's B followed by a one), Waltham, MA 02453-6513, my e-mail address is peter@pgmadvisors.com and my mobile number is (b) (6). However, where I'm living now I usually prefer to use a land line.

I would like to self-nominate myself to be considered for the Science Advisory Committee on Chemicals.

While I have not yet contributed to EPA's efforts, Todd Petterson recently confirmed, after I requested an update, that my name is still on the ad hoc list for reviewers for future SACC meetings. I've attached a few documents to this e-mail that I previously submitted in 2018. I'm sure that something may need to be updated and new questions may need answers, so I'll leave that to you, assuming that you will consider my self nomination.

Perhaps virtual meetings via Zoom or some other platform can be the standard method for an assembly?

Feel free to set up a time if you would like to speak with me.

Best regards,

Peter

From:	Lina Shea
To:	Knott, Steven
Cc:	bard@critfc.org; Lynn Zender; Hauff, Amanda
Subject:	EPA–HQ–OPPT–2020–0135 - SACC nomination
Date:	Monday, April 20, 2020 5:47:37 PM
Attachments:	Chaisson bio and contact info .pdf Chaisson C.V..pdf

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Dear Mr. Knott,
The National Tribal Toxics Council, a tribal partnership group with EPA OPPT, would like to nominate Dr. Christine Chaisson for consideration of appointment to the TSCA Science Advisory Committee on Chemicals. Please find attached two documents that contain Dr. Chaisson's contact information, curriculum vitae, biographical sketch, and disciplinary and specific areas of expertise, as well as her educational background, research activities, and recent service on other advisory committees and in professional organizations.
Please let us know if there is any additional information that you require.
Thank you
Lina Shea

Lina Shea, Ph.D.
National Tribal Toxics Council Coordinator
Zender Environmental Health and Research Group
400 D St, Suite 200
Anchorage, AK 99501
Ph. 907-830-7477
Fax: 1-877-335-6780

The mission of Zender Environmental Health and Research Group, a non-profit 501(c)3 organization, is to provide environmental program services for Tribal and isolated rural populations where the need exists. Visit us on the web at www.zendergroup.org.

THE LIFELINE GROUP

Dr. Christine F. Chaisson
Director, The LifeLine Group
4610 Quarter Charge Drive
Annandale, VA 22003

703-869-9494
ChaissonInc@cox.net

Disciplinary and Specific Areas of Expertise:

Trained in cellular biochemistry and toxicology. Professional career expertise in Exposure and Risk Assessment for Pesticides and Toxic Substances, Exposure and Risk Modeling, Community Focused Activity and Dietary Profiling, Food Chain Factors in Dietary Exposure to Toxic Substances, and Unique Community Factors in Dietary and Non-Dietary Exposure and Risk to Toxic Chemicals.

Biosketch:

The underpinnings of Dr. Chaisson's scientific training are biochemistry and regulatory toxicology [BA, Boston University and PhD George Washington University 1982] which were applied to chemical exposure and risk assessment approaches and models. For almost four decades Dr. Chaisson led the design of multiple assessment models addressing aggregate and cumulative risk concepts, exposure-based chemical prioritization, dietary and activity profiling for unique communities (including tribal and ethnically defined communities) and post-disaster chemical hazard profiling for communities.

Dr. Chaisson earned a doctorate in cellular biochemistry/biology from George Washington University. She began her career in risk assessment in the US Environmental Protection Agency in the Office of Pesticides and Toxic Substances. At EPA Dr. Chaisson designed a probabilistic dietary exposure assessment model to aid pesticide regulatory decision-making. She was also the liaison to international regulatory agencies such as AID and WHO. In 1985, Dr. Chaisson co-founded Technical Assessment Systems (TAS), which became a premier exposure/risk assessment consulting firm internationally. Through TAS, she introduced concepts such as

population subgroup specificity, better definition of residues in forms of foods and sources of drinking water, use of human activity patterns and actual chemical usage patterns for more accuracy and relevance in risk assessment models. Through these experiences, Dr. Chaisson has become well versed in the expectations of regulators in the US, UK, Canada, Germany and European Union.

Dr. Chaisson co-founded The LifeLine Group in 2000, a not-for-profit organization developing publicly available state-of -the-art exposure and risk assessment models with applications to contemporary issues. Focus for model development has evolved from nationally-characterized regulatory assessments based on predictable chemical use and people's exposure opportunities under normal circumstances to that of community-specific exposure scenarios defined by unique diets, activities, living conditions and normal or post-disaster circumstances. The resulting suite of community-based risk assessment models permit the application of population-specific and community-specific information for multi-source exposure and risk assessments. These are particularly important for unique populations, occupational and local contaminant situations. These population/community specific risk assessments have been successfully employed to consider chemical risk scenarios in Tribal, Arctic and ethnically defined communities as well as recent applications for risks encountered by recovery workers in storm damaged communities as they are exposed to fugitive chemicals. Current applications of these models include exposure/risk assessment for residents returning to homes after flooding events and long term exposures to flame retardants, molds, and chemicals in households where occupational activities also take place. Dr. Chaisson led research for Smithsonian curators at the Museum of the American Indian to assess potential exposures resulting from their work with artifacts made with toxic paints or stored in containers with very toxic pesticides. That work was used to develop appropriate protective practices for curators and museum workers. These research activities have been supported and funded by NIH, NIEHS, NIOSH, CDC, US EPA, The Smithsonian Institute, PMRA-Canada, as well as states such as California and Alaska, and private organizations and industries.

Dr. Chaisson has been a Councilor in the International Society of Exposure Assessment, a member of Society of Risk Assessment [past President of its DC chapter], the Toxicology Forum, The United Agribusiness League and the Institute of Food Technologists. She also served on the National Council for Arts and Sciences of the George Washington University and the Dean's Advisory Board for the GWU Graduate School of Political Management. Dr. Chaisson serves as a member of the External Advisory Board of the Center for Indigenous Environmental Health Research at the Zuckerman College of Public Health / University of Arizona. She is an advisor to Food Quality magazine. She has published extensively in the fields of exposure and risk assessment. In 2011 Dr. Chaisson was the invited Co-Chair of the Milan ISES/SETAC special conference on exposure science challenges presented by global legislative initiatives on consumer products and chemicals in trade.

Career activity in additional organizations include Society of Environmental Toxicology and Chemistry, International Society of Regulatory Toxicology and Pharmacology, and the Institute of Food Technology. Dr. Chaisson mentored several doctoral students' thesis projects (including Boston University, Johns Hopkins University, University of California, University of Arizona).

Currently Dr. Chaisson is a Director and Senior Scientist of The LifeLine Group, directing research including serving as Co-PI on projects funded by NIEHS. She is currently active in the Society of Risk Analysis, International Society of Exposure Science and serve advisory roles with The University of Arizona [Mel and Enid Zuckerman College of Public Health] and Alliance for Risk Assessment and also serves as a research publication reviewer for scientific journals.

DR. CHRISTINE F. CHAISSON

SENIOR ENVIRONMENTAL HEALTH SCIENTIST/ RISK ASSESSOR

THE LIFELINE GROUP

EDUCATION

Ph.D., Biochemistry, George Washington University (1982), B.A., Biology, Boston University (1976)

POSITIONS

1978-1984 Toxicologist, Office of Pesticide Programs, US Environmental Protection Agency including Acting Chief of Toxicology 1983-1984

1984-1997 Co-founder and President of Technical Assessment Systems, Inc. an international consulting firm specializing in pesticide risk assessment and development of state-or-the-art exposure assessment software. In this role I expanded the array of scientific disciplines applied to health and risk issues to include statisticians, engineers, nutritionists, public health scientists as well as the traditional chemists and toxicologists.

1997-1999 Partner and President of TAS-ENVIRON, specialty in toxicology and risk assessment for consumer products, pesticides in foods, food and ingredient technology for dietary intake/nutrition modeling and probabilistic modeling assessment techniques for aggregated exposure assessment in response to dramatic new regulatory requirements.

2000- current Co-founder, Officer and Director of The LifeLine Group, a non-profit organization whose primary mission was to make the new generation of exposure and risk assessment software and methods freely available to all interested users, not just industry and government stakeholders.

OTHER EXPERIENCE, HONORS, LEADERSHIP AND MEMBERSHIPS

2010-present External Advisory Board of the Center for Indigenous Environmental Health Research at the Zuckerman College of Public Health / University of Arizona

2005-present Editorial advisor to *Food Quality* magazine

1984 - present	Society for Risk Analysis 1998-1999 Washington Regional President
1990 – present	International Society of Exposure Science, 2005-2008 Board of Councilors
1999-present	Board of Advisors, *FOOD QUALITY Magazine*
1987 – 2003	United Agribusiness League
1992 – 2001	The Society of Environmental Toxicology and Chemistry (SETAC)
1990 – 2001	Institute of Food Technologists
1990 - 2000	International Society of Regulatory Toxicology and Pharmacology
1982 – 2002	American Chemical Society
1997-2005	President's Board of Advisors, George Washington University

OVERVIEW OF RESEARCH AND PROJECTS [REVELANT SELECTION]

Risk Assessment Methodology to Quantify Risk to Museum Curators Working with Objects Preserved in Organic and Heavy Metal Pesticides, National Museum of the American Indian, Smithsonian Institute, Project Leader. Activity profiles were developed for three important work scenarios frequently undertaken by curators working with objects contaminated with naphthalene, arsenic and several other pesticides. Using the activity profiles, exposure and risk assessments were undertaken considering status quo and possible exposure mitigation options. Novel approaches were utilized to explain the risk assessment process and findings so that museum managers and administrators could consider practical safety options.

Building Institutional Capacity/Fostering Best Practices in Climate Resiliency, Principal Investigator: OSARIO, JUAN CAMILLO, New York City Housing and Neighborhood Recovery Donors Collaborative, Sept 2013-Dec 31, 2014. Grant awarded through New York City Environmental Justice Alliance. Dr. Chaisson is the PI for LifeLine's role in the multi-organization partnership and is the Technical Director for the exposure and risk assessment aspects of the work, including development of the overall prioritization model to highlight industrial chemical source points of concern along the Brooklyn waterfront.

Quantitative Relative Ranking for Chemicals in Consumer Products: Concept Building for Options to California Regulatory Initiatives, supported by the Grocery Manufacturer's Association. Collaborative Project with Dr. Christina Cowan-Ellsberry, The LifeLine Group. Tasks included creating illustrative examples of quantitative relative ranking procedures, explanation of the key parameters underpinning existing technology and software

capable of this task, and presentations to the California regulatory agencies, legislative advisors and industry safety and compliance personnel. The work was compiled for publication as part 3 of a series of publications on the quantitative relative ranking approach.

ConsExpo Project, Risk Assessment Bureau, Health Canada, Senior Scientist. 2011. Dr. Chaisson, and other members of the LifeLine team were responsible for the design and conduct of this project. The project was comprised of two parts. The first was to provide training to the staff on the use of models for conducting risk assessments with emphasis on the use of Consexpo. The second was to develop default tables of Canadian data that can be used in the risk assessment of chemicals under assessment in Canada.

Relative Risk Ranking Tool for Implementation of the Canadian Environmental Protection Act, Health Canada/Existing Substances Branch, Principal Investigator, 2004-2007. Dr. Chaisson led the team providing a wide range of technical expertise to Health Canada, including building ComET, a software tool for relative ranking of chemical risk based on toxicity and exposure opportunity via the uses of the chemical in consumer products. This work allowed for the successful implementation of the Canadian legislation, and introduced important new concepts in tiered evaluation, consumer product safety evaluation, and evaluation techniques for chemicals with scarce data. This model is employed by several industrial groups prioritizing their testing programs for chemicals in their consumer products.

Risk Assessments and Model Customization, EPA Office of Pesticide Products, Co-project Manager and Senior Scientist, 2004-2007 The tasks included Cumulative Exposure and Risk Assessment for Organophosphates using the LifeLine™ Model, Revision of LifeLine Software to incorporate the most current EPA/USDA/FCID versions of the national population's intake of commercial foods, as used in the risk assessment software for pesticide risk assessment. Dr. Chaisson served as a senior scientist or project lead on various aspects of these projects.

Risk Assessments and Model Customization, EPA Office of Pesticide Products, Co-Leader and Senior Scientist, 2004-2007. A risk assessment for fluoride residues in food and drinking water was conducted and used to train EPA scientists on the use of LifeLine for exposure and risk assessment. Dr. Chaisson served as a senior scientist or project lead on various aspects of these projects.

The Compendium of Alaska Traditional and Subsistence Dietary Files US EPA Tribal Project, US EPA, C*o-Project Manager and Senior Scientist, *2000-2008. In addition to being Co-project Manager, Dr. Chaisson along with Dr. Franklin was responsible for design and initiation of the project. Continuing responsibilities included project management, oversight, presentations and assistance with communication, interpretation and report production. The other members of the LifeLine team included our dietician, Ms Chaisson, Senior Scientist, Ms Arnold, QA/QC manager Dr. Diskin and the programmers, Mr. Tedder and Mr. Mathis. Dietary and activity pattern information were assessed and transformed into dietary and activity profile files representative of distinct regions in Alaska using LifeLine Software. The information derived from this can then be used to determine the exposure to and risk from chemicals in the food and

environment Under this project, several pieces of software, the DRG©, CDAS © were completed. In addition numerous training courses were provided to scientists at the federal, state, university and community levels.

Mexico Case Study and Capacity Building, Commission on Environmental Cooperation, Project Manager, 2007-2008. This project was aimed at using a case study from Mexico to serve as an example of risk assessment strategies and build capacity within Mexico to conduct community focused risk assessments using techniques currently employed in the US and Canada. Ms. Chaisson developed a curriculum and trained Mexican scientists in current risk assessment strategies using LifeLine software. She designed and produced multimedia training tools for the software which were aimed for use within the university setting and on-line and managed the translation of these tutorials into Spanish. Under her direction a case study specific to examining the effects of Lindane in commercial and indigenous diets was designed and written up for future completion. Dr. Chaisson was also involved in the project and participated at a Risk Science meeting where this work was discussed.

Pilot Project for Risk Assessment Regarding Traditional Foods and Community Contaminant Issues, First Nations and Inuit Health Branch: Health Canada, Senior Scientist, 2007-2008. Two pilot projects were conducted to demonstrate the capabilities of LifeLine software to assess exposure and risk through the diet. Case Studies (with real data) were conducted for persons consuming a commercial diet with contaminant A and a unique tribal diet with contaminant B for demonstration purposes. Dr. Chaisson presented the demonstration and trained the HC scientists on use of the software. Other members of the LifeLine team included Dr. Franklin and Ms. Chaisson who was responsible for data handling and technical assistance in completing these case studies as well as designing presentation material for communication to the target audience.

Anchorage, Barrow, and Fairbanks AK Training, US EPA March 2008. Project Manager and Senior Scientist. Dr. Chaisson with the assistance of Dr. Franklin provided 1to 3 day training sessions in Alaska to federal, State and Tribal officials as well as to University researchers. The purpose of the training was to explain how exposure and risk assessment are done and how the new suite of Tribal LifeLine Software© was specifically developed to enable risk assessment of chemical contaminants in the traditional food and water.

Selawik AK, Risk Assessment and Training 2005-2008, US EPA, Senior Scientist 2005-2008. This project was done directly with an Inuit community in Alaska. The community identified a contaminant of concern to them, and The LifeLine team conducted an exposure and risk assessment. We then worked with the community to demonstrate how the Tribal LifeLine™ software was used to assess the exposure and risk to different age groups, by season over short and long term. Through the Elders in the community the project was community driven in scope and perspective.

First Nations and Inuit Compendium of Dietary and Activity Profiles, Health Canada, Senior Scientist, 2008-2009. Dr. Chaisson was responsible, with Dr. Franklin for design and

initiation of the project. Continuing responsibilities included oversight, presentations and assistance with communication, interpretation and report productions. Dietary pattern information was assessed and transformed into dietary profile files representative of distinct regions in Arctic Canada using LifeLine Software The information derived from this can then be used to determine the exposure to and risk from chemicals in the food and environment. A one day training session was given to officials from the Territorial governments, representatives from the Assembly of First Nations, Inuit Tapiriit Kanatami, universities, Federal officials

Compendia of Dietary and Activity Profiles in Contiguous 48 States, US Environmental Protection Agency, Senior Scientist, 2008-2009. Dr. Chaisson participated in the design and initiation of the project. Continuing responsibilities include oversight, presentations and assistance with communication, interpretation and report productions. Similar to the Health Canada Project for First Nations and Inuit in the Canadian Arctic, the project involved collection of data representing the dietary and activity profiles of three regions selected from the Contiguous 48 States to create Compendia of these databases with reference information and documentation.

Community-Based Exposure and Risk Assessment Software, US Environmental Protection Agency: Office of Prevention, Pesticides and Toxic Substances, Project Manager, Software Modeler and Concept Designer, 2002 to 2009. *Dr. Chaisson wa*s the lead designer of the team developing the suite of software which enables incorporation of community specific information for dietary and activity patterns. She developed the initial vision for this work and together with the EPA program leaders and Tribal representatives across the US, developed and led the work on this project (estimated total value above $1,000,000). This project required significant village site work, communication materials and novel approaches to interactive training modules. The LifeLine team developed the suite of software which enables incorporation of community specific information for dietary and activity patterns and enables exposure and risk assessment to contaminants to be done.

Exposure, Risk and Benefits Assessment Software as Decision-Making Tools to Assist in the Development of Public Health Messages, Senior Scientist, 2010. Dr. Chaisson along with Dr.Claire Franklin was responsible for design and conduct of the project. The existing and emerging LifeLine™ software models that can assist the decision-maker in understanding how the risk from contaminated food is distributed across the community were discussed. In addition future cumulative models that will allow the nutrient benefits from traditional foods in their diets to be evaluated were also discussed. These analyses consider the dietary patterns of the population of interest across different seasons and under different conditions affecting that population. Armed with these kinds of analyses, the decision maker can see what advantages are possibly derived from risk mitigation options under consideration—how much risk reduction is achieved, for whom and when. These analyses are useful for communication and building trust in the population bearing the consequences of the initial problem and the burden of the mitigation options. A half day training session on how these models, can be applied data interpreted and used in the development of public health messages was given.

Assessing and Managing Health Risks from Fugitive Chemicals after Hurricane Sandy, National Institute for Occupational Safety & Health and CDC, Principal Investigators: SHIH, R. and CHAISSON, CF Award# U01OH010626, Sept 2013-May2015 The main technical objective of the study was to determine the exposure and health risks posed to recovery workers from chemicals dislodged from waterfront industrial sites into the neighborhoods of Sunset Park in Brooklyn,New York. The products of this research provided tools and guidance for similar research at other sites and additional research aimed at defining the chemical risks presented by other community chemical sources to recovery workers and general residents in this and other vulnerable communities. The work was based on a community-based risk assessment (CBRA) approach using existing risk assessment models to predict health risks from exposure to hazardous chemicals during recovery activities in Sunset Park. Dr. Chaisson was co-PI leading the chemical concentration modeling, exposure and risk assessments, aspects of the chemical source vector analysis approach and is responsible for much of the collaborative activities, documentation, reporting, presentations associated with the technical and project management. This project illustrated the advantages of full participatory partnership of scientific experts and community leaders in community-based research.

Activity Profiles and Risk Assessment for Curators and Collections Personnel at the National Museum of American Indian Conservatory of the Smithsonian Institution, Washinigton DC NMAI of the Smithsonian Institute, Washington, DC, NMAI Director and Director of Conservatory. Principle Investigator. CHAISSON, CF (2011-2013) Objects being retrieved from decades of storage are heavily contaminated with preservatives and pesticides and may be constructed with toxic materials now dislodged after years of storage. The LifeLine Group constructed a compendium of activity profiles relevant to the work undertaken by curators and collections staff during cleaning, repair, display preparation, cataloging and other related work. Using these profiles and information from the Smithsonian about the contaminant concentrations, The LifeLine Group calculated exposure and risk assessments for the workplace activities as well as assessments of the relative efficacy of various worker protection options. Staff at the Smithsonian were provided training on the techniques of this work, and the resulting advisories are being utilized for new staff protections and prioritization of residue measurements needed for assessing the risk of particular cleaning activities. The Smithsonian staff and The LifeLine Group are presently preparing joint publications for risk assessment professionals and also for curator professional journals. Dr. Chaisson was the lead for this work and personally participated in all tasks including coordination among collaborators and presentations.

Exposure, Risk And Benefits Assessment Software As Decision-Making Tools To Assist In The Development Of Public Health Messages. Chemicals Surveillance Bureau, Environmental and Radiation Health Sciences Directorate, Health Canada. (2010). Principle Investigator. FRANKLIN, CA Research dossier presenting existing capacities for assessment of dietary risks posed by food contaminants and the benefits those foods provide in terms of nutritional supply so that regulatory options focused to risk reduction considers the offsetting nutritional benefits. Dr. Chaisson was responsible for the technical aspects of this

work.

Community-Based Exposure and Risk Assessment Software Design and Construct, US EPA: Office of Prevention, Pesticides and Toxic Substances, Principle Investigator. CHAISSON CF (2002 -2011) Dr. Chaisson was the lead designer for software partially supported by this contract. The model enables incorporation of community specific information for dietary and activity patterns. This project required significant village site work, communication materials and novel approaches to interactive training modules.

Determination of Aggregate and Cumulative Exposures Consistent with Biomarkers of the Compounds Using Simulation Modeling of Exposure and Pharmacokinetics, National Center for Environmental Assessment, , Lead Software Modeler and Concept Designer (2008 to 2013) The modeling capacity developed within this research (cumulative exposure) is critical to the technical capacity for simultaneous assessment of many nutrients in people's daily diets. That technical capacity will be utilized in evaluating the modulation by dietary nutrients of toxicants' potential health effects.

SOFTWARE DESIGN (as Senior Model Designer for THE LIFELINE GROUP)

Activity Record Generator©, The LifeLine Group
Activity Record Translator©, The LifeLine Group
The Compendium of Alaska Traditional and Subsistence Dietary Files©, 2007. www.thelifelinegroup.org
Dietary Record Generator©, 2007. www.thelifelinegroup.org
Customized Dietary Assessment Software©, 2007. www.thelifelinegroup.org
This and other software are freely available from The LifeLine Group
The Compendium of Traditional Dietary Files for First Nations and Inuit in Arctic Canada. Chaisson A.M., Chaisson, C.F., Diskin K.A. and Franklin, C.A. The LifeLine Group 2009.
Community-Based Exposure/Risk Assessment Software. Designers: Chaisson, C.F., Jayjock, M., Arnold, S. Chaisson, A.M., Diskin, K., and Franklin, C.A. Programmed by Eric Mathis and Douglas Tedder. The LifeLine Group 2009.

LIFELINE TUTORIALS

LifeLine Customized Dietary Assessment Software© Tutorials. Available in English and Spanish. Contract EP-W-05-016. E. Resek, Project Officer (2007).
LifeLine Dietary Record Generator© Tutorials. Available in English and Spanish, Contract EP-W-05-016, E. Resek, Project Officer (2007).

SELECTED PUBLICATIONS and PRESENTATIONS

Chaisson, C.F., From Chemicals Released During Floods—Risk Mitigation and Applications for Waterfront Communities, ISES-ISIAQ International Conference, Kaunas, Lithuania, (2019).

J. Madrigano, Juan Camillo Osorio, , C.F. Chaisson, et al., Fugitive Chemicals and Environmental Justice: A Model for Environmental Monitoring Following Climate-Related Disasters, Journal of Environmental Justice (2018) 11, Issue 3.

J. Madrigano, Juan Camillo Osorio, , C.F. Chaisson, et al., Session: Exposure Science and Health Impact Assessment in Service to Community Resilience for Fugitive Chemicals, and Work Panel: Preparing Working Waterfront Communities to Minimize Fugitive Chemical Threats (2018), ISES International Conference, Ontario, Canada.

J. Madrigano, Juan Camillo Osorio, , C.F. Chaisson, K. Diskin et al., Environmental Monitoring Recommendations for Fugitive Chemicals in Industrial Waterfront Communities Following Severe Weather Events, (2018), ISES International Conference, Ontario, Canada.

Chaisson AM, Franklin, CA, Zender, L, Chaisson CF, Sheldon R, Foran J. 2012. A community-based application of software to conduct a probabilistic assessment of exposure to contaminants in indigenous subsistence foods. *J Environ Justice*. 5(6):306-311.

Chaisson, C.F Invited presenter, International Special Meeting, International Society of Exposure Science, Milan, Italy." Status Report : Regulatory Agencies Meeting Contemporary Challenges for Competent, Relevant, Accurate Exposure and Risk Assessments" 2011

Chaisson, C.F 2010-2011 Invited Organizing Co-Chair , International Special Meeting, Milan [May 2011] cosponsored by the International Society for Exposure Science (ISES) and the Society ofEnvironmental Toxicology and Chemistry (SETAC) addressing the scientific challenges introduced by global regulatory initiatives for consumer safety and assessing exposure to the thousands of chemicals in our personal environments.

Jayjock, M.A., Chaisson, C.F.,, Claire A. Franklin, S. Arnold, Paul S. Price: Using publicly available information to create exposure and risk-based ranking of chemicals used in the workplace and consumer products, Journal of Exposure Science and Environmental Epidemiology, 19, 515-524 (2009)

Chaisson, C.F., Invited Lecture: Community-Based Exposure And Risk Assessment Models April 3, 2009, Presentation and Workshop sponsored by US Environmental Protection Agency, Navajo Nation, Arizona.

Chaisson, C.F.,, Invited Lecture: Assessment of Exposure and Risks from Toxin Residues in Foods: Considering Unique Diets , February 19-20, 2008, Anchorage, AK. as part of the EPA Tribal LifeLine Project.

Chaisson, C.F., S.ARNOLD, A.M. CHAISSON, Dietary Exposure and Risk Assessment

Software Tools with the Capacity to Reflect Unique Populations, ISES Training Workshop, Annual Conference of the International Society of Exposure Analysis, Durham, NC. Oct. 14, 2007.

Jayjock, M.A. , C.F. Chaisson, S. Arnold, E.J. Dederick: Modeling Framework for Human Exposure Assessment, 17, S81-89, Journal of Exposure Science and Environmental Epidemiology, (2007)

Chaisson, C.F.,, -Assessing Exposures to Chemicals in Consumer Products: Global Policy and Emerging Sciences Issues‖, Symposium Chair at the Paris 2006 International Conference on Environmental Epidemiology and Exposure, Paris, France, Sept 2-6, 2006.

Chaisson, C.F.,, Symposium: Modeling Aggregate Exposure in Tribal Communities, Session Chair,15 h International Society of Exposure Assessment Annual Meeting, Tucson, AZ, Oct 30-Nov 3, 2005

P. S. Price and Chaisson, C.F. A Conceptual Framework for Modeling Aggregate and Cumulative Exposures to Chemicals, JEAEE (2005) 15, 473–481

P. S. Price, Conolly, R.B., Chaisson, C.F., Young, J.S., Mathis E.T., Tedder D.T. 2003. Modeling Inter-individual Variation in Physiological Factors Used in PBPK Models of Humans, Critical Reviews in Toxicology Vol. 33, (5): 469-503

P. S. Price, J. S. Young, C. F. Chaisson. 2001. Assessing Aggregate and Cumulative Pesticide Risks Using A Probabilistic Model, Annals of Occupational Hygiene, Vol 45 No. 1001, S131-S142

Chaisson, C.F., Dietary Exposure—Profiling and LifeLine Assessments" in "Children's Exposure to Toxic Chemicals—Modeling their World to Quantify the Risks: Session V", NeuroToxicology 74 (2001) 1-4.

Chaisson, C.F. and Price, P.S., (2001) " Presentation of 4 exposure scenarios in an aggregate risk assessment with LifeLine™", ORD Workshop on Residential Exposure Assessment Models, EPA/ORD, RTP, North Carolina, October, 2001.

Chaisson, C.F., (1997). "Communicating Differences in Risk Approaches" Environmental Risk Harmonization: Federal and State Approaches to Environmental Hazards in the USA, Edited by M.A. Kamrin. Published by John Wiley & Sons Ltd. Chapter 4,

C.F., Sielken, R.L., and Waylett, D.K. 1999. Overestimation Bias and Other Pitfalls Associated with the Estimated 99.9th Percentile in Acute Dietary Exposure Assessments. Reg. Tox.Pharm., 29(2): 102-127.

CA Franklin, CF Chaisson, AM Chaisson, L. Zender, E Resek, R. Hall, 2009. Community Involvement in the Use of the Dietary Compendium: A Case Study Approach. Symposium on

the Compendium of Traditional Dietary Files for First Nations and Inuit in Arctic Canada©, Ottawa ON.

Chaisson, C.F. Invited Presentation Dietary Exposure—Profiling And Lifeline Assessments in Children's Exposure to Toxic Chemicals—Modeling their World to Quantify the Risks ‖ (2001) NeuroToxicology 74, Session V 1-4.

From:	Louise Caro
To:	Knott, Steven
Subject:	EPAHQ-OPPT-2020-0135 nomination
Date:	Thursday, March 19, 2020 4:58:06 PM
Attachments:	ATT00001.txt Rosenfeld CV 3-10-20 with Testimony.pdf

Hello Mr. Knott,

I would like to nominate Paul Rosenfeld, Ph.D. to the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Dr. Rosenfeld has extensive experience and expertise conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. In my opinion Dr. Rosenfeld possesses the characteristics EPA is seeking for the SACC and would be a valuable addition to the group. He has also indicated a willingness to serve. I have attached his CV for your consideration.

I am happy to provide additional comments if requested.

Sincerely,

Louise R. Caro

Partner

Napoli

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SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

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Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

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Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

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Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

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Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the United States District Court For The Southern District of Illinois
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 3:19-cv-00302-SMY-GCS
Rosenfeld Deposition. 2-19-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, *Plaintiff,* vs. Marathon Petroleum, LP, *Defendant.*
Case No.: 1716-CV10006
Rosenfeld Deposition. 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case: No 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

From:	Budinsky, Robert (R)
To:	Knott, Steven
Subject:	EPA-HQ-OPPT-2020-0135 SACC Nomination
Date:	Wednesday, August 19, 2020 2:09:09 PM
Attachments:	Budinsky, Robert CV for EPA"s 2020 SACC nomination process.docx R. Budinsky SACC Nomination Biosketch 8-19-20.docx

Steven:

Attached are my Biosketch and CV for consideration as a nominee for EPA's Section 6 risk evaluation Science Advisory Committee on Chemicals (SACC).

I appreciate the head's up on EPA's reopening this opportunity.

Thank you,
Bob Budinsky

CURRICULUM VITAE

NAME: Robert Andrew Budinsky Jr.
Job Title: Senior Scientist

HOME ADDRESS
(b) (6)

Work e-mail: rabudinsky@dow.com

EDUCATION:
1988: Medical University of South Carolina, Post-Doctoral Fellowship

1986: University of Cincinnati; Cincinnati, Ohio, Ph.D., Biopharmaceutics/ Pharmacokinetics

1978: University of Cincinnati; Cincinnati, Ohio, BS, Pharmacy

EMPLOYMENT:
2000-Current: Dow Chemical Company, Midland, Michigan, Toxicologist, Toxicology and Environmental Research & Consulting

JOB TITLE AND DESCRIPTION
TERC Science Leader: Senior Toxicologist and Group Leader at the Dow Chemical Company with global responsibilities for:

1. Leading Dow's Toxicology and Environmental Chemistry's (TERC) Science Advocacy Teams
2. Toxicology Business Consultant (Product Sustainability Consultant)
3 Technical Consultant to Dow Remediation

EMPLOYMENT EXPERIENCE
November 2000 – Present: The Dow Chemical Company

I currently lead Dow's Toxicology, Environmental Research and Consulting's (TERC) science advocacy teams. These teams have responsibility for addressing ongoing and future regulatory and policy issues including controversial and challenging concerns over endocrine disruption, mixtures' risk assessment, sensitization, U.S. regulatory policy arising out of TSCA and IRIS reform, Asia Pacific's emerging regulatory science advocacy, and animal welfare. These teams provide science and science advocacy support for many Dow businesses and they are

integrated into multiple Corporate functions and disciplines such as Government/Regulatory Affairs, Public Affairs, Medical, and Industrial Hygiene. This role involves participation in ACC's Advancing Risk Assessment and Science Policy and the risk assessment team reporting to the Health, Safety and Science Policy Committee. These teams are ultimately charged with supporting Dow's 2025 goals through external participation in the EPA's Endocrine Disruption Science Policy regulation, the OECD's Adverse Outcome Pathway Program, EPA's ToxCast initiative, the ACC/CEFIC Long Range Research Initiative and HESI (to name a few venues for carrying out the necessary science and science advocacy strategies to achieve science-based regulatory decisions).

I lead the toxicology and risk assessment efforts for remediating the dioxin contamination of the Tittabawassee and Saginaw Rivers. This responsibility involves managing both external and internal dioxin research directed toward risk assessment and risk management decision making. The external research collaborators are represented by a number of International dioxin experts as well as scientists at the Hamner Institute. I chair Dow's global dioxin health and health science policy team. Externally, I lead the Chlorine Chemistry Council's activities in response to the National Academy of Science review of the EPA's draft Dioxin Reassessment and, ultimately, the Science Advisory Board's review of the EPA's IRIS risk assessment on 2,3,7,8-tetrachlorodibenzo-p-dioxin, including presentations to the SAB.

As a Toxicology Business Consultant, I was the technical expert on the Corporate-Level issues management team that addressed the bisphenol A (BPA) circumstances, including endocrine disruption. This role required external engagement in the ACC's Polycarbonate BPA group where science advocacy and research were managed to address global issues including Classification and Labeling issues, challenges with application of the OSHA-Global Harmonization System, and California Prop 65 decisions, to name a few examples. I provide consulting expertise at the present time to Dow's Vinyl Acetate Business and the Vinyl Acetate Council. The Vinyl Acetate Council is engaged in a robust mode-of-action research program aimed at supporting product stewardship needs such as a future IRIS risk assessment and regulatory actions taken under REACH/CoRAP or classification and labeling. This entails managing and collaborating with a group of academic researchers at the University of North Carolina, Michigan State University and Battelle's Pacific Northwest Laboratories. In the past, I've been a Toxicology Consultant to Dow's Biocide, Glycol Ethers, Hydrocarbons, and Growth Platform business units. With respect to Dow's Biocide business, I was responsible for complying with the first Biocidal Products Directive along with many product stewardship tasks such as glutaraldehyde's sensitization potential and its irritancy/odor thresholds. Examples of experience acquired with the other Dow businesses include Design for the Environment approvals (Glycol Ethers), complying with the EPA's Voluntary Childrens' Chemical Exposure Program for ethyl benzene (Hydrocarbons) and a large repeat insult patch testing of a successful Dow fiber (Growth Platforms).

Other ongoing TERC-related responsibilities include participation in Dow's Industrial Hygiene Guideline team tasked with setting and re-examining occupational exposure limits at Dow. Recently, I've been added as TERC's technical representative to Dow's U.S. Regulatory Affairs team with a variety of projects such as working with the Texas Commission of Environmental Quality and the EPA's Sediment Quality standards. I frequently assist our junior Product Sustainability Consultants on science and science advocacy issues, especially with respect to challenges created by implementation of the Global Harmonization System or opportunities to participate in the OECD's Adverse Outcome Pathway (AOP) program.

October 1999-August 8, 2002: Courtesy Assistant Professor in the College of Public Health, University of South Florida

July 1989-October 2000: Private Toxicology Consultant

Prior to joining Dow, I was a partner in a small consulting firm that provided a range of toxicology services related to industrial hygiene, litigation support, and remediation work. Experience with many chemical and health-specific issues was obtained during this time such as evaluating and managing exposure and injury claims attributed to benzene, carbon disulfide, and groundwater contamination with chlorinated solvents, or health allegations such as multiple chemical sensitivities syndrome, and solvent-induced encephalopathy.

August 1978-1988

Hospital pharmacist at Mercy South Hospital in Cincinnati, Ohio and VA Hospital in Charleston, South Carolina.

MEMBERSHIPS:
Bay Area Community Foundation Environmental Steering Committee (2003- Current)

PROFESSIONAL SOCIETIES:
International Society of Regulatory Toxicology and Pharmacology (Councilor, 2003-2006)

Society of Toxicology
Risk Assessment Specialty Section of SOT
Regulatory and Safety Evaluation Specialty Section

Michigan Society of Toxicology

Society of Risk Analysis (2006, 2009, 2010, 2014)

HESI Mixtures Steering Committee (Risk Assessment Methodologies)

PUBLICATIONS

Roberts, S.M., **R.A. Budinsky**, L.E. Adams, A. Litwin and E.V. Hess. 1985. Procainamide acetylation in strains of rat and mouse. Drug Metab. Dispos. 13:517.

Budinsky, R.A., S.M. Roberts, E.A. Coats, L.E. Adams and E.V. Hess. 1987. The formation of procainamide hydroxylamine by rat and human liver microsomes. Drug Metab. Dispos. 15:37-43.

Roberts, S.M., L.E. Adams, R. Donovan-Brand, **R.A. Budinsky**, N.P. Skoulis, H. Zimmer and E.V. Hess. 1989. Procainamide N-hydroxylamine lymphocyte toxicity. I. Evidence for participation of hemoglobin. Int. J. Immuno. Pharmac. 11:419-427.

Adams, L.E., C.E. Sanders, Jr., **R.A. Budinsky**, R. Donovan-Brand, S.M. Roberts and E.V. Hess. 1989. Immunomodulatory effects of procainamide metabolites: Their implication in drug-related lupus. J. Lab. Clin. Invest. 113:482-492.

McMillan, D.C., Simson, J.V., **Budinsky, R.A**. and Jollow, D.J. 1995 Dapsone-induced hemolytic anemia: Effect of dapson hydroxylamine on sulfhydryl status, membrane skeletal proteins and morphology of human and rat erythrocytes. J. Pharmacol Exp Ther 274: 540-547

Grossman, S., **R. Budinsky,** and D. Jollow. 1995. Dapsone-induced hemolytic anemia: Role of glucose-6-phosphate dehydrogenase in the hemolytic response of rat erythrocytes to N-hydroxydapsone. J. Pharmacol. Exp. Ther. 273(2):870-877.

Budinsky, R., R. DeMott, M. Wernke, and J. Schell. 1999. An evaluation of modeled benzene exposure and dose estimates published in the Chinese-national cancer institute collaborative epidemiology studies. Reg. Tox. Pharm. (30)244-258.

Schell, J.D., **R.A. Budinsky** and M.J. Wernke 2001 PCBs and neurodevelopmental effects in Michigan children: An evaluation of exposure and dose characterization. Reg. Tox. Pharmacol. 33: 300-312

Bolchoz, L.J., **R.A. Budinsky**, D.C. McMillan and D.J. Jollow 2001 Primaquine-induced hemolytic anemia: formation and hemotoxicity of the arylhydoxylamine metabolite 6-methoxy-9-hydroxylaminoquinoline. J. Pharmacol Exp. Ther. 297: 509-515

Ruby, M.V., S.W. Casteel, T.J. Evans, K.A. Fehling, D.J. Paustenbach, **R.A. Budinsky**, J.P. Giesy, L.L. Aylward and B.D. Landenberger 2004. Rapid Communication: Background Concentrations of Dioxins, Furans, and PCBs in Sprague-Dawley Rats and Juvenile Swine. 67(11):845 - 850.

Collins JJ, **Budinsky RA,** Burns CJ, Lamparski LL, Carson ML, Martin GD, Wilken M. Serum Dioxin Levels in Former Chlorophenol Workers. Journal of Exposure Analysis and Environmental Epidemiology 2006;16: 76–84.

Charles, G.D., P.J. Spencer, M.R. Schisler, M. Cifone, **R.A. Budinsky** and B.B. Gollapudi 2005 Mode of mutagenic action for the biocide Bioban CS-1246 in mouse lymphoma cells and implication for its in vivo mutagenic potential. Tox. Sci. 84 (1): 73-80

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Budinsky R., P. J., Sriram S., Aylward L., and Johnson K. (2018b). **In Utero TCDD or TCDF Effects on Pituitary and Testicular Steroidogenic Pathways**. Paper presented at the Presented Poster at the 57th Annual Meeting and ToxExpo of the Society of Toxicology (SOT), San Antonio, TX, March 11-15, 2018.

Hollnagel, H. M., Mehta, J., Budinsky, R., & Vallotton, N. (2018). Opportunities and pitfalls in risk assessment of coexposures. Toxicol Lett, 295, S3-S3. doi: 10.1016/j.toxlet.2018.06.013

Wikoff D., G. P., Haws L., and **Budinsky R.** (2018). **Application of Quantitative Approaches to Assess Uncertainties in the Development of Toxicity Values: A Case Study Involving the Reference Dose (RfD) for 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD)**. Paper presented at the Presented Poster at the 57th Annual Meeting and ToxExpo of the Society of Toxicology (SOT), San Antonio, TX, March 11-15, 2018.

PRESENTATIONS/ MEETINGS/WORKSHOPS

A Practical Indoor Environmental Quality (IEQ) Symposium - June 1998, Presentation on Risk Assessment and Multiple Chemical Sensitivity (MCS) given to Public Health and Safety Officials in Pensacola Florida, as part of seminar provided by the Florida Department of Labor and Employment Security.

University of South Florida - February 1998 and 1999, Lectures on the toxicology of solvents for Public Health students in the Occupational Health and Risk Assessment, College of Public Health at the University of South Florida.

Florida Chapter of the AIHA - April 1999, Lecture on the causation methodology employed in toxic tort litigations to be provided as part of a continuing education seminar for industrial hygienists in the State of Florida.

Florida Department of Health, Selection Committee Member in the ITN process for the Office of Tobacco Control, State of Florida.

Michigan Society or Medical Research Spring 2000 Meeting, Presentation on Junk Science in the courtroom

2002 Fall SOLEC (State of the Lakes Ecosystem Conference), Cleveland Ohio

European Food safety Authority Scientific Colloquium. Dioxins, Methodologies and principles for setting tolerable intake levels for dioxins, furans and dioxin-like PCBs. June 28-29th, Brussels, Belgium, 2004

Budinsky, R.A. and Aylward, L.A. NAS to review EPA's proposed risk assessment of dioxins. Society of Toxicology's Regulatory and Safety Evaluation Specialty Section - Newsletter Winter 2004

2008 Winter ToxForum Meeting. Presentation of the dioxin case study in Session V: A human relevance framework for cancer risk assessment: A case study with dioxins and PCBs based on mode of action (Chaired by Bette Meek of the University of Ottawa's McLaughlin Center).

Budinsky, R., and Rowlands, C., Mode of Action of Carcinogenesis by Dioxin-Like Compounds. *2009 EPA Dioxin Workshop*, Cincinnati, OH February 18-20, 2009.

SYSTEQ Annual Meeting – Midterm Review, 6-8 April 2011. Utrecht, Netherlands

2010 Nuclear Receptor/Mode-of-Action Workshop at NIEHS (Oct 27th-29th) [Steering Committee Member and Co-Chair of the AHR Expert Panel]

Simon, TS., Stephens, M., Manning, R.O., **Budinsky, R.A** and Rowlands, J.C. Application of National Research Council Silverbook methodology for dose-response assessment of 2,3,7,8-Tetrachlorodibenzo(p)dioxin. Alliance for Risk Assessment Workshop, 2012

Budinsky, R., Becker, R., Simon, T. and Patlewicz, G. Adverse outcome pathway (AOP) for AHR-mediated rodent liver tumor promotion. OECD Adverse Outcome Pathway Expert Advisory Group Meeting May 14-15, 2013 Paris

Rowlands J and **Budinsky R**. The adverse outcome pathway for hepatic toxicity and tumorigenesis in rodents initiated by activation of the aryl hydrocarbon receptor by dioxin-like chemicals. Toxicologist 2014

Budinsky RA The adverse outcome pathway for hepatic toxicity and tumorigenesis in rodents by sustained activation of the aryl hydrocarbon receptor. December 2014 Society of Risk Analysis Meeting Denver, Colorado.

Robert Budinsky, Ph.D.

Affiliation: Science Leader, The Dow Chemical Company, Midland, Michigan

Expertise: Human health toxicology and pharmacology research and the application of toxicological and exposure data for hazard evaluation and risk evaluations in the workplace, consumer products and the environment.

Education: Ph.D. Biopharmaceutics/Pharmacokinetics, The University of Cincinnati. BS Pharmacy, The University of Cincinnati.

Experience Summary: Robert Budinsky is a Science Leader in Dow's Toxicology, Environmental Research and Consulting group. He has 30 years of experience conducting research and applying toxicological information for evaluating the safe use of industrial products and biocides. He currently leads Dow's global Chemicals and Health issues teams responsible for regulatory initiatives in the United States, Europe, Asia-Pacific and Latin America, including working with U.S. EPA's TSCA program, satisfying EU REACH requirements, participating in EFSA risk assessments and interacting with Health Canada. As a member of Dow's Industrial Hygiene Guideline team he is responsible for setting occupational exposure limits for protecting worker health and safety. He has served as a toxicology consultant to numerous Dow businesses engaged in the production of biocides, glycol ethers, vinyl acetate, 1,3-butadiene, bisphenol A and epoxy materials, for example. His expertise includes chemically induced carcinogenesis, endocrine disruption, respiratory sensitization, mixtures risk assessment, the transition into 21st century toxicology methods, and environmental clean-up and remediation. He participates in various scientific organizations such as the Society of Toxicology, the OECD's Adverse Outcome Pathway program and the American Chemistry Council's Risk Assessment and the Advancing Risk Assessment Science Policy Work Groups. His past and ongoing research activities involve studies of species sensitivities differences regarding dioxin and dioxin-like toxicity, toxic equivalency factors, and mode-of-action, as well as mode-of-action research for other chemically-induced cancers. He has been directly involved with two of the first 10 TSCA risk evaluations and is familiar with the TSCA prioritization and risk evaluation steps, including the important conduct of the EPA's Science Advisory Committee on Chemicals.

EPA Panel Experience: None

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Dr. Katherine von Stackelberg is a Principal at NEK Associates LTD, a small firm incorporated in Massachusetts specialized in developing risk-based modeling tools to support sustainable environmental decision-making. She is also a Research Scientist in the Department of Environmental Health and is a research affiliate at the Harvard Center for Risk Analysis (HCRA) at the Harvard Chan School of Public Health. She is also co-leader of the Biogeochemistry of Global Contaminants Group (BGC) at Harvard University. Dr. von Stackelberg has 30 years of experience designing and implementing human health and ecological risk assessments, focused on integrated, risk-based modeling approaches to support sustainable environmental decision making. She has published on ecological resilience, the use of uncertainty analysis in decision making, bioaccumulation modeling, and use of decision analytic approaches to integrate ecosystem services and risk assessment for more effective decision making. Dr. von Stackelberg is the Area Editor for Ecological Risk Assessment for the journal *Risk Analysis* and serves on the editorial boards of *Human and Ecological Risk Assessment* and *Risk Analysis*, and is a frequent peer reviewer for several additional journals. Dr. von Stackelberg served on the Board of Scientific Counselors at the U.S. EPA for six years and was Chair for the last three. She led the effort to explore the use of decision analytic tools and methods to support environmental decision making within the U.S. EPA Office of Research and Development. She is a member of the Scientific Advisors on Risk Assessment for the European Commission in Brussels, has served as Treasurer for the Society for Risk Analysis, and currently serves on the Board of Directors and Treasurer for the Society for Environmental Toxicology and Chemistry (SETAC). She is a frequent peer reviewer for the US EPA (e.g., ecosystem services documents, STAR grant program), and recently completed service on an NAS Committee on Interventions to Increase the Resilience of Coral Reefs. Dr. von Stackelberg received an A.B. *cum laude* from Harvard College, and a Sc.M. and Sc.D. from the Harvard School of Public Health in Environmental Science and Risk Management.

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bgc.seas.harvard.edu

MAJOR INTERESTS AND RESEARCH AREAS

Human health and ecological risk assessment, risk-based decision-making, bioaccumulation modeling, spatially-explicit modeling, decision analysis tools and models, ecosystem services, integrated modeling approaches to support sustainability, uncertainty analysis and probabilistic methods, systematic reviews, adverse outcome pathways, risk communication, research translation

PROFESSIONAL EXPERIENCE

2006-present	Research Scientist, Harvard Center for Risk Analysis, Harvard T.H. Chan School of Public Health
2015-2019	Research Scientist at the Center for Climate, Health and the Global Environment (C-CHANGE) at the Harvard T.H. Chan School of Public Health
2014-present	Co-Leader of the Biogeochemistry of Global Contaminants Group at Harvard University
2013-present	Co-Owner of Echodale Farm LLC – permaculture cider apple orchard
2006-present	Principal and Owner, NEK Associates LTD (DBA "E Risk Sciences" from 2009-2013)
2006-2014	Research Scientist and Co-Leader of the Research Translation Core for the Superfund Research Program, Harvard Center for Risk Analysis, Harvard T.H. Chan School of Public Health
2003-2006	Research Associate, Harvard Center for Risk Analysis, Harvard School of Public Health
1993-2006	Team Leader for the Quantitative Modeling Group, Menzie-Cura & Associates, Inc. (MCA)
1988-1993	Freelance Environmental Scientist (Alceon Corporation; Alanova, Inc.; Environmental Health Associates)
1986-1988	Technical Reference Librarian, Gradient Corporation

EDUCATION

2006	**Sc.D., Harvard School of Public Health, Boston, MA** Environmental Science and Risk Management. Dissertation Title: *Contingent Valuation for Ecological and Noncancer Effects within an Integrated Human Health and Ecological Risk Framework.*
1998	**Sc.M., Harvard School of Public Health, Boston, MA** Environmental Health and Health Policy and Management
1988	**A.B., Harvard College, Cambridge, MA** General Studies (*cum laude*)

OTHER

Fluent in English and German

TEACHING

2018-present	Instructor ENVR – 178. "Socio-ecological Systems and Sustainability," Harvard Extension School
2015-2019	Guest Instructor, Water Environment (EH-257); Graduate Course, Department of Environmental Health, Harvard T.H. Chan School of Public Health
2010-2019	Guest Instructor, Risk Assessment (RDS-500); Graduate Course, Department of Environmental Health, Harvard School of Public Health
2012	"Use of Spatially-Explicit Models in Risk Assessment" Sponsored by the Department of Defense, Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP), Falls Church, VA.
2010-2012	Faculty, Analyzing Risk: Science, Assessment, and Management; Center for Continuing Professional Education, Harvard School of Public Health,
2003	Instructor, "Probabilistic Methods in Ecological Risk Assessment," Society for Environmental Toxicology and Chemistry, June 2003. Lambertville, NJ.
2000	Instructor, "The Use of Bayesian Techniques in Ecological Risk Assessment," Society for Environmental Toxicology and Chemistry, March 2000, Boston, MA.
1996-1999	Teaching Assistant, Department of Health Policy and Management, Harvard School of Public Health, 1) Regulatory Toxicology (graduate)
1996-1997	Teaching Assistant, Department of Environmental Health, Harvard School of Public Health, 1) Case Studies in Exposure Assessment (graduate)

PEER REVIEW ACTIVITIES

2020	Review for 2020 STAR Grant program (EPA-G20-ORD-B1) National Priorities: Research on PFAS Impacts in Rural Communities and Agricultural Operations
2019	Reviewer for 2019 STAR Grant program (EPA-G2019-STAR-E1) Contaminated Sites, Natural Disasters, Changing Environmental Conditions, and Vulnerable Communities: Research to Build Resilience
2019	Reviewer for the US EPA draft *CADLink User Guide*
2019	Reviewer for the European Commission Horizon 2020 grant program
2019	Technical Lead and Rapporteur, Coordinating and Advancing Human Biomonitoring in Europe to Provide Evidence for Chemical Policy Making (HBM4EU) on behalf of the European Commission (https://www.hbm4eu.eu/)
2018	Committee member, National Academy of Sciences Committee on Interventions to Increase the Resilience of Coral Reefs (http://dels.nas.edu/Study-In-Progress/Interventions-Increase-Resilience/DELS-OSB-17-01)
2017	Reviewer for US EPA Science to Achieve Results (STAR) grant program related to "Total Environment"
2015	Reviewer for US EPA EcoService Models Library (ESML) online database of ecosystem service models
2015	Reviewer for the US Department of Agriculture, Agriculture and Food Research Initiative Competitive Grant Program, Water for Agriculture Challenge Area
2015	Reviewer for US EPA reports related to ecosystem services, including *Ecosystem Services as Assessment Endpoints in Ecological Risk Assessment* and *Generic Ecological Assessment Endpoints*

	(GEAEs) For Ecological Risk Assessment: Second Edition With Generic Ecosystem Services Endpoints Added
2015	Invited expert to review an Industrial Research Chair (IRC) in Risk Science renewal application on behalf of the Natural Sciences and Engineering Research Council of Canada
2014	Reviewer for an assessment of Puget Sound management alternatives
2014	Reviewer for *A Framework to Guide Selection of Chemical Alternatives* for the National Research Council's Board on Chemical Sciences and Toxicology
2014	US EPA STAR grant Human Health and Ecological Risks Associated with Water Reuse peer review panel
2013	US EPA Pathfinder Innovation Projects peer review panel

PROFESSIONAL ACTIVITIES

2017	Society for Risk Analysis Fellow
2017-present	Treasurer, Society for Environmental Toxicology and Chemistry
2014-present	Board of Directors for the Society for Environmental Toxicology and Chemistry
2014-present	Area Editor for Ecological Risk Assessment for *Risk Analysis*
2012-present	Steering Committee of the Ecosystem Services Advisory Group, Society for Environmental Toxicology and Chemistry
2012-2016	Treasurer, Society for Risk Analysis
2012-2015	Chair, Board of Scientific Counselors, US EPA
2008-2012	Board of Scientific Counselors, US EPA, Member
2012-2015	Chair, Global Science Committee, Society for Environmental Toxicology and Chemistry,
2011	Scientific Committee for the Society for Environmental Toxicology and Chemistry Annual Meeting Program Committee
2010-2011	Chair, North America Science Committee, Society for Environmental Toxicology and Chemistry
2009-present	Editorial Board, *Human and Ecological Risk Assessment*
2008-present	Editorial Board, *Risk Analysis*
2008-present	Member of Scientific Advisors on Risk Assessment for the European Commission, Brussels
2008-present	Member of the Program Development Team for the US Army Corps of Engineers Coastal and Estuarine System sustainability (SUSTAIN) research and development program
2007-2008	Chair, Ecological Risk Assessment Specialty Group, Society for Risk Analysis
2005-present	Member, Association for Environmental and Resource Economists
2005-present	Member, Ecological Society of America
2005-present	Member, International Society for Ecological Economics
2005-present	Member, International Society for Ecological Modeling
1998	Student Travel Award, Society for Risk Analysis
1996-1998	Gund Fellow, Department of Health Policy and Management Scholarship, Harvard School of Public Health
1993-present	Member, Society for Environmental Toxicology and Chemistry
1993-present	Member, Society for Risk Analysis
1987-1988	Elizabeth Cary Agassiz Award for academic merit, Harvard College
1985-1988	Harvard College Scholarship for academic excellence

PUBLICATIONS

JOURNALS

In Process

von Stackelberg K, Landis WR, Chu VR, Mitchell CJ, Stark JD. 2019. Systems thinking for the management of ecological risks. Draft manuscript for submission to PNAS.

Landis WG, Chu VR, Graham SE, Harris ME, Stark JD, Mitchell CJ, von Stackelberg K. 2019. Molecular to landscape, a framework for the integration of adverse outcome pathways into a regional scale multiple stressor risk assessment with a case study. Submitted to *Environmental Science & Technology*

Mitchell CJ, Chu VR, Graham SE, Harris MJ, Landis WG, von Stackelberg K, Stark JD. 2019. Metapopulations as the endpoint of a Bayesian Network-Relative Risk Model: Assessing risk to Chinook salmon in an agricultural basin. Draft manuscript for submission to *Risk Analysis*

von Stackelberg K., Landis W.R., Stark J.D. 2019. What decision does the adverse outcome pathway inform? Draft manuscript for submission to *Environmental Science & Technology*

Completed

Landis WG, Chu VR, Graham SE, Harris MJ, Markiewicz AJ, Mitchell CJ, **von Stackelberg KE**, Stark JD. 2020. Integration of chlorpyrifos acetylcholinesterase inhibition, water temperature, and dissolved oxygen concentration into a regional scale multiple stressor risk assessment estimating risk to chinook salmon. *Integrated Environmental Assessment and Management*, 16(1):28-42. doi.org/10.1002/ieam.4199.

von Stackelberg K. 2018. Ecosystem resilience on human terms. *Integrated Environmental Assessment and Management*, doi.org/10.1002/ieam.4073, https://setac.onlinelibrary.wiley.com/doi/abs/10.1002/ieam.4073?af=R.

von Stackelberg K, Li M and EM Sunderland. 2017. Results of a national survey of high-frequency fish consumers in the United States. *Environmental Research*, DOI : 10.1016/j.envres.2017.05.042.

von Stackelberg K, Williams MA, Clough J and MS Johnson. 2017. Spatially explicit bioaccumulation modeling in aquatic environments: Results from 2 demonstration sites. *Integrated Environmental Assessment and Management,* DOI: 10.1002/ieam.1927. http://onlinelibrary.wiley.com/wol1/doi/10.1002/ieam.1927/full. Received Exceptional Paper Award from SETAC in 2017 https://setac.onlinelibrary.wiley.com/doi/10.1002/ieam.4058.

Munns WR, Poulsen V, Gala WR, Marshall SJ, Rea AW, Sorensen MT and **K von Stackelberg**. 2016. Ecosystem services in risk assessment and management. *Integrated Environmental Assessment and Management*, 13(1):62-73. DOI : 10.1002/ieam.1835.

Li M, **von Stackelberg K**, Rheinberger C, Hammit J, Krabbenhoft D, Yin R, and E Sunderland. 2016. Insights from mercury stable isotopes into factors affecting the internal body burden of methylmercury in frequent fish consumers. *Elementa*, DOI 10.12952/journal.elementa.000103.

von Stackelberg K, Guzy E, Chu T and Claus Henn B. 2015. Exposure to mixtures of metals and neurodevelopmental outcomes: a multidisciplinary review using an adverse outcome pathway framework. *Risk Analysis*, 35(6):971-1016, DOI: 10.1111/risa.12425.

von Stackelberg K, Buonocore J, Bhave PV and Schwartz J. 2013. Public health impacts of secondary particulate formation from aromatic hydrocarbons in gasoline. *Environmental Health*, http://www.ehjournal.net/content/12/1/19/abstract, doi:10.1186/1476-069X-12-19.

von Stackelberg K. 2013. Decision analytic strategies for integrating ecosystem services and risk assessment. *Integrated Environmental Assessment and Management*, 9(2):260-268, http://onlinelibrary.wiley.com/doi/10.1002/ieam.1393/abstract.

von Stackelberg K. 2013. Review Article. A systematic review of carcinogenic outcomes and associated mechanisms from exposure to concentrations of 2,4-D and MCPA in the environment. *Journal of Toxicology*, http://www.hindawi.com/journals/jt/aip/371610/.

Levy J, Buonocore J and **K von Stackelberg**. 2010. Evaluation of the public health impacts of traffic congestion. *Environmental Health* 9:65-doi:10.1186/1476-069X-9-65, http://www.ehjournal.net/content/9/1/65.

von Stackelberg K and J Hammitt. 2009. Use of contingent valuation to elicit willingness-to-pay for the benefits of developmental health risk reductions. *Environmental and Resource Economics* 43(1):45-61: DOI:10.1007/s10640-009-9267-7.

von Stackelberg K, Vorhees D, Moore D, Cura J and TS Bridges. 2008. Evaluation of sources of uncertainty in risk assessments conducted for the US Army using a case study approach. *Integrated Assessment and Environmental Management* 4(1):41-60.

von Stackelberg K, M Nelson, B Southworth and T Bridges. 2007. An evaluation of risk drivers from a sample of risk assessments conducted for the US Army. *Human and Ecological Risk Assessment* 13(5):1053-1077, DOI:10.1080/10807030701506330.

von Stackelberg K, WT Wickwire and D Burmistrov. 2005. "Spatially-explicit exposure modeling tools for use in human health and ecological risk assessment: SEEM and FISHRAND-Migration" in Environmental Exposure and Health, M.M. Aral, C.A. Brebbia, M.L. Maslia and T. Sinks, Eds., United Kingdom: WIT Press, pp. 279-288.

Goyal A, Small M, **von Stackelberg K**, Burmistrov D, and Jones N. 2005. Estimation of fugitive lead emission rates from secondary lead facilities using hierarchical Bayesian models. *Environmental Science and Technology* 39(13):4929-4937.

von Stackelberg K and C Menzie. 2002. A cautionary note on the use of species presence and absence data in deriving sediment quality criteria. *Environmental Toxicology and Chemistry* 21(2):466-472. http://onlinelibrary.wiley.com/doi/10.1002/etc.5620210233/abstract

von Stackelberg K, D Burmistrov, DJ Vorhees, TS Bridges and I Linkov. 2002. Importance of uncertainty and variability to predicted risks from trophic transfer of PCBs in dredged sediments. *Risk Analysis* 22(3):499-512, DOI: 10.1111/0272-4332.00033.

von Stackelberg K, D Burmistrov, I Linkov, J Cura and TS Bridges. 2002. The use of spatial modeling in an aquatic food web to estimate exposure and risk. *Science of the Total Environment* 288(1-2):97-110.

Vorhees DJ, SB Kane Driscoll, **K von Stackelberg**, JJ Cura and TS Bridges. 2002. An evaluation of sources of uncertainty in a dredged material assessment. *Human and Ecological Risk Assessment* 8(2):369-389.

Linkov I, **K von Stackelberg**, D Burmistrov and TS Bridges. 2001. Uncertainty and variability in risk from trophic transfer of contaminants in dredged sediments. *Science of the Total Environment* 274:255-269.

von Stackelberg K, CA Menzie and JJ Cura. 1995. Risk Assessment: Helping to Focus Risk Management Objectives for MGP Sites. Land Contamination & Reclamation 3(4):24 29. Presented at the International Symposium and Trade Fair on the Clean up of Manufactured Gas Plants, September 19 21, Prague, Czech Republic.

von Stackelberg K. 1994. A discussion on the use of probabilistic risk assessment in human health impact assessment. *Environmental Impact and Assessment Review Journal* 14:385-401.

von Stackelberg K and T Russo. 1994. Sustainable development: assessing impacts of power projects. *Independent Energy* 24(1):51-55.

von Stackelberg K and D Burmaster. 1993. Compounding conservatism: a discussion of US EPA methodology for conducting public health risk assessments. *HazMat World* 6(3):46-47.

Burmaster DE and **K von Stackelberg**. 1992. A discussion of the US EPA methodology for determining water quality standards (WQS). *Quality Assurance, Good Practice, Regulation and Law* 1(3):192-206.

Burmaster DE and **K von Stackelberg**. 1991. Using Monte Carlo simulations in public health risk assessment: estimating and presenting full distributions of risk. *J Exposure Anal Environ Epidemiol* 1(4):491-512.

von Stackelberg K and M Thompson. 1990. Less than the sum of the parts (reductions in the values of fractional ownership interest): considerations for estate planners. *Financial Planning.*

Book Chapters

von Stackelberg K. 2019. Overview of PCBs. In Encyclopedia of Environmental Health, J. Nriagu, Ed. London, England: Elsevier.

von Stackelberg K. 2013. Uncertainty Analysis. In Encyclopedia of Toxicology. London, England: Elsevier.

von Stackelberg K. 2011. Energy systems and health: Power generation. In Encyclopedia of Environmental Health, J. Nriagu, Ed. London, England: Elsevier. Updated July 2013. http://www.sciencedirect.com/science/article/pii/B9780444522726001860

von Stackelberg K. 2011. Overview of PCBs. In Encyclopedia of Environmental Health, J. Nriagu, Ed. London, England: Elsevier. http://www.sciencedirect.com/science/article/pii/B9780444522726005808

Sunderland ES, Knightes CD, **von Stackelberg K** and NA Stiber. 2010. Environmental fate and bioaccumulation modeling at the U.S. Environmental Protection Agency: Applications to inform decision making. In Modelling of Pollutants in Complex Environmental Systems Volume II. United Kingdom: ILM Publications.

Johnson MS, Korcz M, **K von Stackelberg** and B. Hope. 2009. Spatial analytical techniques for risk based decision support systems. In Decision Support Systems for Risk Based Management of Contaminated Sites. Marcomini, A., Suter, G.W. and A. Critto, Eds. Springer-Verlag.

Menzie CA, Booth P, Law S and **K von Stackelberg**. 2009. Use of decision support systems to address contaminated coastal sediments: Experience in the United States. In Decision Support Systems for Risk Based Management of Contaminated Sites. Marcomini, A., Suter, G.W. and A. Critto, Eds. Springer-Verlag.

von Stackelberg K, S Luoma, R McCormick, K Scrabis, E Dorward-King and S Polasky. 2007. "Complexity in Ecological Systems", chapter in Valuation of Ecological Resources: Integration of Ecological Risk Assessment and Socio-economics to Support Environmental Decisions. Stahl, R.G., Kapustka, L., Munns, W. and Bruins, R. (Eds). Pensacola, FL: SETAC Press, pp. 97-128.

von Stackelberg K. 2001. Predicting human health and ecological risks from PCB-contaminated sediments: lessons learned. In: Management of Contaminated Sediments. A. Porta, R.E. Hinchee and M. Pellei, Eds. Battelle International Conference on Remediation of Contaminated Sediments.

Linkov I, and **K von Stackelberg**. 1999. Pilot elicitation of expert judgments on model parameters and research needs in forest radioecology. Pp. 409-417 In Contaminated Forests, Eds. I Linkov and W.R. Schell., Netherlands: Kluwer Academic Publishers.

Invited Talks

U.S. National Academies of Sciences, Engineering, and Medicine, Board of Environmental Science and Toxicology, invited presentation on emerging topics and issues in environmental toxicology, 2018

U.S. National Academies of Sciences, Engineering, and Medicine Committee on the Potential for Biotechnology to Address Forest Health; invited presentation on risk and decision frameworks, 2018

Sagan National Colloquium at Ohio Wesleyan University on the theme of Global Health Challenges for the 21st Century. https://www.owu.edu/about/offices-services/academic-affairs/programs/sagan-national-colloquium/2017-2018-sagan-national-colloquium/

Invited workgroup leader (bioaccumulation models) at the SERDP/ESTCP Workshop on Research and Development Needs for Long-Term Management of Contaminated Sediments, August 2016. https://www.serdp-estcp.org/content/download/40681/389287/version/7/file/2016+Sediment+Workshop+Summary+Report.pdf

Invited speaker to the National Oceanographic and Atmospheric Administration Science Advisory Board on strategic research directions, http://sab.noaa.gov/SABMeetings.aspx, April 2016.

Invited speaker to a US EPA workshop on Advancing Systematic Review http://www.epa.gov/iris/advancing-systematic-review-workshop-december-2015, Topic: *The Adverse Outcome Pathway as Integrating Framework for Systematic Reviews*, December 2015.

Invited to present a webinar on *Key Principles and Considerations for Risk Assessment of Gene Drive Research and Applications* to a National Academy of Sciences panel on Gene Drive Research in Non-Human Organisms: Recommendations for Responsible Conduct, http://nas-sites.org/gene-drives/tag/webinar/, November 5, 2015.

Invited speaker to the Workshop on Advancing the Discipline of Regulatory Science for Medical Product Development: An Update on Progress and a Forward-Looking Agenda for the Institute of Medicine, October 2015. Topic: *Value of Information to Support Regulatory Analyses for Decision Making under Uncertainty*, http://iom.nationalacademies.org/Activities/Research/DrugForum/2015-OCT-20.aspx.

Invited participant at a SETAC Pellston workshop on Ecosystem Services, September 2014.

Invited participant at the Nimbios Investigative Workshop on Predictive Models for Ecological Risk Assessment, April 2014. http://www.nimbios.org/workshops/WS_era.html

Methods for Research Synthesis: A Cross-Disciplinary Approach, October, 2013. http://www.hsph.harvard.edu/hcra/research-synthesis-project/

Building for Better Decisions: Multi-Scale Integration of Human Health and Environmental Data, May, 2012. https://www.toxicology.org/ai/meet/cct_b4bd.asp

PLANET Health Symposium, 2011.

Invited speaker for the Ray Falconer Natural History Lecture Series at the Atmospheric Sciences Research Center at the State University of New York in Albany, NY. (http://www.asrc.albany.edu/events/falconer.html), April, 2010.

Invited panelist for What's in Your Toolbox? Best Practices in Research and Development Prioritization, Management, and Evaluation: A Science of Science Policy Workshop. http://epa.gov/ord/researchbestpracticesworkshop/index.htm, October, 2009.

Invited panelist for panel on "Sustainable Decision Making for Contaminated Sediments" at the Fifth International Conference on Remediation of Contaminated Sediments hosted by Battelle, Jacksonville, FL, January 2009.

Invited participant and presenter for the Strategic Environmental Research and Development Program (SERDP) workshop on Research and Development Needs for Understanding and Assessing the Bioavailability of Contaminants in Soils and Sediments, August, 2008.

Invited to develop and lead panel discussion on "Model Uncertainty and Decision-Making" for the Fourth International Conference on Remediation of Contaminated Sediments hosted by Battelle, Savannah, GA, January, 2007.

K von Stackelberg and J Hammitt. 2006. Contingent valuation surveys to monetize the benefits of risk reductions across ecological and developmental endpoints. Valuation for Environmental Policy: Ecological Benefits. A workshop sponsored by US EPA National Center for Environmental Research and National Center for Environmental Economics http://yosemite.epa.gov/ee/epa/eerm.nsf/vwRepNumLookup/EE-0505?OpenDocument

Invited to participate in a debate with Dr. Wayne Landis, Western Washington University, at the Society for Environmental Toxicology and Chemistry Annual Meeting, November 2006, for the session "Making Decisions in the Face of Uncertainty," Debate 1 – The Fiddly Details of Uncertainty – Mathematics, Statistics, Hypotheses. Milwaukee, WI (www.setac.org).

K von Stackelberg and J Hammitt. "Use of Stated Preference Methods to Value the Benefits of Ecological Risk Reductions: A Case Study of Exposure to Polychlorinated Biphenyls." Invited paper at the Association of Environmental and Resource Economists 2005 Workshop: Natural Resources at Risk, June 12-14, Wyoming (www.aere.org). 2005.

Invited speaker at the USEPA Office of Solid Waste and Emergency Response and Office of Superfund Remediation and Technology Innovation "Sediment Risk Assessment Meeting" on the use of bioaccumulation models, Dallas, TX, 2004.

K von Stackelberg and J Hammitt. 2004. Contingent Valuation for Ecological and Noncancer Effects Within an Integrated Human Health and Ecological Risk Assessment Model. Workshop on Valuation of Ecological Benefits: Improving the Science Behind Policy Decisions, US EPA National Center for Environmental Research and National Center for Environmental Economics.
http://yosemite.epa.gov/ee/epa/eerm.nsf/vwSER/96291273F5DF6C2085256F9B00733175?OpenDocument

Invited participant to Society for Environmental Toxicology and Chemistry Pellston Conference on Valuation of Ecological Resources, Pensacola, FL, 2003.

K von Stackelberg and T.S. Bridges. 2003. Tiered Approaches in Human Health and Ecological Risk Assessment. Invited presentation at the Environmental Stability of Chemicals in Sediments Conference, April 7-10, 2003, San Diego, CA.

K von Stackelberg. 2002. Update on Development of *TrophicTrace* Tiered Risk Model and Software Demonstration. Corps of Engineers/EPA Sediment Specialists/Dredged Material Managers Meeting. February 25-28, 2002. San Francisco, CA.

K von Stackelberg. 2001. Presentation on Development of the *TrophicTrace* Tiered Risk Assessment Tool. Corps/EPA Bioaccumulation Workshop. February 20-22, 2001. New Orleans, LA.

Invited speaker at the 2001 North Atlantic Society for Environmental Toxicology and Chemistry conference, April 26-28, Plymouth, MA. "A tiered risk assessment method for interpreting sediment chemistry and bioaccumulation test results."

Invited speaker at the "2000 Conference on Topics in Toxicology and Risk Assessment: Approaches for the 21st Century" in the "New Approaches for Integrating Information in Ecological Risk Assessment" session. Topic: Uncertainty and Variability in Contaminated Sediment Management: Importance of Trophic Transfer", Dayton, OH, April 2000.

OTHER TECHNICAL REPORTS

von Stackelberg K and Gschwend P. 2019. Linked passive sampling and food web modeling for Apra Harbor, Guam. Prepared for Naval Facilities Engineering Command (NAVFAC)

National Academy of Sciences Committee on Interventions to Increase the Resilience of Coral Reefs. 2018. Interim Report on A Research Review of Interventions to Increase the Persistence and Resilience of Coral Reefs. http://dels.nas.edu/Study-In-Progress/Interventions-Increase-Resilience/DELS-OSB-17-01

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von Stackelberg K, Williams MA and Johnson MS. "The FishRand Spatially Explicit Bioaccumulation Model," Prepared for the Department of Defense, Environmental Security Technology Certification Program. Project ER-0917.

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von Stackelberg K and K Gustavson. 2011. Bioaccumulation Modeling and Screening Ecological Risk Assessment for 18-Mile Creek. Prepared for US Army Corps of Engineers, Buffalo District.

von Stackelberg K. 2010. Proceedings of the US EPA Board of Scientific Counselors Decision Analysis: Supporting Environmental Decision Makers Workshop held in Cincinnati, OH, March 30 – April 1, 2009. http://www.epa.gov/osp/bosc/pdf/deci1005proc.pdf

E Risk Sciences, LLP. Systematic Review of Burden-of-Illness Studies for Canada. Prepared for the National Collaborating Centre for Environmental Health, Vancouver, BC, Canada. (peer reviewed). 2010. http://www.ncceh.ca/sites/default/files/Env_Burden_Disease_Oct_2010.pdf

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E Risk Sciences, LLP. Systematic Review of Education Programs and Intervention Strategies in Canada Related to Residential Use of Wood-Burning Appliances. Prepared for the National Collaborating Centre for Environmental Health, Vancouver, BC, Canada. (peer reviewed). 2009. http://www.ccnse.ca/sites/default/files/Wood-burning_Appliances_Dec2009.pdf

von Stackelberg K and Y Nishioka. ElecScreen v.1.0: A screening-level spreadsheet tool for evaluating health impacts associated with alternate scenarios of technology implementation in the electricity sector. Prepared for US EPA, Clean Air Markets Division, 2008.

von Stackelberg K, Connolly JP, Hayter E, Dekker T. In Model Uncertainty and Decision-Making (Panel Discussion), Conference Proceedings for the Remediation of Contaminated Sediments-2007, Savannah, Georgia, 2007; Columbus (OH): Battelle Press: Savannah, Georgia, 2007.

von Stackelberg K, CB Amos, C Butler, T Smith, J Famely, M McArdle, B Southworth and J Steevens. 2006. Screening Level Ecological Risk Assessments of Some Military Munitions and Obscurant-related Compounds for Selected Threatened and Endangered Species. Prepared for the US Army Corps of Engineers, Construction Engineering Research Laboratory, ERDC/CERL TR-06-11. Available from: http://www.cecer.army.mil/td/tips/pub/details.cfm?PUBID=6185&TOP=1

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Eschenroeder A and **K von Stackelberg**. 1993. Chemical health threats in Lincoln Park, Colorado, a seven-volume report quantifying cancer risks from chloroform in drinking water, microenvironmental exposures (including active and passive smoking), and industrial sources. The report presented population risks for residents of a county in Colorado. Prepared for litigation purposes.

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Smog modeling: animated VHS video of a documented smog episode in Los Angeles during 1988. 1992. Used for educational and planning purposes.

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Fog event at a paper mill in Tennessee: animated VHS video of a fog event at a paper mill created by dynamically interpolating between 10-minute key frames generated as output from the INPUFF air quality model. 1992.

Digital product created on a personal computer and downloaded onto videotape. Prepared for litigation purposes. (Story featured on ABC network television production of Day One).

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Eschenroeder A and **K von Stackelberg**. 1988. Responses to questions regarding SCR ammonia threats to public health and safety, at the panel hearing on rules 1134 and 1135 proposed by the South Coast Air Quality Management District, prepared for Southern California Edison Company.

ABSTRACTS AND PRESENTATIONS

von Stackelberg K. 2015. Spatially-Explicit Bioaccumulation Modeling to Support Human Health and Ecological Risk Assessments within a Decision Analytic Framework. 8th International Conference on Remediation and Management of Contaminated Sediments, Battelle, January 12-15, New Orleans, LA.

von Stackelberg K and Apitz S. 2013. Spatially-explicit bioaccumulation modeling to support human health and ecological risk assessments in a decision analytic context. Platform presentation at the 8th International SedNet conference, 6-9 November 2013, Lisbon, Portugal; Innovative Sediment Management: How to do more with less.

von Stackelberg K, Guzy E and Bellinger D. 2013. Emerging Methods in Environmental Risk Assessment. 29th Annual International Conference on Soils, Sediments, Water and Energy, The Association for Environmental Health & Sciences Foundation, Inc. October 21-24, Amherst, MA.

von Stackelberg K and Clough J. 2013. Spatially-explicit Bioaccumulation Modeling to Support Environmental Risk Assessment. 29th Annual International Conference on Soils, Sediments, Water and Energy, The Association for Environmental Health & Sciences Foundation, Inc. October 21-24, Amherst, MA.

von Stackelberg K. 2013. Spatially-Explicit Bioaccumulation Modeling to Support Risk Assessments. Poster presentation at the 7th International Conference on Remediation of Contaminated Sediments, Battelle, February 4-7, Dallas, TX.

von Stackelberg K. 2012. Decision Analytic Approaches for Integrating Risk Assessment and Ecosystem Services. Presented at: Ecosystem Services: From Policy to Practice. 5th SETAC Europe Special Science Symposium. http://sesss05.setac.eu/programme/presentations/?contentid=565&pr_id=470&last=487

von Stackelberg K. 2012. The FishRand spatially-explicit bioaccumulation model. Platform presentation at the North America SETAC Annual Meeting, November 2012, Long Beach, CA.

von Stackelberg K. 2012. Incorporating fish behavior in bioaccumulation modeling. Invited platform presentation at the North America SETAC Annual Meeting, November 2012, Long Beach, CA.

von Stackelberg K. 2012. Bioaccumulation and Potential Risk from Sediment-Associated Contaminants in Dredged Materials. Platform presentation at Dredging 2012, Dredging in the 21st Century, San Diego, CA.

von Stackelberg K, Johnson M and WT Wickwire. 2012. Spatially-Explicit Exposure and Ecological Risk Modeling Tools: SEEM and FISHRAND. Platform Presentation at the SETAC Europe Annual Meeting, May 2012, Berlin, Germany.

von Stackelberg K and P. Williams. 2010. Evaluating the Environmental Burden of Disease in Canada. Presented at the Society for Risk Analysis Annual Meeting, December 2010, Salt Lake City, UT.

von Stackelberg K. 2010. Spatially-Explicit Bioaccumulation Modeling. Presented at the Society for Environmental Toxicology and Chemistry Annual Meeting, November 2010, Portland, OR.

von Stackelberg K. 2010. Ecosystem Services for Contaminated Sediment Management. Presented at the Sixth International Battelle Conference on the Remediation of Contaminated Sediments, February 2010, New Orleans, LA. (www.battelle.org/conferences/sediments)

von Stackelberg K. 2010. Interpretation of uncertainty analyses across complex, integrated models to effectively support environmental decision-making. Presented at the Environmental Decisions: Risks and

Uncertainties workshop sponsored by the Institute of Environmental Decisions at the Swiss Federal Institute of Technology. Switzerland, April 25 – 29, 2010.

von Stackelberg K, T Thompson and C Patton. 2009. Preliminary Assessment of Risk Drivers at Sediment Sites. Presentation at the SERDP/ESTCP Annual Symposium, Washington DC. December 2009.

von Stackelberg K. 2009. Integrated Uncertainty Analysis to Support Effective Environmental Decision-making. Platform Presentation at the Society for Risk Analysis Annual Meeting, December 2009, Baltimore, MD. (www.sra.org).

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von Stackelberg K. 2009. Quantifying Ecosystem Services for Management of Contaminated Sediments. Platform Presentation at the Fifth International Battelle Conference on the Remediation of Contaminated Sediments, February 2009, Jacksonville, FL. (www.battelle.org/conferences/sediments)

von Stackelberg K, JJ Buonocore, TJ Smith and JI Levy. 2008. Characterization of the economic and public health impacts of traffic congestion. Platform Presentation at the Society for Risk Analysis Annual Meeting, December 2008, Boston, MA. (www.sra.org)

von Stackelberg K, K Gustavson and I Linkov. 2008. How well are we predicting fish tissue concentrations? Platform Presentation at the Society for Risk Analysis Annual Meeting, December 2008, Boston, MA. (www.sra.org)

TS Bridges and **K von Stackelberg**. Using models to support decision-making: Is your model good enough? Platform Presentation at the Society for Risk Analysis Annual Meeting, December 2008, Boston, MA. (www.sra.org)

von Stackelberg K, Y Nishioka and J Levy. 2008. Development of a Screening Level Tool to Evaluate Health Impacts of Electricity Technology Options. Poster Presentation at the Society for Risk Analysis Annual Meeting, December 2008, Boston, MA. (www.sra.org)

von Stackelberg K, B Henry and S Brown. 2008. Development of a Net Environmental Benefits Framework for an Urbanized River. Platform Presentation at the Society for Environmental Toxicology and Chemistry Annual Meeting, Tampa, FL. November 2008. (www.setac.org)

S Law, P Booth, N Gard and **K von Stackelberg**. 2008. Ecological Asset Inventory and Management Tool (EcoAIM): A screening approach for identifying and managing ecological assets. Poster Presentation at the Society for Environmental Toxicology and Chemistry Annual Meeting, Tampa, FL. November 2008. (www.setac.org)

K Gustavson, I Linkov, **K von Stackelberg**, T Bridges and J Steevens. 2008. A Review of the Application of Foodweb Bioaccumulation Models at Superfund Megasites. Platform Presentation at the Society for Environmental Toxicology and Chemistry Annual Meeting, Tampa, FL. November 2008. (www.setac.org)

TS Bridges, **K von Stackelberg**, D Vorhees, C Butler, J Cura, M Greges and M Reiss. 2006. Managing uncertainty to make risk-informed decisions about contaminated sediments. Presented at the Society for Risk Analysis Annual Meeting, Orlando, FL, Dec. 2006 (www.sra.org).

von Stackelberg K and J Hammitt. 2006. Results of a contingent valuation survey to value the benefits of ecological and noncancer risk reductions: a case study of exposure to polychlorinated biphenyls. Platform Presentation at the Society for Risk Analysis Annual Meeting, Orlando, FL, Dec. 2006 (www.sra.org).

von Stackelberg K, M Nelson, J Famely. B Southworth and T. Bridges. 2006. Evaluation of uncertainty and decision-making in selected US Army risk assessments. Poster Presentation at the Society for Risk Analysis Annual Meeting, Orlando, FL, Dec. 2006 (www.sra.org).

von Stackelberg K. What Evidence is there for the Influence of Uncertainty Analysis on Decision-making? Platform Presentation at the Society for Environmental Toxicology and Chemistry Annual Meeting, Montreal, Quebec. November 2006. (www.setac.org)

von Stackelberg K and J Hammitt. 2006. Results of a Contingent Valuation Survey to Value the Benefits of Ecological and Noncancer Risk Reductions: A Case Study of Exposure to Polychlorinated Biphenyls. Poster Presentation at the Society for Environmental Toxicology and Chemistry Annual Meeting, Montreal, Quebec. November 2006. (www.setac.org)

von Stackelberg K and J Hammitt. 2005. Using Stated Preference Methods to Quantify Benefits of Risk Reductions: A Case Study of Exposure to Polychlorinated Biphenyls. Platform Presentation at the Society for Risk Analysis Annual Meeting, Orlando, FL, Dec. 2005 (www.sra.org).

von Stackelberg K. 2004. Risk Management for Threatened and Endangered Species and US Army Installations. Platform Presentation at the Society for Risk Analysis Annual Meeting, Palm Springs, CA, Dec. 2004 (www.sra.org).

von Stackelberg K and J Hammitt. 2004. Contingent Valuation as a Tool to Link Risk Assessment and Economics. Presentation at the Society for Risk Analysis Annual Meeting, Palm Springs, CA, Dec. 2004. (www.sra.org).

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von Stackelberg K, D Burmistrov and T Bridges. 2004. Development of Modeling Tools to Evaluate the Potential for Bioaccumulation. Presented at the World Congress and 25th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR, Nov. 2004. (www.setac.org).

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von Stackelberg K. 2001. Predicting human health and ecological risks from PCB-contaminated sediments: Lessons learned. Published in: Proceedings of the International Conference on Remediation of Contaminated Sediments. Venice, Italy, October 10-12, 2001. Battelle Press, Columbus, OH.

Eschenroeder A and **K von Stackelberg**. 1999. Risk-Based Air Quality Management in Slovakia. Presented at the Air & Waste Management Association's 92nd Annual Meeting, June 20 – 24, 1999, St. Louis, Missouri.

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von Stackelberg K and AQ Eschenroeder. 1998. Development of a relative risk model for regulatory evaluation of air quality guidelines. Platform presentation at Society for Risk Analysis Annual Meeting. December 1998. Recipient of Student Award.

Eschenroeder A, **K von Stackelberg** and A Cullen. 1994. Gas/Particle Partitioning Effects on Dioxin Exposures from Incinerators. A paper presented at the U.S. Environmental Protection Agency Ninth Annual Regional Risk Assessment Conference, April 25-27, 1994.

von Stackelberg K. 1994. Risk assessment and sustainable development. Presented at the International Association for Impact Assessment 14th Annual Meeting, June 13-16, Quebec City, Canada.

von Stackelberg K. 1994. Co-chair of a seminar on the use of video technology in environmental impact assessments at the 14th Annual International Association for Impact Assessment Meeting, June 13-16, Quebec City, Canada.

von Stackelberg K. 1993. A discussion on the use of risk assessment in environmental impact assessments. Presented at the International Association for Impact Assessment 13th Annual Meeting hosted by the World Bank, United Nations and the State Science and Technology Commission of China, June 12-15, Shanghai, China.

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Eschenroeder A, **K von Stackelberg** and A Taylor. 1992. Gas - particle partitioning influences exposures to heavy organic carcinogens. Presented at the Annual Meeting of the Society for Risk Analysis, December 6-9, San Diego, CA.

Eschenroeder A and **K von Stackelberg**. 1991. Air pathway exposures and health risks of processing incinerator ash. Proceedings of the Fourth International Conference on Ash Management and Utilization, November 12, Crystal City, VA.

Eschenroeder A and **K von Stackelberg**. 1991. A composite risk index approach for the assessment of multimedia risks from municipal solid waste landfill gas contaminants. Presented at the Air and Waste Management Association 84th annual meeting and exhibition, June 16-21, Vancouver, BC.

Burmaster DE and **K von Stackelberg**. 1991. Using Monte Carlo simulations in public health risk assessments or keeping probability in view. Presented at the HMC-Northeast '91 conference and exhibition, July 10-12, Boston, MA.

Burmaster DE, J Brainard, NI Maxwell, AM Roseberry, KM Thompson and **K von Stackelberg**. 1991. Estimating full distributions of public health risk. Presented at Society for Risk Analysis Annual Meeting, December 8-11, 1991, Baltimore, MD.

Burmaster DE and **K von Stackelberg**. 1989. Monte Carlo simulations of uncertainties in risk assessments of Superfund sites using Crystal BallTM. Proceedings of the American Society of Civil Engineers Conference, July, Austin, TX.

Burmaster DE and **K von Stackelberg**. 1988. A new method for uncertainty and sensitivity analysis in public health risk assessments at hazardous waste sites using Monte Carlo techniques in a spreadsheet. Superfund '88, Proceedings of the 9th National Conference. Washington D. C., the Hazardous Material Control Research Institute, November, Silver Springs, MD, pp 550 - 556.

SELECTED RESEARCH SUPPORT AT HARVARD UNIVERSITY

2015-2018	USEPA Science to Achieve Results grant on Integrated Modeling Approaches to Support Systems-Based Ecological Risk Assessment, RD-83579501-0
2012-2017	Electric Power Research Institute. "National Fish Consumption Survey"
2012-2013	Gray and Associates. "Public Health Burden of Volatile Organic Compounds in Gasoline"
2010-2014	National Institute of Environmental Health Sciences Superfund Research Program Grant P42ES16454
2010-2011	Florida Department of Environmental Protection. "Pilot Analysis of Gulf of Mexico State Residents' Methylmercury Exposures from Commercial and Locally Caught Fish."
2010-2011	American Road and Transportation Builders Association. "Public Health Burden of Particulate from Traffic Congestion"

2008-2011	US EPA Center for Regulatory Environmental Modeling Science to Achieve Results grant on Effectively Conducting and Incorporating Uncertainty Analyses from Complex, Integrated Models into the Decision Making Process, http://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/recipients.display/rfa_id/423/records_per_page/ALL; R833667
2006-2008	US EPA, Clean Air Markets Division, "Social Costs Associated with Alternative Futures of Electricity Generation"
2002-2006	USEPA/NSF Decision-Making and Valuation for Environmental Policy (DMVEP) STAR Grant on Contingent Valuation for Ecological and Noncancer Effects within an Integrated Human Health and Ecological Risk Framework, http://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/recipients.display/rfa_id/310; R830821

SELECTED CONSULTING PROJECTS

PFAS in Aquatic Systems (NEK). Develop a review paper and peer-reviewed manuscript on the association between PFAS concentrations in sediments and human exposure as reflected in human body burdens.

NAVFAC Passive Sampling and Bioaccumulation Modeling (NEK). Working with researchers at the Massachusetts Institute of Technology, deploy passive samplers at multiple locations in Apra Harbor and Orote Landfill, Guam, and link the results to a spatially-explicit bioaccumulation model to support development of cleanup levels and risk assessments.

World Bank Pollution (NEK). Research, develop, and write three guidance manuals for conducting field studies on health effects of contaminant exposures for three cottage industries, including i) artisanal gold mining; ii) used lead acid battery recycling (informal); and, iii) informal tanning operations.

Hudson River Superfund Site Five-Year Review (NEK). Provide technical support to develop appendices and main report for the five year review. Prepare model-data comparisons for the monitored natural attenuation scenario for 1998-2008. Evaluate model results in the context of ongoing fish data collection efforts. Work collaboratively to develop five year review materials.

First Nations and Mercury Exposures in the Lake Wabigoon Watershed (NEK). Provide technical support and data review at a mercury-contaminated watershed in Ontario, Canada on behalf of First Nations.

Application of Spatially-Explicit FishRand Model (NEK). Together with Dr. Phil Gshwend at the Massachusetts Institute of Technology, participate in two projects funded by the Department of Defense to combine data from passive samplers with spatially-explicit bioaccumulation modeling in several aquatic systems. The first project is funded through the Strategic Environmental Research and Development Program (SERDP) and the second through the Environmental Security Technology Certification Program (ESTCP).

Regulatory Support for Steam Electric Facilities (NEK). Develop an ecosystem services-based approach for evaluating regulatory options and selenium discharge limits for the Steam Electric industry sector based on a probabilistic ecological risk assessment framework.

Evaluation of Lead Discharges from Secondary Smelting Operations (NEK). Develop a framework for evaluating the potential contribution of lead discharges from historical secondary lead smelting operations to a nearby river.

Review of Health Effects of HBCD (NEK). Literature review of potential health effects and exposures in the general public associated with an emerging flame retardant.

Ecosystem Services in Urban Spaces (NEK). Evaluate potential for ecosystem services from greenspace in urban areas.

18-Mile Creek Superfund Site (NEK). Develop bioaccumulation model and screening level ecological risk assessment for a contaminated sediment site.

Moss Landing Harbor (NEK). Update to a human health and ecological risk assessment for Moss Landing Harbor, CA. Design field program to verify bioaccumulation modeling, use newly collected data to update bioaccumulation model and risk assessments. Develop method for determining acceptable levels in sediment proposed for disposal.

Portland Harbor Superfund Site (NEK). Provide technical assistance and review to the City of Portland for a large Superfund site. Prepare a review of the bioaccumulation model assumptions and outputs.

Spatially-Explicit Bioaccumulation Modeling: Verification and Demonstration Sites (NEK). Conduct spatially-explicit bioaccumulation modeling for several different military installations under a project for the US Army Public Health Command funded by the Department of Defense, Environmental Security Technology Certification Program. Detailed information available from: https://www.serdp-estcp.org/Program-Areas/Environmental-Restoration/Risk-Assessment/ER-200917/ER-200917.

Model Evaluation Team for the Hudson River Dredging Project (NEK). On behalf of US EPA, part of a model evaluation team to develop real-time decision support tools to monitor and evaluate the ongoing dredging of the Hudson River. Focus on bioaccumulation modeling, incorporating spatially-explicit exposures to sediment-associated contaminants (PCBs).

Integrated GIS, Environmental Models, and Decision Analysis Support Tool (NEK). Participate in development of a modeling framework integrating GIS, environmental models (e.g., bioaccumulation, IEUBK) and decision analysis methods to support site-specific evaluation of management alternatives. Develop case study of exposures to PCBs in sediment via the aquatic food web; evaluate tradeoffs across remedial alternatives.

Weight-of-Evidence Evaluation for Potential Health Effects of Bifenthrin, Azoxystrobin, and 2,4-D/MCPA (NEK). Develop a weight-of-evidence framework to critically evaluate the potential for human health effects of typical uses and exposures of these three constituents.

Systematic Review of the Environmental Burden of Disease in Canada (NEK). Conduct a systematic literature review of the environmentally-attributable fraction of the burden of disease in Canada. Critically evaluate methodology and results of existing studies and prepare peer-reviewed report.

Systematic Literature Review of Intervention Strategies to Reduce Exposures to Wood Burning Appliance Emissions (NEK). Conduct a systematic literature review of the exposures and risks associated with wood burning appliance use in Canada and effectiveness of intervention strategies designed to reduce exposures on behalf of the British Columbia Centre for Disease Control, National Collaborating Centre for Environmental Health. Prepare peer-reviewed report.

Uncertainty and Decision Making (HCRA). Principal Investigator under a STAR grant to evaluate strategies for effective use, incorporation, and communication of uncertainty across stakeholders to support environmental decision making from site specific decisions to evaluating policy alternatives. The models used to support the Regulatory Impact Analysis for mercury provide the technical context for the project.

Energy Futures and Risk Assessment (HCRA). Technical lead and Project Manager for a project to develop a spreadsheet tool to evaluate risk-risk and risk-social cost tradeoffs of scenarios of technology implementation through 2030 in the electricity and mobile sectors considering both human health and ecological endpoints on behalf of Clean Air Markets Division, US EPA.

Social Costs and Health Impacts Associated with Traffic Congestion (HCRA). Technical lead and Project Manager for a project to develop an analysis of the social cost and public health impacts associated with projected increases in traffic congestion in 83 United States urban areas.

Probabilistic Risk Assessment Tool to Support Decision-making (MCA). Technical lead and Project Manager for a project on behalf of EPA/Army Corps of Engineers to develop a probabilistic human health risk tool

that explicitly separates and quantifies uncertainty and variability in exposure and risk under to support decisionmaking for the dredged material management program in NY-NJ harbor. Developed software documentation, and provided training to EPA/Corps staff.

Review of the Risk Assessment for the EX-ORISKANY (MCA). Provided a peer review of the human health and ecological impacts of sinking the EX-ORISKANY, a Navy warship from World War II, for use as an artificial reef off the coast of Florida. The EX-ORISKANY contained measurable levels of polychlorinated biphenyls, even after decommissioning and decontamination. The risk assessment consisted of a series of interconnected, complex models, each of which had to be evaluated both in terms of calculation as well as parameter inputs.

Air Quality Criteria Document for Lead (MCA). Coauthored the "critical loads" section of the revised Air Quality Criteria Document for Lead. Researched mathematical frameworks, potential approaches, and dominant fate and transport mechanisms in the environment contributing to total lead loads in terrestrial and aquatic environments. Provided technical advice and reviewed other sections of the document for technical and editorial quality. The document was favorably reviewed by the Science Advisory Board.

Bayesian Hierarchical Modeling Tool to Characterize Uncertainty in Toxicity (MCA). Technical lead and project manager for a Small Business Innovation Research (SBIR) grant to develop a computer software tool to predict the probability of exposure exceeding a user-specified effect level in wildlife. Contributed to and provided oversight for the development of a Bayesian hierarchical approach to characterize uncertainty in toxicity studies. Developed a database of toxicity values for a variety of military unique compounds (e.g., energetics, smokes and obscurants). Provided senior level review of a spreadsheet-based Monte Carlo tool to predict population distributions of exposure to wildlife. Developed documentation for model.

Evaluation of Sources of Uncertainty in Multimedia Risk Assessments Conducted for the US Army (MCA). Led a project to evaluate sources of uncertainty in multimedia risk assessments conducted for US Army Installations over a five-year period. Evaluated fate and transport modeling and multimedia approaches, developed a matrix for scoring sources of uncertainty, and constructed a database of risk exceedances and cleanup numbers at each Installation. Provided technical advice and recommendations to the US Army for managing uncertainty in risk assessments.

Causal Analysis Database Development (MCA). Assisted in screening and reviewing field and laboratory studies to identify causal factors for biological impairment for entry into EPA's CADDIS database. Scored studies, reviewed and verified database entries.

Comparative Ecological Risk Assessment for Moss Landing Harbor (MCA). Project Manager and technical lead for a human health and ecological risk assessment for the potential effects from exposures to DDT, DDD, and DDE originating from sediments in Moss Landing Harbor, California under the dredging and "no dredging" conditions. Developed uncertainty analysis approach using interval math. The modeling and risk assessments successfully underwent peer review in 2005.

Hudson River Baseline Risk Assessment (MCA). Project Manager and technical lead for the development of a probabilistic bioaccumulation model and ecological risk assessment conducted for the 200-mile Hudson River Superfund Site. The FishRand model was calibrated to data for the Hudson River using Bayesian updating statistical techniques, and was subsequently used to predict distributions of PCB concentrations in fish populations with associated uncertainty. Developed joint probability model for evaluating population-level effects to ecological receptors and associated uncertainty bounds. The models and ecological risk assessment underwent a successful peer review in 2000.

Literature Review and Screening Level Ecological Risk Assessment (MCA). Project Manager and technical lead for a comprehensive literature review and screening level ecological risk assessment for 17 US Army Installations. The constituents of concern included smokes and obscurants and military unique compounds. Led the effort to evaluate the available data on the mobility and transformation of these constituents in the environment, and the implications for the risk assessments in terms of quantifiable processes.

Model Development (MCA). Technical lead and project manager to develop several bioaccumulation modeling tools for the US Army Corps of Engineers. FishRand-Migration, freely available through the Adaptive Risk Assessment Modeling System (ARAMS), is an extension of the probabilistic *FishRand* model originally developed for the Hudson River Remediation Investigation/Feasibility Study. *TrophicTrace*, publicly available at http://el.erdc.usace.army.mil/trophictrace/, is a steady-state solution of the same model algorithms as *FishRand*, and incorporates interval math to quantify uncertainty.

Evaluate Air Pollution Control Strategies (Alanova). As a technical consultant to the Harvard Institute for International Development and the Ministry Task Force for Risk Assessment and Risk Management in the Slovak Republic, developed a national, risk-based approach for evaluating air pollution control technologies by source category for the Slovak Republic Ministry of the Environment. Developed a prioritized list of source categories and potential control technologies to develop strategies for achieving cost-effective risk reductions, and assessing the impact of potential regulations.

Multimedia Risk Assessment for Resource Recovery Facility (Environmental Health Associates). Conducted a full multimedia health risk assessment for a municipal solid waste combustion facility in New York State. Conducted planning and scoping, air quality modeling using the ISC models, developed spreadsheet tools to quantify fate and transport following contaminant deposition, quantified exposure concentrations, and predicted potential human health risks. Researched method for evaluating exposure to chemical mixtures. Developed regional and watershed-scale assessment of facility influence.

From:	von Stackelberg, Katherine Ellen
To:	Knott, Steven
Subject:	EPA-HQ-OPPT-2020-0135 TSCA Science Advisory Committee
Date:	Wednesday, March 25, 2020 8:42:00 AM
Attachments:	KvS CV.pdf KvS BioPic 2020.pdf

Dear Mr. Knott:

I am submitting a self-nomination to serve on the TSCA Science Advisory Committee. I offer 30+ years of experience and expertise in human health and ecological risk assessment, modeling the relationship of chemical exposures to women, children, and other potentially exposed or susceptible subpopulations, decision analysis, food web modeling, and research translation. I am currently a Research Scientist at the Harvard Center for Risk Analysis, and also the sole owner of a small environmental consulting company (NEK Associates LTD). My CV is attached as well as a brief biographical sketch. I am currently serving as a peer reviewer for the National Priorities: Research on PFAS Impacts in Rural Communities and Agricultural Operations STAR grant program, and just completed a review for the Contaminated Sites, Natural Disasters, Changing Environmental Conditions, and Vulnerable Communities: Research to Build Resilience STAR grant program. I served on the Board of Scientific Counselors for six years and was Chair for three of those years.

Due to Covid-19, I am working largely from home and prefer to use the following contact information, although my Harvard contact information is also provided at the end of this email.

Katherine von Stackelberg, ScD
NEK Associates LTD
12 Holton Street
Allston, MA 02134
(b) (6)

Katherine von Stackelberg, Sc.D. | Research Scientist
Department of Environmental Health
Harvard Center for Risk Analysis
Harvard T.H. Chan School of Public Health
401 Park Drive, Landmark 415
Boston, MA 02215
P: 617-998-1037 | E: kvon@hsph.harvard.edu
https://www.hsph.harvard.edu/hcra/

Thank you for your time. Best, Trina

From:	Vulpe,Christopher
To:	Knott, Steven
Subject:	EPA-HQ-OPPT-2020-0135
Date:	Wednesday, August 19, 2020 12:51:42 PM
Attachments:	VulpeComprehensiveCV.doc ATT00001.htm VulpeBiosketch.pdf ATT00002.htm

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Dear Steven
Please find attached a self-nomination for the TSCA SACC
Regards
Chris

Contact Information
Chris Vulpe
Professor
Physiological Sciences
Univ. of Florida, Gainesville
Center for Environmental and Human Toxicology
2187 Mowry Drive, Building 470 Rm 113
PO Box 110885
Gainesville, FL 32611
1(352)294-5821
cvulpe@ufl.edu

Disciplinary and specific areas of expertise of the nominee

- Functional Toxicology
-Applications of CRISPR in toxicology
-Systems/Genomic Approaches to toxicology
-Human Toxicology
-Ecotoxicology
-Nanotoxicology
-Alternative Methods in Toxicology

Curriculum Vitae

Scroll to the top of this document for Instructions, biosketch template, and example. Use the fields below to enter you biosketch information.

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …) ; additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

Chris Vulpe

EDUCATION

Institution	Degree	Year	Field of Study
Massachusetts Institute of Technology (MIT)	S.B.	1986	Biology
University of California, San Francisco (UCSF)	Ph.D.	1994	Biochemistry, Genetics
University of California, San Francisco	M.D.	1996	Medicine

PROFESSIONAL EXPERIENCE

Position	Institution	Year(s)
Researcher	MIT - Laboratory of Dr. David Raulet	1983 - 1987
Teaching Assistant	MIT - Microbiology Laboratory Course	1985 - 1986
Instructor	MIT - Undergraduate Microbiology Laboratory Course	1986 - 1987
Researcher	UCSF - Dr. Richard Myers	1987 - 1989
Graduate Student	UCSF - Dr. Seymour Packman & Dr. Jane Gitschier	1989 - 1994
Post-doctoral fellow	UCSF - Dr. Jane Gitschier	1996 - 1998
Assistant Professor	UC Berkeley, Nutritional Sciences & Toxicology	1998 - 2004
Associate Professor	UC Berkeley, Nutritional Sciences & Toxicology	2004 - 2012
Professor	UC Berkeley, Nutritional Sciences & Toxicology	2012-2014
Professor	UFL Gainesville, Physiological Sciences	2015-

SOCIETY MEMBERSHIPS

Environmental Mutagenesis and Genomics Society
American Chemical Society
International BioIron society
Society of Toxicology
Genetics Society of America
Society of Environmental Toxicology and Chemistry
- Scientific committee for the 2012 SETAC meeting.

COMMITTEE SERVICE

NST Undergraduate Affairs Committee, 1999-2000, 2004-2010, UC Berkeley
Search Committee for Faculty Position, 2000-2001, 2003-2004, UC Berkeley
NST Long Range Planning and Space Committee, 1999-2004, UC Berkeley
NST Safety & Animal Experimentation Oversight Committee, 2002-08, UC Berkeley
NST Toxicology Program Ad Hoc Committee, 1999-2003, UC Berkeley
NST Molecular Toxicology Undergraduate Program Ad Hoc Committee, 2003-2011, UC Berkeley
NST Affirmative Action Committee, 2006-07, UC Berkeley
CNR Awards Committee, 2009, UC Berkeley
CNR Genomics Facility Committee, 2000-2003, UC Berkeley
DANR Genomics Workgroup Co-chair, 2000-2003, UC Berkeley
College Committee on Courses and Curriculum (CNR) 2005-06, UC Berkeley
Committee on Teaching, UCB Senate, 2006-2008, UC Berkeley
CNR ExCom 2008-2010, UC Berkeley
Committee on Student Affairs, UCB Senate, 2010-2014
IMSD (Initiative for Maximizing Student Development) /MARC (Minority Access to Research Careers), Advisory Committee - 2009- 2014, UC Berkeley
Committee on Demonstrations and Student Actions – 2012-2014, UC Berkeley

KL2 Advisory Committee, 2015-2017, UFL Gainesville
Research IT Governance Committee, 2015-present, UFL Gainesville
K Advisory Committee, 2015-2017, UFL Gainesville
CVM Tenure & Promotion Committee, 2016-present, Chair 2018-19, 19-00, UFL Gainesville
CVM Faculty Council, 2016-present, Chair, 19-00, UFL Gainesville
Aquatic Veterinary Pathologist Search Committee, 2016, UFL Gainesville
IDP chair Search Committee, 2016, UFL Gainesville
UF Faculty Senate, 2017-present
Physiological Sciences Departmental Betterment Committee, 2017
AHC Research IT Steering Committee, 2018-present
UFL Research IT Goverance Committee, 2018-present
Promotion and Tenure Revision, Committee, 2019-present, Co-Chair
CVM Curriculum Review Committee, 2019-present, Co-Chair

COLLEGE/DEPARTMENTAL SERVICE

- Director, CNR Genomics Facility, 2000-2003, UC Berkeley
- Faculty Sponsor for Toxicology Student Association - 2009-2014, UC Berkeley
- Development of a new MARC (Minority Access to Research Careers) course for under-represented undergraduate students entitled "Introduction to Research Methods in Biology" IB87
- Biology Scholars Program (BSP) and the CNR-BSP mentor - 2006-2014
- Environment Leadership Program mentor - 2009- 2013
- COINS summer internship mentor - 2009 -2013
- One of the founders of the new Berkeley Center for Green Chemistry (BCGC) within the Berkeley Institute of the Environment (http://bcgc.berkeley.edu/) which links public policy, toxicology and chemistry. I am currently the Associate Director of Toxicology for the BCGC. 2010-2014
- PI of NSF IGERT training grant – Systems Approach to Green Energy (IGERT) – 2011-2015
- Director of ICBR and UFL Cancer Center CRISPR facility, 2017-present
- CPET summer program, UFL Gainesville, 2015-present

REVIEWER FOR JOURNALS

ALTEX

American Journal of Clinical Nutrition

American Journal of Physiology - Cell Physiology

American Journal of Physiology - Regulatory, Integrative and Comparative Physiology, Biometals

Applied In Vitro Toxicology

Aquatic Toxicology

BBA- General Subject

Biometals

Blood

BMC Bioinformatics

BMC Genomics

BMC physiology

British Journal of Nutrition

Cell Biology and Toxicology
Chemosphere
Clinical Gastroenterology and Hepatology
Clinical Genetics
Comparative Biochemistry and Physiology
CRC Press
DNA repair
Environmental Pollution
Environmental Science & Technology
Environmental Science and Pollution Research
Environmental Science and Technology
Environmental Toxicology and Chemistry
FEMS Yeast Research
Free Radical Research
Frontiers in Environmental Science, Toxico
Frontiers in Microbiology
Frontiers in Toxicogenomics (Member of Editorial Board 2012-present)
Gastroenterology
GENETICS
Genome Biology
Genome Research
Green Chemistry
Gut (Member of the Editorial Board 2002-2005)
Haematologica
Human Molecular Genetics
International Aquatic Research
International Journal of Molecular Sciences, Guest Editor for Focus Issue on Toxicogenomics
Journal of Biological Chemistry
Journal of Cellular Biochemistry
Journal of Molecular Ecology
Journal of Nutrition
Journal of Trace Elements in Medicine and Biology
Mammalian Genome
Medical Hypotheses
Metallomics
Metalloproteomics
Molecular Biology of the Cell
Molecular Ecology
Nanotoxicology
Nature Genetics

New Biotechnology
Open Biology
Pediatric Hematology and Oncology
Peer J (Editor, 2017-present)
Plant Cell
PLoS Genetics
PLOS Genetics
Proceedings of National Academy of Sciences
Redox Biology
Royal Society Open Science
Science of the Total Environment.
Scientific Reports (Editor, 2015-present)
Toxicological & Environmental Chemistry
Toxicological Sciences, (Associate Editor, 2019-present)
Toxicology and Applied Pharmacology
Toxicology Research

PUBLIC SERVICE

- Invited participant NIH workshop on Hallervorden-Spatz Syndrome, 2000-2001
- Member of the External Advisory Board for the University of Miami, NIEHS Marine and Freshwater Biomedical Sciences Center, 2004-2007
- Norcal SETAC Board Member, Membership Chair 2007-2010
- Technical qualifications board for advancement of an EPA senior scientist, 2008
- Invited Participant in Manufactured Nanoparticle Environmental Impacts and Behavior, Rice University, Mar 9-10, 2009
- Invited Participant - SETAC Pellston A Vision and Strategy for Predictive Ecotoxicology in the 21st Century: Defining Adverse Outcome Pathways Associated with Ecological Risk. Held in Forest Grove, Oregon, 19-23 April 2009.
- Wayne State Superfund Advisory Board - 2010-present
- Presented in SOT Continuing Education Course entitled Evaluating Toxicity of Engineered Nanomaterials: Issues with Conventional Toxicology Approaches at the SOT 2010 meeting at the request of the Course Organizer on the topic of "In vitro cellular approaches for assessment of nanotoxicity."
- Organized an international collaborative group of researchers working in the area of Daphnia Magna genomics to enable the effective sharing of genomic resources and utilization of common platforms for studies.
- Reviewer of high school educational materials for California school districts
- Volunteer in elementary school science education in Pacifica, Ca.
- Volunteer in Elementary and Middle School Education in Gainesville, FL.
- Taught science in K-7 for 18 years, including the developing lesson plans, teaching in class, and experimental laboratory programs

REVIEWER FOR GRANTING AGENICIES

Austrian Science Fund
Children's Research Center of Michigan
Division of Research Administration, National University of Singapore
Environmental Protection Agency
Georgian National Science Foundation
Genome Canada
Genome Quebec
Human Frontiers Science Program
France Berkeley Fund
Medical Research Council, UK
National Health and Medical Research Council, Australia
National Institutes of Health - (adHoc member of Integrative Nutrition and Metabolic Processes Study Section (INMH), Metallobiochemistry (BMT), Endocrinology, Metabolism, Nutrition and Reproductive Sciences Integrated Review Group (*EMNRIRG)*, Challenge Grants in Health and Science Research Recovery Act Limited Competition: Director's Opportunity for Research in Five Thematic Areas and Superfund P42 Review)
Natural Sciences and Engineering Research Council of Canada
Natural Environment Research Council of the UK
National Science Foundation, SBIR/STTR, Environmental Engineering,
The Netherlands Organisation for Scientific Research
USDA National Research Initiative Competitive Program
UC Systemwide Toxic Substances Research and Teaching Program
UC Discovery Grant Program (an Industry-University Cooperative Research Program)
Sultan Qaboos University Research Program, Oman
Swiss National Science Foundation
Thalis Research Program, Greek Science Program

COURSES TAUGHT

UC Berkeley
Chem 234 – Interdisciplinary Course in Green Chemistry – 2013
Chem 298 -Toxicology Basics for Green Molecular Design -2012
ENV SCI 196L - Senior Research Laboratory Environmental Science - 2007-2008
IB87 Introduction to Research Methods in Biology -2011-
IB199 - Supervised Independent Study -2010- 2011
IB 298 Special Study - 2006
NS170 - Experimental Nutrition Laboratory – 2001,2013
NST10 – Introduction to Human Nutrition -2013,2014
NST 11 - Introduction to Toxicology - 2011
NST 120 / NST220 - Molecular Toxicology- 2002-2011
NST 171 - Experimental Toxicology - 2000, 2005
NST 197 - Field Study - 2003 - 2004, 2009
NST 198 / PH 290 Developmental Toxicology - 2000
NST 199 - Supervised Independent Study - 2000, 2001, 2003 - 2011
NST 290 - Seminar in Nutrition and Toxicology -2001, 2003, 2005, 2006, 2010-2011
NST 292 - Graduate Research Colloquium –2001
NST 293 - Research Seminar -1999, 2001
NST 296L - Research Review 2006 -2010
NST 299 - NST Research, 2000-2011
NST H196 - Honors Research - 2002, 2003, 2008-2010,2011-2013
UGIS 192C - Research Biology Sciences - 2006-2013

UFL Gainesville
Animal Systems I, II, III, CVM, Coordinator 2016-present

PhD STUDENTS

98 – 04	Angela Armendariz - Genomic Analysis of Copper Overload in Mammalian Cells
99 – 04	Jeung Hyoun Kim - Genomic studies of Copper and Iron metabolism in yeast
01 - 06	Helen Poynton - Development and Validation of Daphnia DNA MicroArray
02 – 06	Seung-Min Lee – Regulation of hephaestin localization
04 –07	William Jo – Arsenic functional profiling
10-12	Sean O'Connor - Benzopyrene mode of action
09-12	Brie Fuqua - Hephaestin tissue specific knockouts
07-12	Leona Scanlan - *Daphnia Magna* Molecular Toxicity Identification
08-13	Brandon Gaytan - Mode of action of Pesticides
09-14	Vanessa De La Rosa - TCE mode of Action
13- 18	Marianna Augustine – Fish comparative genomics
13- 18	Amin Sobh – Functional approaches to understand cellular iron metabolism
13- 18	David Faulkner – Integrated approaches to chemical hazard assessment
15- present	Rola Zeidan – Mitochondrial toxicity in yeast
15- present	Faith Lambert –Ecotox effects of sunscreens
16-present	Dani Ivey – Cadmium/Zinc interactions in daphnia toxicity
16- present	Jie Zhou – Mechanisms of Hairloss in iron deficient mice

POST DOCTORAL FELLOWS

98 - 00	Said Talbi - Microarray analysis of iron metabolism
99 - 01	Zouhair Attieh - Ferroxidase activity of Hephaestin
99 - 02 ,06	Jeane DeFreitas - Microarray analysis of copper / iron metabolism in yeast Yeast as a model system for amyotrophic lateral sclerosis
00 - 03	Jiri Petrak - Intestinal enterocytes proteomics in mouse model of hemochromatosis
05-06	Basharut Syed – Zyklopen multi-copper ferroxidase
07-10	Stela Masle – Genetics of iron metabolism
07-11	Matt North – Mechanism of action of benzene metabolites
07-08	Seonock Woo – Ecotoxicogenomics
08 –09	William Jo – Mechanism of action of arsenicals
11-13	Kathryn Page – Genetics of iron metabolism
14-17	Brie Fuqua – Genetics of iron metabolism
16-present	Devrah Arndt – Silver Nanowire toxicity

SCIENTISTS

99 - 07	Henri Wintz - Genomic approaches to metal metabolism in Arabidopsis
2001	Tama Fox – Arabidopsis metal metabolism
00-present	Alex Loguniov – Computational methods for expression analysis
99 - 08	Huijun Chen - Regulation of hephaestin by copper and iron
09-present	Mani Tagmount – Nanotoxicology, High Content Screening, Functional toxicology, CRISPR

INVITED PRESENTATIONS

"Molecular Genetics Of Menkes Disease." Plenary session at the Annual Meeting of the Society for Metabolic Disorders, Asilomar, Ca. March 14-17, 1993

"Isolation of the Gene for Menkes Disease." UCSF Genetics program, Human Genetics Seminar series, October 5, 1993.

"Mutational Analysis in Menkes disease and the Mottled Mouse." Copper Connection: Parent and Professional Menkes Conference, Philadelphia, Penn. May 19-21, 1994

"Site-directed mutagenesis of *CCC2*, a copper-transporting ATPase in *S. cerevisiae.*" 1997 ASBMB Fall Symposia, Copper and Zinc Receptors in Signaling, Trafficking and Disease, Lake Tahoe, Ca. October 24-27, 1997.

"A transmembrane-bound ceruloplasmin homologue is mutant in the *sla* mouse." 1998 FASEB Summer Symposia - Micronutrients: Trace Elements. Wilsonville, OR.

"Identification of a Novel Gene Implicated in Intestinal Iron Uptake and Its Defect in the *sla* Mouse." Plenary Session, Bioiron 99, World Congress on Iron Metabolism, May 26, 1999, Sorrento, Italy

"Peri-Nuclear Localization of Hephaestin Suggest Exocytic Intestinal Iron Export." 2nd International Meeting on Copper Homeostasis and its Disorders: Molecular and Cellular Aspects, Plenary session, Ravello - Italy, September 17-21, 1999.

"Perinuclear localization of hephaestin suggest exocytic intestinal iron export." UCLA Genetics Seminar Series, 6/7/00

“Biomarkers of Risk Associated with Copper Deficiency and Excess.” Invited Speaker, 2nd International Meeting of Copper Metabolism, Santa Fe, NM, 4/16/01

"Hephaestin: a multicopper oxidase involved in intestinal iron uptake." Invited Lecture, Oregon Health Science University, 5/2/01

"Robust and resistant regression analysis to identify differentially expressed genes as applied to copper metabolism in yeast." Buck Institute, Marin, CA, 6/01/01

“Peri-nuclear location of hephaestin suggests exocytic iron transport.” The FASEB Summer Conference on Micronutrients: Trace Elements, Montana, Invited Speaker, 6/3/01

“Hephaestin Protein Levels but not mRNA Levels are regulated by iron status.” Symposium on Chemical Biology of Metal Sensors with Switching Functions, Kyoto University, Japan, plenary speaker, 6/8/01

“Analysis of gene expression in MAC1 D highlights interrelationship of copper and iron metabolism in yeast The Second International Workshop On Iron And Copper Homeostasis Pucón, Chile, 10-13 November, 2001.

“Expression Profiles in Cu, Zn and Fe Deficiency. Tools to Improve Nutritional Value of Plants.” Torrey Mesa Research Institute, La Jolla, CA, 4/16/02

“Two Arabidopsis COX17 Homologues Are Oppositely Regulated In Response To Copper.” Oral Communication at Biometals 2002, focused meeting of the Biochemical Society, London UK. April 11-14, 2002

“Comparative Analysis Of Arabidopsis Gene Expression Profiles In Response To Copper, Zinc And Iron Deficiencies.” Oral Communication at Biometals 2002, focused meeting of the Biochemical Society, London UK, April 11-14, 2002.

“Hephaestin and Ireg1 mRNA and protein are regulated by iron status in mouse duodenal enterocytes.” Podium presentation at the 11th meeting of the international organization *Trace Elements in Man and Animals (TEMA)*, Berkeley, California, June 2–6, 2002.

“Distinct Mechanisms Of Regulation Of Apical And Basolateral Intestinal Iron Transport Revealed In Studies Of Genetic And Nutritional Iron Deficiency. “ Podium Presentation At Isterh Conference September 7-12, 2002 In Quebec City. International Society For Trace Element Research In Humans.

“Analysis Of Gene Expression In *mac1* Highlights Interrelationship Of Copper And Iron Metabolism In Yeast.” Plenary Presentation, 3rd International Meeting on Copper Homeostasis and Its Disorders: Molecular and Cellular Aspects, Ischia, Italy, October 4-8, 2002

“Hephasestin Forges the Link between Mammalian Copper and Iron Metabolism”. UC Davis Nutrition Department, March 2004

"Expression and Functional Profiling to Identify Essential Components of Iron Metabolism in Yeast" April 20, 2004, UCSC Environmental Toxicology Department

“In Vivo Copper Deficiency Decreases Hephaestin Protein Levels And Activity.” 5th International Meeting Of Copper And Interacting Metals In Biology, Alghero, Sardinia, Italy Oct 14-18, 2006.

“Ecotoxicogenomics: Mechanistic Insight To Develop Predictive Biomarkers Of Effect. “Society Of Environmental Toxicology And Chemistry North America Annual Meeting, Montreal, Quebec, Nov. 2006

“ Identifying Human Susceptibility Loci To Superfund Toxicants Using *S. Cerevisiae* And Inbred Mice”SBRP “Superfund” Annual Conference Dec 11,2006, San Diego, Ca.

“Between The Hammer And The Anvil: Genetic Variation In Iron Metabolism” March 9, 2007, UCSF Human Genetics Seminar, San Francisco, Ca.

“Hephaestin Forges The Link Between Mammalian Copper And Iron Metabolism" Feb 21, 2007– Children's Nutrition Research Center, Baylor University, Houston, TX.

“Zyklopen, A New Member Of The Multi-Copper Ferroxidase Family, Is Expressed In Multiple Tissues.” The Second Congress Of The International Bioiron Society. Kyoto, Japan. April 1-6, 2007.

“”Hephaestin Forges The Link Between Mammalian Copper And Iron”. Metabolism ”Digestive Disease Center Seminar On May 14, 2007 At Stanford University, Palo Alto, Ca.

“OMICS ? Essential risk assessment tool or Rube Goldberg contraption?" At The Society Of Environmental Toxicology And Chemistry, Milwaukee, WI, November 2007.

“"Between the Hammer and the Anvil: Genetic Variation in Iron Metabolism” Nutrition Seminar Series. UC Davis March 10th 2008.

“Functional profiling of toxicant susceptibility genes in yeast.” Beijing,China May 26, 2008 Tsinghua University.

"Recent advances in mammalian iron metabolism" July 25-28, Masai Mara, Kenya, 4th *CPB* Meeting In *Africa*: *Mara 2008*. Molecules to Migration: The Pressures of Life.

"OMICS - Essential risk assessment tool or Rube Goldberg contraption?", 36th Aquatic Toxicity Workshop, September 27 - 30, 2009. La Malbaie, Cahrlevioux (Quebec).

"Functional profiling to identify metal toxicity pathways in yeast" Society of Toxicology 49th Annual Meeting, Mar 8-11th 2010 in “Minerals and Metals: Pros and Cons of Deliberate Exposure Workshop.

"Emerging 'Omic and Other Screens for Ecotoxicity Assessment." California Green Chemistry Workshop - Indicators of Ecotoxicity Hazard and Exposure Potential. May 10 and 11, 2010, Berkeley,Ca

"Ecotoxicogenomics Approaches to Environmental Monitoring" June 4, 2010 Southern Coastal Water Research Project, Costa Mesa California,

"Functional profiling of copper and iron metabolism pathways in yeast", 2010 FASEB Summer Research Conference entitled, "Trace Element Metabolism in Biology and Medicine" June 13-18, 2010 in Snowmass Village, Colorado.

"Molecular toxicity identification evaluation in *D.magna,* 37th Aquatic Toxicity Workshop, Oct 3-6, 2010, Toronto, Canada

"Daphnia Magna Ecotoxicogenomics Provides Insight Into Mode Of Action Of Chemical Contaminants", North American Society of Environmental Toxicology and Chemistry Conference. Portland, OR. Nov. 7-11, 2010

"Molecular toxicity identification evaluation in *D.magna,*" North American Society of Environmental Toxicology and Chemistry Conference. Portland, OR. Nov. 7-11, 2010

“Integrated nanoparticle characterization and toxicity assessment of Nanowires.”NanoGo Consortium Meeting, NIEHS, March 4-5, 2011, Bethesda, Md.

"Yeast functional genomics reveal role for arsenicals in histone acetylation" Symposium for 2011 SOT Meeting entitled: “Epigenetics, Metals and Cancer” 50th Society of Toxicology Annual Meeting, Mar 7-10th 2011, Washington, D.C.

"Emergence of High Content Screening for Assessment of Nanotoxicity", Continuing Education symposium on Nanotoxicology at 2011 Society of Toxicology Meeting, Mar 7-10th 2011, Washington, D.C.

"Joining efforts to gain insights into IRON metabolism." Enhancing Graduate Research in the Biomedical Sciences in Lebanon: Role of National and International Collaborations, Beirut, Lebanon, May 30, 2011

"Evaluation of the potential environmental impact of nanowires" Cambrios Corporation, July 19, 2011

"Molecular approaches to toxicity identification with *Eohaustarius Estuarius*." San Francisco Estuary Institute, Oct 18, 2011

"Integrated nanoparticle characterization and toxicity assessment of Nanowires." NanoGO consortium meeting, December 8-9, 2011, in Duke University, Durham, NC

"Chemicals and Breast Cancer: Building on National Initiatives for Chemical Safety Screening." California Breast Cancer Research Program Symposium, Dec 11, 2011, Oakland, Ca.

"Functional Toxicogenomics: From yeast to people." University of Birmingham, Birmingham, UK., Mar 29, 2012

"Molecular toxicity identification evaluation in *D.magna."* Aquatic Toxicology Workshop, Sun Peaks, B.C. Oct 2, 2012

"From stream to sea: letting creatures speak for themselves about pollution." University of Southern California, Department of Biological Sciences, Seminar Series, Aug 3, 2013

"Identifying candidate susceptibility loci for reproductive toxicants using functional profiling in yeast." Superfund Annual Meeting, Oct 17, 2013

"A Functional Genomics and Network Approach to Identify Metal Toxicity Pathways." Toxicology and Risk Assessment Conference (TRAC) 2014, Cincinnati, OH, Apr 8, 2014

"Functional Profiling to Adverse Outcome Pathways." UCLA Molecular Toxicology Program Seminar Series, May 21, 2014

"Tangled up in Silver: Ag Nanowires in Human and Ecosystem Health" California Department of Public Health, May 28th, 2014, Richmond, Ca.

"Functional profiling to identify adverse outcome pathways in Eukaryotes", 2015 Gordon Research Conference (GRC) on Cellular and Molecular Mechanisms of Toxicity, Aug. 9 - 14, 2015

"Tangled up in Silver: Ag Nanowires in Human and Ecosystem Health", 9/15/15
National Center for Nanoscience and Technology of China, Beijing, China

"Redundant Links in the Iron Chain Forged by Multiple Mammalian Ferroxidases", 9/17/15, Dept. of Food & Nutrition, Yonsei University, Seoul, Korea

Functional profiling in yeast reveals genotoxicity mechanisms of Trichloroethylene, SFTC/NERC workshop, Developing Integrated Multi-level models of the Environment, Liverpool, England, 3/7/16

Genome wide CRISPR applications in Toxicology, Invited Speaker, Environmental Mutagenesis and Genomics Society, 48th Annual Meeting, Raleigh, North Carolina, September 10, 2017

The Skinny on Gene Editing: Where Genomic Technologies Meet Environmental Health April 24, 2017 – Continuing education webinar, Collaborative on Health and the Environment &
BU Superfund Research Program, Boston University School of Public Health

Genome wide CRISPR applications in Toxicology, Invited Speaker, Environmental Mutagenesis and Genomics Society, 48th Annual Meeting, Raleigh, North Carolina, September 10, 2017

Genome wide CRISPR approaches to identify functional components involved in cellular toxicant response, Invited Seminar Speaker, National Institute of Environmental Health Sciences, Raleigh, NC, April 9, 2018,

Genome Wide and Targeted CRISPR Functional Approaches in Toxicology. Invited speaker in session entitled "Novel Genetic-based Tools for Toxicity Screening, Precision Medicine, and Mode of Action Analysis." ASPET Annual Meeting at Experimental Biology 2018, San Diego, CA, April 24, 2018

Genome wide and druggable genome CRISPR to identify synthetic interactions in cancer**. I Invited talk. UFHCC Topics in Cancer Seminar Series, UF Cancer Center, Gainesville, FL, June 8, 2018**

GRANTS FUNDED

Title of Project	Agency	Direct Costs & Duration
Study of an Inherited Cause of Iron Deficiency Anemia in the Mouse	March of Dimes Birth Defect Foundation, Basil O'Connor Grant	ADC$90,910 2/1/99-1/31/01
Iron and Copper in Health and Disease	NIH, K08 DK02823	ADC$221,340 5/15/99-2/28/02
Hephaestin: A Copper Protein Involved in Iron Metabolism	NIH, R01 DK56376	TDC$520,418 7/1/99-6/30/02
Metabolic Genomics: A Novel Technology to Assess Nutrient Status	USDA 00450-35200-2778	ADC$153,000 7/1/99-6/30/01
Metabolic Genomics: A Novel Technology to Assess Nutrient Status	Charles E. Culpepper Biomedical Pilot Initiative	TDC$25,000 7/1/99-6/30/00
Biomarkers of Risk Associated with Copper Deficiency and Excess	International Copper Association 012653-003	TDC$155,467 6/15/00-6/14/01
Biomarkers of Risk Associated with Copper Deficiency and Excess	UC Life Science Informatics Program L98-33	ADC$141,333 6/15/00-6/14/01

Pharmacogenetics of Membrane Transporters	NIH/UCSF U01 GM61390 (Giacominni)	ADC$151,183 04/01/00-03/31/03
Molecular Approaches to Basolateral GI Iron Transport (co-PIs Anderson and McKie)	NIH R01 DK57800	TDC$750,000 05/01/00-05/31/03 (split three ways)
Monitoring the Metabolic Responses of Plants to Metals using cDNA Microarrays	UC Hellman Family Fund	TDC$30,000 6/2000-6/2001
Monitoring the Metabolic Responses of Plants to Metals using cDNA Microarrays	UC COR Faculty Research Grant	TDC$6,000 6/2000-6/2001
Genomics Approaches in Yeast to Understanding the Cellular Pathophysiology of Familial ALS	ALS Association 013509	TDC$96,000 2/01/01-1/31/04
Molecular Control of Intestinal Iron Transport: Identification and Characterization of New Molecules	Human Frontier Science Program 20010272	ADC$250,000 04/01/01-03/31/04
Copper's Relation to Epilepsy	Mary Elizabeth Rennie Endowment Epilepsy Fund	TDC$5,000 7/1/01-6/30/03
Development of Robust and Resistant Regression Analysis for Identification of Differentially Expressed Genes in Ceriodaphnia (Water Flea) Exposed to Environmental Toxins	UC BioSTAR/ Life Sciences Informatics Program / Terragenomics Biostar01-10093 / lsit01-100983	TDC$180,000 05/17/02-05/16/04
Hephaestin: A Copper Protein Involved in Iron Metabolism (Renewal)	NIH, R01 DK56376	TDC $820,035 5/1/03-4/30/07
Microarray analysis to identify genetic biomarkers of susceptibility to toxics in the model green alga Chlamydomonas reinhardtii	UC Toxics Program Co-PI (PI: S Merchant)	ADC $50,000 9/1/03-8/31/05
Development of Biosensors for Ordnance Related Compounds Based on Signature Gene Expression in Daphnia Magna"	US Army Corps of Engineers	TDC $120,507 2/22/05-2/22/06
Genetic Modifiers of Hemochromatosis Phenotype	NIH (U. Melbourne subaward, co-PI w/Gertig)	TDC $300,000 3/1/04-2/28/07
"Characterization of a Family of Putative Mammalian Heme Chaperones"	RoFAR	TDC $200,000 1/1/05-12/31/06
"Development of the Daphnia DNA Microarray: A Genomic Approach to Water Quality Assessment"	NSF-CBET 0504603	TDC $640,310 6/1/05-5/31/09
Ecotoxicogenomics of Ordnance Related Compounds	Army Corp of Engineers W912HZ-05-C-0019	TDC $197,368 8/31/07-3/3/1/09
Iron Status: A pathway analysis in multiple ethnicities	NIH (sub-contract) 1RO1 HL083328 (McLaren)	TDC $650,000 4/01/06-8/13/11
Toxic substances in the Environment: Project 2	NIEHS Superfund 2 P42 ES004705 (Smith)	TDC $625,000 6/19/06-6/18/11
Integrated Nanoparticle Characterization and Toxicity Assessment	NIH-NIEHS RC2ES18812	TDC $521,968, 10/01/09 – 9/31/11

Eohaustorius estuarius transcriptome sequencing and microarray development for molecular TIE	Southern California Coastal Research Water Program	TDC $27,674, 0/01/09 – 9/30/10
Demonstration of the Effectiveness of a Gene Microarray as a Rapid Water Quality Indicator in Wetlands	Southern California Coastal Research Water Program	TDC $16, 240 09/01/09-6/30/10
Supplement to NSEC: Center Of Integrated Nano-mechanical Systems (COINS)	NSF 0425914(Zetl)	TDC $280,056 10/01/09 –9/30/10
Supplement to NSEC: Center Of Integrated Nano-mechanical Systems (COINS)	NSF 0425914(Zetl)	TDC $187,689 10/01/11 - 09/30/13
Gonadal Gene expression to characterize response of longjaw mudsucker to Contaminated environments	California Sea Grant 006735	TDC $34,800 9/1/10 - 8/31/11
Development of sediment molecular TIE tool for *Eohaustorius Estuarius*	California Sea Grant NA08OAR4170669	TDC $6500 8/10/09-12/31/09
Molecular tools for toxicity identification and evaluation in environmental water samples	NSF - CBET 1066358	TDC $229,464 03/01/11-2/28/15
ToxCast & Tox21 to screen for carcinogens in mammary systems	California Breast Cancer Research Program	TDC $898, 614 8/1/11-7/31/2014
Toxic substances in the Environment: Project 2	NIEHS Superfund 2 P42 ES004705 (Smith)	TDC $425,000 6/19/11-6/20/16
An integrated molecular approach to understand variation in iron metabolism.	NIGMS/ODS	ADC $437,000 06/01/12-05/31/16
IGERT -Systems Approach to Green Energy	NSF-1144885	ADC $532,287 07/01/12-06/31/17
3D Human Breast Cell Co-culture Model for carcinogen screening	Avon Foundation 009451	ADC $150,000 10/1/13-9/31/15
Investigating biogeochemical controls on metal mixture toxicity using stable isotopes, passive samplers, and genomic bioassays	NIEHS -R01ES024358 (Ranville)	ADC $38,000 9/1/14-8/31/18
Functional Profiling to Identify Mitochondria-cell Signaling Networks	NIEHS-R21	TDC$275,000 04/1/15-3/31/18
Human mammary organotypic cultures for chemical screening	California Breast Cancer Research Program (Yaswen)	TDC$200,000 03/1/15 -3/1/18
NanoWIR2ES: NanoWire intelligent re-design and recycling for environmental safety	Consumer Protection Safety Commission (CPSC)	TDC,335,454 9/13/16-8/15/20
Functional screening to identify mediators of dopaminergic neuronal toxicity by pesticides.	UF foundation	TDC $90,000 06/01/16-05/31/18,
Environmental and Genetic Determinants of Transitional Cell Carcinoma of the Urinary Tract in Scottish Terriers.	UF Foundation – Olives Way (Lejeune)	TDC $45,000

Improved in vitro metabolism in HepG2 cells using CRISPRa Technology.	Center for Alternatives to Animal Testing: Johns Hopkins University	TDC 25,000 02/1/2017 – 1/31/2019
ToxCrispr: functional identification of toxicity mechanisms in EPA relevant chemicals.	EPA	TDC $ 125,000 07/01/2017-3/31/2018
Heat and Pesticide Stress in the kidney.	NIOSH, (Morris)	TDC $460,,000 9/30/18-9/29/20
Druggable targets required for in vivo TNBC proliferation.	UF Cancer Center	TDC $50,000 09/01/2017-08/31/2018

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Lavelle C, Dang V, Escalon L, Garcia-Reyero N, Martyniuk CJ, Munkittrick KR. How consistent are we? Interlaboratory comparison study in fathead minnows using the model estrogen 17alpha-ethinylestradiol to develop recommendations for environmental transcriptomics. Environ Toxicol Chem. 2017. doi: 10.1002/etc.3799. PubMed PMID: 28316117.
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152. Sobh A, Loguinov A, Yazici GN, Zeidan RS, Tagmount A, Hejazi NS, Hubbard AE, Zhang L, Vulpe CD. Functional Profiling Identifies Determinants of Arsenic Trioxide Cellular Toxicity. Toxicol Sci. 2019;169(1):108-21. doi: 10.1093/toxsci/kfz024. PubMed PMID: 30815697; PubMed Central PMCID: PMCPMC6484884.
153. Sobh A, Vulpe C. CRISPR genomic screening informs gene–environment interactions. Current Opinion in Toxicology. 2019;18:46-53. doi: https://doi.org/10.1016/j.cotox.2019.02.009.
154. Thingholm LB, Rühlemann MC, Koch M, Fuqua B, Laucke G, Boehm R, Bang C, Franzosa EA, Hübenthal M, Rahnavard A, Frost F, Lloyd-Price J, Schirmer M, Lusis AJ, Vulpe CD, Lerch MM, Homuth G, Kacprowski T, Schmidt CO, Nöthlings U, Karlsen TH, Lieb W, Laudes M, Franke A, Huttenhower C. Obese Individuals with and without Type 2 Diabetes Show Different Gut Microbial Functional Capacity and Composition. Cell Host & Microbe. 2019. doi: https://doi.org/10.1016/j.chom.2019.07.004.
155. Russo M, Sobh A, Zhang P, Loguinov A, Tagmount A, Vulpe CD, Liu B. Functional Pathway Identification With CRISPR/Cas9 Genome-wide Gene Disruption in Human Dopaminergic Neuronal Cells Following Chronic Treatment With Dieldrin. Toxicol Sci. 2020;176(2):366-81. Epub 2020/05/19. doi: 10.1093/toxsci/kfaa071. PubMed PMID: 32421776.
156. Sobh A, Loguinov A, Zhou J, Jenkitkasemwong S, Zeidan R, El Ahmadie N, Tagmount A, Knutson M, Fraenkel PG, Vulpe CD. Genetic screens reveal CCDC115 as a modulator of erythroid iron and heme trafficking. Am J Hematol. 2020. Epub 2020/06/09. doi: 10.1002/ajh.25899. PubMed PMID: 32510613.

From:	Wendy Heiger-Bernays
To:	Knott, Steven
Subject:	EPA-HQ-OPPT-2020-0135
Date:	Monday, August 31, 2020 8:41:43 PM
Attachments:	HeigerBernays.cv.2020.pdf HeigerBernays TSCA biosketchform.pdf

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Dear Mr. Knott,

In response to the extended request for nominations, I am self-nominating and am excited to serve on the TSCA SACC. As the important work of TSCA continues, I am hopeful that my expertise in the areas of toxicology, human health risk assessment and the impacts of chemical exposures to susceptible populations can compliment the current SACC.

As per direction in the Federal Register, I am attaching my CV and my biographical sketch developed using the EPA template.

Sincerely and in good health,
Wendy

Wendy Heiger-Bernays, Ph.D. | Clinical Professor
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Environmental Protection Agency (EPA)
Office of Science Coordination and Policy (OSCP)
Biosketch Instructions, Example, and Fillable Form

Thank you for your interest in peer reviews at the EPA. As part of the process of soliciting, nominating, and recruiting established members of a panel or committee or adding *ad hoc* members for select meetings, OSCP needs a one-page biographical sketch (a.k.a. biosketch).

We are requesting that you provide information that is focused and appropriate to represent your profession, expertise, scientific or related technical experience, and prior panel or committee experience like that of a Federal Advisory Committee (e.g., Scientific Advisory Panel, Scientific Advisory Board, Board of Scientific Counselors, or similar).

The one-page biosketch will be used in the candidate phase of recruiting and identifying members with the credentials that support the potential participation in a particular meeting and, if placed on a panel or committee meeting roster, will be used to document members who contributed to a meeting.

INSTRUCTIONS

The next page provides a description of the information that is requested by field name.

The following page is an example of a properly formated one-page biosketch.

The last section (2 pages) of this document is a fillable form that corresponds to the fields (sections) that comprise the biosketch. *Fields are character limited*. Scroll bars may appear for a field, but once the maximum characters are used the field will accept no additional information. We will receive the form and extract the information to a document for final review and formatting. If more than one page of information is received, we will contact you about any edits made to conform to the single page format.

NOTE: This PDF file is in an "extended format" and can be opened, fields filled in, and the file saved using either Acrobat Reader or Acrobat Professional. In the extended format you will be able to open the file later and edit the document.

BIOGRAPHICAL SKETCH TEMPLATE

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …); additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests. Usually 200-word count.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

EXAMPLE:

Daniel Schlenk, Ph.D.

Affiliation: Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California Riverside, CA.

Expertise: Research on understanding the biochemical factors that influence susceptibility to environmental and natural chemicals with a focus on Aquatic Ecotoxicology.

Education: PhD in Toxicology, Oregon State University. BS Toxicology Northeast Louisiana University.

Experience Summary: Dr. Daniel Schlenk is Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California-Riverside. He is a Fellow of the American Association for the Advancement of Science, and from 2007-2014. Dr. Schlenk was a member of the Board of Directors for the North American Society of Environmental Toxicology and Chemistry (2003-2006). His research interests focus on mechanisms of action of pesticides, PAHs, and emerging compounds in aquatic organisms.

Panel Experience: Dr. Schlenk is currently a member of EPA Science Advisory Committee on Chemicals (SACC; 2017-present); Dr. Schlenk's experience on Federal panels includes: Permanent Member US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Science Advisory Panel (2007-2012) and Chair US EPA FIFRA Science Advisory Panel (2012-2014). USEPA Chemical Safety Advisory Committee (CSAC) (2016) and the Toxic Substances Control Act (TSCA), Draft Risk Assessment Work Plan Chemical for 1-Bromopropane (2016); Ad hoc reviewer National Institute of Environmental Health Sciences (NIEHS) Freshwater Biomedical Centers (1996); US Department of Agriculture (1997-2000) and National Science Foundation (1996-present); National Oceanic and Atmospheric Administration (NOAA) Oceans and Human Health Initiative Grant Review Panel (2005); US EPA Endocrine Disrupter Mixtures Grant Review Panel (2005); US EPA Science Advisory Board, Aquatic Life Criteria Guidelines (2005); NIEHS P30 Core-Center Applications (2008); and NIEHS Superfund Research Program P42 Center Applications (2016). Dr. Schlenk has also served on numerous State and foundation review panels and committees.

Scroll to the top of this document for Instructions, biosketch template, and example. Use the fields below to enter you biosketch information.

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …) ; additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

CURRICULUM VITAE

WENDY J. HEIGER-BERNAYS, PhD

Department of Environmental Health
Boston University School of Public Health (BU SPH)
715 Albany St. T5W Boston, MA 02118
whb@bu.edu (617) 358-2431
https://www.bu.edu/sph/profile/wendy-heiger-bernays/

RESEARCH, TEACHING AND PRACTICE INTERESTS

- Toxicology and health risks of endocrine disrupting chemicals used in consumer products;
- Methods to assess health risks of chemicals and mixtures with a focus on drinking water exposures;
- Public health workforce development;
- Research translation from the toxicology laboratory to practice in the community

EDUCATION

1981	BS	Biology, University of Connecticut
1987	PhD	Biochemistry, University of Nebraska Medical Center.
1988-1990		Postdoctoral Fellow, Massachusetts Institute of Technology, Program in Toxicology (Sponsor: John Essigmann)
1987-1988		Postdoctoral Fellow, Cold Spring Harbor Laboratory (Sponsor: Bruce Stillman)

BOSTON UNIVERSITY ACADEMIC APPOINTMENTS

2018-present	Associate Chair, Department of Environmental Health, BU SPH
2016-present	Director, Environmental Hazard Assessment Certificate, BU SPH
2009-2018	Director, MPH in Environmental Health, BU SPH
2017-present	Clinical Professor of Environmental Health, BU SPH
2008-2017	Associate Professor of Environmental Health, BU SPH
2000-2008	Assistant Professor of Environmental Health, BU SPH
1992-1999	Instructor, Department of Environmental Health, BU SPH

OTHER PROFESSIONAL EMPLOYMENT

1995-2000	Lecturer, Toxicology Program, Northeastern University
1990-1999	Senior Scientist, Menzie-Cura and Associates, Inc. Provided technical and project management of toxicological issues on human health risk assessment projects.

HONORS AND AWARDS

2016-2018	Pardee Center Faculty Fellow, Boston University
2015-2016	AAAS Science and Technology Fellow; Hosted at EPA OSCP
2014	Richard Clapp Award for "Science for the Benefit of Environmental Health"
2016	Award for Excellence in Teaching, EH866, Methods in Risk Assessment. Boston University School of Public Health (co-taught)
2010	Norman A. Scotch Award for Excellence in Teaching, Boston University, highest level teaching award of the School of Public Health

2008	ASPH [CFDA Grant No. 93.283] "This is Public Health" Campaign Challenge. Faculty Sponsor
2006	Award for Excellence in Teaching, EH768, Introduction to Toxicology. Boston University School of Public Health
1999	Award for Excellence in Teaching, EH768, Introduction to Toxicology Boston University School of Public Health
1998	Award for Excellence in Teaching, EH768, Introduction to Toxicology Boston University School of Public Health

ON-GOING RESEARCH/PRACTICE – STUDENT ENGAGED PROJECTS

2019-present	Curriculum development: On-line Green Chemistry/Toxicology Course. Beyond Benign. https://www.beyondbenign.org/he-toxicology-for-chemists/
2020-present	Development of risk communication materials for communities on infection and control for COVID-19.
2018 – present	Characterization of Waste Streams into the Merrimack River. Partnership with Merrimack River Watershed Council. https://www.merrimack.org/web/
2018- 2019	Thriving Earth Exchange, Improving Health in Environmental Justice Communities with Data, Good Food and Water. American Geophysical Union. August 2018-present. https://thrivingearthexchange.org/project/new-orleans-la-culinaria/
2018 – 2020	Risk assessment and technical support for L. Olah, executive director, Citizens for Safe Water around Badger (CSWAB), WI. Per and poly-fluorinated chemicals.
2015-present	Using high throughput toxicology data to evaluate risks due to endocrine disrupting chemicals in water.
2004-present	Characterization of uptake and assessment of lead, arsenic and PAHs in Boston Urban Community Gardens. The results of this investigation are being used to provide recommendations for soil clean-up and healthy gardening practices. Partnership with Trustees of Reservations, City of Boston and US EPA.
2005-2010	Characterization of municipal compost towards sustainable solutions for urban gardens.

TEACHING
BU SPH Courses Designed/Taught (*current teaching bolded*)

2019-present	PH510: Introduction to Public Health (Undergraduate) – Hybrid Course (4 credits)
2018	PH700. Development of Environmental Health On-Line Module
2018-present	EH805: Environmental Science, Policy and Law (4 credits); co-taught E. Bensen (2018)
2018-present	MPH Program; Environmental Health Certificate Integrative Learning Experience (ILE) (0 credit)

2018-2019 MS in Environmental Health Data Analytics. Capstone in Environmental Health and Management (0 Credit)

2017-2020 EH730: Methods in Environmental Health Sciences (4 credits)

2000-present EH866: Risk Assessment Methods (4 credits); Development of a Proposed Drinking Water Guideline for Wisconsin. Technical support provided to Citizens for Safe Water Around Badger (CSWAB).

2011-present EH750: Water and Health (2 credits): Co-Taught with Laura Orlando (2018)

2013-2016 EH725: Analytical Methods in Environmental Health (2 credits)

2010-2015 EH717: Foundations of Environmental Health (3 credits)

2005-2010 EH840: Intermediate Toxicology (4 credits). Co-taught.

1993 -2012 EH768: Introduction to Toxicology (4 credits). Co-taught 1993.

1997-2015 EH765: Survey of Environmental Health (4 credits). Co-taught 1997.

2007 Teaching Tool Development An interdisciplinary, case-based learning module for assessment, clean-up and redevelopment of a contaminated site (Romano, M., LaMorte,W., Clapp, R., Heiger-Bernays, W. McClean, M., Schadt, R.).

1997-2000 EH708: Environmental Health (2 credits)

International Courses Designed/Taught

2016 Invited workshop instructor on Translating Research Data for Risk-based Decision Making Purposes. Center of Excellence in Environmental Health: Agriculture and Environmental Health Research Center; Israel. November, 2016

2015 Invited one-week course on Risk Assessment Methods for Cumulative Pesticide Exposures, and Vapor Intrusion, with modules on the toxicity/risks of perchlorate and flame retardants. Adam Teva V'din. Tel Aviv, Israel. June 21-July 1, 2015.

2009 School for Field Studies Field Practicum in Public Health and Environment in Kenya. Coordinated and taught a community-based survey of a local community (water, hygiene, health and pesticide use). 6 weeks; Summer, 2009

GUEST TEACHING

External

2016 *Lecturer*, "20 Years for the Food Quality Protection Act". PPIS, Ministry of Agriculture, Israel. November, 2016.

2016 *Lecturer,* " Moving from Science to Pesticide Regulation in the US". Mimshak - Environmental Science-to-Policy Fellowships Program The Israel Society of Ecology and Environmental Sciences. Tel Aviv University. November, 2016.

2013 *Lecturer*, "Developmental Toxicology" in Environmental Toxicology (Biol 241), Clark University.

2007-2010 *Lecturer*, "Metals Toxicology" in Environmental Toxicology (TOXC 5572), Northeastern University.

Boston University

2012-2020 *Lecturer*, in multiple SPH courses (specifics available).

STUDENT ADVISING

Doctoral Program Advising
Kerry Diskin – Completion of degree – 2007 (primary advisor)
Meghan Keaney Lynch – Completion of degree – 2008 (primary advisor)
John Minnery – Completion of degree – 2012
Courtney Walker – Completion of degree – 2013 (co-advisor)
James Watt – Completion of degree - 2016
Stefani Penn – Completion of degree - 2016
Katherine Crawford – 2014 – Completion of degree – 2018 (Primary Advisor)
Alexa Friedman – 2018 – present
Beth Haley – 2018 – present (Primary Advisor)
Emily Hammel: 2020 – present (Primary Advisor)

MS Program Advising

2010-2012	Joseph King
2012-2014	Jade Tabony
2013-2014	Emily Wanzer
2015-2016	Charlotte Marsh
2014-2020	Matthew Lewis

MPH Program Advising
2000- present Extensive advising of a majority of Environmental Health Concentrators on final career decision-making and capstone work.

BOOK CHAPTER

Wendy Heiger-Bernays and Kathryn Crawford. Environmental Health Risks and Assessment. 4th edition of the Oxford Handbook of Public Health Practice. Oxford University Press. 2020. ISBN-13 9780198800125

RESEARCH

Funded Research
Heiger-Bernays W (Nielsen G, Ginsberg G, Levy J.) 2020
Harmonizing Cancer and Non-Cancer Risk Assessment. University of California San Francisco Program for Reproductive Health and the Environment.

BU Cities Initiative Funding. (E. Mascoop – Co-PI) 2019-2020
Early Stage Urban Research Award, Spring 2019
Evictions and Substandard Housing in Boston

NIEHS Superfund Research Program Supplement 10/2019-3/2021
Making Fish Contaminant Data FAIR to Improve Fish Consumption Advisories:
P43 ES007381 Chen (at Dartmouth)/Heiger-Bernays

NIEHS BU Superfund Research Grant. 2006 – 2021
P42 ES007381 Ozonoff /Sherr (PI) 4/01/05- present

Research Translation Core: Governmental Agency Liaison 2012 - present
Research Translation Core Leader 1/01/2015 – Present

BU Pardee Center Faculty Fellow (Co-faculty) 2016-2020
Using health risk assessment to evaluate new technologies for purifying recycled water.

BU School of Public Health Pilot Funding 2017
Healthy Fish, Healthy People: Using Ecologically Relevant Fish to Develop an Adverse Outcome Pathway for Environmental Obesogens.

NIEHS
R01ES027813 Webster/Schlezinger (Co-PI) 2018-present
Novel Analytical and Experimental Approaches For Predicting The Biological Effects Of Mixtures

Completed:

BU Cities Initiative Funding. (J. Liebler – Co-PI) 2015-2016
Developing a best-practices rodent management framework for United States cities.

Indoor Air Assessment of Vapor Intrusion Exposures and Risks 2009-2012
American Recovery and Reinvestment Act NIH Administrative Supplement to Superfund Research Program P42 ES007381

FULL-LENGTH PEER-REVIEWED PUBLICATIONS

1. Schlezinger JJ, Puckett H, Nielsen G, Oliver J, **Heiger-Bernays W**, Webster TW. 2020. Perfluorooctanoic acid activates multiple nuclear receptor pathways and skews expression of genes regulating cholesterol homeostasis in liver of humanized PPARα± mice fed an American diet. Toxicology and Applied Pharmacology. doi: https://doi.org/10.1101/926642

2. Schlezinger, Jennifer .J, **Heiger-Bernays, Wendy**, Webster, Thomas F. (2020). Predicting the activation of the androgen receptor by mixtures of ligands using Generalized Concentration Addition. Toxicological Sciences. https://doi.org/10.1101/2020.05.02.074112

3. **Heiger-Bernays,** W. Tomsho, K., Basra, K., Petropoulos, Z., Crawford, K., Martinez' A., Hornbuckle, K. C, Scammell, M.K. (2019). Human Health Risks Due to Airborne Polychlorinated Biphenyls are Highest in New

Bedford Harbor Communities Living Closest to the Harbor. *Science of the Total Environment. https://doi.org/10.1016/j.scitotenv.2019.135576*

4. Crawford K., Clark, B.W., **Heiger-Bernays, W.J.,** Karchner, S., Hahn, M.E., Nacci, D.E. Schlezinger, J. (2019). Tributyltin disrupts fin development in Fundulus heteroclitus from both PCB-sensitive and resistant populations: Investigations of potential interactions between AHR and PPARγ. Aquatic Toxicology. 218. https://doi: 10.1016/j.aquatox.2019.105334 PMID: 31743820

5. Glick, D.A., Goldfarb, J.L., **Heiger-Bernays, W.J.,** Kriner, D.L. (2019). Public knowledge, contaminant concerns, and support for recycled water in the United States. Resources, Conservation and Recycling. *Resources, Conservation & Recycling 150.* https://doi.org/10.1016/j.resconrec.2019.104419

6. Crawford, KA., Schlezinger, JJ., Sennett, C., Craffey, P., **Heiger-Bernays, W.** Predictions of polychlorinated biphenyl concentrations in seafood based on long-term monitoring and remediation in New Bedford Harbor, Massachusetts. *BioRx*

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Hexabromocyclododecanes (HBCD) in Milk from Boston Mothers. Environ Sci Technol. Nov 6;46(21):12146-53. doi: 10.1021/es302638d. PMID:22998345.

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WHITE PAPERS & TECHNICAL REPORTS & OPINION PIECES

1. Heiger-Bernays W, Nielsen G, Ginsberg G, Levy J. Harmonizing Cancer and Non-Cancer Risk Assessment. University of California San Francisco Program for Reproductive Health and the Environment. May 2020.

2. K. Crawford, **W. Heiger-Bernays,** C. Foley and Brittany Cleary. Reevaluating Fish Consumption Advisories. May 19, 2020. https://www.ehn.org/safe-to-eat-fish-2646025526.html

3. Olivia Ferris. Yuchen Liu, Ethan Mascoop and **Wendy Heiger-Bernays**. COVID-19: Amplifying Boston's Eviction Process. https://www.publichealthpost.org/research/covid-19-amplifying-bostons-eviction-crisis/

4. M. Bixby, P. Brochu and **W. Heiger-Bernays**. Recent Hurricanes Highlight Toxic Chemical Releases. Public Health Post. January 22, 2018. https://www.publichealthpost.org/research/recent-hurricanes-highlight-toxic-chemical-releases-vulnerable-communities/

5. **Heiger-Bernays, W**. Review of Risk-Based Pesticide Residues in Israel. Adam Teva V'din. 2018.

6. **Heiger-Bernays**. The Cancer-Causing Chemical Probably in Your Drinking Water. https://www.healthline.com/health-news/cancer-causing-chemical-probably-in-drinking-water#1

7. White, R., Levy, J. and **Heiger-Bernays, W**. "Another Assault on Responsible Environmental Policy and Climate Change Control." Opinion Piece BU SPH. December 15, 2016. https://www.bu.edu/sph/2016/12/15/another-assault-on-responsible-environmental-policy-and-climate-change-control/

8. Marsh, C., Schlezinger, J., **Heiger-Bernays, W.** (2016) Development of an RfD for Alternative Flame Retardant Tris(1,3-dichloro-2-propyl) phosphate using Limited Data. Internal Memorandum (2016, BU SRP).

9. Best Management Practices for Growing Food in Lead Impacted Soils (2014). Posted at Science Gardener Collaborative. http://sites.bu.edu/sciencegardenercollaborative/

10. Using ToxPi for development of Categorical Classifications of Toxicological Endpoints (BU SRP, 2013).

11. Massachusetts Department of Environmental Protection (2012). Wind Turbine Health Impact Study: Report of Independent Expert Panel. http://www.mass.gov/dep/energy/wind/panel.htm

12. National Toxicology Program (NTP) Technical Report Peer Group Panelist (2012). Toxicology and carcinogenesis studies of acrylamide (CASRN 79-06-1) in F344/N rats and B6C3F1 mice (feed and drinking water studies). Natl Tox Program Tech Rep. 2012 Jul;(575):1-234.

13. Porter, J. and **Heiger-Bernays, W**. (2011). Risk Assessment: Vapor Intrusion in a Home Down-Gradient to a Hazardous Waste Transfer Station. Submitted to Framingham Board of Health. April 2. 2011.

14. Bax, D. and **Heiger-Bernays, W**. (2011). Trend Analysis of Lead in Municipal Compost and Recommendations for Annual Compost Sampling. Submitted to Boston Natural Areas Network and City of Boston, Department of Public Works. April, 2011.

15. National Toxicology Program (NTP) Technical Report Peer Group Panelist (2011). Review of NTP Toxicological Reports Evaluating Carcinogenicity. April, 2011.

16. USEPA FIFRA SAP Participant, 2010. Review of EPA/ORD/NERL's SHEDS-Multimedia Model Aggregate version 3.

17. USEPA FIFRA SAP Participant, 2010. Comparative Adult and Juvenile Sensitivity Toxicity Protocols for Pyrethroids.

18. USEPA FIFRA SAP Panelist, 2008. The Agency's Evaluation of the Toxicity Profile of Chlorpyrifos. http://www.epa.gov/scipoly/sap/meetings/2008/september/sap0908report.pdf

19. USEPA FIFRA SAP Participant, 2007. Assessing Approaches for the Development of PBPK Models of Pyrethroid Pesticides. http://www.epa.gov/scipoly/sap/meetings/2007/august/aug_16.pdf

20. USEPA FIFRA SAP Participant, 2007. Review of EPA/ORD/NERL's SHEDS-Multimedia Model Aggregate version 3. http://www.epa.gov/scipoly/sap/meetings/2007/august/sap_minutes_aug_14_15_2007.pdf

21. USEPA Contaminant Candidate List (CCL) Workgroup, 2002-2005. This group is charged with defining the process used by USEPA to list contaminants for regulation in drinking water.

22. **Heiger-Bernays**, Vorhees, D., and C. Long. 1999. Indoor Air Guidance for Petroleum-Contaminated Residences. Maine Department of Environmental Protection.

23. Vorhees, D.J., **W.J. Heiger-Bernays**, D. Murray, and R.E. Dodson. 1998. Trial Guideline for Protecting Residents from Inhalation Exposure to Petroleum Vapors: Trial Period Findings. Prepared for the State of Maine Department of Environmental Protection.

24. Vorhees, J.D., **W.J. Heiger-Bernays**, M.D. McClean. 1997. Human Health Risk Associated with Cigarette Smoke: the Link Between Smoke Constituents and Additives. Prepared for the Medical Foundation, Boston, MA.

25. Menzie, C.A., **W. Heiger-Bernays**, C.R. Montgomery, D.G. Linz, and D.V. Nakles. 1996. Development of an ecological risk assessment framework based on contaminant availability. "Ecotalks - Environmental Contaminants through the Macroscope." Wuerz Publishing Ltd., Winnipeg, MB, Canada.

26. Cura, J.J., **W. Heiger-Bernays**, and K.W. Buchholz. 1995. Draft Guidance on Managing Dredged Material Contaminated with Dioxins and Furans. Submitted to USEPA Oceans and Coastal Protection Division, Washington, DC

27. Technical review of document entitled: "Health Risk Literature Review and Dose-Response Assessment for Dichloromethane (Methylene Chloride)." Abt Associates, Inc. 2012

28. Risk Assessment support for Framingham Board of Health. Indoor Air Risk Characterization for Home Impacted by General Chemical Hazardous Waste Transfer Facility. 2010-2015.

29. Toxicology & Excellence in Risk Assessment Peer Review: Health Canada Screening Level Assessments of Common Chemicals. TERA, 2008, 2009.

30. USEPA External Peer Review: Estimating Perchlorate Intakes from Food and Drinking Water Using the NHANES Biomonitoring Data and UCMR 1 Occurrence Data. Office of Drinking Water. October, 2008.

31. Review of the Human Health Risk Assessment for the Kiln-Related Emissions at the Holcim Trident Cement Plant at Trident, MT (Montanans Against Toxic Burning; 2006).

32. Exposure sources, measurement and classification & risk communication for residents to arsenic in and around Prairie Grove, AK. (J Snow Inst. 2005-2006).

33. Support for the Toxicological and Exposure Assessments of PCBs from fish consumption; Rest of River, GE Housatonic Risk Assessment (H. Strauss/USEPA, 2004).

34. Derivation of an acute "RfDs" for arsenic and hexavalent chromium at the Henry Woods and Sons Former Paint Factory Site (Menzie-Cura & Assoc., 2000).

35. Post-remediation Risk Assessment of Lead and Chromium Pigments at the Henry Woods and Sons Former Paint Factory Site (Menzie-Cura & Assoc., 2000-2004).

36. Development of Guideline for Protecting Residents from Inhalation Exposure to Petroleum Vapors: Prepared for the State of Maine Department of Environmental Protection (1999).

INVITED TALKS AND WEBINARS (2010-present)

2020 Heiger-Bernays. W. "Toxicants in the River". Merrimack River Watershed Council's Annual State of the Waters Conference. January, 31.

2019 Heiger-Bernays, W. Climate Change and Toxic Releases. Massachusetts Association of Health Boards 23rd Annual MAHB Certificate Program. Nov. 10 & 17, 2019.

2019 Heiger-Bernays, W. The Challenge of Federalism: the Status of PFAS Drinking Water Regulations. ISCHE, Merida, Mexico. January 9.

2018 Heiger-Bernays, W. PFASs in Drinking Water and Role of BOH. Massachusetts Association of Health Boards 23rd Annual MAHB Certificate Program. Nov. 10 & 17, 2018.

2018 Heiger-Bernays, W. Development of Per- and Poly-Fluoroalkyl Substances (PFAS) Guidelines. Society for Risk Analysis – New England. June 13, 2018.

2018 Heiger-Bernays, W. Building Sustainable Urban Communities from the Ground Up University Park campus of Penn State University. June 7, 2018.

2018 Down the Drain with PFAS: The Latest on Testing, Measuring, and Mitigating Community Water Contamination. Webinar. BU Superfund Research Program partnership with Collaborative on Health and the Environment (CHE). May 1., 2018. https://www.healthandenvironment.org/webinars/96430

2017 Goldfarb, J., Glick, D., Heiger-Bernays, W., Kriner, D., Perlin, A.,Integrating Science, Health and Policy to Engineer Global Sustainable Water Access. Pardee Center for Long Range Planning. October 25, 2017.

2017 Heiger-Bernays, W. Per- and Poly-Fluoroalkyl Substances (PFAS) Potential Relationships Between Endocrine Effects. Toxics Use Reduction Science Advisory Board. October, 2017.

2017 Heiger-Bernays, W. "Healthy Fish, Healthy People". Think. Teach. Do. For the health of all. BU. October 12, 2017.

2017 Heiger-Bernays, W. "Research Translation Structures are Integral to Improving Children's Health." International Society for Children's Environmental Health. Whidby Island, WA, July, 2017.

2017 Heiger-Bernays, W. Usage of Fisheries Resources By At-Risk Communities in the United States; Community-Based Social, Ecological, and Health Assessments. AAAS Annual Meeting, Boston. February, 2017.

2017 "Screening for Endocrine Bioactivity in Source Water". Environmental Working Group. Washington, D.C. January 2017.

2016 "Enough with the lead…." Video of statements by researchers and public health practitioners about lead in our air, water, soil and food. Created by R. Reibstein.

2016 Toxics and Health. Lexplore Sustainability Fair. Oct. 2016.

2016 Addressing Environmental Health Issues Facing Boston-Area Gardeners. NIEHS PEPH Webinar on Urban Gardening. May 2016.

2016 1,4 Dioxane in Massachusetts: A Case Study Water Innovation - An Integrated Approach to Sustainable Solutions. NIEHS Superfund Research Program Webinar Series – April, 2016. https://www.niehs.nih.gov/research/supported/centers/srp/events/riskelearning/water_innovation/index.cfm

2016 "Preventing the Next "Flint". BU SPH Superfund Research Program and Environmental Health Department sponsored seminar. Feb 12, 2016

2016 A Guide to Tap Water's Weird Flavors LiveScience (4/16) Wendy Heiger-Bernays, PhD, http://spr.ly/6000Blajo

2015 Participant in Air, Earth, and Water: Elements of Health and the Urban Environment. October 15, 2015. Boston University. https://mail.google.com/mail/u/0/#search/October+15+Cities/1504ce9be0a5d10f

2015 Cumulative Risk Assessment Methods for Pesticides. Israel Ministry of Health. Tel Aviv, Israel. June.

2015 Heiger-Bernays, W. (2015). Chemicals, Products, and Health: Global Challenges. BU F. Pardee Center for the Study of Long-Range Future.

2014 Heiger-Bernays, W. What does the Science Say About Health Impacts of Wind Turbines? Austrian Wind Energy Association. Vienna, December.

2014 Heiger-Bernays, W. Derivation of TCE Toxicity Values and Implications for Risk Management. Kentucky Department of Environmental Protection. May 2014.

2014 Heiger-Bernays, W. and Scammell, M. 1,4 Dioxane Health Risk and Regulation. Eastham Public Meeting. Eastham, MA. February 11, 2014.

2014 Heiger-Bernays, W., M. Ramirez-Andreotta and S. Martin. Healthy Urban Gardens: Your Soil Health and You. The Collaborative on Health and the Environment. April, http://www.healthandenvironment.org/partnership_calls/14438

2014 Grace, S., and Heiger-Bernays, W. Report and Status Update from the Expert Panel on Wind Turbines and Health. Massachusetts Wind Working Group. NE Society for Risk Analysis, January.

2013 Heiger-Bernays. Minimizing Health Risks Associated with Exposure to Lead-containing Municipal Compost. Boston Composts! BNAN, Boston. March, 2013. [Invited Oral Presentation]

2013 Heiger-Bernays. Minimizing Health Risks Associated with Exposure to Municipal Compost. Boston Composts! BNAN, Boston. March, 2013.

2012 Manwell, J., Grace, S., and Heiger-Bernays, W. Report from the Expert Panel on Wind Turbines and Health. Massachusetts Wind Working Group. Waltham, MA.

2011 Heiger-Bernays. W. Human Health Risks to Urban Garden Soils. Pilot Urban Agriculture Project on four City-owned Properties in South Dorchester. The Boston Redevelopment Authority (BRA) and Department of Neighborhood Development (DND). Boston, MA. 4/14/11.

2011 Heiger-Bernays, W. Decreasing Exposures is the "Root" to Decreasing Risk. Society for Risk Analysis. Boston, MA.

2011 Heiger-Bernays, W. Gardening in Urban Soils. Waste Site Advisory Committee meeting. Massachusetts Department of Environmental Protection. Boston, MA. www.mass.gov/dep/cleanup/laws/111food.ppt

2010 Heiger-Bernays, W. Risk and Regulation Beyond Bis Phenol. The Science and Policy of BPA. AEI Center for Regulatory Studies. Washington DC. June.

CONFERENCE ABSTRACTS (2010-present)

2020 Schlezinger, JJ, Hyötyläinen T, Boston C, **Heiger-Bernays W**, Webster, TF. 2020. PFOA induces liver and serum dyslipidemia in a humanized PPARα mouse model fed an American diet. *Society of Toxicology Annual Meeting*, Anaheim, CA. Platform

2020 Schlezinger, JJ, **Heiger-Bernays, W**, Webster, TF. Modeling induction of proximal and distal endpoints following PPARγ activation by ligand mixtures. *Society of Toxicology Annual Meeting*, Anaheim, CA, 2020. Poster

2019 Crawford, K., Badri, M., Almberg, D., **Heiger-Bernays W**. A Meal: The Ultimate Complex Mixture. SETAC North America 40th Annual Meeting, 2019. Toronto, Ontario, CA.

2019 Schlezinger JJ, Hyötyläinen T, Boston C, **Heiger-Bernays W,** Webster TF. PFOA induces liver and serum dyslipidemia in a humanized PPARα mouse model fed an American diet. SETAC North America 40th Annual Meeting, 2019. Toronto, Ontario, CA.

2019 **W. Heiger-Bernays,** T. Hyötyläinen, C. Boston, T. Webster, J. J. Schlezinger, PFOA induces liver and serum dyslipidemia in a humanized PPARα mouse model fed an American diet. SETAC North America Focused Topic Meeting, August, 2019.

2018 Erin Polka, Pepper Bowen, **Wendy Heiger-Bernays.** Improving Health in Environmental Justice Communities with Data, Good Food and Water. American Geophysical Union Annual Meeting. December, 2018.

2017 Kathryn Crawford, Bryan Clark, Diane Nacci, Mark Hahn, Jennifer Schlezinger, **Wendy Heiger-Bernays**. "Healthy Fish, Healthy People: How fish can inform our understanding of effects of metabolism disrupting compounds (MDCs) exposure on wildlife and human health" Platform Presentation. Society of Environmental Toxicology and Chemistry, North American Meeting, Minneapolis, MN, Nov 2017.

2017 Kathryn Crawford, Bryan Clark, Diane Nacci, Mark Hahn, Jennifer Schlezinger, **Wendy Heiger-Bernays**. "Healthy fish, healthy people: Ecological and human health impacts of early life exposures to endocrine disruptors on metabolic and bone development". Poster Presentation. Society of Environmental Toxicology and Chemistry, North American Meeting, Minneapolis, MN, Nov 2017

2017 **Wendy Heiger-Bernays**, Kathryn Tomsho, Zoe Petropoulos, Komal Basra, Kathryn Crawford, Keri Hornbuckle, Andres Martinez, and Madeleine K. Scammell. Volatile PCB Health Risk: Living next to

the largest marine Superfund site in the USA. Oral Presentation. NIEHS Superfund Research Program Annual Meeting. Philadelphia. December, 2017.

2017 Kathryn Crawford, Bryan Clark, Diane Nacci, Mark Hahn, Jennifer Schlezinger, **Wendy Heiger-Bernays**. Healthy fish, healthy people: Using fish to understand ecological and human health impacts of early life exposures to Superfund chemicals on metabolic and bone development. Poster Presentation. North Atlantic SETAC Meeting, June 14-16, 2017. Amherst, MA.

2017 Jennifer J Schlezinger, Charlotte Marsh, Stephanie Kim, **Wendy Heiger-Bernays** (2017). The organophosphate flame retardant triphenyl phosphate disrupts bone re/modeling in adult and perinatally exposed female mice. Poster presentation Society for Toxicology Annual Meeting, 12-15 March, 2017. Baltimore, MD; Abstract #2213

2016 **W. Heiger-Bernays**, S. Wegner, D. Dix. (2016). Screening for Endocrine Bioactivity in Ambient Water Informs Prioritization of Monitoring and Testing for Endocrine Active Chemicals in Water. Presentation SETAC World Congress/Annual Meeting, 6-10 Nov, 2016. Orlando, FL; Abstract #397

2016 Martinez, A., Hadnott,, B.N., Awad, A.M., Herkert, N.J., Tomsho, K., Basra, K., Scammell, M., **Heiger-Bernays, W**., Hornbuckle, K.C. (2017). Continuous release of PCBs from New Bedford Harbor results in elevated concentrations in the surrounding air. Presentation SETAC World Congress/Annual Meeting, 6-10 Nov, 2016. Orlando, FL.

2016 M. Scammell, K. Basra, K. Tomsho, C. Miller, S. Broude, A. Martinez, RJ. Juang, KA. Vilandry, K. Hornbuckle, **W. Heiger-Bernays** (2016) Community Engagement and Research Translation of PCB monitoring in ambient air around New Bedford Harbor, MA.9th International workshop on PCBs. Japan http://ee-net.ne.jp/pcb2016e/

2016 K. Tomsho, P. Craffey, **W. Heiger-Bernays** (2016). Examining PCB Concentrations in New Bedford Harbor Quahogs for Human Risk Implications. AEHS Soils, Sediment, Water & Energy, Amherst, MA. October

2016 **W. Heiger-Bernays**, M. Scammell, K. Basra, K. Tomsho, C. Miller, S. Broude, A. Martinez, RJ. Juang, KA. Vilandry, K. Hornbuckle, M. Scammell (2016) Understanding and Communicating Data: PCB Concentrations in Ambient Air Around New Bedford Harbor, MA. AEHS Soils, Sediment, Water & Energy, Amherst, MA. October

2014 K. Crawford, **Wendy Heiger-Bernays**, and Mark Hahn. Evidence of Resistence to AhR-mediated effects of aromatic hydrocarbons in Atlantic killifish (fundulus heteroclitus) in the Island End River, Chelsea, MA. Eigth International PCB Workshop, Woods Hole, MA.

2014 Courtney C. Carignan, **Wendy Heiger-Bernays**, Michael D. McClean, Andreas Sjödin, Heather M. Stapleton, Thomas F. Webster. Gymnast Exposure to Flame Retardants. International Society of Environmental Epidemiology. Seattle, WA. September.

2013 Catriona Wilkey and **W. Heiger-Bernays**. Chemical pesticide-use in community gardens in the Boston area. APHA (2013). Poster

2013 **W. Heiger-Bernays**, J. Tabony, P. Barrett, R. Kim. Characterization of Lead, Arsenic and PAHs in Community Gardens and Municipal Compost: Using Science to Guide Risk Management. SETAC 2013. Nashville, Platform.

2013 Kponee K., Vorhees D., **Heiger-Bernays W**., Exposure to Highly Contaminated Water in a Rural Nigerian Village. Oral Presentation: Annual Meeting of the Society for Risk Analysis. December 2013.

2012 Jennifer Ames, Kelly G. Pennell, Madeleine Kangsen Scammell, Brittany Weldon, Leigh Friguglietti, Eric Suuberg, Rui Shen, Michael D. McClean, **Wendy J. Heiger-Bernays**. Sewer Gas: An Indoor Air Source of VOCs to Consider During Vapor Intrusion Investigations. 28th Annual International Conference on Soils, Sediments, Water, & Energy. (2012) Platform

2012 **Heiger-Bernays, W**., Tabony, J., Chambless, D., Chien, J., Burns, V., Dick, J., Estes, E., Fitzstevens, M., and Brabander, D. (2012). Municipal Compost: Towards Designing Best Practices for Managing Facilities and Application. 28th Annual International Conference on Soils, Sediments, Water, & Energy. Platform

2012 Minnery, J., Boden, L., Clapp, R., Jacangelo, J., and **W. Heiger-Bernays.** "Health Risks Associated With The Frequency Of Membrane Integrity Testing Using QMRA And Projected Declines In Removal Of Oocysts" American Water Works Association's (AWWA) Water Quality Technology Conference (WQTC) in Toronto, Ontario, 2012.

2011 Dan Brabander, Emily R. Estes, Maia Fitzstevens, Jiayang Chien and **Wendy Heiger-Bernays.** Geochemically fingerprinting sources in the urban compost stream: Towards designing best practices for managing facilities and application. Geological Society of America Annual Meeting, Oct. 12, 2011 Minneapolis, MN. Intersection of Geology and Health: Impacts of Geologic Materials on Public Health.

2011 Vorhees, D., Strauss, H., **Heiger-Bernays, W**., Gopinathan, B., Oruchin, E., Stirret t-Wood, G., Igbara, J., Cowell, W. Chien, J. Dong, J. Health Risk Assessment of Exposures Associated with Nigerian Oil Fields. Society for Risk Analysis, 2011.

2011 Carignan, Courtney, Abdallah, Mohamed A., Wu, Nerissa, **Heiger-Bernays, Wendy**, McClean, Michael D., Harrad, Stuart, and Thomas F. Webster. Predictors of HBCDs and TBBPA in Milk from Boston Mothers. Brominated Flame Retardants, 2011. Poster.

2011 Krajewski, A.K., Cody, G., **Heiger-Bernays, W.** Food Safety and Emergency Planning for Retail Food Establishments. National Environmental Health Association Annual Meeting, 2011. Poster.

COMMITTEES AND ACADEMIC ADMINISTRATION

Boston University

2020-present Advisory Committee: BU Institute for Sustainable Energy

2015-16 Faculty Advisory Board Member, Boston University Initiative on Cities

Boston University School of Public Health

2019-present Appointments and Promotions Committee
2017-present Academic Certificate Education Committee
2005-2018 MPH Practicum Committee
2000-2011 Academic Education Committee
2012-2013 Vice co-chair, Faculty Senate

2009-2012 Faculty Senate Ad hoc member
2007-2009 Gender Equity Task Force member
2000-2001 Advising Committee Member

Department of Environmental Health

2016-present Environmental Health Certificate Director
2016-present Infectious Disease Certificate
2009-2018 Director, Environmental Health MPH program
2018-2020 Associate Chair
2006-2019 Environmental Health Curriculum Committee
2012-2013 Chair, Committee to Develop MS Program
2010-2011 Strategic Planning Committee

PROFESSIONAL ASSOCIATIONS AND LEADERSHIP POSITIONS

Academic

Member, External Advisory Committee, Oregon State University Superfund Research Program. 2014 – 2017.
Member, External Advisory Committee, Massachusetts Institute of Technology, Environmental Health Program, 2015 – present.
Technical Contributor, Mystic River Watershed Association, 2012-2018
Member, New England Alliance for Public Health Workforce Development, 2000-2006

Governmental

Chair, Lexington Board of Health, 2005-present
Member, Lexington Board of Health, 2002-2005
Member, Massachusetts Department of Environmental Protection (MassDEP), Science Advisory Committee, Office of Research and Standards, 2018-present.
Member, Massachusetts Department of Environmental Protection (MassDEP), Waste Site Cleanup Advisory Committee 2005-present.
Member, Toxics Use Reduction Institute (TURI), Science Advisory Board, 2017-present.
Member, Technical Advisory Board, California Energy Commission, (2017).
Member, Massachusetts Department of Environmental Protection, Wind Turbine Noise Technical Advisory Group (2014-2016). www.cbuilding.org/project/massdep-wind-turbine-and-noise-technical-advisory-group
Member, USEPA Science Advisory Board 2012. To conduct an advisory activity related to the development of a maximum contaminant level goal (MCLG) for perchlorate. 2012-2013.
Panelist, National Toxicology Program (NTP) Technical Report Peer Group. Review of NTP Toxicological Reports Evaluating Carcinogenicity. April, 2011.
Panelist, USEPA FIFRA Science Advisory Panel. Review of EPA/ORD/NERL's SHEDS-Multimedia Model Aggregate version 3. 2010
Panelist, USEPA FIFRA Science Advisory Panel. Comparative Adult and Juvenile Sensitivity Toxicity Protocols for Pyrethroids. 2010
Panelist, USEPA FIFRA, Science Advisory Panel. The Agency's Evaluation of the Toxicity Profile of Chlorpyrifos. 2008 http://www.epa.gov/scipoly/sap/meetings/2008/september/sap0908report.pdf
Panelist, USEPA FIFRA Science Advisory Panel. Assessing Approaches for the Development of PBPK Models of Pyrethroid Pesticides. 2007 http://www.epa.gov/scipoly/sap/meetings/2007/august/aug_16.pdf
Panelist, USEPA FIFRA Science Advisory Panel. Review of EPA/ORD/NERL's SHEDS-Multimedia Model Aggregate version 3. 2007 http://www.epa.gov/scipoly/sap/meetings/2007/august/sap_minutes_aug_14_15_2007.pdf
Member, USEPA Contaminant Candidate List (CCL) Workgroup, This group is charged with defining the process used by USEPA to list contaminants for regulation in drinking water. 2002-2005.

FELLOWSHIP AWARD AND GRANT REVIEWS

Fellowship Reviewer, AAAS, Science and Technology Fellowships. 2018

Grant Reviewer, US. Environmental Protection Agency STAR Fellowship Study Section: Public Health, Water Quality Subsections, 2000, 2002, 2010, 2012

External Reviewer, Health Canada. The Wind Turbine Noise & Health Study (WTNHS). 2005

OTHER PROFESSIONAL ACTIVITIES

2020 International Society for Children's Health and Environment. 2020 Virtual Meeting Planning. Farm to Table. August, 2020

2016 AAAS Symposium Planning Committee: "Obesity: From Biology to Policy."
https://www.aaas.org/event/stpf/obesity-biology-policy

Peer Reviewer
Environmental Health Perspectives (2008-present)
Environmental Health Journal (2010-present)
Landscape and Urban Planning (2018)
Environment International (2017)
NewSolutions Journal (2009-2011)
Journal of Environmental Science (2006-2008)
Journal of Exposure Science and Environmental Epidemiology (2009-present)

Professional Affiliations
Society of Toxicology
International Society for Children's Health and Environment. Vice President 2019-2021
International Society for Children's Health and Environment. 2018 Meeting Planning Committee
Society of Environmental Toxicology and Chemistry
American Association for the Advancement of Science (AAAS)

COMMUNITY EXPERIENCE AND CITIZENSHIP

Annual volunteer judge for the Boston Latin Academy's Science Fair

Support residents in communities impacted by hazardous waste in Massachusetts, Vermont, New Hampshire, Maine, Rhode Island, New York, Pennsylvania, Illinois, Kentucky, Montana, Colorado, Wisconsin with research translation tools and information on an as-needed basis. Unfunded.

Work experience in Canada, Israel, Kenya, Nigeria.

From: Soltani, Beth
To: Knott, Steven
Cc: Lopez, Peter; Mugdan, Walter; Evangelista, Pat; Kopec, Slawomir; Hickey, Maureen
Subject: FW: AAs & RAs: EPA Seeks Nominations for TSCA Science Advisory Committee on Chemicals
Date: Friday, April 17, 2020 12:53:41 PM
Attachments: Maddaloni_Mark_Cardno_ChemRisk_CV_Oct_2018.pdf

Dear Steven,
We would like to nominate Mark Maddaloni at the suggestion of our Senior Superfund Advisor to the RA, Pat Evangelista. The RA fully supports this nomination.
Please see attached Mr. Maddaloni's resume. Please let us know if anything else will be needed.
Thank you so much.
Sincerely,
Beth

Beth Soltani
Executive Assistant to the Regional Administrator
U.S. Environmental Protection Agency, Region 2
290 Broadway
New York, NY 10007
Office: 212.637.5038
Mobile: 646.531.2763

From: Evangelista, Pat <Evangelista.Pat@epa.gov>
Sent: Thursday, April 16, 2020 10:46 AM
To: Soltani, Beth <Soltani.Beth@epa.gov>
Cc: Mugdan, Walter <Mugdan.Walter@epa.gov>; Kopec, Slawomir <kopec.slawomir@epa.gov>; Hickey, Maureen <Hickey.Maureen@epa.gov>; Lopez, Peter <lopez.peter@epa.gov>; Wilson, Eric <Wilson.EricJ@epa.gov>; Prince, John <Prince.John@epa.gov>
Subject: RE: AAs & RAs: EPA Seeks Nominations for TSCA Science Advisory Committee on Chemicals
Good morning Beth,
As per Pete's request, this is to suggest Dr. Mark Maddaloni, our former Region 2 colleague, be nominated as a candidate for the TSCA SACC. I've confirmed with Mark that he would be interested in fulfilling the duties of a committee member if he's nominated and selected. His CV is attached.
Thank you and feel free to let me know if you have any questions or require additional information.
Be well,
Pat

From: U.S. EPA Office of Chemical Safety and Pollution Prevention <oppt.epa@public.govdelivery.com>
Sent: Thursday, March 19, 2020 2:40 PM
To: Knott, Steven <Knott.Steven@epa.gov>
Subject: EPA Seeks Nominations for Science Advisory Committee on Chemicals

EPA Seeks Nominations for Science Advisory Committee on Chemicals

EPA is announcing its request for nominations of candidates for the Toxic Substances

Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Nominations are due no later than April 20, 2020. Any interested person or organization may nominate qualified persons to be considered for appointment to the SACC. Individuals also may self-nominate. Further details of information to be included in a nomination are provided in the March 20, 2020, Federal Register Notice in docket EPA-HQ-OPPT-2020-0135. The preferred method for submitting nominations is via email to Steven Knott, the SACC's Designated Federal Officer (knott.steven@epa.gov).

The agency is seeking nominations for individuals who have demonstrated high levels of expertise in scientific/technical fields relevant to chemical safety and risk assessment including, but not limited to: human health and ecological risk assessment, biostatistics, epidemiology, pediatrics, physiologically-based pharmacokinetics, toxicology and pathology, and the relationship of chemical exposures to women, children, and other potentially exposed or susceptible subpopulations.

In addition, nominees should have backgrounds and experiences that would contribute to the diversity of scientific viewpoints on the committee, including professional experiences in government, labor, public health, public interest, animal protection, industry, and other groups, as the EPA Administrator determines to be advisable (e.g., geographical location; social and cultural backgrounds; and professional affiliations).

The TSCA SACC serves as a primary scientific peer review mechanism of EPA's Office of Chemical Safety and Pollution Prevention and is structured to provide independent scientific advice and recommendations to EPA on the scientific basis for risk assessments, methodologies, and pollution prevention measures and approaches for chemicals regulated under the Toxic Substances Control Act.

For more information on the TSCA SACC, visit: https://www.epa.gov/tsca-peer-review

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Follow us on Twitter at @EPAChemSafety.

This email was sent to knott.steven@epa.gov using GovDelivery Communications Cloud on behalf of: U.S. EPA Office of Chemical Safety and Pollution Prevention · 707 17th St, Suite 4000 · Denver, CO 80202 · 1-800-439-1420

Cardno ChemRisk
Shaping the Future

Mark A. Maddaloni, DrPH, DABT

Current Position
Senior Managing Health Scientist

Discipline Areas
> Environmental Health
> Toxicology
> Human Health Risk Assessment

Years' Experience
35

Joined Cardno
2018

Education
> Dr.P.H. Environmental Health Sciences, Columbia University, School of Public Health, 1998
> M.S. Toxicology, St. John's University, Graduate School of Pharmaceutical Sciences, 1983
> B.S. Pharmacy, Long Island University, College of Pharmacy, 1980

Summary of Experience

Dr. Mark Maddaloni has 35 years of professional work experience in the areas of environmental health, toxicology, and human health risk assessment. Prior to joining Cardno ChemRisk, he served as a senior toxicologist and the Regional Risk Assessment Coordinator in the Office of the Regional Administrator for EPA - Region 2. Mark has served on numerous EPA National Work Groups including: metals, asbestos, chemical mixtures, PCBs, perfluoroalkyl substances, and bioavailability. EPA recognized Dr. Maddaloni as a national expert in lead (Pb) risk assessment. Prior to joining EPA in 1991, Mark was employed as a clinical toxicologist at the New York City Poison Control Center (NYCPCC) where he specialized in occupational/environmental exposures. He has served on a CDC Pb Poison Prevention Advisory Committee and the New Jersey Department of Environmental Protection's Science Advisory Board. He is presently the longest serving member (appointed in 2000) of the New York City Department of Health and Mental Hygiene's Institutional Review Board (IRB). Dr. Maddaloni is a Diplomat of the American Board of Toxicology and a member of the Society of Toxicology.

U.S EPA Overview

Dr. Maddaloni spent the early part (1991 – 1999) of his EPA career developing and reviewing risk assessments at Superfund sites He attended numerous public meetings for Superfund site Proposed Plans and presented the results of the site risk assessment to community members, organizations and official representatives. Dr. Maddaloni also worked closely with the Superfund Removal Program developing exposure guidelines and action levels for emergency response and time-critical response actions. In addition, he has experience in performing risk assessments for RCRA Corrective Actions and Incinerator Permitting. During that same time period, Dr. Maddaloni joined various national workgroups charged with advancing the science of risk assessment. From his work developing the Integrated Exposure Uptake Biokinetic Model for Lead (Pb) in Children to his co-authorship of the Risk Assessment Guidance for Superfund – RAGS Part E (Supplemental Guidance for Dermal Risk Assessment), Dr. Maddaloni has been front and center in the science of risk assessment.

Immediately following the attack on the World Trade Center (WTC), Dr. Maddaloni joined the WTC Response and Recovery Operation. He developed short-term exposure guidelines to inform decisions on re-occupying residential neighborhoods, schools and businesses in the vicinity of Ground Zero. As days and weeks turned into months, there was an increasing concern over residual contamination in residential dwellings. Dr. Maddaloni led a cross-agency team in identifying contaminants-of-concern and setting risk-based exposure guidelines for the indoor environment. The report, "World Trade Center Indoor Environment Assessment: Selecting Contaminants of Potential Concern and Setting Health-Based Benchmarks (May, 2003) guided the extensive WTC indoor Clean-up Program (over 4,000 residences cleaned/tested) and remains a pivotal document in the scientific literature for assessing the indoor environment. Dr. Maddaloni also directed development of community exposure guidelines for ambient air associated with the demolition of heavily damaged buildings in the immediate vicinity of the WTC. The 40 story Deutsche Bank Building on Liberty Street required an extensive network of

monitoring stations surrounding the structure at ground level and at elevation to ensure that the building was deconstructed with minimal impact to the surrounding community.

Following his detail to the WTC Response and Recovery Operation, Dr. Maddaloni was selected to join the Office of Strategic Programs, a new office housed within the Office of the Regional Administrator. He was tasked with coordinating EPA - Region 2 risk assessment activities and served as a consultant to the Regional Administrator on matters of toxicological concern. In this position, he was required to make rapid assessments of emerging environmental health issues and manage multiple projects at the same time. Dr. Maddaloni worked closely with the Office of Regional Counsel to provide the scientific foundation for complex negotiations on Administrative Orders and Consent Agreements with various public and private entities. Dr. Maddaloni provided expert testimony for the Department of Justice in a successful case involving pesticide drift from a fruit farm in Puerto Rico. In his position, Dr. Maddaloni has cultivated productive working relationships with partners in state/municipal governments, academia and the private sector.

Significant Projects/Experience

Senior Toxicologist/Regional Risk Assessment Coordinator, Office of the Regional Administrator.

Tasked with coordinating EPA - Region 2 risk assessment activities and served as a consultant to the Regional Administrator on matters of toxicological concern. Selected projects include:

> **Lead - Coordinated development of the EPA - Region 2 Lead (Pb) Action Plan (2018).** Regional Pb Action Plans were requested by the EPA Office of the Administrator to complement a draft Federal Pb Strategy (co-chaired by EPA and HHS) to reduce elevated blood Pb levels in children. Worked with divisional representatives in EPA Region 2 to document ongoing initiatives and brainstorm additional approaches for identifying hot spots of elevated blood lead levels in Region 2

> **PFAS** - Coordinated EPA - Region 2 PFAS Strategy (2018). Tasked with ensuring communication of developing scientific issues across Region 2 programs and regulated states (NY and NJ) and between Region 2 and EPA National Program Offices (Office of Land and Emergency Management, Office of Water, and, Office of Research and Development). Member of multiple National and Regional PFAS Work Groups.

Subject Matter Expertise for National Programs and Regional Initiatives

> **Emerging Contaminants** Member of EPA National Work Group charged with developing a strategy for assessing emerging contaminants (ECs). Charge: Develop a responsive process for risk screening of identified ECs; engage a cross-agency team with risk assessment experience relevant to risk screening; develop a system that enables and supports a singular Agency answer for identified ECs.

> **PFAS** Member Perfluoroalkyl Substance (PFAS) Toxicity Work Group. Workgroup tasked with generating toxicity factors for GenX chemicals and perfluorobutane sulfonate (PFBS) and developing methods for assessing the toxicity of an expanded group of PFAS.

> **PCBs** Member EPA Work Group tasked with developing risk-based exposure guidelines for PCBs in indoor air and interior surfaces in residences, schools, and

non-residential buildings. Provided consultation to EPA national programs and regional staff on the assessment of PCB exposure in both the ambient and indoor environment. Conducted high profile assessments of PCBs at New York Penn Station, New York University and Syracuse University. Performed ground-breaking work in the development of risk-based indoor air exposure guidelines for New York City public schools.

> **Asbestos** Member (former co-chair) of EPA Technical Review WorkGroup for Asbestos charged with developing guidance for asbestos site assessments at hazardous waste sites. Chaired Work Group subcommittee that developed guidance assessing asbestos exposure in the indoor environment.

> **Metals (Lead and Arsenic)** Member (former co-chair) of EPA Technical Review WorkGroup for Metals that was tasked with advising EPA regional staff on the use of the Integrated Exposure Uptake Biokinetic (IEUBK) Model for Lead (Pb) in Children. Also tasked with updating and refining IEUBK Model functions and input parameters and developing an all-ages (lifetime) biokinetic model for Pb. Chaired WorkGroup subcommittee that developed EPA guidance on gardening in Pb contaminated soil. Chaired Work Group subcommittee that developed a simplified biokinetic methodology for modelling Pb exposure in adults. Developed a default bioavailability estimate for soil-borne arsenic to reduce the uncertainty in assessing risk from arsenic contaminated soil.

> **Bioavailability** Member (former co-chair) of EPA Technical Review Work Group for Bioavailability that developed in vitro (bioaccessibility) assays for estimating the bioavailability of soil-borne lead (Pb) and arsenic (As) for the purpose of reducing uncertainty and refining risk estimates for Pb and as contaminated soil.

> **Dermal** Dermal Exposure Work Group that was tasked todevelop Superfund Dermal Risk Assessment Guidance for Superfund (RAGS Part E)

Disaster Planning, Response and Remediation Operations

> Lead a cross-agency team in identifying contaminants-of-concern and setting exposure guidelines for the indoor environment. The report, “World Trade Center Indoor Environment Assessment: Selecting Contaminants of Potential Concern and Setting Health-Based Benchmarks (May, 2003) guided the extensive WTC indoor Clean-up Program (over 4,000 residences cleaned/tested) and remains a pivotal document in the scientific literature for assessing the indoor environment.

> Directed development of community exposure guidelines for ambient air associated with the deconstruction of heavily damaged buildings in the immediate vicinity of the WTC. The 40 story Deutsche Bank Building on Liberty Street required an extensive network of monitoring stations surrounding the structure at ground level and at elevation to ensure that the building was demolished with minimal impact to the surrounding community.

> Developed position paper for managing asbestos-contaminated dust in the decontamination/demolition of 130 Liberty Street (former Deutsche Bank), a 40 story heavily damaged/contaminated building adjacent to Ground Zero

> Developed short-term exposure guidelines to inform decisions on re-occupying residential neighborhoods, schools and businesses in the vicinity of Ground Zero.

> Served as regional toxicology resource for the risk assessment of the ambient and indoor environments impacted by WTC disaster. Represent EPA Region 2 at scientific meetings. Gave presentations on the WTC environmental assessment and

response. Met with environmental/community groups to discuss risk-related issues associated with the WTC disaster.

> Participated in design and implementation of a WTC Indoor Background Study and Indoor Cleaning Confirmation Study

> Participated in research project to determine release of asbestos fibers from carpets funded through the EPA Regional Applied Research Effort Program

Environmental Public Health Initiatives

> Chaired cross-divisional team at EPA-Region 2 tasked with improving environmental health conditions in the environmentally-overburdened, economically-distressed city of Newburgh, NY. As part of the EPA administrator's "Making a Visible Difference in Communities" initiative. The Making a Visible Difference Team working with federal, state and municipal partners has implemented:
  - Residential soil sampling for lead (Pb)
  - Testing for Pb in over 500 drinking water outlets in the Newburgh public schools
  - Targeted Brownfield assessments of abandoned properties
  - Assessment of City of Newburgh DPW and adjacent State Superfund site
  - Environmental Justice and Education Workshop
  - Watershed protection table-top exercise
  - Federal Railroad Administration involvement to increase oversight of CSX oil trains and tracks.

> Served as (acting) EPA Region 2 Children's Environmental Health Coordinator. Worked closely with federal, state and local health/environmental departments and the Pediatric Environmental Health Specialty Unit at Mt Sinai Medical Center in NYC to advance environmental public health initiatives in pediatric populations.

> Served on advisory board to the New York State Department of Health for the development of an Environmental Health Guidelines Program for public schools in New York State.

Superfund Site Risk Assessment, Management and Communication

> Extensive experience in developing and reviewing risk assessments at Superfund sites

> Attended (Proposed Plan) public meetings for Superfund sites and presented the results of the site risk assessment to community members, organizations and official representatives.

> Worked closely with the Superfund Removal Program developing exposure guidelines and action levels for emergency response and time-critical response actions.

> Experience in performing risk assessments for RCRA Corrective Actions and Incinerator Permitting.

Ancillary/Additional Activities

> Provided risk assessment expertise for EPA - Region 2 on a project on Long Island to assess the potential hazard posed by pentachlorophenol treated utility poles. Assessed risk from direct contact with utility poles and potential impact to groundwater. Inhalation exposure was deemed to be negligible.

> Task force on Research to Inform and Optimize CBR Response/Readiness (TRIO) - Identify response community needs for homeland security incidents. Developing risk-based exposure guidelines for chemical agents.

> Worked closely with the EPA Region 2 Office of Regional Counsel to provide the scientific foundation for complex negotiations on Administrative Orders and Consent Agreements with various public and private entities. Provided expert testimony for the Department of Justice in a successful case involving pesticide drift from a fruit farm in Puerto Rico.

> Coordinated cross-divisional risk assessment activities within EPA - Region 2 and chaired the Regional Risk Assessment Council. The purpose of the Council was to provide a forum to foster communication and the exchange of ideas/information among and between divisional personnel engaged in risk assessment activities; Identify existing or emerging regional issues that require significant risk assessment intervention and/or pose complex/novel risk assessment challenges, and; Inform/educate senior management, as indicated, on the risk assessment issues addressed by the Council.

Teaching Experience

> Hunter College, Graduate School of Environmental Sciences
  - Adjunct Professor Instructed graduate course titled: Environmental and Occupational Toxicology. Instructed public health students in an introductory environmental science course.

> St. John's University - Jamaica, NY - Teaching Assistant - School of Pharmacy

> Columbia University, School of Public Health – Teaching Assistant. Instructed MPH students taking core course in environmental health sciences

Research Initiatives

> Regional Applied Research Effort (RARE) - A collaboration funded by EPA's Office of Research and Development (ORD) to support applied research in EPA's Regional offices. Initiated and successfully competed to have the following research projects funded:
  - Mercury in Commercial Fish Market Study (2009)
  - Pb Stabilization and Arsenic Mobilization in phosphate amended soils (2012)
  - Passive vs Active Air Sampling for PCBs in NYC Public Schools (2014)

> Regional Sustainable Environmental Science Research Program (RESES). A collaboration funded by EPA's Office of Research and Development (ORD) to partner with EPA Regional scientists to advance sustainable environmental practices.
  - (2018) Emergency Planning with Our States - Interactive Mapping of Flood-Induced Contaminants from Hazardous Waste Sites in EPA Regions 2 & 3

– (2018) EPA-ORD/Region 2 funded research on the use of cholestyramine to reduce the body burden of PFAS in zebrafish. EPA/ORD/RTP Regional Toxicologist - National Expert, Lead (Pb)

Additional Work Experience

New York City Poison Control Center

> Poison Information Specialist/Supervisor
> Responsible for providing consultations to the medical community and lay public regarding the management of poison emergencies. Provided special support in the assessment of occupational and environmental exposure.
> N.Y.C. Disaster Planning Committee member
> Routinely participated in research projects and educational services that included lecturing on poison management

Bayley Seton Hospital - Staten Island, NY

> Pharmacist (Part-Time)

Certifications

> Diplomat, American Board of Toxicology (1992); re-certification (1997, 2002, 2007, 2012, 2017)
> American Assoc. of Poison Control Centers - Certification (1985)
> New York State Licensed Pharmacist (1981)

Professional Awards

> Numerous EPA awards – plaques, pins, etc. available upon request
> New York State Children's Environmental Health Centers Award, 2018
> Columbia U. Environmental Health Sciences Award of Excellence, 1998
> Columbia U. Alumni Award, 1992
> Long Island U. Merck, Sharp and Dohme Award – Physiology, 1980

Membership to Professional Societies s

> Society of Toxicology, Full Member
> NJDEP Science Advisory Board, Past Member
> CDC Pb Poison Prevention Advisory Committee, Past Member

Publications

Peer-Reviewed

> Bradham, K.D., G.L. Diamond, M. Burgess, A. Juhasz, J.M. Klotzbach, M. Maddaloni, C. Nelson, K. Scheckel, S.M. Serda, M. Stifelman and D.J. Thomas. 2018. In vivo and in vitro methods for evaluating soil arsenic bioavailability: relevant to human health risk assessment. J Toxicol Environ Health B Crit Rev 21(2): 83-114.
> Henry, H., M.F. Naujokas, C. Attanayake, N.T. Basta, Z. Cheng, G.M. Hettiarachchi, M. Maddaloni, C. Schadt and K.G. Scheckel. 2015. Bioavailability-Based In Situ Remediation To Meet Future Lead (Pb) Standards in Urban Soils and Gardens. Environmental Science & Technology 49(15): 8948-8958.

- Lehmann, G.M., K. Christensen, M. Maddaloni and L.J. Phillips. 2015. Evaluating health risks from inhaled polychlorinated biphenyls: research needs for addressing uncertainty. Environ Health Perspect 123(2): 109-113.
- Scheckel, K.G., G.L. Diamond, M.F. Burgess, J.M. Klotzbach, M. Maddaloni, B.W. Miller, C.R. Partridge and S.M. Serda. 2013. Amending soils with phosphate as means to mitigate soil lead hazard: a critical review of the state of the science. J Toxicol Environ Health B Crit Rev 16(6): 337-380.
- Callahan, K.C., T. Cardona-Marek, W. Farland, M. Maddaloni and D. Santella (2007). The United States Environmental Protection Agency. Environmental and Occupational Medicine. Rom, W. Philadelphia, PA, Lippincott, Williams and Wilkins: 1662.
- Maddaloni, M., M. Ballew, G. Diamond, M. Follansbee, D. Gefell, P. Goodrum, M. Johnson, K. Koporec, G. Khoury, J. Luey, M. Odin, R. Troast, P. Van Leeuwen and L. Zaragoza. 2005. Assessing Lead Risks at Non-Residential Hazardous Waste Sites. Human and Ecological Risk Assessment: An International Journal 11(5): 967-1003.
- Maddaloni, M.A. 2004. Bioavailability of Soil-borne Chemicals: A Regulatory Perspective. Human and Ecological Risk Assessment: An International Journal 10(4): 657-663.
- Ryan, J.A., K.G. Scheckel, W.R. Berti, S.L. Brown, S.W. Casteel, R.L. Chaney, J. Hallfrisch, M. Doolan, P. Grevatt, M. Maddaloni and D. Mosby. 2004. Reducing children's risk from lead in soil. Environ Sci Technol 38(1): 18A-24A.
- Tang, K.M., C.G. Nace, Jr., M.A. Maddaloni, J.D. Harkay, D.R. Graham, Jr., R.N. Koustas, J.D. Rotola, D. LaPosta and K.C. Callahan. 2004. Evaluation of vacuum and wet-wipe methods for removal of World Trade Center dust from indoor environments. J Air Waste Manag Assoc 54(10): 1293-1298.
- Maddaloni, M., N. Lolacono, W. Manton, C. Blum, J. Drexler and J. Graziano. 1998. Bioavailability of soilborne lead in adults, by stable isotope dilution. Environ Health Perspect 106 Suppl 6: 1589-1594.
- White, P.D., P. Van Leeuwen, B.D. Davis, M. Maddaloni, K.A. Hogan, A.H. Marcus and R.W. Elias. 1998. The conceptual structure of the integrated exposure uptake biokinetic model for lead in children. Environ Health Perspect 106 Suppl 6: 1513-1530.
- Hoffman, R.S., M.G. Wipfler, M.A. Maddaloni and R.S. Weisman. 1991. Has the New York State triplicate benzodiazepine prescription regulation influenced sedative-hypnotic overdoses? N Y State J Med 91(10): 436-439.

Book Editor (in press)

- Developing Guidelines for Exposure to Nuclear, Biological, and Chemical Agents 1st Edition. 2019. M.A. Maddaloni and G.L. Diamond (Editors). Wiley-Blackwell, Hoboken, NJ. 320 pages.

Presentations

- (Oct., 2018) New York State Bar Association. Invited speaker for panel titled: Everything You Need to Know about Emerging Contaminants. Kingston, NY. Presentation on the development of toxicity factors by EPA, ATSDR and NJDEP
- (Sept., 2018) Alpha Analytical and Connell Foley Law. Invited speaker for a workshop on emerging contaminants. New Jersey City University. Gave presentation updating

EPA actions on PFAS relating to MCL development, hazardous substance listing, toxicity assessments and clean-up goals.

> (June, 2018) Presentation: Environmental Risk Assessment/PCB Case Study. Mt. Sinai Medical Center. NY, NY. Presented to medical and MPH students on the assessment and remediation of PCBs in NYC public schools

> (May, 2018) Speaker, Career Development Panel for Mt Sinai School of Medicine and Public Health.

> (May, 2018) National PFAS Summit. Represented EPA – Region 2 at a conference held at EPA Headquarters to bring together representatives from all ten EPA Regional offices, States (more than 25 attending), Tribal Nations, other federal agencies (e.g., ATSDR, NIOSH, FDA, OSHA, NIH, DoD) and private sector entities to advance the understanding of hazards posed by PFAS in the environment and to chart a consistent path forward on topics including exposure guideline development and risk communication messaging

> (April, 2018) Newburgh, NY Soil Shop. Conducted real-time (X Ray Fluorescence) analysis of garden and yard soil samples for lead (Pb) and provided interpretation of results.

> (Feb., 2018) Represented EPA – Region 2 at Federal Information Exchange on PFAS (representatives from 16 federal agencies in attendance) hosted by the National Institute of Environmental Health Sciences (NIEHS). Bethesda, MD.

> (Nov., 2017) Presentation: Restoration/Remediation of Urban Soils. 2nd Urban Soils Symposium. Bronx Botanical Gardens. Discussed proposed revisions for EPA standards and guidelines related to Pb in environmental media (air, water, and soil).

> (Oct., 2017) Presentation: PFAS, Comparing and Contrasting Blood Screening Programs in Two New York State Communities (Hoosick Falls, and Newburgh). AEHS Foundation Annual Conference. UMass-Amherst.

> (Oct., 2017) Presentation: Biomonitoring of Lead, Mercury, and Arsenic. Columbia U. Mailman School of Public Health. NY, NY (presentation given annually for Biomarkers class)

> (2015) EPA Perspectives on the Bioavailability of Soil-Borne Arsenic – Soil, Sediments, Water and Energy Conference, UMass-Amherst. Gave presentation on current efforts to develop an in vitro extraction method to estimate the bioavailability of soil-borne arsenic.

> (2014) PCBS in Schools – Eight International Workshop on PCBs, Woods Hole, Mass. Presented on ongoing efforts to assess and manage elevated indoor air concentrations of PCBs in New York City public schools secondary to past use of PCB containing caulk and lighting fixtures.

> (2013) Biokinetic Modelling of Pb – Soil, Sediments, Water and Energy Conference, UMass-Amherst. Presented on u pdates to EPA's Integrated Exposure Uptake Biokinetic Model for Lead.

International Presentations

> Invited speaker at Environment Agency UK sponsored workshop on the bioavailability of soil-borne metals. (2008) Presented on in vitro methods to assess the bioavailability of soil-borne lead.

> Invited speaker at International Society of Exposure Science (2003). Presented on the development of exposure guidelines for World Trade Center related contaminants (dioxin, PCBs, PAHs, lead, crystalline silica, asbestos and man-made vitreous fibers) in indoor air and settled dust.

> Invited speaker at Health Canada sponsored workshop on developing health-based benchmarks for contaminants in indoor settled dust (2002)

> Invited speaker at Health Canada sponsored workshop on the bioavailability of soil-borne PAHs (1999). Gave presentation on EPA efforts to develop an in vito extraction test to estimate the bioavailability of soil-borne PAHs.

Select Workshops

> Served as facilitator for 2 day EPA sponsored Workshop on Urban Pb Issues (2013 – Philadelphia, PA). The workshop brought together researchers and regulators to better understand the hazards posed by environmental Pb contamination from legacy sources such as Pb-based paint, leaded gas, trash incineration, and secondary smelting in order to develop cost-effective strategies for reducing exposure to pediatric populations in urban settings.

> Co-Chaired Society of Toxicology Workshop on assessing and managing asbestos contamination in environmental settings (2006). The workshop explored sampling/analytical methods for estimating airborne asbestos concentration from contaminated soil, advances in the toxicity assessment of amphibole asbestos, and, exposure assessment in the indoor environment. Re: the last subject, gave presentation on EPA's assessment of residences impacted by asbestos-contaminated dust resulting from the World Trade Center disaster.

> Co-Chaired Society of Toxicology Workshop on development of exposure guidelines for chemical, biological and radiological agents (2005). This workshop brought together experts in the assessment of chemical, biological and radiological (CBR) agents in order to develop a framework for the rapid assessment and management of incidents involving CBR agents, focusing on agents of terrorism. Wiley Publishers contracted with Co-Chair to develop the content of the workshop into a text on exposure guidelines for CBR agents.

From: Peterson, Todd
To: Knott, Steven
Cc: Udayan Apte
Subject: FW: EPA Seeks Nominations for Science Advisory Committee on Chemicals
Date: Tuesday, March 31, 2020 10:28:02 AM

Steve,
Dr. Apte sent his email below indicating a self-nomination for the SACC. Please add him to the list of nominees.
Best Regards,
Todd Peterson, PhD
Designated Federal Official
US Environmental Protection Agency
OCSPP/OSCP
Scientific Advisory Panel & Science Advisory Committee on Chemicals
William Jefferson Clinton East Bldg
Mail Code M 7201
1200 Pennsylvania Ave, NW
Washington, DC 20460
Office: 202-564-6428

From: Udayan Apte <uapte@kumc.edu>
Sent: Tuesday, March 31, 2020 10:13 AM
To: Peterson, Todd <Peterson.Todd@epa.gov>
Subject: Re: EPA Seeks Nominations for Science Advisory Committee on Chemicals

Hi Todd,
I would like to nominate myself. Thanks!
Udayan Apte, PhD, DABT
Associate Professor
Department of Pharmacology, Toxicology
And Therapeutics
3901 Rainbow Blvd
MS1018, HLSIC4087
University of Kansas Medical Center
Kansas City, KS 66160 USA
Tel: (913) 588-9247
Email: uapte@kumc.edu
Web: Apte lab

From: "Peterson, Todd" <Peterson.Todd@epa.gov>
Date: Tuesday, March 31, 2020 at 8:30 AM
To: "Peterson, Todd" <Peterson.Todd@epa.gov>
Subject: EPA Seeks Nominations for Science Advisory Committee on Chemicals

To SACC peer reviewers:
Below my signature block is the announcement for nominations for the SACC and because you have served as an ad hoc reviewer you know something about SACC peer reviews. If you are interested, you may self-nominate. And if you know of a colleague who may be qualified and

interested then all nominations are welcome.
Please note that I am hearing that future SACC reviews may broaden out into related topics and simply not just chemical-after-chemical reviews—making for added variety for future SACC reviews and meetings.
Best Regards,
Todd Peterson, PhD
Designated Federal Official
US Environmental Protection Agency
OCSPP/OSCP
Scientific Advisory Panel & Science Advisory Committee on Chemicals
William Jefferson Clinton East Bldg
Mail Code M 7201
1200 Pennsylvania Ave, NW
Washington, DC 20460
Office: 202-564-6428

EPA Seeks Nominations for Science Advisory Committee on Chemicals

EPA is announcing its request for nominations of candidates for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Nominations are due no later than April 20, 2020. Any interested person or organization may nominate qualified persons to be considered for appointment to the SACC. Individuals also may self-nominate. Further details of information to be included in a nomination are provided in the March 20, 2020, Federal Register Notice in docket EPA-HQ-OPPT-2020-0135. The preferred method for submitting nominations is via email to Steven Knott, the SACC's Designated Federal Officer (knott.steven@epa.gov).

The agency is seeking nominations for individuals who have demonstrated high levels of expertise in scientific/technical fields relevant to chemical safety and risk assessment including, but not limited to: human health and ecological risk assessment, biostatistics, epidemiology, pediatrics, physiologically-based pharmacokinetics, toxicology and pathology, and the relationship of chemical exposures to women, children, and other potentially exposed or susceptible subpopulations.

In addition, nominees should have backgrounds and experiences that would contribute to the diversity of scientific viewpoints on the committee, including professional experiences in government, labor, public health, public interest, animal protection, industry, and other groups, as the EPA Administrator determines to be advisable (e.g., geographical location; social and cultural backgrounds; and professional affiliations).

The TSCA SACC serves as a primary scientific peer review mechanism of EPA's Office of Chemical Safety and Pollution Prevention and is structured to provide independent scientific advice and recommendations to EPA on the scientific basis for risk assessments, methodologies, and pollution prevention measures and approaches for chemicals regulated under the Toxic Substances Control Act.

For more information on the TSCA SACC, visit: https://www.epa.gov/tsca-peer-review

Bryan D. Hardin, PhD, Fellow ATS
Vice President – Principal Toxicologist
Assistant Surgeon General, U.S. Public Health Service (Retired)
Former Deputy Director, National Institute for Occupational Safety and Health

Education

PhD, Environmental Health Sciences, Division of Graduate Studies and Research, University of Cincinnati, 1983
MS, Zoology, College of Arts and Sciences, University of Oklahoma, 1972
BS, Zoology, College of Arts and Sciences, University of Oklahoma, 1970
BS, Mathematics, College of Arts and Sciences, University of Oklahoma, 1966

Professional Affiliations

American College of Occupational and Environmental Medicine
American College of Toxicology
American Industrial Hygiene Association
- AIHA Journal Editorial Advisory Group, 1995-2000
- Emergency Response Planning Committee, 2001-2018; Secretary 2009-2011; Vice Chair 2011-2013; Chair 2013-2015; Past Chair 2015-2017

Society of Toxicology
- Councilor, Occupational & Public Health Specialty Section, elected May 2004-2006
- Member: Regulatory and Safety Evaluation Specialty Section; Reproductive and Developmental Toxicity Specialty Section; Occupational and Public Health Specialty Section; Risk Assessment Specialty Section; Southeastern Regional Chapter

Society for Birth Defects Research and Prevention
- Public Affairs Committee, 1985-1988
- Constitution and Bylaws Committee, 1993-1996 (Chair 1995-1996)

Honors and Professional Recognition

Fellow, Academy of Toxicological Sciences, 2005-Present (Recertified in 2010, 2015)
Recipient: “Distinguished Service Award” from the International Safety Equipment Association, (ISEA), 2001
Named US Public Health Service “Career Scientist of the Year,” 1999
Named "Professional/Scientific Federal Employee of the Year" by the Greater Cincinnati Federal Executive Board and Federal Business Association, 1983
US Public Health Service Commissioned Corps:
- Exceptional Capability Promotion: 1974; 1989
- Distinguished Service Medal: 2001
- Surgeon General's Exemplary Service Medal: 1993; 1997
- Outstanding Service Medal: 1985
- Commendation Medal: 1981; 1987; 1997

– PHS Citation: 1990
– Unit Commendation Medal: 1987; 1989; 1991; 1994; 1996; 1999
– Special Assignment Service Ribbon: 1987; 1994
– Bicentennial Unit Commendation, 1999

Finalist for 1988 Alice Hamilton Science Award for Excellence in Occupational Safety and Health
Research Advisor for National Research Council Associateship Program
Phi Sigma International Honorary Biological Society
Sigma Xi: The Scientific Research Society
Biographical profile in Who's Who in America, 55th Ed., 2001 through 70th Ed., 2016

Professional Experience

Present	J.S. Held LLC, Hilton Head, SC Vice President – Principal Toxicologist
2004 – 2019	Veritox®, Inc. (formerly GlobalTox, Inc.), Redmond, WA / Hilton Head, SC Principal
2001 – 2004	GlobalTox, Inc., Redmond, WA Senior Consultant / Practice Leader
2000 – 2003	Bryan Hardin Consulting Consultant
1998 – 2000	National Institute for Occupational Safety and Health (NIOSH), Atlanta, GA Deputy Director
1996 – 1998	Office of the Director, NIOSH, Washington, DC Lead Senior Scientist
1996	NIOSH, Atlanta, GA Acting Deputy Director
1994 – 1996	Office of the Director, NIOSH, Washington, DC Senior Scientist
1993 – 1994	Office of the Assistant Secretary of Labor for Occupational Safety and Health (OSHA), US Department of Labor, Washington, DC Special Assistant (on detail from NIOSH)
1992 – 1993	NIOSH, Washington, DC Assistant Director and Director of the Washington Office
1990 – 1992	Division of Standards Development and Technology Transfer, NIOSH, Cincinnati, OH Deputy Director (Acting June 1989 – April 1990)
1987 – 1990	Document Development Branch. Division of Standards Development and Technology Transfer, NIOSH, Cincinnati, OH Chief
1988	Office of the Director, NIOSH, Atlanta, GA Acting AIDS Coordinator

1986 – 1987	Office of the Director, Division of Standards Development and Technology Transfer, NIOSH, Cincinnati, OH Senior Reviewer (Chief, July 1987 – November 1987)
1977 – 1986	Acute and Subchronic Toxicology Section, Experimental Toxicology Branch, Division of Biomedical and Behavioral Science, NIOSH, Cincinnati, OH Research Biologist
1975 – 1977	Environmental Health Sciences, Kettering Laboratory, University of Cincinnati Medical Center, Cincinnati, OH US Public Health Service Graduate Trainee
1972 –1975	Criteria Development Branch, Office of Research and Standards Development, NIOSH Rockville, MD Criteria Manager (Chief, Group B, January – August 1975)

Uniformed Service

1972 – 2000	Commissioned Officer, United States Public Health Service Highest rank: Assistant Surgeon General (O-7, Rear Admiral) Assimilated into Regular Corps 1 July 1975.
1968 – 1972	US Army Reserve Administrative Officer, Headquarters, 95th Division (Training), Oklahoma City, OK. Highest Rank: Captain (O-3, Adjutant Generals Corps)
1966 – 1968	US Army Electronics Research and Development Activity, White Sands Missile Range, NM. Administrative Officer; Personnel Officer; Commanding Officer, Headquarters and Headquarters Company. Highest rank: First Lieutenant (O-2, Adjutant Generals Corps)

Academic Appointments

2000 – 2006	Rollins School of Public Health, Emory University, Atlanta, GA Department of Environmental and Occupational Health Adjunct Associate Professor
1971 – 1972	Department of Zoology, University of Oklahoma, Norman, OK Graduate Research Assistant
1970 – 1971	Department of Zoology, University of Oklahoma, Norman, OK Graduate Teaching Assistant in Human Physiology

Federal Court / Administrative Proceedings / Congressional Hearings

Witness for NIOSH in United States District Court for the Western District of Louisiana, Lafayette-Opelousas Division, in Methane Awareness Resource Group et al. v. United States of America et al. (lawsuit challenging NIOSH and NCI scientific peer review of an epidemiologic study of lung cancer in diesel-exposed underground miners), April 16-17, 1997.

Lead witness (Logging, Walking & Working Surfaces, Hazardous Waste, Vehicle Safety, Glycol Ethers, Respiratory Protection, Tuberculosis) or member of CDC/NIOSH testimony team (Bloodborne Disease) at public hearings for proposed OSHA regulations.

Lead witness for DHHS at hearing conducted by the Ad Hoc Subcommittee on Consumer and Environmental Affairs of the Senate Committee on Government Affairs, presenting testimony on potential health risks of police radar guns, August 10, 1992.

Witness for the DHHS Office of General Council at an arbitration hearing, presenting testimony pertaining to the NIOSH CIB #54 on Environmental Tobacco Smoke, San Francisco, CA, November 15, 1991.

Expert witness at an Administrative Law contest of an OSHA citation for exposure to "coal tar pitch volatiles." April 25-27, 1978.

Selected Professional Activities

Chair, 2012 NIOSH NORA Peer Review, Intervention/Surveillance Panel, Washington, DC, June 8-9, 2011.

Chair, 2011 NIOSH NORA Peer Review, Panel A Laboratory/Exposure Assessment/Engineering Methods, Alexandria, VA, April 13-14, 2010.

Chair, American National Standards Institute, Accredited Standards Committee Z88, Appeals Panel appointed to hear an appeal of action taken by the Z88 Secretariat, February – March 2010.

Member, American National Standards Institute, Accredited Standards Committee Z88, Appeals Panel appointed to hear an appeal of action taken by the Z88 Respiratory Protection Committee and Z88.2 Practices for Respiratory Protection Subcommittee, May – July 2005.

Chair, NIOSH National Occupational Research Agenda Program Review (Dermal Exposure Research Program), Tyson's Corner, VA, December 14-15, 2004.

Chair, Expert Review Panel for research proposals under the NIOSH National Occupational Research Agenda, Silver Spring, MD, July 21-22, 2004.

Member, Editorial Advisory Board, *Compliance Magazine* July 2004 – July 2007.

Member, Scientific Advisory Council for research program jointly sponsored by the Asphalt Institute, the Asphalt Paving Environmental Council and the Asphalt Roofing Environmental Council, 2004 – 2011.

Lecturer: Health Effects of Mold, in Mold Assessment and Remediation in Buildings, periodic training course sponsored by The Environmental Institute and Compass Environmental, Inc., Marietta, GA, October 2001 – December 2003.

Co-Instructor: International Environmental Health (EOH 500), Rollins School of Public Health, Emory University, Atlanta, GA, Fall semesters 2000 and 2001.

Member, Advisory Board for the Risk Education Project, American Chemical Society, 1997 – 2000.

Member, Steering Committee, ILSI/Risk Science Institute - EPA Project on Human Variability, 1995 – 1997.

Ph.D. Qualifying and Dissertation Committees, Kettering Laboratory, University of Cincinnati College of Medicine.

Guest lecturer in graduate-level courses in environmental and occupational health risk assessment and policy at the University of Cincinnati, Uniformed Services University of Health Sciences, and George Washington University.

Selected Federal Interagency Activities

Member, Expert Panel to Assess the Validation Status of FETAX (Frog Embryo Teratogenesis Assay) for the NIEHS/NTP Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) and the Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM). February – June 2000

Member, Endocrine Disruptor Screening and Testing Advisory Committee, US EPA, November 1996 – June 1998

Member, Integrated Risk Information System (IRIS) Peer Review Panel for Vinyl Chloride, US EPA, June 3-4, 1997

Co-Chair of Surgeon General's Task Force on Clarification of the Mission and Use of the Commissioned Corps of the US Public Health Service, September – November 1996

Committee on the Environment and Natural Resources, January 1994 – December 1996
- – Subcommittee on Risk Assessment
- – Subcommittee on Toxic Substances, Hazardous & Toxic Waste

Interagency Working Group on Environmental Justice, July 1994 – July 1995
- – Task Force on Interagency Projects

Committee to Coordinate Environmental Health Related Programs (Chaired by the Assistant Secretary for Health, DHHS). Chairman of Task Groups charged with:
- – Evaluation of the Implementation and Relevance in 1990 of "Risk Assessment and Risk Management of Toxic Substances - 1985", February – April 1990
- – Review of EPA Draft Health Assessment Document for 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) and Related Compounds Chapter 7 - Epidemiology/Human Data, 1993
- – Review of EPA Draft Health Assessment Document for 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) and Related Compounds Chapter 9 - Risk Characterization, May – August 1994

TSCA Interagency Testing Committee, April 1987 – July 1989 (Vice-Chairman, 1988; Chairman, 1989)

TSCA Comprehensive Assessment Information Rule Interagency Workgroup

National Toxicology Program: Reproductive and Developmental Toxicology Work Group, responsible for coordinating NTP-sponsored reproductive research, September 1980 – September 1986

NIOSH Working Group to develop "A Proposed National Strategy for the Prevention of Work-Related Disorders of Reproduction" May 1985 – April 1987 (Chairman)

Office of Toxic Substances, EPA: Toxicology Testing Work Group to develop testing guidelines for implementation of the Toxic Substances Control Act, September – December 1978

Selected International Activities

International Consultation on the International Labor Organization WorkSafe Program, Geneva, Switzerland, December 13-14, 1999.

VI Latin American Congress on Occupational Health - ALSO '99 / XIX Colombian Congress on Occupational Medicine and Health, Cartagena, Colombia, September 14-17, 1999 (Scientific presentation on Experimental Studies of the Reproductive Effects of the Ethylene Glycol Ethers).

Joint EU/US Conference on Health and Safety At Work, organized as a part of the Joint EU/US Action Plan under the New Transatlantic Agenda of 1995, Luxembourg, October 13-16, 1998. (Head of NIOSH delegation, session co-chair, and presenter of closing remarks for the US delegation).

International Seminar of Governmental Entities in the Area of Labor Safety and Health, sponsored by FUNDACENTRO, Ministerio do Trabalho, and International Labor Office, Brasilia (March 17-19, 1997) and Sao Paulo (March 20-21, 1997), Brazil.

International Labor Office / International Occupational Safety and Health Information Centre: Member of Steering Committee for International Hazard Datasheets on Occupations, March 1995 – 1998.

Planning and Scientific Committees for International Symposium on Health Hazards of Glycol Ethers, Co-sponsored by French INRS, Swedish NIOH, and NIOSH in Nancy, France, April 19-21, 1994. (Conference President and presenter of opening and closing remarks).

International Agency for Research on Cancer: Member of Working Group on the Evaluation of the Carcinogenic Risk of Chemicals to Humans (drafted "Reproductive and Developmental Effects" sections of monographs):

- Occupational Exposures of Hairdressers and Barbers and Personal Use of Hair Colourants; Some Hair Dyes, Cosmetic Colourants, Industrial Dyestuffs and Aromatic Amines, Lyon, October 6-13, 1992 (IARC Monographs, Volume 57).
- Some Chemicals Used in Plastics and Elastomers, Lyon, June 11-18, 1985 (IARC Monographs, Volume 39).

U.S. - Mexican Joint Technical Seminar on the Iron and Steel Industry, Occupational Safety and Health Prevention Systems, Mexico City, Mexico, February 10-12, 1992.

Tri-Lateral meeting of United States, Canadian, and European Economic Community representatives regarding international harmonization of hazardous chemical labeling standards, Brussels, Belgium, April 29-30, 1991.

WHO Collaborating Centers in Occupational Health - Informal consultation of the planning group, Geneva, Switzerland, October 7-9, 1991.

World Health Organization - International Programme on Chemical Safety:

- Chairman of Expert Consultation on Harmonization in Chemical Hazard Communication, Geneva, Switzerland, April 24-26, 1991.

– Working Group to draft "Principles and Methods for the Assessment of Risk from Exposure to Chemicals," Carshalton, Surrey, England, February 26 – March 2, 1990.
– Task Groups for Environmental Health Criteria Documents on Glycol Ethers, 1-Propanol, and 2-Propanol, Carshalton, Surrey, England, April 4-14, 1989 (Chairman of 1- and 2-Propanol Task Groups).

Coke Oven Emissions as an Occupational Health Hazard, presented at the Symposium on the Quality of the Environment and the Iron and Steel Industry, Results and Prospects, sponsored by the Commission of the European Community, 24-26 September 1974, Luxembourg, (Grand Duchy).

Selected Continuing Education

Alternative *In Vitro* Toxicology Testing for the 21st Century. SR01 Society of Toxicology Annual Meeting, March 11, 2012, San Francisco, CA.

Overview and Application of the WHO-IPCS Harmonized Guidance for Immunotoxicity Risk Assessment for Chemicals. AM06 Society of Toxicology Annual Meeting, March 11, 2012, San Francisco, CA.

Specialized Techniques for Dose-Response Assessment and Risk Assessment of Chemical Mixtures. PM12 Society of Toxicology Annual Meeting, March 11, 2012, San Francisco, CA.

Protecting Human Health: Use of Toxicological and Epidemiological Data in Determining Safe Levels for Human Exposure. AM06 Society of Toxicology Annual Meeting, March 5, 2011, Washington, DC.

Quantitative *In Vitro* to *In Vivo* Extrapolation: The essential Element of *In Vitro* Assay - Based Risk Assessment. PM13 Society of Toxicology Annual Meeting, March 5, 2011, Washington, DC.

Topics in ethics: Conflict of interest - real or imagined? PBDEs as a case study. SR01 Society of Toxicology Annual Meeting, March 15, 2009, Baltimore, MD.

Free radicals for toxicologists - from the basics to inflammation and disease. AM02 Society of Toxicology Annual Meeting, March 15, 2009, Baltimore, MD.

Current approaches in mixture risk assessment. PM10 Society of Toxicology Annual Meeting, March 15, 2009, Baltimore, MD.

Dose-response modeling for occupational and environmental risk assessment. AM04 Society of Toxicology Annual Meeting, March 16, 2008, Seattle, WA.

Epidemiology for toxicologists - introduction. PM13 Society of Toxicology Annual Meeting, March 16, 2008, Seattle, WA.

Advanced biological sampling techniques and laboratory analysis for indoor environmental quality investigation - mold, bacteria, allergens, and all others. PDC 502 American Industrial Hygiene Conference and Exposition, June 3, 2007, Philadelphia, PA.

Allergy and Allergic Disease - A Primer for Toxicologists. AM04 Society of Toxicology Annual Meeting, March 25, 2007, Charlotte, NC.

Physiologically Based Pharmacokinetic Modeling for Risk Assessment Applications. PM11 Society of Toxicology Annual Meeting, March 25, 2007, Charlotte, NC.

Publications

(A) = Peer Reviewed (B) = Government Reports & Book Chapters (C) = Abstracts & Letters

1. (B) Criteria for a Recommended Standard. 1973. Occupational Exposure to Coke Oven Emissions. US Department of Health Education and Welfare, NIOSH.

2. (B) Criteria for a Recommended Standard. 1973. Occupational Exposure to Inorganic Arsenic. US Department of Health Education and Welfare, NIOSH.

3. (B) Criteria for a Recommended Standard. 1973. Occupational Exposure to Chromic Acid. US Department of Health Education and Welfare, NIOSH.

4. (A) Gehrs, C.W., **Hardin, B.D.** 1974. Production of resting eggs by *Diaptomus clavipes* Schacht (Copepoda, Calanoida). The American Midland Naturalist 91:486-488.

5. (B) Robertson, A., Gehrs, C.W., **Hardin, B.D.**, Hunt, G.W. 1974. Culturing and ecology of *Diaptomus clavipes* and *Cyclops vernalis*. Ecological Research Series, EPA-660/3-74-006, Environmental Protection Agency.

6. (B) Criteria for a Recommended Standard. 1974. Occupational Exposure to Ammonia. US Department of Health Education and Welfare, NIOSH.

7. (B) Criteria for a Recommended Standard. 1975. Occupational Exposure to Xylene. US Department of Health Education and Welfare, NIOSH.

8. (B) Criteria for a Recommended Standard. 1975. Occupational Exposure to Inorganic Arsenic-New Criteria 1975. US Department of Health Education and Welfare, NIOSH.

9. (A) **Hardin, B.D.**, Manson, J.M. 1980. Absence of dichloromethane teratogenicity with inhalation exposure in rats. Toxicology and Applied Pharmacology 52:22-28.

10. (A) **Hardin, B.D.**, Bond, G.P., Sikov, M.R., Andrew, F.D., Beliles, R.P., Niemeier, R.W. 1981. Testing of selected workplace chemicals for teratogenic potential. Scandinavian Journal of Work, Environment, and Health 7 (Suppl 4):66-75.

11. (C) Andrew, F.D., Montgomery, L.F. Sikov, M.R., **Hardin, B.D.** 1981. Effects of inhalation exposure to ethoxyethanol on pregnant rats and rabbits. The Toxicologist 1(1):30.

12. (A) Schuler, R.L., **Hardin, B.D.**, Niemeier, R.W. 1982. Drosophila as a tool for the rapid assessment of chemicals for teratogenicity. Teratogenesis, Carcinogenesis, Mutagenesis 2(3-4):293-301.

13. (A) **Hardin, B.D.**, Niemeier, R.W., Smith, R.J., Kuczuk, M.H., Mathinos, P.R., Weaver, T.E. 1982. Teratogenicity of 2-ethoxyethanol by dermal application. Drug and Chemical Toxicology 5(3):277-294.

14. (C) **Hardin, B.D.**, Niemeier, R.W., Kuczuk, M.H., Mathinos, P.R., Weaver, T.E. 1982. Teratogenicity of 2-ethoxyethanol by dermal application. Teratology 25(2):46.

15. (C) **Hardin, B.D.** 1982. Reproductive toxicity of the glycol ethers. J Occupational Medicine 24(4):332-3.

16. (A) **Hardin, B.D.** 1983. Reproductive toxicology of the glycol ethers. Toxicology 27(2):91-102.

17. (A) **Hardin, B.D.**, Niemeier, R.W., Sikov, M.R., Hackett, P.L. 1983. Reproductive-toxicologic assessment of four epoxides—ethylene oxide, propylene oxide, butylene oxide, and styrene oxide. Scandinavian Journal of Work, Environment, and Health 9(2):94-102.

18. (A) **Hardin, B.D.**, Schuler, R.L., McGinnis, P., Niemeier, R.W., Smith, R.J. 1983. Evaluation of propylene oxide for mutagenic activity in three *in vivo* test systems. Mutation Research 117(3-4):337-44.

19. (B) Schuler, R.L., **Hardin, B.D.**, Niemeier, R.W. 1983. Investigation of *Drosophila* for Teratogenic Screening, in F. Homburger (Ed.), Safety Evaluation and Regulation of Chemicals, S. Karger, Basil, pp 270-276.

20. (A) Andrew, F.D., **Hardin, B.D.** 1984. Developmental effects of inhalation exposure of gravid rabbits and rats to ethylene glycol monoethyl ether. Environmental Health Perspectives 57:13-23.

21. (A) **Hardin, B.D.**, Goad, P.T., Burg, J.R. 1984. Developmental toxicity of four glycol ethers applied cutaneously to rats. Environmental Health Perspectives 57:69-74.

22. (A) Schuler, R.L., **Hardin, B.D.**, Niemeier, R.W., Booth, G., Hazelden, K., Piccirillo, V., Smith, K. 1984. Results of testing fifteen glycol ethers in a short-term *in vivo* reproductive toxicity assay. Environmental Health Perspectives 57:141-146.

23. (A) **Hardin, B.D.**, Lyon, J.P. 1984. Summary and overview of the NIOSH Symposium on Toxic Effects of Glycol Ethers. Environmental Health Perspectives 57:273-275.

24. (B) Kimmel, C.A., LaBorde, J.B., **Hardin, B.D.** 1984. Reproductive and developmental toxicology of selected epoxides, Chapter 13 in Kacew S. and Reasor M.J. (Eds) Toxicology and the Newborn, Elsevier Science Publishers, pp 270-287.

25. (C) Schrader, S.M., Turner, T.W., **Hardin, B.D.**, Niemeier, R.W., Burg, J.R. 1984. Morphometric analysis of human spermatozoa. J Andrology 5(1):22.

26. (A) Plasterer, M.R., Bradshaw, W.S., Booth, G.M., Carter, M.W., Schuler, R.L., **Hardin, B.D.** 1985. Developmental toxicity of nine selected compounds following prenatal exposure in the mouse: Naphthalene, p-nitrophenol, sodium selenite, dimethyl phthalate, ethylenethiourea, and four glycol ether derivatives. Journal of Toxicology and Environmental Health 15(1):25-38.

27. (A) Toraason, M., Stringer, B., Stober, P., **Hardin, B.D.** 1985. Electrocardiographic study of rat fetuses exposed to ethylene glycol monomethyl ether (EGME). Teratology 32(1):33-39.

28. (A) Schuler, R.L., Radike, M., **Hardin, B.D.**, Niemeier, R.W. 1985. Pattern of response of intact Drosophila to known teratogens. Journal of the American College of Toxicology 4(4):291-303.

29. (C) Toraason, M., Niemeier, R.W., **Hardin, B.D.** 1985. Effects of ethylene glycol monomethyl ether (EGME) on maternal calcium and vitamin D metabolism during gestation. Teratology 31(3):58A.

30. (C) **Hardin, B.D.**, Goad, P.T., Burg, J.R. 1985. Teratogenicity of diethylene glycol monomethyl ether in the rat. Teratology 31(3):54A.

31. (C) **Hardin, B.D.** 1985. Glycol ethers - An example of a developmental hazard. Teratology 31(3):34A.

32. (C) Chrislip, D.W., McConnell, R.S., **Hardin, B.D.**, Coleman, M.E. 1985. A review of human and animal research involving N,N-diethyl-m-toluamide (DEET). Neurobehavioral Toxicology and Teratology 7(5):527-528.

33. (A) **Hardin, B.D.**, Goad, P.T., Burg, J.R. 1986. Developmental toxicity of diethylene glycol monomethyl ether (diEGME). Fundamental and Applied Toxicology 6:430-439.

34. (A) Sikov, M.R., Cannon, W.C., Carr, D.B., Miller, R.A., Niemeier, R.W., **Hardin, B.D.** 1986. Reproductive toxicology of inhaled styrene oxide in rats and rabbits. Journal of Applied Toxicology 6(3):155-164.

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Testimony

Available on request

BRYAN D. HARDIN, PHD, FELLOW ATS

Vice President – Principal Toxicologist, J.S. Held LLC
Assistant Surgeon General, U.S. Public Health Service (Retired)
Former Deputy Director, National Institute for Occupational Safety and Health

I am a Fellow of the Academy of Toxicological Sciences, an associate member of the American College of Occupational and Environmental Medicine, and a full member of the American College of Toxicology, the American Industrial Hygiene Association, the Society of Toxicology, and the Society for Birth Defects Research and Prevention (formerly the Teratology Society). I received a Bachelor of Science degree in mathematics (physics minor) in 1966 from the University of Oklahoma. Following 2 years active duty in the U.S. Army, I earned a Bachelor of Science degree in zoology (chemistry minor) in 1970, and a Master of Science degree in zoology in 1972, also from the University of Oklahoma. In 1983 I earned a Ph.D. in Environmental Health Sciences from the University of Cincinnati, Division of Graduate Studies and Research.

Following completion of my MS degree in 1972, I applied for a commission in the United States Public Health Service (US PHS). Upon acceptance, I resigned my Army commission to accept a commission as Lieutenant, Junior Grade, in the US PHS where I served for 28 years assigned to the National Institute for Occupational Safety and Health (NIOSH). This service included nine years laboratory research experience in the NIOSH Experimental Toxicology Branch. Another nine years were devoted to risk assessments in the form of NIOSH Criteria Documents, Current Intelligence Bulletins, and other scientific or policy documents, initially as a staff scientist with direct responsibility for their development. Subsequent, progressively more senior roles in risk assessment and policy development were as a Senior Scientist advising on the scientific content of risk assessment and policy documents, as Chief of the Document Development Branch, and as Deputy Director of the NIOSH division in which those risk assessment and policy documents were developed. During the final eight years with NIOSH I served as Associate Director of NIOSH and Director of the NIOSH Washington Office, as a Special Assistant to the Assistant Secretary of Labor for Occupational Safety and Health, and as Lead Senior Scientist on the staff of the Director of NIOSH. My last assignment was as Deputy Director of NIOSH and Assistant Surgeon General in the US PHS.

My first assignment with NIOSH was to the NIOSH headquarters in Rockville, MD, starting in July 1972. There, I was a Criteria Document Manager in the Document Development Branch, where I served until August 1975. Document managers were responsible for developing NIOSH criteria documents, which formally recommend comprehensive safety and health standards to the Occupational Safety and Health Administration (OSHA). During my time in the Document Development Branch, I was made the Chief, Document Development Group B, with supervision of four other document managers. As a document manager myself, I successfully completed six such documents from inception to acceptance by the Institute Director and transmittal to OSHA. These documents were “Criteria and Recommended Standard for:” Coke

Oven Emissions (1973), Inorganic Arsenic (1973), Chromic Acid (1973), Ammonia (1974), Xylene (1975), and Inorganic Arsenic (New Criteria) (1975). While serving in this assignment I was promoted to Lieutenant, Senior Grade, in 1973 and received an accelerated promotion to Lieutenant Commander in 1974.

In 1975 I applied and was approved for two years of long-term out-of-service training, entering the PhD program at the University of Cincinnati, Kettering Laboratory. Required classroom work for the degree in Environmental Health Sciences included toxicology, industrial hygiene, epidemiology, human physiology, anatomy, and pathology. Within the allotted two years I completed all classroom requirements for the PhD degree, completed all qualifying examinations, received approval of my dissertation research proposal, and began the dissertation research. That research was continued and ultimately completed and the dissertation was written after I had returned to full-time work at NIOSH. The PhD degree in Environmental Health Sciences was awarded in June 1983.

In the fall of 1977, I returned to NIOSH with assignment to the Experimental Toxicology Branch in Cincinnati, OH. There I conducted laboratory research primarily focused on reproductive and developmental toxicology, but also including mutagenesis and carcinogenesis of industrial chemicals, most of which had never been evaluated in depth for their potential to produce adverse health effects. The male reproductive toxicity of dibromochloropropane (DBCP) had recently been discovered in agricultural workers, but there were few methods available to objectively evaluate male reproductive potential; only questionnaire surveys had been employed in occupational studies conducted by NIOSH. I obtained NIOSH funding to establish a program to evaluate clinical methods and adapt promising methods for application in NIOSH field studies when male fertility might be at risk. I was soon able to expand the research program by hiring a PhD andrologist (a specialist in the male reproductive system). Methods developed and demonstrated in the laboratory were applied and proven in NIOSH field studies of worker populations.

In the area of developmental toxicity, studies I led revealed that when pregnant laboratory animals inhaled ethylene glycol monoethyl ether (Cellosolve® solvent) at the existing OSHA Permissible Exposure Limit (PEL) a high proportion of their live offspring had major birth defects. Higher concentrations killed all the unborn animals. These observations were soon extended to other members of the glycol ether family of solvents. At the time, many ethylene glycol ethers were used extensively, sometimes cavalierly, in consumer products and industrial processes. Following first publication of these findings in 1981, research on the glycol ethers grew rapidly and I organized a NIOSH-sponsored international conference in 1983, which produced 35 papers published in *Environmental Health Perspectives*. As a result of my research and follow-up research done worldwide, NIOSH published Current Intelligence Bulletin 39 in 1983, two criteria documents on various ethylene glycol ethers in 1990 and 1991, and collaborated with the Nordic Expert Group to publish a criteria document on the propylene glycol ethers in 1990. A Second International Conference on Glycol Ethers, jointly sponsored by the French National Institute for Safety Research, the Swedish National Institute of Occupational Health, and NIOSH was held in Nancy, France, in 1993. I served on the Planning

and Scientific Committees for that conference and was the Conference President. Forty-two research papers were published in *Occupational Hygiene* as a result of this conference. OSHA proposed changes to the federal standard for ethylene glycol ethers in 1993, and I led the NIOSH team that provided testimony at rulemaking hearings in 1994. This rulemaking was never completed and OSHA withdrew the proposed rule in 2003 due in part to "very limited production, use, and exposure to" these chemicals, which in large part was the result of voluntary changes made in response to my research and subsequent research by others.

In 1986, I left the Experimental Toxicology Branch and returned to the NIOSH policy development and risk assessment arena, where my NIOSH career had begun. Now renamed the Division of Standards Development and Technology Transfer (DSDTT), this Division was responsible for NIOSH policy documents such as Criteria Documents, Current Intelligence Bulletins, Alerts, and testimony to OSHA and MSHA (the Mine Safety and Health Administration) on proposed regulations. My first assignment in that Division was as a Senior Reviewer, which involved being a scientific resource and advisor both to document managers and to senior managers within DSDTT. I was made the Chief of the Senior Review activity shortly before becoming the Chief of the Document Development Branch, in which Criteria Documents and Current Intelligence Bulletins were written. After approximately 2 ½ years in that role, I was made the Deputy Director of DSDTT.

Significant accomplishments in this time period included work relating to the rapidly emerging epidemic of acquired immune deficiency syndrome (AIDS). At the time, misunderstanding was so great that, for example, office workers were reluctant to handle paper documents out of fear that co-workers' paper cuts might transmit the disease. NIOSH was directed by Congress to develop recommendations for the protection of workers. I was assigned responsibility to develop those recommendations, which proved to be very contentious and required multiple layers of commentary and review by affected public, private, and professional organizations as well as within NIOSH, CDC, and the Departments of Labor and of Health & Human Services. The completed guidelines were published in October 1987 as the "Joint Advisory Notice – Protection Against Occupational Exposure to Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV)." The document was so-named because it was jointly signed and issued by the Secretary of Labor and the Secretary of Health & Human Services. The Joint Advisory Notice was used by OSHA as the basis for their development of the Bloodborne Pathogens Standard (29 CFR 1910.1030, promulgated in 1992), a process in which I was deeply involved throughout. I also served for 3 months in 1988 as the NIOSH Acting AIDS Coordinator in Atlanta, GA. This work contributed in part to my accelerated (early) promotion in January 1989 to Captain in the US PHS.

In 1992 I was transferred to Washington, DC, where I served as the Associate Director of NIOSH and Director of the NIOSH Washington Office. In that capacity I was the 'eyes and ears' in Washington for the Director of NIOSH (whose office was in Atlanta at CDC headquarters). Additionally, I served as the point of contact in Washington for private citizens and representatives of organized labor, businesses, trade associations, and other federal agencies needing to communicate or collaborate with NIOSH. From 1993 to 1994 I also was detailed to

OSHA, where I served as a Special Assistant to the Assistant Secretary of Labor for Occupational Safety and Health. In that capacity my role was to facilitate communications between NIOSH and OSHA with the goal of improving coordination and collaboration.

Throughout the late 1980s to late 1990s, I represented NIOSH on multiple interagency committees, e.g., the Committee to Coordinate Environmental Health-Related Programs (chaired by the Assistant Secretary for Health), the Interagency Committee on Indoor Air Quality, the Toxic Substances Control Act (TSCA) Interagency Testing Committee (including terms as Vice-Chair and Chair), the U.S. Environmental Protection Agency's Endocrine Disruptor Screening and Testing Advisory Committee, and the ONE (OSHA, NIOSH, EPA) Committee. The latter served to exchange information and to inform the member agencies of activities by one that might impact the policies or actions of the others.

In 1994, a new Director of NIOSH was appointed and the NIOSH Director's office was transferred from CDC headquarters in Atlanta to Washington, DC (the Deputy Director of NIOSH continued to be located at CDC in Atlanta). My detail to OSHA was terminated and I returned to NIOSH full-time as a Senior Scientist on the staff of the Director. In 1996 I served in Atlanta for 9 months as the Acting Deputy Director of NIOSH, after which I was made the Lead Senior Scientist in the Director's office, a position I held until 1998 when I was made Deputy Director of NIOSH. In that capacity, I was promoted in 1999 to Assistant Surgeon General in the US PHS.

Accomplishments during this time-frame included successfully shepherding revised NIOSH regulations for respirator certification through Departmental and OMB review and Federal Register publication. Developed by the Respirator Certification Branch in Morgantown, WV, this regulation had been under development for 17 years but multiple prior attempts to revise and update had failed. As Deputy Director of NIOSH, I participated in the day-to-day management of the Institute and its scientific programs, served as a senior advisor to the Director on scientific and policy matters, and represented the Institute and the US PHS Commissioned Officers assigned to NIOSH in matters relating to the US PHS Commissioned Corps.

Since my retirement from the US PHS in July 2000, I have been employed as a consultant. From 2000 to 2004 I worked alone, doing business as Bryan Hardin Consulting. My retentions included helping three trade associations who were my clients resolve difficulties they had with each other and with NIOSH on matters of shared interest, advising industrial clients on workplace issues, and retentions as an expert in litigation. I also was the lead author of "Adverse Human Health Effects Associated with Molds in the Indoor Environment," which was adopted and published by the American College of Occupational and Environmental Medicine as that medical society's official position statement. From 2000 to 2018, I was a member of the American Industrial Hygiene Association's Emergency Response Planning Committee, including terms as Secretary, Vice-Chair, and Chair.

Presently, I am Vice President – Principal Toxicologist at J.S. Held, LLC, a global multi-disciplinary consulting firm. My consulting continues to involve work pertaining both to litigation and non-litigation matters.

From: Bryan Hardin
To: Knott, Steven
Subject: FW: EPA–HQ– OPPT–2020–0135 Nomination
Date: Thursday, August 27, 2020 1:43:38 PM
Attachments: image001.png
Bryan Hardin CV.pdf
Hardin Qualifications 200827.pdf

Please consider me for membership on the TSCA Science Advisory Committee on Chemicals, EPA–HQ– OPPT–2020–0135.

My current CV and an extended Biographical sketch are attached. I served 28 years in the US Public Health service, retiring in 2000 at which time I was an Assistant Surgeon General and the Deputy Director of NIOSH. My interagency experience with EPA includes membership on the ONE (OSHA, NIOSH, EPA) Committee, the Interagency Committee on Indoor Air Quality, the TSCA Interagency Testing Committee, where I served terms as Vice-Chair and Chair, and membership on EPA's Endocrine Disruptor Screening and Testing Advisory Committee.

Since my retirement from the US PHS, I have been employed as a consultant. My retentions have included helping trade association clients resolve difficulties they had with each other and with NIOSH, advising businesses and law firms on workplace issues, and work as a testifying expert in litigation. I also was the lead author of "Adverse Human Health Effects Associated with Molds in the Indoor Environment," which was adopted and published by the American College of Occupational and Environmental Medicine as that medical society's official position statement. From 2000 to 2018, I was a member of the American Industrial Hygiene Association's Emergency Response Planning Committee, including terms as Secretary, Vice-Chair, and Chair.

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Cobb Information for SACC Nomination

To be considered, all nominations should include the following information:

1. Current contact information for the nominee (including the nominee's name, organization, current business address, email address, and daytime telephone number);
   George P. Cobb,
   Department of Environmental Science, Baylor University, Waco, TX, 76798-7266

2. the disciplinary and specific areas of expertise of the nominee;
   Environmental Chemistry and Exposure Assessment for Individuals and Meta-populations

3. the nominee's curriculum vitae;
   See Attached CV

4. and a biographical sketch of the nominee indicating current position, educational background, research activities, and recent service on other federal advisory committees and national or international professional organizations.
   See Attached Biosketch

Biosketch for George P. Cobb III
For USEPA SACC Consideration

Dr. George P. Cobb is a Professor at Baylor University, where he serves, as Chair of the Department of Environmental Science. For 16 years his position at Baylor University, Prof. Cobb was a Professor of Environmental Toxicology. Prof. Cobb received a BS in Chemistry from the College of Charleston (1982), where he conducted his first environmental research project, evaluating the uptake of pesticides and metals into sea turtles on the South Carolina Coast. Thereafter, he received a Ph.D. in Chemistry from The University of South Florida (1989), where he developed novel sampling strategies to determine vapor/particle distribution of atmospheric organic chemicals.

Prof. Cobb has published over 160 peered reviewed journal articles, books, and book chapters. These publications address the fate and effects of chemicals in the environment. Prof. Cobb has graduated 32 Masters and Ph.D. students with degrees that encompass mathematics, engineering, chemistry, environmental toxicology and environmental science.

Throughout his career, Prof. Cobb has used novel sampling and analysis techniques for biotic and abiotic media to evaluate toxicant transport, transformation, and biological exposure processes. As part of NIH funded programs his group has applied these techniques to the rapid and cost effective assessment of population level exposures and collaborated with large teams to risks at hazardous waste sites and in industrial settings. His exposure assessments within agricultural monocultures have also been integral parts of data packages for regulatory consideration of pesticide registration and reregistration. His research has also evaluated novel airborne transport processes that distribute synthetic anabolic steroids near concentrated animal feeding operations. Dr. Cobb's group has recently worked with international team to investigated indoor sources of novel toxicants. Most recently he has evaluated nanomaterial behavior within aquatic and sediment systems to determine adverse and potentially beneficial uses. Prof. Cobb has served on 25 United States Environmental Protection Agency (USEPA) panels to evaluate environmental and human health risks from a wide array of synthetic and biologically derived chemicals that are used in crop protection and in commerce more broadly.

Prof. Cobb is among a very small pool of scientists to have been acknowledges as an American Chemical Society Fellow and a Society of Environmental Toxicology and Chemistry Fellow. He serves in leadership positions within the American Chemical Society (ACS). He has Chaired the Division of Environmental Chemistry, serves as a member of the Committee for Environmental Improvement and is an ACS Councilor. Prof Cobb currently serves as the global chair for the Society of Environmental Toxicology and Chemistry (SETAC) Chemistry Committee. He has also served on the World Council for the Society of Environmental Toxicology and Chemistry (SETAC) and as President of SETAC North America.

GEORGE P. COBB III

Office:
Department of Environmental Science
One Bear Place #97266
Baylor University
Waco, Texas 76798
(254)710-6556 (v)

CAREER OBJECTIVES

To lead academic groups in pursuit of excellent student outcomes. To coordinate research and education activities of interdisciplinary teams that increase knowledge and understanding of natural sciences. To improve approaches for quantifying exposure, and trophic transport of toxicants. To influence science policy by using objective facts in risk assessments and balancing risks with holistic and realistic societal needs.

EDUCATION

Ph.D. in Chemistry. 1982-1989. Preconcentration of Atmospheric Organic Compounds in Carbon Hollow Tubes with Subsequent Gas Chromatographic Analysis. University of South Florida, Tampa, FL. 186 pp. Advisors: R.S. Braman (Major Professor), W. E. Swartz, J.A. Llewellyn, T. E. Owen, and G. Wenzinger.

B.S. in Chemistry. 1978-1982. Investigation of Chlorinated Pesticides and Metals in Tissues of Sea Turtles. College of Charleston, Charleston, SC. 18 pp. W. Frank Kinard (Advisor).

PROFESSIONAL POSITIONS

Baylor University

Professor & Chair of Environmental Science	August 2011 – present

Texas Tech University

Professor of Environmental Toxicology	August 2004 – August 2011
Tenured Associate Professor of Environmental Toxicology	August 2000 – August 2004
Tenured Associate Professor of Biological Sciences	August 1997 – August 2000
Charter Faculty Member: Environmental Toxicology	*August 2000*
The Institute of Environmental and Human Health	August 1997 – 2011
Branch Leader, Environmental Science and Toxicology	January 1999 – 2011
Section Leader, Analytical and Biochemical Toxicology	August 1997 – January 1999
Adjunct Associate Professor of Chemistry	September 2000 – 2005

Clemson University

Adjunct Professor of Environmental Toxicology	July 1997 – 2002
Tenured Associate Professor of Environmental Toxicology	July 1995 – July 1997
Assistant Professor of Environmental Toxicology	October 1989 – July 1995
Charter Faculty Member: Environmental Toxicology	October 1989
The Institute of Wildlife and Environmental Toxicology	June 1989 – August 1997

Western Washington University

Adjunct Professor of Environmental Studies	May 1988 – September 1990
Institute of Wildlife Toxicology	July 1987 – June 1989

TEACHING EXPERIENCE

Baylor University

Introduction to Environmental	ENV 1301	2012 – 2013
Environmental Capstone	ENV 43C1	2012 – present
Seminar on Environmental	ENV 4102	2014 – 2017
Environmental Chemistry	ENV 3387	2015 – 2018
Environmental Chemistry Laboratory	ENV 3187	2015 – 2017
Advanced Environmental Chemistry	ENV 5387	2015 – 2017
Site Characterization & Assessment	ENV 4390	2017 – present
Aquatic Chemistry	ENV4304	2020

Texas Tech University

Chemical Fate in the Environment[a]	ENTX 6445	1998 – 2011
Analytical Toxicology[a] and Laboratory[a]	ENTX 6351; ENTX 6251L	1999 – 2011
Principles of Toxicology	ENTX 6326 (Guest Lectures)	2001 – 2003
Techniques in Ecological Risk Assessment	ENTX 6371 (Guest Lectures)	2003 – 2011
Seminar in Chem. & and Bio. Terrorism[a]	ENTX 6312 (Co-Instructor)	2002
Seminar in Environmental Toxicology[a]	ENTX 6312	1998 – 2000

Clemson University		
Environmental Fate of Chemical Contaminants[a]	ENTOX 621	1991 – 1996
Analytical Toxicology[a]	ENTOX 822	1991 – 1997
Analytical Toxicology Laboratory[a]	ENTOX 822L	1991 – 1997
Advances in Instrumental Analyses[a]	ENTOX 863, CHM 863	1991 – 1992

Western Washington University		
Advanced Methods in Analytical Toxicology[a]	HUX 517d	1988
Toxicology Techniques[a]	HUX 457; Senior level	1988 – 1989

University of South Florida		**August 1982 – August 1987**
Analytical Chemistry Lab: Coordinating TA	CHM 3310	1985 – 1987
Organic Laboratory TA	CHM 3120L	1983 – 1985
General Chemistry Lab TA		1982 – 1983, 1986

College of Charleston	**1979-1982**
Organic Chemistry Laboratory Instructor	Summer 1982
Organic Chemistry TA	1981-1982
General Chemistry TA	1979-1981

[a] *- Course author or co-author*

RESEARCH EXPERIENCE

Baylor University – Fellow of The Institute for Ecological, Earth, and Environmental Sciences (TIE^{3}S) January 2012-present

Texas Tech University and Texas Tech University Health Sciences Center
The Institute of Environmental and Human Health
Branch Leader, Environmental Health and Toxicology January 1999 – August 2011
Section Leader, Analytical and Biochemical Toxicology August 1997 – January 1999

Clemson University – The Institute of Wildlife and Environmental Toxicology
Section Leader and/or Assistant Section Leader June 1989 – August 1997

Western Washington University – Institute of Wildlife Toxicology
Section Leader, Analytical Toxicology July 1987 – June 1989

University of South Florida – Department of Chemistry
Research Assistant May 1985 – December 1985

College of Charleston/South Carolina – Wildlife Marine Resources Research Institute
Pesticide Research October 1984 – August 1985

PROFESSIONAL AFFILIATIONS

American Chemical Society	1981 –present
ACS Fellow	**2015 – present**
Committee on Environmental Improvement	2012 – present
Policy Subcommittee	2015 – 2016
Member Engagement Subcommittee Chair	2013 – 2015
Environmental Chemistry Division	1984 – present
Councilor	***2018 – 2021***
Past Chair	***2018 – 2019***
Chair	***2015 – 2017***
Chair Elect	***2013 – 2015***
Alternate Councilor	***2008 – 2013***
Executive Committee	***2002 – present***
Treasurer	***2009 – 2013***
Investment Committee	***2019 - present***
Member at Large	2003 – 2004
Chairman: Merit Awards Sub-committee	2002 – present
Chairman: International Activities Comm.	2008 – present
Leadership Development Institute	2010 – 2015
Presenter and Participant	2015
Analytical Chemistry Division	1983 – 2006
Western Carolinas Section	1990 – 1998
Society of Environmental Toxicology & Chemistry	1988 – present
SETAC Fellow	**2019-present**
Rachel Carson Award Committee Chair	**2014 – 2015**
Global Horizon Scanning Workgroup: NA	2015
Global Chemistry Advisory Group Chair	***2018***
Global Chemistry Advisory Steering Committee	***2015 – 2016***
World Council	***2009 – 2012***
SIACM Steering Committee	2009 – 2012
President, North America	***2010 – 2011***
Vice President, North America	***2009 – 2010***
Board of Directors, North America	***2006 – 2012***
Annual Meeting Chair	***2003***
Nominating Committee-Board of Directors	1996
Regional Chapters Committee	2000 – 2002
Chemists in SETAC Committee	1994 – 2010
Carolinas Region	1990 – 1996
Board of Directors	***1993 – 1995***
Secretary	***1994 – 1995***
Annual Meeting Program Chair	1996
Annual Meeting Planning Committee	1992 – 1993
South Central Region	
Board of Directors	***1999 – 2006***
Vice-President	***2000 – 2001***
President	***2001 – 2002***

Annual Meeting-Program Chair	2002
Alpha Chi Sigma	1981 – present
Sigma Xi	2005 – present

CONFERENCE ORGANIZATION

International Conferences

Program Committee

International Union of Pure and Applied Chemistry (IUPAC). 2019. Program Organizer for 14th IUPAC International Congress of Crop Protection Chemistry. Ghent, Belgium. 19 – 24 May 2019.

International Conference on Chemistry and the Environment (ICCE). 2017. "Algae toxins: Methods and Tends" Co-Organizer for the 16th International Conference in Oslo, Norway. June 2017

National Science Foundation. 2012. Program Organizer for the Pan American Advanced Studies Institute: Air Quality at the Interface of Mega Cities and Agricultural Regions. La Plata, Argentina, 8-16 August 2012.

Society of Environmental Toxicology and Chemistry. 2001-2003. Chair, Program Committee for the 24th Annual Meeting in Austin, TX. November 2003.

Society of Environmental Toxicology and Chemistry. 1994-1998. Program Committee for the 19th Annual Meeting in Charlotte NC. November 1998.

Session Chair

Pacifichem. 2020. Chemistry and the Rice Field Ecosystem. December 2020. Honolulu, HI.

American Chemical Society. 2018. Challenges of Utilizing Higher-Tier Ecotoxicology Data in Risk Assessment & Risk Management of Pesticides. August 2018. Boston, MA.

International Conference on Chemistry and the Environment 2017. Algae toxins: Methods and Challenges. June 2017, Oslo, Norway.

International Conference on Chemistry and the Environment 2017. Challenges in Environmental Chemistry. June 2017, Oslo, Norway.

Pacifichem. 2015. Gene-Environment Interaction. December 2015, Honolulu, HI.

Pacifichem. 2015. Chemicals of Emerging Concern. December 2015. Honolulu, HI.

American Chemical Society. 2011. Environmental Behavior of Veterinary Pharmaceuticals. August 2011, Denver, CO.

International Union of Pure and Applied Chemistry. 2011. Physiochemical Methods to Evaluate Environmental Processes. August 2011, San Juan, Puerto Rico.

American Chemical Society. 2009. Session organizer. Environmental Toxicology: From Paracelsus to Probabilistic Risk Assessment. April 2009.

American Chemical Society. 2008. Session organizer. Environmental Impacts from Natural Disasters. New Orleans, LA. April 2008.

American Chemical Society. 2006. Session organizer. Chemical and Biological Concerns in New Orleans following Hurricane Katrina. San Francisco, CA. September 10-14, 2006.

Society of Environmental Toxicology and Chemistry. 2004. Session Co-Chair: Persistent Organic Pollutants, Portland, OR. 14-19 November 2004.

Society of Environmental Toxicology and Chemistry. 2004. Session Chair: Persistent Organic Pollutants Interactive Poster Discussion. Portland, OR. 14-19 November 2004.

Society of Environmental Toxicology and Chemistry. 1999. Session Chair: Analytical Chemistry, Philadelphia, PA. November 10-14, 1999.
Society of Environmental Toxicology and Chemistry. 1991. Session Chair: Analytical Chemistry, Seattle, WA. November 3-7, 1991.

National Conferences

American Chemical Society National Meeting. 2017. Chaired the Contaminants in Urban and Coastal Estuarine Ecosystems Symposium. San Francisco, CA April 2-6, 2017
Wildlife Applications to Remediation Decision-Making. 1999. Meeting Co-chair for three day NIEHS/EPA/ATSDR/DOD sponsored conference in Denver, CO. August 17-19, 1999.
NIEHS Superfund Basic Research Fund: Tenth Anniversary Symposium. 1997. Chapel Hill, NC. Planning Committee.

Regional Conferences

Institute for Faith and Culture. 2019. Baylor University. Chaired session for Symposium.
Academic Leadership Seminar. 2019. Baylor University. Speaker/Presenter for Chairs' Panel.
Institute for Faith and Learning. 2018. Baylor University. Session Moderator for Symposium.
Society of Environmental Toxicology and Chemistry: South Central Chapter. 2002. Texas Tech University. Chaired Program Committee for Annual Meeting.
Society of Environmental Toxicology and Chemistry: Carolina's Chapter. 1996. Clemson University. Chaired Program Committee for Annual Meeting.
Society of Environmental Toxicology and Chemistry: Carolina's Chapter. 1993. Organizing Committee and Sponsorship Committee Chair for Annual Meeting.

EDITORIAL SERVICE

Current:

Environmental Toxicol. & Chem.	***Associate Editor***	***2017-present***
	Critical Review	***2014 – 2017***
	Guest Editor	***July 2010***
	Editorial Board	***1994 – 1996, 2012 – 2014***
	Periodic Reviews	1990 – present
Analytical Chemistry	Periodic Reviews	1989 – present
Archives of Environ. Contam. Toxicol.	Periodic Reviews	1999 – present
Chemosphere	Periodic Reviews	1995 – present
Comparative Biochemistry & Physiology	Periodic Reviews	2014 – present
Conservation and Society	Periodic Reviews	2009 – present
Critical Reviews in Analytical Chemistry	Periodic Reviews	2014 – present
Environmental Chemistry	Periodic Reviews	2008 – present
Environmental Pollution	Periodic Reviews	1996 – present
Environmental Science & Technology	Periodic Reviews	1996 – present
J. Agricultural and Food Chemistry	Periodic Reviews	1999 – present
Journal of Environmental Quality	Periodic Reviews	2001 – present
J. Hazardous Materials	Periodic Reviews	2011 – present

J. Wildl Diseases	Periodic Reviews	1993 – present
J. of Photochem. & Photobio. A: Chem.	Periodic Reviews	2014 – present
J. of the Serbian Chemical Society	Editorial Board	2015 – present
Soil & Sediment Contamination	Periodic Reviews	2006 – present
Toxicology	Periodic reviews	2016 – present
Water, Air & Soil	Periodic Reviews	2002 – present

Previous Editorial Service: *Agronomie* 2003-2005; *Annals of Biomedical Engineering* 2006-2009; *Bulletin of Environ. Contam. Toxicol.* 2001-2005; *Environmental Health Perspectives*, 1994-2001; *Journal of Chromatography 1999-2010; J. Nematology*, 1994-1995; Naturwissenschaften 2009-2010; *Toxicol. & Environ. Chem.*, 1994-1996; *Soil Biology and Biochem.*, 1994-1995; *ACS Symposium Series*, 1999-2004; *Risk Assessment in Estuarine Environments*, 2000.

SCIENTIFIC PANELS/WORKGROUPS

USEPA Science Advisory Board (Total 6 completed; 3 in process)

USEPA TSCA SACC. Peer Review for EPA Draft Risk Evaluation for Pechloroethylene. Alexandria VA, 26-29 May 2020.

USEPA TSCA SACC. Peer Review for EPA Draft Risk Evaluation for Trichloroethylene. Alexandria VA, 24-27 March 2020.

USEPA TSCA SACC. Peer Review for EPA Draft Risk Evaluation for Carbon Tetrachloride. Arlington VA, 25-26 February 2020.

USEPA TSCA SACC. Peer Review for EPA Draft Risk Evaluation for N-Methyl Pyrrolidone. Alexandria VA, 5-6 December 2019.

USEPA TSCA SACC. Peer Review for EPA Draft Risk Evaluation for Methylene Chloride. Alexandria VA, 3-4 December 2019.

USEPA TSCA SACC. Peer Review for EPA Draft Risk Evaluation for 1-Bromopropane. Alexandria VA, 10-12 September 2019.

USEPA TSCA SACC. Peer Review for EPA Draft Risk Evaluation for Cyclic Aliphatic Bromide Cluster (HBCD). Arlington, VA, 31 July-1 August 2019

USEPA SACC. Peer Review for EPA Draft Risk Evaluation for of 1,4 Dioxane. Arlington, VA, 29 -30 July 2019.

Chemical Assessment Advisory Committee: IRIS Assessment for Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX). Washington, DC. October 2016 – May 2017

USEPA Science Advisory Panels (Total 16 completed, Rapporteur 4)

USEPA EPA OSCPP/OSCP. June 2018. Reviewer for Five PBT Chemicals. Washington, DC.

Human Health and Ecological Risk Assessments for SmartStax PRO (MON 89034 x TC1507 x MON 87411 x DAS-59122-7), a Plant-incorporated Protectant Intended to Control Corn Rootworm through RNA Interference. September 2016. Reviewer of Chemical Fate. Washington, DC.

RNAi Technology as a Pesticide: Problem Formulation for Human Health and Ecological Risk Assessment. January 28, 2014. Reviewer of Chemical Fate. Washington, DC.

MIR604 Modified Cry3A Protein Bt Corn: Plant-Incorporated Protectant. March 13-14, 2006. Reviewer of Ecological Risks. Arlington, VA. Reviewer and *Rapporteur*.

Plant-Incorporated Protectants Based On Virus Coat Protein Genes. December 6-7, 2005. Reviewer of Ecological Risks. Arlington, VA.

Review of Product Characterization, Human Health Risk, Ecological Risk, and Insect Resistance Management for Bacillus thuringiensis (Bt) Cotton Products. June 8-10, 2004**.** Reviewer of Ecological Risks from Bt Cotton Products. Washington, DC.

Review of Advances in Terrestrial Probabilistic Risk Assessment. March 30-31, 2004. Reviewer and *Rapporteur* of EPA refinements to probabilistic risk assessments as applied to the FIFRA process. Washington, DC.

Review of New Approaches to LD50 Estimation. December 12, 2001. Reviewer of "Up and Down" technique for use in FIFRA reregistration process. Washington, DC.

Review of Advances in Terrestrial Probabilistic Risk Assessment. March 13-14, 2001. Reviewer and *Rapporteur* of EPA refinements to probabilistic risk assessments as applied to the FIFRA process. Washington, DC.

Review of Advances in Aquatic Probabilistic Risk Assessment. March 15-16, 2001. Reviewer of EPA refinements to probabilistic risk assessments as applied to the FIFRA process. Washington, DC.

Review of Advances in Probabilistic Risk Assessment. March 13-16, 2000. Reviewer of EPA refinements to probabilistic risk assessments as applied to FIFRA registration and reregistration processes. Washington, DC.

Review of Proposed Approaches to Aquatic Probabilistic Risk Assessment. April 4-5, 2000. Reviewer of EPA paradigm for probabilistic risk assessment in FIFRA registration and reregistration processes. Washington, DC.

Review of Proposed Approaches to Terrestrial Probabilistic Risk Assessment. April 5-6, 2000. Reviewer of EPA paradigm for probabilistic risk assessment in FIFRA registration and reregistration processes. Washington, DC.

Review of Higher Tier Chlorfenapyr Probabilistic Risk Assessment. September 1999. Reviewer of EPA and registrants conclusions regarding the risks posed to wildlife by pyrroles, a new class of insecticide. Washington, DC.

Review of Chlorfenapyr Risk Assessment. July 1999. *Rapporteur* and reviewer of EPA and registrants conclusions regarding the registration of a new class of pyrrole insecticides. Washington, DC.

Review of Spray Drift Task Force Report. July 1999. Reviewed the findings from the last decade of pesticide spray research. Panel recommendations were used to help establish regulatory guidelines for buffer zones surrounding agricultural fields. Washington, DC.

Other Federal Panels (16)

NSF Panel Reviewer: CBET Grant Review. September 2019

NSF Panel Reviewer: CBET Grant Review. October 2015

NSF Panel Reviewer: CBET Grant Review. April 2015

NSF Frontiers: Selection Panelist for proposed by various EFRI Program Directors. ***This panel determined the Areas in which NSF RFPs would be developed.*** March 11, 2015

EPA/NSF Networks for Characterizing Chemical Life Cycle. 2013. Reviewed grant proposals.

USEPA GRO Panel. 2012. Reviewed student fellowship proposals to NCE's Greater Research Opportunities Program.

USEPA STAR Panel. 2010. Reviewed grant proposals to NCER's Nano-initiative Program.

NSF ARI-R2 Panel. 2009. Reviewed applications for laboratory infrastructure.

NSERC Panel. 2009. Reviewed nanotoxicity proposals for Natural Sciences and Engineering Research Council of Canada.

USEPA Research Plan Review. 2007. Reviewed research plans for the USEPA National Ecological Effects Laboratory in Corvallis OR.

USEPA Science Achievement Awards. 2006. Reviewed applications for excellence in chemistry research in Federal agencies.

NSF Proposal Review. 2004. Provided online review for pollutant uptake study as part of pilot Fastlane review process.

USEPA Peer Review of ECOFRAM. June 1999. Peer reviewer for the probabilistic ecological risk assessment processes that were recommended by the Terrestrial ECOFRAM panel. The presentation was made verbally and in written form. Washington, DC.

USEPA STAR Fellowship Review. 1999 and 2007. Evaluated the quality of fellowship applications and made recommendations to EPA. Washington, DC.

NIEHS/BROOKS AFB Exposure Assessment Planning. 1998. Participated in the chemical detection and monitoring sub-group and worked with the larger group to determine which chemicals should be targeted for evaluation and which health effects endpoints would be likely to show adverse effects in humans. San Antonio, TX.

NOAA/UNH Cooperative Institute for Coastal and Estuarine Environmental Technology. April 2000. Provided Peer Review of grant proposals.

<u>International Panels (4)</u>

Air Quality at the Interface: Megacities and Agroecosystems. August 2012. National Science Foundation: Pan-American Advanced Studies Institute. Buenos Aires, Argentina. Workshop assembled 30 top prospective young scientist and 10 established researchers to evaluate the current state of science at urban/agricultural interface and to determine future research needs. Cobb was Program Organizer.

Problem Formulation for Ecological Risk Assessments. April 2010. SETAC Pellston Workshop in Pensacola FL.

International Workshop on Environmental Risk Assessment Methodologies for Metals and Inorganic Metal Compounds. October 1999. Panel drafted guidance for evaluating metal toxicities in natural waters of OECD countries. International Council on Metals and the Environment, Montpellier, France.

Principles and Processes for Endocrine Disruption. March 1996. Exposure Assessment Panel Member at Pelston Workshop at Kiawah Island, SC.

<u>Other Panels (10)</u>

California Environmental Protection Agency. 2017. Assessed the Water Quality Criteria for the Protection of Aquatic Life for the pesticide fipronil.

American Chemical Society. 2016, 2018. Green Chemical Corporate Award Review. Washington D.C.

Workshop for The Application of Wildlife Toxicology to Ecological Risk Assessment. July 1996. Presented: Environmental Chemistry of DDT and Mercury in McIntosh, Alabama. Sponsored by ECORISK. Atlanta, GA.

Exposure Assessment Panel Member at the ECORISK Endocrine Disruptors Conference. March 1996. Kiawah Island, SC.

NIH Infrastructure Advisory Board: Benedict College. 1995-1996. Assisted in development of research goals by NIH research teams consisting of faculty from Universities in South Carolina. Assess progress toward achievement of research and education goals.

Atrazine Risk Assessment Workshop. 1995. Sponsored by ECORISK. Kiawah Island, SC.

Workshop for Ecological Risk Assessment of Environmental Contaminant Exposure in Wildlife. July 1995. Presented: Analysis of DDT and Mercury in Prothonotary Warblers. Sponsored by ECORISK. Atlanta, GA.

2,2-Dibromo-3-nitrilopropionamide Risk Assessment Panel Member. March 1995. Sponsored by ECORISK. Kiawah Island, SC.

PEER REVIEWED JOURNAL PUBLICATIONS

(137 published, 0 in press, 0 accepted, 1 submitted, 1 in preparation)

(Average Cites per article 38.74 with h-index of 27 according to ISI on 23 Apr 2018)

Invited, featured and accelerated contributions
(15 published, 0 in Press, 0 accepted, 0 submitted):

1. Liu, J.; Dhungana, B.; Cobb, G. P., 2018. Environmental behavior, potential phytotoxicity, and accumulation of copper oxide nanoparticles and arsenic in rice plants. *Environ Toxicol Chem* 37 (1), 11-20.
2. Williamson T, Hathaway R, Exner J, Ford A, **Cobb GP**. 2014. The ACS Division of Environmental Chemistry celebrates its 100th anniversary. *Environ. Sci. & Tech.* 48(1), 1-2.
3. Zhang J and **Cobb GP**. 2012. Effect of Titanium Dioxide Nanomaterials and Ultraviolet Light Coexposure on African Clawed Frogs (Xenopus Laevis). *Environ Toxicol. Chem.* 31(1), 176-183.
4. Nations S, Long M, Wages M, Canas J, Maul JD, Theodorakis C, **Cobb GP.** 2010. Effects of ZnO Nanomaterials on Xenopus Laevis Growth and Development. *Ecotoxicol. Environ. Safety. 7*4(2), 203-210.
5. Slattery M, Willett KL, **Cobb GP**, Benson WH. 2010. Multiple Facets of Environmental Impacts from Hurricane Katrina. *Environ. Toxicol. Chem.* 29(7), 1401-1402.
6. Abel MT, Presley SM, Rainwater TR, Cox SB, Austin GP, **Cobb GP**. 2010. Lead distributions and risks in New Orleans following Hurricanes Katrina and Rita. *Environ. Toxicol. Chem.* 29(7), 1429-1437.
7. Smith PN, McMurry ST, Rainwater TR, Reynolds KD, **Cobb GP**, Anderson TA, Hoff D, Godard CM. 2007. Assessing Exposure to Terrestrial Vertebrates. *Environmental Pollution.* 150, 41-64.
8. Presley SM, Rainwater TR, Austin GP, Platt SG, Zak JC, **Cobb GP**, Marsland EJ, Tian K, Zhang B, Anderson TA, Cox SB, Abel MT, Leftwich BD, Huddleston J , Jeter R, Kendall RJ. 2006. Assessment of Pathogens and Toxicants in New Orleans, LA Following Hurricane Katrina. *Environ. Sci. and Technol*. 40(2), 468-474.

9. **Cobb GP,** Norman DM, Bargar TA, Houlis PD, Pepper C, Anderson TA. 2003. Using Chorioallantoic Membranes for Non-lethal Assessment of Persistent Organic Pollutant Exposure and Effect in Oviparous Wildlife. *Ecotoxicol.: Special Rev. Issue*. 12, 31-45.
10. Dasgupta PK , Huang H, Zhang G, **Cobb GP**. 2002. Photometric Measurement of Trace As(III) and As(V) in Drinking Water. *Talanta*. 58, 153-164.
11. Bargar TA, Scott GI, **Cobb GP**. 2001. Maternal Transfer of Contaminants: A Case Study of the Excretion of Three PCB Congeners and Technical Grade Endosulfan into Eggs by White Leghorn Chickens (*Gallus domesticus*). *Environ. Toxicol. Chem.* 20(1), 61-67.
12. Karen DJ, Ownby DR, Forsythe BL, Bills TP, LaPoint TW, **Cobb GP**, SJ Klaine. 1999. Influence of Water Quality on Silver Toxicity to Rainbow Trout (*Onchrynchus mykiss*), Fathead Minnows (*Pimephales promelas*), and Water Fleas (*Daphnia magna*). *Environ. Toxicol. Chem.*, 18, 63-70.
13. Klaine SJ, **Cobb GP**, Dickerson RL, Dixon KR, Kendall RJ, Smith EE, Solomon KR. 1996. An Ecological Risk Assessment for the Use of the Biocide Dibromonitrilopropane-amide (DBNPA) in Industrial Cooling Systems. *Environ. Toxicol. Chem.* 15, 21-30.
14. Dickerson RL, Hooper MJ, **Cobb GP**, Gard NW, Kendall RJ. 1994. Toxicological Foundations of Ecological Risk Assessment: Biomarker Development and Interpretation Based on Laboratory and Wildlife Species. *Environ. Health. Persp.,* 102, 65-69.
15. **Cobb GP**, Braman RS, Gilbert RA. 1989. Identification of Atmospheric Organic Sources Using the Carbon Hollow Tube-Gas Chromatography Method and Factor Analysis. *Anal. Chem.,* 61, 838-843.

Standard contributions (122 published, 0 in press, 0 accepted, 1 submitted, 1 in preparation):

1. Adair BM, McBride TJ, Hooper MJ, Reynolds KD, Schwarz M, McFarland,C McMurry ST, Hoff D, Olsen W, **Cobb GP**. Effects of Multiple Metal Exposure on Porphyrin Content in the Liver and Kidney of Starlings (*Sturnus vulgaris*) Inhabiting the Anaconda Smelter Hazardous Waste Site. *Environ. Sci. Technol.* In Preparation.

1. Virendera S, Liu J, Lujan H, Dhungana B, Hockaday W, Sayes C, **Cobb GP**. Ferrate(VI) Oxidation before Chlorination and Chloramination of Drinking Water: Decreases in Unsaturated Haloaromatic Disinfection Byproducts and Cytotoxicity. *Env. Intl.* Submitted.

1. Levine SL, Giddings J, Valenti T, **Cobb GP,** Danesha DS, McConnell LL. 2019. Overcoming Challenges of Incorporating Higher-Tier Data in Ecological Risk Assessments and Risk Management of Pesticides: Findings and Recommendations from the 2017 Workshop on Regulation and Innovation in Agriculture. *Integ Environ Assess & Mang.* 1-12.
2. Fairbrother A, Muir D, Solomon KR, Ankley GT, Rudd MA, Boxall AB, Apell JN, Armbrust KL, Blalock BJ, Bowman SR, Campbell LM, **Cobb GP**, Connors KA, Dreier DA, Evans, MS, Henry CJ, Hoke RA, Houde M, Klaine SJ, Klaper RD, Kullik SA, Lanno RP, Meyer C, Ottinger MA, Oziolor E, Petersen EJ, Poynton HC, Rice PJ, Rodriguez-Fuentes G, Samel A, Shaw JR, Steevens JA, Verslycke TA, Vidal-Dorsch DE, Weir SM, Wilson P, Brooks BW. 2019. Toward Sustainable Environmental Quality: Priority Research Questions for North America. *Env. Tox and Chem* 8(38) 1606-1624.
3. Liu, J., Wolfe, K., Potter, P. M., **Cobb, GP.** 2019. Distribution and Speciation of Copper and Arsenic in Rice Plants (*Oryza sativa japonica 'Koshihikari'*) Treated with Copper Oxide Nanoparticles and Arsenic during a Life Cycle. *Environ. Sci. Technol* 53(9) 4988-4996

4. Liu, J., Wolfe, K., **Cobb, GP.** 2019. Exposure to Copper Oxide Nanoparticles and Arsenic Causes Intergenerational Effects on Rice (*Oryza sativa japonica Koshihikari*) Seed Germination and Seedling Growth. *Env. Tox and Chem.* 38(9) 1978-1987.
5. Dhungana B, Peng H, Kutarna S, Umbuzeiro, G, Shrestha S, Liu J, Jones PD, Subedi B, Giesy JP, **Cobb GP.** 2019. Abundances and concentrations of brominated azo dyes detected in indoor dust. *Environmental Pollution.* 252(A) 784-793.
6. Liu J, Simms M, Song S, **Cobb GP.** 2018 Physiological Effects of Copper Oxide Nanoparticles and Arsenic on the Growth and Life Cycle of Rice (*Oryza sativa japonica*). *Environmental Science & Technology*. 52(23) 13728-13737.
7. Liu J, Dhungana B, **Cobb GP**. 2018. Copper oxide nanoparticles and arsenic interact to alter seedling growth of rice (*Oryza sativa japonica*). *Chemosphere*. 206. 330-337.
8. Watkins, PS, Castellon, BT, Tseng, C, Wright, MV, Matson, CW, **Cobb GP**. 2018. Validation of a Sulfuric Acid Digestion Method for Inductively Coupled Plasma Mass Spectrometry Quantification of TiO2 Nanoparticles. *Environ Contamination Toxicol*. 100:6. 809-814.
9. Liu J, Dhungana B, **Cobb GP**. 2018. Environmental Behavior, Potential Phytotoxicity, and Accumulation of Copper Oxide Nanoparticles and Arsenic to Rice Plants. *Environ Toxicol Chem.* 37:1. 11-20
10. Scott GI, Porter DE, Norman RS, Scott CH, Uyaguari-Diaz MI, Maruya KA, Weisberg SB, Fulton MH, Wirth EF, Moore J, Pennington PL, Schlenk D, **Cobb GP**, Denslow ND. 2016. Antibiotics as CECs: An overview of the Hazards Posed by Antibiotics and Antibiotic Resistance. *Frontiers in Marine Science* 3:24. 1-15.
11. **Cobb GP**, Moore AB, Rummel KT, Smith PN, McMurry ST, Hooper MJ. 2015. Dimercaptopropane Sulfonate Chelation Effects in vivo Hg and MeHg Distribution Among Organ Tissues and Blood of Prairie Voles (*Microtus ochrogaster*). *Bulletin of Environmental Contamination and Toxicology*. 95(6): 707-713.
12. Blackwell BR, Johnson BJ, Buser MD, **Cobb GP**, Smith PN. 2015. Transformation Kinetics of Trenbolone Acetate Metabolites and Estrogens in Urine and Feces of Implanted Steers. *Chemosphere* 138(2015): 901-907.
13. Blackwell BR, Wooten KJ, Buser MD, Johnson BJ, **Cobb GP**, Smith PN. 2015. Occurrence and Characterization of Steroid Growth Promoters Associated with Particulate Matter Originating from Beef Cattle Feedyards. *Environmental Science and Technology.* 2015; 49(14): 8796-8803.
14. Maul J, Shuanying Y, Wages M, Willming M, **Cobb GP**. 2015. Joint effects of pesticides and ultraviolet-B radiation on amphibian larvae. *Environmental Pollution* 207 248-255.
15. Yu S, Tang S, Mayer G, **Cobb GP**, Maul JD. 2015. Interactive effects of ultraviolet-B and pesticide exposure on DNA photo-adduct formation and transcription of DNA damage and repair genes in *Xenopus laevis* embryos. *Aquatic Toxicology* 159 256-266
16. Nations S, Wages M, **Cobb GP.** 2015. Subchronic and Chronic Developmental Effects of CuO Nanomaterials of Xenopus laevis.*Chemosphere*. 166-174.
17. Blackwell BR, Brown TR, Broadway PR, Buser MD, Brooks MD, Brooks JC, Johnson BJ, **Cobb GP**, Smith PN. 2014. Characterization of Trenobolone Acetate and Estradiol Metabolite Excretion Profiles in Implanted Steers. *Environmental Toxicology and Chemistry*. 33(12): 2850-8.
18. Faust DR, Hooper MJ, **Cobb GP**, Barnes M, Shaver D, Ertolacci S, Smith PN. 2014. Inorganic Elements in Green Sea Turtles (chelonia mydas): Relationships among external and internal tissues. *Environmental Toxicology and Chemistry*. 33(9):2020-7.

19. Wang J, Wages M, Yu S, Maul JD, Mayer G, Hope-Weeks L, **Cobb GP**. 2014. Bioaccumulation of fullerene (C60) and corresponding catalase elevation in lumbriculus variegatus. *Environ. Tox. Chem* 33(5): 1135-1141.
20. Yu S, Weir SM, **Cobb GP**, Maul JD. 2014. The effects of pesticide exposure on ultraviolet-B radiation avoidance behavior in tadpoles. *Sci. Total Environ*. 48(1):75-80.
21. Yu S, Wages MR, Cai Q, Maul JD, **Cobb GP**. 2013. Lethal and sublethal effects of three insecticides on two developmental stages of xenopus laevis and comparison with other amphibians. *Environ. Toxicol. Chem.* 32(9): 2056-2064.
22. Yu S, Wages MR, **Cobb GP**, Maul JD. 2013. Effects of chlorothalonil on development and growth of amphibian embryos and larvae. *Environ. Pollut*. 181:329-334.
23. Pan X, Ochoa KM, San Francisco MJ, Cox SB, Anderson TA, **Cobb GP**. 2013. Absorption, Distribution and Biotransformation of Hexahydro-1, 3, 5-trinitro-1, 3, 5-triazine (RDX) in B6C3F1 Mice (*Mus musculus*). *Environ. Toxicol. Chem.*, 32(6):1295-1303.
24. Wang J, Gelach J, Savage N, **Cobb GP**. 2013. Necessity and approach to integrated nanomaterials legislation and governance. *Sci. Tot. Environ.*, 442: 56–62.
25. Abel MT, Suedel B, Presley SM, McDanielLN, Rigdon R, Goebel T, Lascano RJ, Zartman R, Anderson TA, **Cobb GP**. 2012. Contribution of Soil Lead to Blood Lead in Children: A Study from New Orleans, LA. *Journal of Environmental Protection*, 6, 1704-1710.
26. Chase D, Yu F, Karnjanapiboonwong A, Morse A, **Cobb GP**, Anderson, TA. 2012. Occurrence of synthetic musk fragrances in effluent and non-effluent impacted environments. *Science of the Total Environment*. 416, 253-260.
27. McMurry ST, Jones LE, Smith PN, **Cobb GP**, Anderson TA, Lovern MB, Cox SB, Pan XP. 2012. Accumulation and effects of octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) exposure in the green anole (*Anolis carolinensis*). *Ecotoxicology*. 21(2), 304-14.
28. Scollon EJ, Carr JA, Rintoul DR, McMurry, ST, **Cobb GP**. 2012. Metabolism and distribution of p,p'-DDT during flight of the white-crowned sparrow, Zonotrichia leucophrys. *Environ Toxicol Chem.* 31(2), 336-346.
29. Faust DR, Knowles N, McGruder E, Haukos DA, **Cobb GP**, Maul JD, Anderson TA, Smith PN. 2012. Inorganic and organic contaminants in sediments from an urban playa and associated toxicity among Hyalella azteca. *Toxicological and Environmental Chemistry* 94(9): 1746-1757.
30. Blackwell B, Cai Q, Smith PN, **Cobb GP**. 2011. Liquid Chromatography-Tandem Mass Spectrometry Analysis of 17α-Trenbolone, 17β-Trenbolone and Trendione in Airborne Particulate Matter. *Talanta*. 85(3), 1317-23.
31. Wang J, Cai Q, Fang Y, Anderson TA, **Cobb GP**. 2011. Determination of Fullerenes (C60) in Artificial Sediments by Liquid Chromatography. *Talanta*, 87, 35-9.
32. Nations S, Wages M, Long M, Theodorakis C, and **Cobb GP.** 2011. Acute Effects of ZnO and CuO Nanoparticles on *Xenopus Laevis* Chemosphere. 83(8),1053-61
33. Chumchal MM. Rainwater TR, Osborn SC, Roberts AP, Abel MT, **Cobb GP,** Smith PN, Bailey FC. 2011. Mercury speciation and biomagnification in the food web of caddo lake, Texas and Louisiana, USA, a subtropical freshwater ecosystem. *Environ. Toxicol. Chem.* 30(5),1153-1162.
34. Rainwater, TR Millichamp, NJ; Barrantes, LDB; Barr, BR; Montero, JRB; Platt, SG; Abel, MT; **Cobb, GP**; Anderson, TA. 2011. Ocular disease in american crocodiles (*Crocodylus acutus*) in costa rica. *J. Wildl Disease.* 47(20), 415-426
35. Abel MT, Presley SM, Rainwater TR, Austin GP, Cox SB, McDaniel LN, Rigdon R, Goebel T, Zartman R, Leftwich BD, Anderson TA, Kendall RJ, **Cobb GP**. 2010. Environmentally

relevant lead concentrations used to evaluate spatial distributions in New Orleans, Louisiana USA. *Environ. Geochem. Health*. 32(5), 379-389.

36. McDaniel LN, Romero NA, Boyd JW, Coimbatore G, **Cobb GP**. 2010. Capillary Column Gas Chromatographic-Mass Spectrometric Determination of the Organophosphonate Nerve Agent Surrogate Di-methyl Methyl Phosphonate (DMMP) in Gaseous Phase Without Derivitization. *Talanta.* 81 (4-5), 1568-1571.
37. Presley SM, Abel MT, Austin GP, Rainwater TR, Brown, RW, McDaniel LN, Marsland EJ, Mielke, HW, Fornerette AM, Dillard ML, Rigdon RW, Anderson TA, Cox SB, Kendall RJ, **Cobb GP**. 2010. Toxic Metal Concentrations in Schoolyard Soils from New Orleans, LA Before and After Hurricanes Katrina and Rita. *Chemosphere*. 80(1), 67-73.
38. Curtis JT, Hood AN, Chen Y, **Cobb GP**, Wallace DR. 2010. Chronic Metals Ingestion By Prairie Voles Produces Sex-Specific Deficits In Social Behavior: An Animal Model Of Autism. *Behavioural Brain Research*, 213(1), 42-49.
39. Brausch JM, Blackwell BR, Beall BN, Caudillo C, Venkata K, Godard-Codding C, Cox SA, **Cobb GP**, Smith PN. 2010. Effects of polycyclic aromatic hydrocarbons in northern bobwhite quail (Colinus virginianus). *J. Toxicol. Environ. Health.* 73(8), 540-551.
40. Zhang Baohong, Pan Xiaoping, **Cobb GP**. 2010. Uptake, bioaccumulation, and biodegradation of hexahydro-1, 3, 5-trinitro-1, 3, 5-triazine (RDX) and its reduced metabolites (MNX and TNX) by the earthworm (Eisenia fetida). *Chemosphere* 76(1), 76-82.
41. Smith JN, Espino MA, Liu J, Romero NA, Cox SB, and **Cobb GP.** 2009. Multigenerational Effects of Exposure to Hexahydro-1,3,5-trinitroso-1,3,5-triazine (TNX) in Deer Mice (Peromyscus maniculatus). *Chemosphere.* 75(7), 910-914.
42. Rainwater TR, Sauther ML, Rainwater KAE, Mills RE, Cuozzo FP, Zhang B, McDaniel LN, Abel MT, Marsland EJ, Weber MA, Jacky IAY, Platt SG, **Cobb GP**, Anderson TA. 2009. Assessment of Organochlorine Pesticides and Metals in Ring-Tailed Lemurs (Lemur catta) at Beza Mahafaly Special Reserve, Madagascar. *American Journal of Primatology.* 71, 1–13.
43. McDaniel LN, Romero NA, Coimbatore G, **Cobb GP**. 2008. Novel AutoCAD Method for Observing & Quantifying Surface Wetting Characteristics. *Texas J. Sci.* 60, 137-150.
44. Zhang B, Cox SB, McMurry ST, Jackson WA, **Cobb GP**, Anderson TA. 2008. Effect of two major N-nitroso hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) metabolites on earthworm reproductive success. *Environ. Pollut*., 153, 658-667.
45. Zhang B, Pan X, Venne L, Dunnum S, McMurry ST, **Cobb GP**, Anderson TA. 2008. Development of a method for the determination of 9 currently used cotton pesticides by gas chromatography with electron capture detection. *Talanta*. 75, 1055–1060.
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3. **Cobb GP**. 2017. Algae Toxins: Methods & Challenges (ACSenvr). Presented at the International Conference on Chemistry and the Environment. Oslo, Switzerland. June 2017.
4. **Cobb GP**. 2017. Emerging Issues in Water Bodies. Presented at EAWAG, Zurich, Switzerland. 12 June 2017.
5. Dhungana B, Peng H, Subedi B, Jones PD, Giesy JP, **Cobb GP**. 2017. Untargeted Screening and Apportionment of Brominated Compounds in House Dust. Presented at the 254th ACS National Meeting, Washington, DC. 23 Aug 2017.
6. **Cobb GP**. 2017. Nanomaterial Accumulation and Toxicity: Influences of Exposure Duration and Modifying Factors. Presented at Univ of South Carolina Seminar. Charleston, SC. March 2017.
7. Watkins P, Castellon B, Liu J, Matson C, **Cobb GP**. 2016. Method development for quantification of titanium dioxide nanomaterials. Presented at Annual SETAC Meeting. Orlando, FL. 6-10 Nov 2016.
8. **Cobb GP,** Blackwell B, Smith P. 2015. Atmospheric emissions of veterinary pharmaceuticals

from CAFOs. Presented at Pacifichem 2015. Honolulu, HI. December 2015.

9. **Cobb GP**, Blackwell B, Buser M, Johnson B, Baker M, Smith PN. 2013. Airborne steroids & growth promoters near concentrated animal feeding operations. *Papers of the ACS*. 2013.
10. **Cobb GP**, Bigorgne E, Baker LF, Nations SL, Matson CM. 2013. Inorganic nanomaterial effects on aquatic organisms. 14th European Meeting on Environmental Chemistry. Budva, Montenegro. 4-6 December 2013.
11. **Cobb GP**. 2013. Uptake and effects in metal and metal oxide nanomaterials in aquatic organisms. 14th European Meeting on Environmental Chemistry. Budva, Montenegro. 4-11 December 2013.
12. **Cobb GP**. 2013. Nanomaterial uptake and effects in aquatic organisms. Institute of Applied Sciences, University of North Texas, Denton, TX. 27 Sept. 2013.
13. **Cobb GP.** 2013. Bioaccumulation and chronic effects of nanomaterials in aquatic organisms. LeTourneau University. Longview, TX. 25 April 2013.
14. **Cobb GP**. 2013. Nanomaterial behavior and effects in aquatic organisms. Department of Chemistry, College of Charleston, Charleston, SC.
15. **Cobb GP**. 2011. Airborne Veterinary Pharmaceuticals Near Concentrated Animal Feeding Operations. University of Saskatoon. 6 October 2011.
16. Blackwell BR, Smith PN, Cai Q, **Cobb GP**, Johnson B, Buser MD, Baker M. 2011. Liquid chromatography mass spectrometry: Analysis of veterinary growth promoters in airborne particulate matter. Presented at the 242nd National ACS Meeting, Denver, CO.
17. Wang J, **Cobb GP**. 2011. Translating scientific research in policy language for nanomaterial regulation. Presented at the 240th National ACS Meeting, Denver, CO, August 2011.
18. **Cobb GP**, Smith PN, Cai Q, Blackwell BJ, Johnson B, Buser MD. 2011. Growth promoters in particulate matter released from cattle feeding operations. Presented at the 43rd IUPAC World Chemistry Congress, San Juan, Puerto Rico.
19. **Cobb GP**. 2010. Atmospheric Transport of Anabolic Steroids. Presented at the Department of Biological Sciences, East Carolina University, Greenville, NC. September 2010.
20. Smith PN, Blackwell B, Johnson B, Buser M, Cai Q, Baker M, **Cobb GP.** Evaluating androgenic and estrogenic steroids in air near Confined animal feeding operations. Accepted at the 31st Annual Meeting of The SETAC, November 2010. Portland, OR.
21. Wang J, Maul J, Anderson TA, **Cobb GP.** 2010. Uptake of Fullerenes (n-C60) by *Lumbriculus varigatus*, Presented at the 239th National ACS Meeting. San Francisco, CA. March 2010.
22. **Cobb GP,** Blackwell B, Smith PN. 2010. Growth Promoters in Particulate Matter Near Animal Feeding Operations. Presented at the SETAC Europe Annual Meeting. Seville, Spain, May 2010.
23. **Cobb GP**. Airborne Growth Promoters Near Cattle Feedyards. Presented at the Department of Environmental Engineering. Missouri University of Science and Technology. April 2010.
24. Smith PN, Blackwell B, Johnson B, Buser M, Cai Q, Baker M, **Cobb GP.** The Answer My Friends is…Blowing in the Wind. Presented at the 30th Annual Meeting of The SETAC. New Orleans, LA, 2009.
25. Wang J, Cai Q, **Cobb GP**. 2009. Extraction of Fullerene (nano-C60) from Artificial Sediment. 237th ACS National Meeting, Salt Lake City, UT, March, 2009.
26. **Cobb GP**, Rainwater T, Presley SM, Abel MT, Demas CR, Suedel B, Wang J. 2008. Toxicological Impacts of Hurricanes Katrina and Rita on Terrestrial and Marsh Environments. Presented at the Wildlife Society 15th Annual Conference. November 10, 2008. Miami, FL.

27. **Cobb GP**, Presley SM, Abel MT, Demas CR, Suedel B, Wang J. 2008. Contaminant distributions in New Orleans and surrounding areas following Hurricanes Katrina and Rita. Presented at the 29rd Annual Meeting of The SETAC, November 2008. Tampa, FL.
28. **Cobb GP**, Nations S. 2008. Acute and Chronic Toxicity of Zinc Oxide Nanoparticles in Xenopus laevis, African Clawed Frogs. Chinese Academies of Science: Nanjing Institute of Geography and Limnology. 19 June 2008. Nanjing, China.
29. **Cobb GP**, Pan X. 2008. Environmental Toxicology as a Foundation for Hazardous Waste Assessments. Nanjing University: Department of Environmental Health. 19 June 2008. Nanjing, China.
30. **Cobb GP.** 2008. Environmental Toxicology as a Foundation for Hazardous Waste Identification and Waste site Assessments. Henan Institute of Science and Technology. An'yang, China. 14 June 2008.
31. **Cobb GP**, Theodorakis CT. 2007. Acute and chronic effects of metal oxide nanoparticles on fish and frogs. Presented at the Interagency Workshop on the Environmental Implications of Nanotechnology. September 5-7, 2007. Washington, DC.
32. **Cobb GP.** 2007. Environmental Chemistry and Environmental Toxicology: Foundations for Sound Environmental Guidelines. Presented at the First Symposium of Chemistry and the Environment. 12-15 June 2007. Milocer, Montenegro.
33. **Cobb GP**, Smith JN, Pan X, Muki S, Zhang B, Liu J, Patino R, Smith E, Gentles AB, Smith PN, Anderson TA, Kendall RJ. 2007. Acute and subchronic effects of RDX and its transformation products. Presented at USEPA Toxicology and Risk Assessment Conference. 23-25 April 2007. Cincinnati, OH.
34. **Cobb GP**. 2007. Chemical and Toxicological Analysis of RDX and HMX in Terrestrial Organisms. Presented at the Baylor University Department of Chemistry Seminar Series. 13 April 2007. Waco, TX.
35. **Cobb GP**. 2007. Explosives in the Environment: Uptake, In Vivo Transformation, and Adverse Effects of RDX. Presented at the University of North Texas Institute of Applied Sciences Seminar Series. 30 March 2007. Denton, TX.

Sixty-three additional invited presentations from 1986-2006 (available upon request).

SCIENTIFIC PRESENTATIONS (206)

1. Liu J, **Cobb GP**, Smith PN. Nano-CopperOxide Influences Rice (*Oryza sativa japonica*) Growth and Arsenic Uptake. Presented at the 40th Annual SETAC Meeting, Toronto, ON Canada, November 2019.
2. Shaw K, Hyrenbach D, Fraser L, Liu J, **Cobb GP**, Lynch J, Klein D. Elemental Concentrations in feathers of Bonin Petrel (*Pterodroma hypoleuca)* on Midway Atoll. Presented at the 40th Annual SETAC Meeting, Toronto, ON Canada, November 2019.
3. Tanir J, Satterfield MB, **Cobb GP,** Constable D, Giraud J. 2019. Accelerating the Integration of Green and Sustainable Chemistry into the Formulated Products Supply Chain. 23rd Annual Green Chemistry & Engineering Conference, American Chemical Society Green Chemistry Institute. Reston, VA. June 2019.
4. Castellon B, Baker L, Watkins P, **Cobb GP**, King R, Matson C. Environmental fate and transport of titanium dioxide nanoparticles in municipal wastewater effluent in outdoor stream mesocosms. South Central SETAC 2019, South Central Society of Environmental Toxicology and Chemistry, Waco, Texas. May 2019.

5. Liu, Jing, **Cobb GP.** Effects of Copper Oxide Nanoparticles and Arsenic on the Whole-Life Growth of Rice (*Oryza Savita japonica*), American Chemical Society 256th National Meeting, Boston, MA, 2018.
6. Liu, Jing, Simms M, **Cobb GP**. Effects of Copper Oxide Nanoparticles and Arenic on the Whole-Life Cycle Growth of Rice (*Oryza Savita japonica*). Presented at SETAC-YES, Madison, WS, 2018.
7. Liu J, Dhungana B, **Cobb GP**. 2017. Effect of copper oxide nanoparticles and arsenic on seed germination and seedling growth on rice (*Oryza sativa japonica*). Presented at 38th SETAC Annual Meeting, Minneapolis, MN, November 2017.
8. Dhungana B, Peng H, Subedi B, Giesy JP, **Cobb GP**. 2017. Untargeted Screening and Apportionment of Brominated Compound in House Dust. Presented at the 255th ACS National Meeting, Washington, DC.
9. Liu J, Watkins PS, Dhungana B, **Cobb GP**. 2016. The impact of nano copper oxide and arsenic on the seeds germination and seedling growth conditions of the rice plant (*Oryza sativa*). Presented at 37th SETAC Annual Meeting, Orlando, FL, November 2016.
10. Watkins PS, Castellon B, Liu J, Matson C, **Cobb GP**. 2015. Method development for quantification of titanium dioxide nanomaterials. Presented at SETAC South Central, Lafayette, LA June 2015.
11. Watkins PS, Castellon B, Tseng C, Liu J, Matson C, **Cobb GP.** 2015. Validation of Sulfuric Acid Digestion of Titanium Dioxide Nanoparticles in Multiple Environmental Matrices. Presented at the 36th SETAC Annual Meeting, Salt Lake City, UT. November 2015.
12. Newberger D, **Cobb GP**, Acharya A, Chenot-Rose C, Rose V, Rainwater TR, Mazzottie FJ. Transition Metal Accumulation in Caudal Scutes of American Crocodiles from Belize. Presented at URSA Scholars Week. Baylor University, Waco, TX. March 31- April 4, 2014.
13. Acharya A, **Cobb GP**. Temporal and spatial distribution of inorganic constituents in the John Bunker Sands wetland. Presented at 247th ACS National Meeting, Dallas, TX, March 2014.
14. Newberger D, Abhilasha A, **Cobb GP**, Mazzotti F, Rainwater T, Rose-Chenot C, Rose V. Transition metal accumulation in caudal scutes of American crocodiles *(Crocodylus acutus)* from Belize. Presented at 247th ACS National Meeting, Dallas, TX, March 16-20, 2014.
15. Johnson DR, Godard-Codding C, Anderson T, Ang CY, **Cobb GP**, Canas J, Clarke J, Roberts A, Boysen K, Killgore J, Hoover J. Contaminant Burden Analysis in Wild Shovelnose Sturgeon (*Scaphirhynchus platorynchus*) in the lower Mississippi River. Presented at the 53rd SOT Meeting, 24-27 March 2014.
16. Acharya A, Watkins PS**, Cobb GP**. Temporal and spatial distribution of inorganic constituents in water and sediments of John Bunker Sands wetland center. Presented at the 69th Southwest Regional Meeting of the American Chemical Society, 16-19 November 2013.
17. Brown TR, Blackwell BR, Broadway PR, Brooks JC, Johnson BJ, **Cobb GP**, Smith PN. 2013. Characterization of steroidal metabolite excretion from implanted cattle. Presented at the 34th SETAC Annual Meeting, Nashville, TN, November 2013.
18. Blackwell BR, Brown TR, Johnson BJ, **Cobb GP**, Smith PN. 2013. Degredation of steroid metabolites in urine and feces from implanted cattle. Presented at the 34th SETAC Annual Meeting, Nashville, TN, November 2013.
19. Blackwell BR, Wooten KJ, Buser M, Johnson BJ, **Cobb GP**. 2013. Occurrence of steroid growth promoters associated with particulate matter originating from beef cattle feedyards. Presented at the 34th SETAC Annual Meeting, Nashville, TN, November 2013.
20. Yu S, Tang S, Meyer GD, **Cobb GP**, Maul JD. 2013. Endosulfan and α-cypermethrin inhibit repair of DNA photo-adducts and decrease transcription of nucleotide excision repair genes

in *Xenopus laevis*. Presented at the 34th SETAC Annual Meeting, Nashville, TN, November 2013.

21. **Cobb GP**, Blackwell B, Buser M, Johnson B, Baker M, Smith PN. 2013. Airborne steroids and growth promoters near concentrated animal feeding operations. Presented at 246th ACS National Meeting, Indianapolis, IN, September 2013.
22. Yu S, Wages M, **Cobb GP**, Maul JD. 2012. Acute toxicity of the fungicide chlorothalonil to two amphibians, *Xenopus laevis* and *Spea multiplicata.* Presented at 33rd SETAC Annual Meeting, Long Beach CA, November 2012.
23. Wang J, Maul JD, Mayer GD, **Cobb GP**. 2012. Uptake of Fullerene (C60) induced catalase (CAT) activity in *Lumbriculuc Variegatus*. Presented at 244th ACS National Meeting, Philadelphia, PA. August 2012.
24. Coimbatore G, McDaniel LN, Dallas T, **Cobb GP**. 2012. Response characteristics of a liquid crystal based diagnostic sensor for gaseous organophosphonates. Presented at 243th ACS National Meeting, San Diego, CA. March 2012.
25. Wang J. **Cobb GP**. 2011. Translating scientific research in policy language for nanomaterial regulation. Presented at 244th ACS National Meeting, Denver CO, August 2011.
26. Blackwell BR, Johnson BJ, Baker M, Buser MD, **Cobb GP**, Smith PN. 2011. Liquid chromatography mass spectrometry: Analysis of veterinary growth promoters in airborne particulate matter. Presented at 244th ACS National Meeting, Denver, CO August 2011.
27. Buser M, Blackwell BR, Johnson BJ, PN, **Cobb GP**, Smith PN. 2011. Growth promoters, wind, and human/ecological health: Preliminary feedyard PM analysis. Presented at 244th ACS National Meeting, Denver CO, August 2011.
28. Yu S, Wages M, **Cobb GP**. 2011. Toxicity of Pesticides of African Clawed Frog (*Xenopus laevis*) Embryos and Larvae. Presented at 32nd SETAC Annual Mtg, Boston, MA, Nov 2011.
29. Blackwell BR, Cai Q, Buser MD, Johnson BJ, Baker M, Green BB, **Cobb GP**, Smith PN. 2010. Steroidal growth promoters in particulate matter from beef cattle feedyards of the Southern High Plains, USA. Presented at the 31st SETAC Annual Meeting, Portland, OR, November 2010.
30. Wang J, Maul JD, Anderson T, Hope-Weeks L, **Cobb GP**. 2010. Uptake of Fullerenes by Benthic organism (*Lumbriculus variegatus).* Presented at the 31st SETAC Annual Meeting, Portland, OR, November 2010.
31. Chase D, Karnjanapiboonwong A, Fang Y, Wooten K, **Cobb GP**, Morse A, Anderson TA. 2010. Occurrence and Fate of Synthetic Musk Fragrances in Effluent and Non-Effluent Impacted Environments. Presented at the 31st SETAC Annual Meeting, Portland, OR, November 2010.
32. Wang J, Cai Q, Maul JD, Anderson TA, **Cobb GP**. 2010. HPLC Quantification of Fullerene (nano-C60) in Aquatic Worm (*Lumbriculus variegatus*) tissues. Presented at the 31st SETAC Annual Meeting, Portland, OR, November 2010.
33. Johnson DR, Godard-Codding C, Anderson TA, Ang C, **Cobb GP**, Canas JE, Suedel BC, Boysen K, Hoover J. 2010. Baseline Chemical and Toxicological Analyses of Shovelnose Sturgeon (*Scaphirhynchus platorynchus*) in the lower Mississippi River. Presented at the 31st SETAC Annual Meeting, Portland, OR, November 2010.
34. Weisbrod A, Lavoie E, Scholz N, **Cobb GP**, Vigon B. 2010. Sustainability Science and SETAC's Sustainability. Presented at the 31st SETAC Annual Meeting, Portland, OR, November 2010.

35. Coimbatore G, Smith M, Hoffarth A, Gibson A, Austin G, Presley SM, **Cobb GP**. 2010. Temperature stability in quartz crystal microbalance studies. Presented at 239th ACS National Meeting, San Francisco, CA.
36. Nations S, Wages M, **Cobb GP.** 2009. Subchronic and Chronic Developmental Effects of CuO Nanomaterials on *Xenopus laevis*. Presented at South Central Regional Chapter of the SETAC Annual Meeting, San Marcos, TX.
37. Cai Q, Blackwell BR, Shannahan R, Brausch JR, Coimbatore G, Smith PN, **Cobb GP**. 2009. Liquid chromatography-tandem mass spectrometry analysis of major non-conjugated metabolites of trenbolone acetate in particulate matter. Presented at the 30th SETAC Annual Meeting, New Orleans LA, November 2009.
38. Blackwell BR, Cai Q, **Cobb GP**, Smith PN. 2009. Trenbolone acetate metabolites in particulate matter originating from beef cattle feeding operations. Presented at the 30th SETAC Annual Meeting, New Orleans, LA, November 2009.
39. Zhang J, Wages M, **Cobb GP**. 2009. Effect of Titanium Dioxides Nanomaterials and Ultraviolet Light Coexposure on Xenopus laevis. Presented at the 30th SETAC Annual Meeting, New Orleans, LA, November 2009.
40. Wang J, Cai Q, **Cobb GP**. 2009. Extraction of Fullerene (nano-C60) from Artificial Sediment. Presented at the 237th ACS National Meeting, Salt Lake City, UT, March, 2009.
41. Cai Q, Wang J, Shannahan RD, Blackwell BR, Brausch JM, Smith PN, **Cobb GP**. 2009. Determination of free trenbolone acetate and its major metabolites in bovine milk by liquid chromatography-tandem mass spectrometry. Presented at the 237th ACS National Meeting, Salt Lake City, UT, March, 2009.
42. Chumchal MM, Rainwater TR, Osborn SC, **Cobb GP**, Smith PN, Bailey FC. Assessment of mercury biomagnification in a subtropical freshwater ecosystem (Caddo Lake, Texas/Louisiana, USA). Presented at the 9th International Conference on Mercury as a Global Pollutant, Guiyang, Guizhou, China.
43. Chumchal MM, Rainwater TR, Osborn SC, **Cobb GP**, Smith PN, Bailey FC. 2009. Assessment of mercury biomagnification in Caddo Lake, Texas/Louisiana. Presented at the South Central Regional Chapter of the SETAC Annual Meeting, San Marcos, TX.
44. Chumchal MM, Rainwater TR, Osborn SC, **Cobb GP**, Smith PN, Bailey FC. 2009. Assessment of mercury biomagnification in Caddo Lake, Texas/Louisiana. Presented at the Texas Academy of Science Annual Meeting, Junction, TX.
45. Abel MT, Presley SM, Rainwater TR, Austin GP, Cox SB, McDaniel LN, Zartman R, Leftwich BD, Anderson TA, Kendall RJ, **Cobb GP**. 2008. Toxic metal evaluation on soils and sediments in New Orleans, LA. Following hurricane Katrina. Presented at the 29th SETAC Annual Meeting, November 2008. Tampa, FL.
46. McDaniel LN, Coimbatore G, **Cobb GP**. 2008. Capillary Column Gas Chromatographic-Mass Spectrometric Determination of the Organophosphonate Nerve Agent Surrogate Di-methyl Methyl Phosphonate (DMMP) in Gaseous Phase Without Derivitization. Presented at the 29th SETAC Annual Meeting, November 2008. Tampa, FL.
47. Nations S, Wages M, Long M, Theodorakis C, and **Cobb GP**. 2008. Developmental Toxicity of Zinc Oxide Nanoparticles to African Clawed Frogs. Presented at the 29th SETAC Annual Meeting, November 2008. Tampa, FL.
48. Nations S, Wages M, Long M, Theodorakis C, and **Cobb GP**. 2008. Acute and ChronicToxicity of Metal Oxide Nanoparticles to African Clawed Frogs. South Central Regional Chapter of the SETAC Annual Meeting, June 2008. Clear Lake, TX.

One hundred fifty-eight presentations from 1986-2007 (available upon request).

TECHNICAL REPORTS (81)

1. Vigon B, Mozur M, McConnell LM, **Cobb GP**. 2013. Pan-American Advanced Studies Institute -- Air Quality at the Interface: Megacities and Agroecosystems. Submitted to National Science Foundation. PASI Program. 10 pp.
2. Unsworth JB, Linders JBH, **Cobb GP,** Volz D, Parker R, Chen W, Zhou J. 2013.Global Framework for Implementing Consistent Ecological Risk Assessment of Pesticides for Sustainable Agriculture. IUPAC Project 2010-056-1-600. International Union of Pure and applied Chemistry, Advisory Committee on Crop Protection Chemistry. 76 pp.
3. **Cobb GP**, Cai Q, Canas J, Anderson TA, Godard-Codding CM. 2010. Contaminant Analysis in Sturgeon Tissues. US Army Corps of Engineers. 65 pp.
4. Coimbatore G, **Cobb GP**. 2010. Characterizing Liquid Crystal Based Sensor for Nerve Agents: Annual Report. Submitted to Research Development and Engineering Command, USDOD. 12 pp. submitted to RDECOM.
5. **Cobb GP**, Yu S, Canas J, Anderson TA. 2010. Assessment of Air Contamination in and around the Texarkana Wood Preserving Site in Bowie County, Texas. Submitted to Texas Commission on Environmental Quality.
6. Smith PN, **Cobb GP**. 2010. Assessment of Airborne Anabolic Hormones from Confined Animal Feeding Operations. Norman Hackerman ARP Research Fund. 3 pp.
7. **Cobb GP**, Anderson TA. 2009. Microbial response to remediation solution for oil and salt contaminated soils. Green Farms Inc. 6 pp.
8. **Cobb GP**. 2007. Continuation of PAH Analysis in fish by gas chromatography- mass spectrometry. Universidad Juárez Autónoma de Tabasco. 3 pp.
9. Coimbatore G, **Cobb GP**. 2007. Liquid Crystal Based Sensor for Nerve Agents: Interim Report. Submitted to Research Development and Engineering Command, USDOD. 9 pp.
10. **Cobb GP**, Smith PN, Smith EE. 2006. Evaluating Uptake of Incurred Explosives Residues. Submitted to Strategic Environmental Research Defense Program, USDOD. MRT-05-01. 13 pp.
11. **Cobb, GP.** 2006. Soil trophic transfer of military unique compounds into mice, *Peromyscus maniculatus*. Submitted to US Army Corps of Engineers. Vicksburg, MS. 32 pp.
12. **Cobb GP**. 2005. Analysis of PAHs in fish by gas chromatography- mass spectrometry. Universidad Juárez Autónoma de Tabasco. 4 pp.
13. **Cobb GP**, Boyd J, Murray G. 2004. Cost effective, Near-real-time Sensors of Chemical Warfare Agents. Submitted to TAC, Patrick AFB, Cocoa Beach, FL.
14. **Cobb GP**, Boyd J, Murray G. 2004. Testing, Near-real-time Sensors of Chemical Warfare Agents. Submitted to RDE Com, US Army. 27 October 2004.
15. **Cobb GP,** San Francisco M, Scollon EJ, Dixon K. 2003. Chemical and Microbial Presence on Golf Towels and Player's Hands. Report submitted to Golf Digest. 10pp.
16. **Cobb GP**, Boyd J, Murray G. 2003 Development of a Cost Effective Near-real-time Sensor for Chemical Warfare Agents in Indoor Environments. Submitted to Soldier Biological Chemical Command, US Army. 15 March 2003.
17. Smith EE, **Cobb GP**. 2002. Metals, Organochlorines and Organophosphates in Colonias near El Paso, TX. Submitted to Houston Endowment on 15 December 2002.

18. Hooper MJ, **Cobb GP**, McMurry ST, Reynolds KD, Adair BM, Schwarz M, McBride T, McFarland C, Bens CM. 2002. Wildlife Biomonitoring at the Anacaonda Smelter Site: Final Report. Submitted to FWS of USGS, Helena, MT. on 30 May 2002. 537 pp.

Sixty-three Technical Reports submitted from 1988-2001 are available upon request.

GRADUATE COMMITTEE SERVICE
(Current 5, Alumni 79)

Major Professor (2 current, 32 alumni)

Current (1 PhD, 1 MSc)

Penrose, Mike. PhD Student. Department of Environmental Science, Baylor University.
Hellinger, Deanna. MSc Student. Department of Environmental Science, Baylor University.

Alumni (14 PhD and 18 MSc)

Liu, Jing. PhD. 2019. Interactive Effects of Cooper Oxide Nanoparticles and Arsenic on Rice (O. sativa japonica Koshihikari) Plant Growth and Development. Department of Environmental Science, Baylor University. Employed at Chinese Research Academy of Environmental Sciences. China

Watkins, Preston. MSc. 2016. Metal constituents in water from a constructed wetland. Department of Environmental Science, Baylor University. Employed at Environ Pack, Dallas, TX.

Acharya, Abhilasha. MSc. 2014. Metal movement in sediments from a constructed wetland. Department of Environmental Science, Baylor University. Employed at Washington University School of Medicine, St Louis MO.

Yu, Shuangying. PhD. 2014. Investigating the interactive effects of ultraviolet-B radiation and pesticides in amphibians. Department of Environmental Toxicology, Texas Tech University. Employed with Queens College, Charlotte, NC.

Wang, Jiafan. PhD. 2012. Behavioral effects of frogs exposed to metal oxide nanoparticles. Department of Environmental Toxicology, Texas Tech University. *Winner SETAC/ACS ENVR Student Exchange Award.* Employed with OWENS CORNING addressing Product Stewardship/Sustainability. Columbus, Ohio.

McDaniel, Les. PhD. 2011. Detecting trace toxicants using liquid crystal technologies. Department of Environmental Toxicology, Texas Tech University. *ARCS Scholar.* Employed as Clerk at TraceAnalysis in Lubbock, TX.

Zhang, Junling. MSc. 2010. Effects of TiO_2 nanoparticles and UV light on frog embryo growth and survival. Department of Environmental Toxicology, Texas Tech University. Employed with KaMin LLC in Macon, GA.

Able, Mike. PhD. 2009. Trace metal profile of soils and sediments in New Orleans, LA, USA. Department of Environmental Toxicology, Texas Tech University. Water Chemistry Manager at DowDupont in Freeport, TX.

Biggs (née Nations), Shawna. MSc. 2009. Toxicity of metal-oxide nanoparticles to Xenopus laevis. Department of Environmental Toxicology, Texas Tech University. *Winner SETAC Jeff Black Award.* Employed at AnalySis, Inc. in Austin, TX.

Pan, Xiaoping. PhD. 2007. Toxicological Effects of Trinitroso-explosive on deer mice. Department of Environmental Toxicology, Texas Tech University. ***Winner ACS Environmental Chemistry Best Student Paper Award.*** *Winner Cash Family Fellowship.* Employed as a Faculty member in Chemistry at East Carolina University.

Liu, Jun. MSc. 2007. HMX depuration into quail eggs and chorioallantoic membranes. Department of Environmental Toxicology, Texas Tech University. Employed with an Environmental Consulting Lab in Atlanta GA.

Smith, Jordan. PhD. 2007. Genetic Alterations in Mice exposed to RDX metabolites. Department of Environmental Toxicology, Texas Tech University. ***USEPA STAR Fellow. ARCS Scholar.*** Employed as a Research Scientist at Battelle NW Labs.

Radtke, Corey W. PhD. 2005. Laboratory investigation of explosives degradation in vadose zone soil using carbon source additions. Department of Environmental Toxicology, Texas Tech University. Founder VERD Technologies, Houston TX.

Boyd, Jonathan A. PhD. 2004. Sensor development for gaseous neurotoxicants. Department of Environmental Toxicology, Texas Tech University. Faculty member, West Virginia University School of Medicine.

Cruz-Li, Emilia I. PhD. 2004. Octylphenol and perchlorate effects on growth and development of zebrafish. Department of Environmental Toxicology, Texas Tech University. Employed at El Centro Universitario Regional del Litoral Atlántico in Arlantida, Honduras.

Scollon, Edward J. PhD. 2003. Organochlorine pesticide accumulation in white crowned sparrows during artificial migration. Department of Environmental Toxicology, Texas Tech University. *Runner-up Platform Competition SETAC South Central 2003*. Employed with as a Risk Assessor with Valent, Sacramento, CA.

Adair, Blakely M. PhD. 2002. Trophic transport of metals from mining waste into avian species. ***Karen Wetterhahn Memorial Award Recipient, NIEHS/USEPA.*** Faculty member at The Citadel, Charleston, SC.

Moore, Andrew B. MSc. 2002. Mercury distribution and excretion from prairie voles following exposure to methyl mercury and chelation treatment. Department of Environmental Toxicology, Texas Tech University. *(Winner Best Presentation, TIEHH Annual Symposium).* Employed by Dallas County Institute of Forensic Science, Dallas, TX.

Gentles, B. Angela. PhD. 2001. Developmental effects of cadmium chloride on offspring from Streptozocin treated Sprague-Dawley Rats. Department of Environmental Toxicology, Texas Tech University. Faculty member at South Plains College, Levelland Texas.

Bargar, Tim A. PhD. 2000. Chorioallantoic Membrane Use as a Non-Lethal, Non-Invasive Indicator of Oviparous Organism Exposure to Organochlorine Contaminants: A Laboratory Validation Study. Environmental Toxicology, Texas Tech University. Employed with USGS, Cooperative FWS Research Unit. Gainesville FL.

Bouknight, Janet. MSc. 1998. Synthesis and Application of a new polymer for treatment of metals in waste streams. Department of Environmental Toxicology, Clemson University. Employed as an Instructor at Santa Fe Community College, Gainesville FL.

Cruz-Li, Emilia I. MSc. 1998. Pesticide movement in a watershed from coastal South Carolina. Department of Environmental Toxicology, Clemson University. *(Fulbright Scholar; Winner Best Platform Presentation, Carolinas SETAC*).

Adair, Blakely M. MSc. 1997. Mercury accumulation in Prothonotory warblers at designated hazardous waste sites. Department of Environmental Toxicology, Clemson University. *(Winner Best Platform Presentation, Carolinas SETAC and South Central SETAC; Runner-up Best Platform Presentation, SETAC*).

Ownby, David. MSc. 1997. Influence of Aqueous Constituents on Silver Determination. Department of Environmental Toxicology, Clemson University. Employed as Faculty member in Chemistry at Towson University, Towson MD.

Shupack, Debbie. MSc. 1997. Influence of Vegetation on Mineralization of Proplyene Glycol in Soil: Reducing Environmental Impact of De-icing Fluids in Runoff Water. Department of Environmental Toxicology, Clemson University. *(US Department of Defense Scholar)*. Employed as environmental consultant in Atlanta. Cobb served as co-advisor.

Pattenayek, Mala. **MSc. 1996.** Enhanced bioremediation of hazardous materials using surfactants. Department of Environmental Toxicology, Clemson University. Employed with Integral, environmental consultants in San Francisco, CA.

Sands, Kristin. MSc. **1995.** Bioaccumulation of lead, cadmium, arsenic and zinc in garden vegetables grown in mine tailings. Department of Environmental Toxicology, Clemson University. Employed as a High School Science Teacher, Auburn, AL.

Wood, Pattie D. MSc. 1995. Chorioallantoic membrane as an indicator tissue for polychlorinated biphenyls in eggs of american alligators (*Alligator mississipiensis*) and loggerhead sea turtles (*Caretta caretta*). Department of Environmental Toxicology, Clemson University. Employed with Portland Community College in Portland, OR.

McCoy, Torin J. MSc. 1994. Qualitative ecological risk assessment at hazardous waste sites in South Carolina. Department of Environmental Toxicology. Clemson University. Environmental Systems Branch Chief with NASA, Houston, TX.

Rudolph, Sharon A. MSc. 1992. Environmental monitoring for toxic substances near the Skagit County, Washington waste incinerator. *Department of Environmental Systems Engineering*, Clemson University. Employed with Kleinfelder Consultants, Whittier CA.

Phillips, Michelle T. MSc. 1991. Analysis of polychlorinated biphenyls in duck eggs. *Department of Chemistry*, Clemson University.

Norman, Donald M. MSc. **1989.** Organochlorine pesticides and polychlorinated biphenyl congeners in great blue herons from the Puget Sound ecosystem. *Wildlife Toxicology. Huxley College. Western Washington University*. Operates Norman Consulting, Seattle, WA. Cobb was research advisor for Norman.

Committee Member (3 active, 47 graduated)

Current (3 PhD, 0 MSc)

Castellon, Ben. PhD Student. Fate, Transport and Bioavailability of Metallic Nanoparticles in Simulated Aquatic Ecosystems. Department of BioMedical Studies, Baylor University.

George, Marina. PhD Student. Physical and toxicological characterization of Nanomaterials. Department of Environmental Science, Baylor University.

Yoon, Subin. PhD Candidate. Carbon Sources and Air Quality. Department of Environmental Science, Baylor University.

Alumni (23 PhD and 24 MSc)

Kristofco, Lauren. Age Matters: Developmental Stage of Zebrafish *(Danio rerio)* Influences Bioconcentration, and Survival and Behavioral Photomotor Response Thresholds. Department of Environmental Science, Baylor University. Employed as Environmental Stewardship Manager with Chevron in San Francisco, CA.

Breed, Chris. MSc 2015. Modeling the Transport of Sucralose, an Anthropogenic Tracer, in an Effluent Dependent Watershed with the Soil and Water Assessment Tool during an Extreme Drought. Department of Environmental Science, Baylor University.

Gibson, Anna. PhD 2014. Diagnostic procedures for plague detection in free ranging rodents. Department of Environmental Toxicology, Texas Tech University. Research Compliance & International Lab Safety Manager at Metabiota in Washington, D.C.

Blackwell, Brett. PhD. 2015. Occurrence of Steroid Growth Promoters Associated with Particulate Matter Originating from beef Cattle Feedyards. Department of Environmental Toxicology, Texas Tech University. Employed with the USEPA, Duluth, MN

Connors, Kristin. PhD 2014. Pharmaceutical Effects in Aquatic Species. Institute of Biomedical Studies. Baylor University. Employed as Product Stewardship Manager for Proctor and Gamble in Cincinnati, OH.

Du, Bowen. PhD 2014. Pharmaceutical Uptake and Distribution. Institute of Biomedical Studies. Baylor University. Employed as Water Quality Chemist at SCWRP in San Diego, CA.

Reed, Tyler. MSc. 2013 Earthquake association with specific California and Nevada Fault Systems. Department of Geology, Baylor University.

Nallathamby, Punith. MSc. 2013. Qualitative and qualitative assessment of Unresolved Complicated Mixture (UCM) in PM2.5 in Bakersfield, CA. Department of Environmental Science. Baylor University. Employed as an Environmental Consultant in the DFW Metroplex.

Subedi, Bikram. PhD. 2012. Behavior of Personal care products in the environment. Institute of Ecological, Earth and Environmental Sciences. Baylor University. Employed as a Faculty Member at Murray State University, Murray, KY.

Chase, Darcey. MSc. 2011. Fate of synthetic musks in waste water treatment facilities and land application sites. Department of Environmental Toxicology, Texas Tech University. Ecotoxicology Study Director, Bayer Crop Protection.

Dacko, Nina. MSc. 2011. Arsenic effects on larval insect growth in post mortem vertebrates. Department of Environmental Toxicology, Texas Tech University.

Vadan, Rodica. PhD. 2010. Fullerene toxicity to algae. Department of Environmental Toxicology, Texas Tech University. Employed as postdoctoral researcher, Department of Geosciences, Texas Tech University. Deceased.

Long, Monique. MSc. 2009. Mechanisms of Metal Toxicant and Nutrient Uptake via the GI. Department of Environmental Toxicology. Texas Tech University. Technology Commercialization/Research Economist, University of Texas, San Antonio.

Peden, Norka. PhD. 2008. Effects of TNT on Rana tadpoles. Department of Environmental Toxicology, Texas Tech University. Idaho Department of Environmental Quality.

Bealle, Blake. MSc. 2007. Acute, Sub-acute, and Sub-chronic Effects of Polycyclic Aromatic Hydrocarbons in Northern Bobwhite Quail (*Colinus virginianus*). Department of Environmental Toxicology. Texas Tech University. Major Offshore Repairs Manager at Kirby Corporation in Houston, TX.

Jones, Lindsey. MSc. 2007. Accumulation and Effects of HMX in the Green Anole (*Anolis carolinensis*). Department of Environmental Toxicology, Texas Tech University. Senior Advisor for Science and Policy at USEPA, Washington, DC.

Ferenbaugh, Joy. PhD. 2007. Contaminant accumulation in sea lions. Department of Biological Sciences, Texas Tech University.

Zhang, Baohong. PhD. 2006. Uptake of RDX by earthworms and resultant effects. Department of Environmental Toxicology, Texas Tech. Professor of Biology at East Carolina Univ.

Lui, Funjin. PhD. 2005. Response of Aquatic organisms to metal and perchlorate exposures. Department of Environmental Toxicology, Texas Tech University. Employed at University of Rhode Island.

Bell, Janeanne. MSc. 2006. Molecular modeling for catalysis of nitrogen fixation. Interdisciplinary Studies. Texas Tech University.

McFarland, Craig. PhD. 2005. Metal effects on ALAD activity in wildlife. Department of Environmental Toxicology, Texas Tech University. Employed by USDOD, Aberdeen Proving Grounds.

Reynolds, Kevin D. PhD. 2004. Development and characterization of reproductive and immunological wildlife biomarkers for use at national priorities list sites. Department of Environmental Toxicology, Texas Tech University. Employed as Assistant Regional Director for Gulf Restoration, USFWS Atlanta, GA.

Yu, Lu. PhD. 2004. Perchlorate and heavy metal uptake in terrestrial plants. Department of Environmental Toxicology, Texas Tech University. Risk Assessment at Syngenta.

Fredricks, Timothy. MSc. 2004. Lead uptake by upland game birds in southern Texas. Department of Wildlife Management, *Texas A&M University, Kingsville*. Senior Risk Assessor, Bayer Crop Science.

Schwartz, Matt. MSc. 2003. Effects of mining wastes on deer mouse demographics. Department of Environmental Toxicology, Texas Tech University. Employed as a USFWS Contaminants Specialist in Colorado.

Rainwater, Thomas. PhD. 2003. Candidate. Mercury effects on alligator behavior. Graduate Program of Environmental Toxicology, Texas Tech University. Employed as a Wildlife Research Coordinator with Clemson University. Georgetown, SC

Borth-Peterson, Leahanne. PhD. 2003. The role of pheromones in symbiotic existence of aphids and parasitic wasps. Department of Biological Sciences. Texas Tech University.

McBride, Toby. MSc. 2002. Effects of heavy metal contaminants on American kestrel health and reproduction. Department of Environmental Toxicology, Texas Tech University. Employed as a USFWS Contaminants Specialist in Sacramento, CA.

Olivares (nee Landrum), Mindy. MSc. 2002. Uptake of perchlorate in riparian vertebrates. Department of Environmental Toxicology, Texas Tech University.

Yu, Lu. MSc. 2002. Comparative study of Perchlorate Uptake in Terrestrial Plants. Department of Environmental Toxicology. Texas Tech University. Consultant at RiskNomics, Phoenix, Arizona.

Godard, Celine. PhD. 2000. Novel cytochrome P450 I genes in Marine Vertebrates. Department of Environmental Toxicology. Texas Tech University in collaboration with Woods Hole Oceanographic Institute. Faculty member at Texas Tech University.

Rummel, Kevin. PhD. 1999. Porphyrin profile and chelator techniques in the assessment of mercury exposure and effects. President and COO at REDLattice Inc, Washington, DC.

Smith, Phil N. PhD. 1999. Effect of metal and chlorinated contaminants on opossums at the Paducha gaseous diffusion plant. Graduate Program of Environmental Toxicology, Texas Tech University. Employed as a faculty member at Texas Tech University.

Awata, Hiroshi. MSc. 1999. Modeling the bioavailability of organochlorine pesticides in soil. Graduate Program of Environmental Toxicology, Texas Tech University. Employed with Environmental Analytical Firm in Houston, TX.

Reynolds, Kevin, MSc. 1998. Relationship between passerine movement patterns and contaminant exposure. Department of Environmental Toxicology, Clemson University. Lead Scientist on the Deep Water Horizon project, USFWS.

Summers, Jeannie. MSc. 1998. Effect of hydrophobic chemicals on aquatic invertebrates. Dept of Environmental Toxicology, Clemson Univ. Employed with Oregon State Univ.

Brown, Trey. PhD. 1997. Mercury transformations by benthic organisms. Department of Environmental Toxicology, Clemson University. Employed as a Lecturer in Environmental Science at Baylor University, Waco, TX.

Settechan, Daam. MSc. 1997. Toxicodynamics of TCDD in laying hens. Department of Environmental Toxicology, Clemson University. Employed with Laboratory of Environmental Toxicology, Chulabhorn Research Institute, Bangkok, Thailand.

Goldstein, Michael. MSc. 1997. Effect of pesticides on Swainson's Hawk populations in Argentina. Department of Environmental Toxicology, Clemson University.

Bills, Todd. MSc. 1996. Silver Toxicity to *Daphnia Magna*. Department of Environmental Toxicology, Clemson University. Employed as a consultant in Detroit, MI.

Cowles, Jim. PhD. 1996. Supercritical fluid extraction of polar organic compounds from environmental matrices. Department of Environmental Toxicology, Clemson University. Employed as Director of Product Safety for Tessenderlo Kerley Inc. in Phoenix, AZ.

Joab, Bruce. MSc. 1996. Skeletal effects of organophosphorus toxicants. Department of Environmental Toxicology, Clemson University. Employed as Risk assessor for California EPA, Sacramento, CA.

Smink, John. MSc. 1996. Use of constructed wetlands to control pesticide runoff from agricultural fields in TN. Department of Environmental Toxicology, Clemson University.

Waters, Melissa. MSc. 1996. Metal uptake by plants grown in amended mine tailings. Dept. of Environmental Toxicology, Clemson University. Employed by NOAA, Atlanta, GA.

Akins, Jon. PhD. 1995. Porphyrins as biomarkers of contaminant exposure. Department of Environmental Toxicology, Clemson Univ. Employed with Syngenta, Greensboro, NC.

Feng, Zouzohn. PhD. 1994. Polynomial nonparametric techniques for data analysis. *Department of Mathematical Sciences*. Clemson University. Employed as trend analyzer with Health Care Services, Indianapolis, IN.

Wall, Stephen. MSc. 1994. Toxicity of cadmium to *Daphnia magna* in the presence of bioturbation by carp. Department of Environmental Toxicology, Clemson University. Employed as Global Strategy Lead at Syngenta, Durham, NC.

<u>Moderator/Dean's Representative</u> (7)

Arindam Mazumdar. 2010. (PhD in Chemistry). Texas Tech University. Development of novel catalytic syntheses of aziridines and [2]rotaxanes.

Li, Shengfu. 2007. (PhD in Chemistry). Synthesis, Properties, and Applications of Ionic Liquids.

Kattuboina, Venkata. 2007. (PhD in Chemistry). Texas Tech University. Development of chiral n-phosphonyl imines chemistry and new tandem bond-formation reactions.

Hu, Fang. 2006. (PhD, Biological Sciences) Texas Tech University. Endocrine disruption of reproductive and thyroid axis in anuran amphibians.

Karunasena, Enusha. 2005. (PhD, Medical Microbiology & Immunology). Texas Tech University Health Sciences Center. The Mechanisms of neurotoxicity induced by trichothecene mycotoxins produced by *Stachybotrys chartarum* in an *in vitro* model.

Morse, Audra. 2003. (PhD, Civil Engineering). Texas Tech University. Antibiotic lifetimes and antibiotic resistance in circulating and flow through wastewater treatment systems.

Rodgers, Brenda. 2000. (PhD, Biological Sciences). Texas Tech University. Genetic alterations in small mammals following the release of radionucleides in Chernobyl.

External Examiner (1)

Naile, Jonathan. 2011. (PhD in Environmental Toxicology). University of Saskatchewan, Saskatoon, Sask, CAN. Evaluation of perfluorinated compounds in east Asia.

UNDERGRADUATE THESIS ADVISING (15)

McLane, Justin. 2016. (B.Sc. Environmental Science) Baylor University. Plastic Deggradation in the Environment

Newberger, Derek. 2014. (B.Sc. Biology, Honors College Student) Baylor University. Transition metal accumulation in caudal scutes of American Crocodiles *(Crocodylus acutus*) from Belize. Won best poster presentation at the CSG.

Nogelmier, Eric. 2009. (Biology and Spanish Student) Texas Tech University. Availability of metals from soils in New Orleans.

Ochoa, Kelli. 2008. (Biochemistry Student). Texas Tech University. Anaerobic microbial conversion of nitramine explosives in vivo. *See 2007 publications.* Currently in Medical School at University of Houston.

Jennings, Colin. 2006. (B.Sc., Chemistry). Texas Tech University. Self-Assembled Monolayer Alterations to Enhance Chemical Sensor Responses.

Moore, A. 1998. (B.Sc. Biological Sciences). Texas Tech University. Mercury speciation in prairie vole urine following methyl mercury exposure.

Leverette, Chad. 1995. (B.Sc., Chemistry). Erskine College. Evaluating DDT residues in avian brain tissue. Employed as Faculty member at USC-Aiken.

Delorme, Peter. 1995. (B.Sc., Chemistry). Clemson University. Solid Phase Extraction for Separation of Alkylphosphates, p-Nitrophenol, and Methylparathion Prior to Gas Chromatography.

Johannsen, K.L. 1994. (B.Sc., Forestry Resources). *University of Georgia.* Heavy Metal Levels in Male Mink from Georgia, North Carolina, and South Carolina. Employed by Kentucky Environmental Quality Commission.

Crawford, Leslie. 1991. (B.Sc., Chemistry.) Clemson University. Method Development for Analysis of Phenol and Chlorophenol. Employed with Proctor and Gamble.

Cardwell, Audra. 1989. (B.Sc., Aquatic Chemistry.) Western Washington University. The Effects of DIAZINON Application and Temporal Conditions on Starling Nestling Survival. Employed with Compliance Services International. Seattle, WA.

Cowles, Jim. 1989. (B.Sc., Aquatic Toxicology.) Western Washington Univ. Polychlorinated Biphenyls in Puget Sound. **Winner of the Huxley College Research Award.**

Kouri, Steve. 1989. (B.A., Chemistry) Western Washington University. Organochlorine Concentrations in Whale Blubber.

Larson, David. 1989. (B.Sc., Huxley College.) Western Washington University. Determination of Diazinon Residues in Invertebrate Food Items of Starling Nestlings.

Leonard, Sean. 1989. (B.Sc., Aquatic Chemistry) Western Washington University. Squalicum Creek Water Quality Assessment.

HIGH SCHOOL STUDENT ADVISEMENT (15)

Barney, Darci. 2006. Toxicity of MNX to nematodes.

San Francisco, Brian. 2004. Explosives determination in biota. Currently in Boston College for graduate school.

San Francisco, Brian. 2003. Survival of zebrafish eggs following second generation of exposure to mixtures of endocrine disrupting chemicals.

Crasta, Davies. 2003. Temporal profile of perchlorate and octylphenyl in exposure solutions for multigenerational aquatic toxicology studies.

Gallaway, Clayton. 2003. Dissolution of RDX by vapor phase esters. Rice alumnus, High School Science Teacher in Houston TX.

Gallaway, Clayton. 2002. DDT and its transformation products in kidneys of sparrows following flight. *Runner up Open Division International Science Fair.*

Grier, Matthew. 1996. Evaluation of Residual Oil Following a Pipeline Rupture on the Reedy River. *Third place SC JAS 1997, Winner Baruch Award for Environmental Research.*

McDaniel, Shane. 1996. Nutrient movement in the Pee Dee Watershed.

Neimi, Jennifer. 1996. Mercury accumulation in Alligators in coastal South Carolina.

Petzold, Molly. 1996. Chorioallantoic membranes as indicators of PCB uptake in alligators.

Bowles, Marshall. 1995. Mercury accumulation in alligators from the coastal plain of South Carolina.

Daniels, Christine. 1995. Physical and chemical properties of new surfactant formulations.

Saul, B. 1995. Effect of Dissolved Chemicals on Silver Dissipation in Water.

O'Quinn, Michael. 1994. S.C. Governor's School for Mathematics and Science. PCB determinations in American alligator and Loggerhead sea turtle eggs. *See 1997 publications*. Virginal Commonwealth University – Division of Cardiology

Pitts, Thomas. 1992. Alkyl phosphate and other OP metabolite analyses in fecal urates of birds. Restaurant Manager in New York City NY.

CONTINUING EDUCATION (15)

Cobb GP. 2017. Emerging Issues in Environmental Chemistry at the Research Centre for Toxic Compounds in the Environment. 26 June 2017 at the Masaryk University, Brno, Czech Republic. As part of Summer School in Environmental Chemistry and Passive Sampling.

Cobb GP. 2012. Air Quality at the Interface of MegaCities and Agricultural Regions. 8-16 August 2012.National Science Foundation Pan American Advanced Studies Institute, La Plata, Argentina.

Cobb GP. 2006. Introducing Environmental Science in Elementary Schools. Interacted with Teachers to connect Environmental Toxicology personnel with local teachers.

Cobb GP. 2003. Teaching Environmental Science. Provided one lecture to Secondary School Science Teachers as part of Texas Tech College of Education Program.

Cobb GP. 2001. Environmental Concerns at Local, Regional, National and Global Scales. Lecture for Primary and Secondary Science Teachers.

Cobb GP. 2000. Environmental Concerns at Local, Regional, National and Global Scales. Texas Tech College of Education. Presented to Primary & Secondary Science Teachers.

Kendall RJ, **Cobb GP**, Smith EE. Environmental Toxicology. Spring 1998. Texas Tech Health Science Center, Lubbock, TX and satellite linked to various other locations.

Cobb GP. Toxicology. 1996. Environmental Technology Innovation Series. Greenville, SC.

Cobb GP, Smith EE, Dickerson RL. Environmental Toxicology II. October 16-20, 1995 at the Charleston Navy Shipyard, Charleston, SC.

Cobb GP and Dickerson RL. Environmental Toxicology. September 25-29, 1995 at the Charleston Navy Shipyard, Charleston, SC.

Cobb GP. Chemistry for Non-chemists. August 10-11, 1995 at Hilton Head, SC.

Cobb GP, Stephens MD, Jeffers R, Waldrop VC. June 1995. Applications of Analytical Environmental Toxicology to Streams. Attended by 15 science teachers within the Anderson, Pickens, Oconee HUB area.

Cobb GP, Klaine SJ, Dickerson RL. Environmental Toxicology. March 16-22, 1995 at the Charleston Navy Shipyard, Charleston, SC.

Cobb GP. Environmental Sample Collection and Storage. December 15-17, 1987 at the Wildlife Toxicology Workshop for The U.S. Fish and Wildlife Service. Western Washington University, Bellingham, WA.

Cobb GP. Environmental Sample Preparation. December 15-17, 1987 at the Wildlife Toxicology Workshop for The U.S. Fish and Wildlife Service. Western Washington University, Bellingham, WA.

PROFESSIONAL DEVELOPMENT (2)

Cobb GP. 2009. ACS Leadership Conference. Designed to assemble those with leadership potential within ACS to develop management and interpersonal skills as well as knowledge of ACS operations. Ft Worth Texas. 23-25 Jan 2009.

Cobb, GP. 1996. Spent one week at KODAK facilities (Rochester, NY) learning anodic stripping voltammetry techniques. See resulting output by David Ownby.

PROFESSIONAL EXCHANGES (10)

Hong Kong Student Exchange: Nurturing Global Environmental Stewardship. Exchange of undergraduate students and faculty from Hong Kong and Baylor University to better understand the varying approaches and histories of environmental stewardship.

Wong, C. 2013. Traveled to Hong Kong to establish research and education collaborations with Hong Kong Baptist University.

Wong, C. and Chiu, J. 2013. Faculty from Hong Kong Baptist University traveled to Baylor University to solidify research and education collaborations.

Zakharov, V. 2001. Eisenhower Fellow. Dr. Zakharov is a member of the Russian Academy of Sciences and his visit was sponsored by the Eisenhower Fellowships, which are designed to foster exchange of ideas among national leaders in selected fields of study.

Radtke, C. 2001-2003. Doctoral Residency for employee of Idaho National Environmental and Engineering Laboratory. Research addresses microbial degradation of explosives in soil.

Rintoul, D. 2001. Big Twelve Faculty Exchange. Technology Transfer visit to strengthen his ability to determine chlorinated hydrocarbons in wildlife. March 2001.

Thorne, S. 1999. Summer exchange student from Edinburgh Univ. who learned metal analysis and speciation in my laboratory and molecular toxicology with Dr. RL Dickerson.

Canavelli, SB. 1996. Exchange of Argintine Government Employees so that they could learn our non-lethal techniques for pesticide exposure assessment to strengthen research efforts into forensic evaluation of raptor mortality. Co-hosted with Dr. Mike Hooper.

Chuiko, GM; Stepanova,VM. 1995-1996. IREX exchange of personnel from the Inst. Biology of Inland Waterways, Rubinsk, Russia. Victor improved his metals analysis and computer skills in my laboratory. Dr. T.W. LaPoint was primary host as indicated in grant history.

Hol, EHH. 1988. Post graduate exchange from Wageningen University, Neth. to learn pesticide analysis techniques and incorporate contaminants data into risk assessments.

EXTERNAL PEER REVIEW (21)

Program Reviews

Lamar University. 2016. Environmental Science Program Review.

Hong King Baptist University. 2015, 2017. Review and Assess the Centre for the Croucher Institute for Environmental Science.

Dossier Reviews

Indiana University. 2019. O'Neill School of Public and Environmental Affairs (SPEA) Bloomington, IN. Promotion Review.

Government College University. 2018. Faisalabad, Pakistan. Promotion Review.

University of Canterbury. **2016.** Department of Chemistry. Promotion Review.

University of South Carolina. 2013-2016, 2018. External Reviewer of School of Public Health. Tenure Dossier

Hong Kong Baptist University. 2015. Department of Biology**.** Appointment Extension Review.

Oklahoma State University. 2013. External Reviewer for tenure candidate.

University of Florida. 2012. Department of Soil & Water Science. Tenure Dossier.

Texas Tech University. 2012, 2017. Department of Environmental Toxicology. Tenure Dossier.

Canada Research Chairs Secretariat. **2012.** University of Saskatchewan. Department of Veterinary Biomedical Sciences. Continuation of Research Chair Appointment.

University of Kansas 2011, 2018. Department of Environmental Engineering. Tenure Promotion Dossiers.

University of William and Mary 2008. Promotion Review.

US Department of Agriculture. 1993. Personnel Evaluation Panel: Reviewed four scientists in grades GS 11 to GS 14 for APHIS, Denver, CO on May 25- 26, 1993.

FUNDED GRANTS (125)

		Totals	Baylor Total
Principal Investigation	**61 grants =**	**$5,600,000+**	5 grants = **$239,861**
Co-Principle Investigator	*33 grants =*	*$7,375,000+*	
Investigator	31 grants =	$11,000,000+	
Total grants	125 grants =	$24,000,000 +	

Completed Grant Funded Research Listed by Year of Initiation

2017 ($110,861)

1. **Analysis of Polychrlobiphenyl (PCB) Concentrations in Environmental Samples. GP Cobb.** Sponsor: Universidad de Puerto Rico. Duration: 2017. Award: $2,000.
2. **Evaluation of biomass health in the wastewater treatment basins.** R Lavado and **GP Cobb**. Sponsor: DOW Chemical. Duration: 2017-2018. Award: $108,861.

2016 ($19,000)

3. **Community Efforts to Increase Awareness and Consumption of Locally Grown Fresh Foods. GP Cobb.** Sponsor: US Department of Agriculture. Duration: 9 March 2016-29 September 2017. Award: $19,000.

2015 ($10,000)

4. **Evaluation of Plastic Degradation in the Environment. GP Cobb.** Sponsor: City of Denton Environmental Services and Sustainability. Duration 1 March 2015-30 November 2015. Award: $10,000.

2011 ($100,000)

5. **Pan American Advanced Studies Institute: Air Quality at the Interface of MegaCities and Agricultural Regions. GP Cobb,** L McConnell, K Miglioranza. Sponsor: National Science Foundation. Duration 2011-2012. Award: $100,000.

2010 ($1,071,500)

6. **Growth Promoters, Wind, and Human/Ecological Health**. BN Smith, B Johnson, M Buser, MBaker, **GP Cobb.** Sponsor: USDA. Duration: 2010-2012. Award: $600,000
7. **Interference and longevity evaluation for Liquid Crystal Sensors for Airborne Toxicants. GP Cobb** and G Coimbatore. Sponsor: Department of Defense. Duration: 2010-2012. Award: $334,000
8. **Terrestrial Toxicity Investigation of Gas-to-Liquid Fluids for Land-Based Drilling Applications.** TA Anderson and **GP Cobb.** Sponsor: Royal Dutch Shell. Duration: 2010. Award: $70,000.
9. **Contaminant Assessment in sturgeon eggs.** CM Godard-Codding, TA Anderson, **GP Cobb**. Sponsor US Army Corps of Engineers. Award: $67,500. Duration: 2010.

2009 ($433,000)

10. **Assessment of Air Contamination in and around the Texarkana Wood Preserving Site in Bowie County, Texas. GP Cobb,** J Canas, TA Anderson. Sponsor: Texas Commission on Environmental Quality. Duration: 2009-2010. Award: $250,000.
11. **Continuation for Design of a Field Deployable, Remotely Monitored, Area Wide Biological Pathogen Detection System.** SL Presley, **GP Cobb.** Sponsor: Department of Defense. Duration: 2009-2010. Award: $183,000.

2008 ($495,500)

12. **Continuation of Liquid Crystal Sensors for Airborne Toxicants. GP Cobb** and G Coimbatore. Sponsor: Department of Defense. Duration: 2008-2010. Award: $334,000.
13. **Bioremediation byproduct assessment. GP Cobb,** TA Anderson. Sponsor: Green Farms Inc. Duration: 2008. Award: $11,500.
14. **Assessment of Airborne Anabolic Hormones from Confined Animal Feeding** Operations. PN Smith and **GP Cobb**. Sponsor: Texas ARP, Duration 2008-2009. Award: $150,000.

2007 ($281,900)

15. **Continuation for Design of a Field Deployable, Remotely Monitored, Area Wide Biological Pathogen Detection System.** SL Presley, **GP Cobb**. Sponsor: Department of Defense. Duration: 2007-2008. Award: $250,000.
16. **Mercury Occurrences in Wildlife from Caddo Lake.** T Rainwater, PN Smith and **GP Cobb.** Sponsor Caddo Lake Institute. Duration 2007 Award: $31,400.
17. **Continuation of PAH Analysis in fish by gas chromatography- mass spectrometry. GP. Cobb.** Sponsor: Universidad Juárez Autónoma de Tabasco. Duration: 2005. Award: $500.

2006 ($315,400)

18. **Defining microsatellite alterations in mice exposed to N-nitroso metabolites of RDX. GP Cobb**, J Smith. Sponsor: NIEHS. Duration: 2006-2007. Award: $71,400.
19. **Continuation of Liquid Crystal Sensors for Airborne Toxicants. GP Cobb** and G Coimbatore. Sponsor: Department of Defense. Duration: 2006-2008. Award: $244,000.

2005 ($445,535)

20. **Acute and Developmental Toxicity of Metal Oxide Nanoparticles in Fish and Frogs.** C Theodorakis, **GP Cobb,** E Carraway. Sponsor: USEPA. Duration: 2005-2009. Award: $275,000.
21. **Reproductive Effects of Chronic TNT Exposure in Deer Mice**. **GP Cobb** and PN Smith. Sponsor: Department of Defense, SERDP. Duration: 2005-2007. Award: $99,421.
22. **Analytical Core For Explosives Analysis. GP Cobb** and TA Anderson. Sponsor: Department of Defense, SERDP. Duration: 2005-2007. Award: $69,314.

23. **Analysis of PAHs in fish by gas chromatography- mass spectrometry. GP. Cobb.** Sponsor: Universidad Juárez Autónoma de Tabasco. Duration: 2005. Award: $1,800.

Over $21,500,000 from 102 grants obtained during 1989-2004. Provided upon request.

UNIVERSITY SERVICE

Baylor University

University Tenure Committee. Committee Chair **2019-2020**
Tenure Review Committee. Assigned by President Livingstone **2017-2020**
Illuminate: Human Flourishing Committee Assigned by President Livingstone **2018-2019**
Big 12 Water Research Conference: Program Chair. Assigned by Judge Starr **2016**
Inaugural Big 12 Water Research Workshop. Assigned by Judge Starr **2014**
Institutional Animal Care and Use Committee **2013-2017**
Advisor Baylor Student SETAC. (Best New Student Organization 2013) **2012-present**

College of Arts and Sciences

Core Curriculum Advisory Committee **2018-2019**
Pro Futuris Planning **2014**
Becoming a Nationally Recognized Research University
Planning for Master's Programs: writing team
Developing Top Tier Tenure Guidelines: some input
Increasing Doctoral Production: data input and writing team participation
ASPIRE: Informed Engagement Committee **2015-present**
Faculty Mentor for Dr. Garrett Cook **2016-present**
Department Chairman Evaluation Committee **2016**

Department of Environmental Science

Graduate Admissions **2011-present**
Undergraduate Curriculum Revision **2012-2013**
PhD Program Development **2013-2015**

Texas Tech University

Mentor Tech. 2008-2010. Mentorship program to provide advice to entering freshmen
Research Committee. 2007-2009. Empaneled by the Vice President for Research to help increase research infrastructure and productivity.
Search Committee: Endowed Chair of Meat Science. 2007. Appointed by the Provost.
Institutional Biosafety Committee. 2004-2009.
Safety Committee. 1999-2004.
Radiation Safety Committee. 1999.
Department of Defense Strategic Planning Committee. 1998.
Llano Estacado SETAC. 2001-2009. Faculty advisor for the student SETAC chapter.

The Institute of Environmental and Human Health

Security Committee. 2001- 2006.
Environmental Audit. 2000-2002.
Strategic Planning Committee. 1998-1999. Appointed by the President of the University to chart the course for interdisciplinary research at TTU and the TTUHSC.
Advisory Committee. 1998. Build campus-wide consensus for integrated research
Renovation Oversight. 1997-1999. Coordinated interactions with architects and subcontractors

Department of Environmental Toxicology

Faculty Search Committees 1) *Aquatic Toxicologist: 1999. Chairman*; Aquatic Toxicologist: 2005, Member.
Tenure and Promotion Committee. 1999-present.
Graduate Admissions Committee. Chairman: 2007-present; Member 2003-present.
Faculty Mentor. 2006-present. Provide professional guidance to Dr. Celine Godard-Codding.

Department of Biological Sciences

TIEHH Integration Ad hoc Committee: 1999
Graduate Student Policy Committee: 1997-1999
Departmental Seminar Committee: 1997

Clemson University

Honors Curriculum Committee. 1996. Update and approve curriculum for honors programs.
Indoor Air Quality Committee. 1994. Addressed legionella, passive smoke, & other syndromes.
Site Selection for Radioisotope Storage. 1994.
Environment Committee. 1990-1996. Charted University environmental policy.
Environmental Safety and Health Committee; Chairman. 1992-1996.
Hazardous Waste Committee; Chairman. 1990-1992.
Building Committee. 1989-1990. Environmental Toxicology Research Facility:

Department of Environmental Toxicology

Tenure and Promotion Committee. 1995-1997. Chairman 1996-1997.
Graduate Admissions Committee. Inception -1995.
Curriculum Committee. Inception-1997.
Faculty Search Committees - *1) Pesticide Chemist: Chairman*; 2) Aquatic Toxicologist; 3) Aquatic Ecologist; 4) Biochemical Toxicologist; 5) Terrestrial Toxicologist; 6) Ecological Modeler; *7) Pesticide Chemist: Chairman.*
Graduate Policy Committee. Inception-1994. Designed initial guidelines for students.
Policy Committee. 1994-1997. Advise Department Head and Institute Director

Western Washington University

Hazardous Waste Coordination. 1988-1990.

COMMUNITY SERVICE

Zoo Crew. Board of Directors. 2010-2011. Provide scientific and educational advice to program for elementary school students.

Clothes Closet Volunteer. 2008-2011. Arrange clothes, help people find items that they need.

United Blood Services. 2006-2011. Donor of 2 gallons of blood components, normally RBC.

Texas State Science Fair Judge. April 2004. Lead judge for physical sciences area.

Local School Tours and Lectures. 1997-2011. Provide demonstrations of research findings and tours of TIEHH facilities to primary and secondary students interested in science.

Teacher Tours and Lectures. 2005-2011. Provide demonstrations of research findings and tours of TIEHH facilities to teachers interested in science education.

Science Demonstrations. 1998-2011. Primary Schools in Frenship School District.

Career Day. 1998-2011. Primary and Intermediate Schools in Frenship School District.

Lubbock Rotary Club. 2000. Provided information and facility tour to civic leaders.

New Century Leadership. 2000-2001. Discuss career opportunities in science with promising students from Lubbock County.

Executive Forum. 1998. Presentation of research at TIEHH that addresses community health.

South Plains Water Quality Association. 1998. Presentation of research and economic development activities of TIEHH.

Frenship Baseball League. Assistant Coach, 2003-2008.

Frenship Basketball League. Coach or Assistant Coach, 2004-2008.

Lubbock Soccer Association. Coach (F-license), 2000; Assistant Coach, 1999, 2001-2002.

Tri-County Soccer League. Assistant Coach, 1995-1997; Registrar, 1996-1997.

Wren Youth League. Assistant Coach, 1996.

South Carolina Junior Academy of Sciences. 1994-1997. An invited speaker for annual conferences at The Governor's School in Hartsville, SC.

Planning for SRS Citizens Advisory Board. 1994. Attended meetings to establish goals and personnel requirements for the Savannah River Site Citizens Advisory Board.

South Carolina Department of Wildlife and Marine Resources. 1993. Assisted in litigation for establishment of an environmental trust to provide stewardship of the Pinewood hazardous waste landfill in Pinewood, SC.

South Carolina Hazardous Waste Select Oversight Committee. 1992-1995. An invited participant in quarterly meetings of SC Senate Committee.

Wendell Davis Fund Raiser. 1992. Participated in a Clinton High School "celebrity" basketball game to raise funds for cancer treatment of a former classmate.

South Carolina Department of Health and Environmental Control. 1991-1997. Supervise analytical determinations from periodic wildlife mortalities that are suspected to have arisen from misuse of chemicals.

Summer Program for Minority Students. 1991. Taught a one month Environmental Science course to promising high school students.

Palmetto Conservation Foundation. 1990-1997. Advisory Board and Research Fellow.

HONORS & AWARDS

SETAC Fellow. Society of Environmental Toxicology and Chemistry 2019-present. Recognizing fundamental contributions to environmental science service to SETAC. Limited to 1% of ACS members.

ACS Fellow. American Chemical Society. 2015-present. Recognizing fundamental contributions to chemistry and for service to ACS. Limited to 1% of ACS members.

SETAC Herb Ward Exceptional Service Award. 2013.

SETAC Presidential Citation for Excellent Service. 2012.

TIEHH Outstanding Faculty Award - October 1999. Presented by the Graduate Student Group to the faculty member demonstrating outstanding commitment to student education.

TIWET Distinguished Service Award - April 1993. For accomplishments in research program and grant development.

Sigma Xi Doctoral Research Award - May 1987. For novel dissertation topics and completion of outstanding research at The University of South Florida. Cash award and a banquet.

Ashford Fellowship - April 1987. For completion of the year's most promising research in pursuit of a doctoral degree in Chemistry at The University of South Florida. $1000.

University of South Florida Graduate Council Fellowship - August 1985. Presented to graduate students demonstrating exemplary classroom, research and teaching skills. $1000.

Edward E. Towell Award - May 1981. Awarded for the highest score among College of Charleston students who took the American Chemical Society Organic Chemistry Examination. CRC Handbook of Chemistry and Physics.

Student Senator - 1977-1978. Freshman representative to College of Charleston Student Government Association.

Tuition Scholarship - 1978. Awarded by The College of Charleston to incoming freshmen whose high school performance demonstrated wide ranging potential. $750.

Furman Scholar - 1978.

South Carolina Governor's School - Summer 1977.

Boys' State - Summer 1977

REFERENCES

Todd A. Anderson, Ph.D.
Professor, Environmental Toxicology
Texas Tech University
Lubbock, TX 79409

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Chair, Department of Geosciences
Texas Tech University
Lubbock, TX 79409

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116 Insectary Building
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National Water Quality Laboratory
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104 Holden Hall
Texas Tech University
Lubbock TX 79409

Geoff I. Scott, Ph.D.
Chair and Clinical Professor
Dept. of Environmental Science
University of South Carolina
915 Greene St.
Columbia, SC 29298

From:	Bill Doucette
To:	Knott_Steven
Subject:	Fwd: [EXT] EPA Seeks Nominations for Science Advisory Committee on Chemicals
Date:	Thursday, April 9, 2020 12:57:13 PM
Attachments:	Basic_Information.docx Public_Cobb_Vit_02_14_20.docx EPA_Biosketch_2020.docx

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Hi Steve

Here is the information Dr. Cobb sent to me in support of his TSCA SACC nomination.

Bill

Bill Doucette, PhD
Professor
Utah State University
Utah Water Research Laboratory
8200 Old Main Hill
Logan, UT 84322-8200
435-797-3178
435-797-3663 fax
(b) (6) mobile
william.doucette@usu.edu
(b) (6) @mac.com

Begin forwarded message:

From: "Cobb, George" <George_Cobb@baylor.edu>
Subject: RE: [EXT] EPA Seeks Nominations for Science Advisory Committee on Chemicals
Date: April 9, 2020 at 10:50:01 AM MDT
To: Bill Doucette <william.doucette@usu.edu>

Hey Bill:
Here is the material for the nomination packet. There are three documents.
Basic Info
CV 2020
Biosketch 2020
The CV is not perfect, but should have most stuff. Can send NSF style CV is that is preferable.
Thank you for organizing and sending along.
Be well. CV wave is supposed to rise in TX this week.
George

Begin forwarded message:
From: "Knott, Steven" <Knott.Steven@epa.gov>
Subject: [EXT] FW: EPA Seeks Nominations for Science Advisory Committee on Chemicals
Date: March 31, 2020 at 3:06:01 PM MDT
To: "kenneth.portier@gmail.com" <kenneth.portier@gmail.com>, HENRY A ANDERSON <henry.anderson@wisc.edu>, "bruckner@rx.uga.edu" <bruckner@rx.uga.edu>, Bill Doucette <william.doucette@usu.edu>, "gilbertkathleenm4@gmail.com" <gilbertkathleenm4@gmail.com>, Conchita Jimenez-Gonzalez <conchita.j.gonzalez@gsk.com>, "jkissel@u.washington.edu" <jkissel@u.washington.edu>, "Craig.Rowlands@ul.com" <Craig.Rowlands@ul.com>, "Sathyanarayana, Sheela" <sheela.sathyanarayana@seattlechildrens.org>, "daniel.schlenk@ucr.edu" <daniel.schlenk@ucr.edu>, "Cory-Slechta, Deborah A" <deborah_cory-slechta@urmc rochester.edu>, "Kaufman, Alan" <akaufman@toyassociation.org>, "dr.charles.barton@gmail.com" <dr.charles.barton@gmail.com>, "sbennett@cspa.org" <sbennett@cspa.org>, "sblystone@snfhc.com" <sblystone@snfhc.com>, "sue.dempsey@nebraska.gov" <sue.dempsey@nebraska.gov>, "mark.s.johnson.civ@mail mil" <mark.s.johnson.civ@mail mil>, "ruthann rudel faca@gmail.com"

<ruthann rudel.faca@gmail.com>, "Davies, Holly G (DOH)" <holly.davies@doh.wa.gov>
Cc: "Hughes, Hayley" <hughes hayley@epa.gov>, "Peterson, Todd" <Peterson.Todd@epa.gov>, "Wood, Donald" <Wood.Donald@epa.gov>, "Gibson, Tamue" <Gibson.Tamue@epa.gov>, "Matten, Sharlene" <Matten.Sharlene@epa.gov>, "Wong, Diana" <Wong.Diana-M@epa.gov>

All,

I am forwarding the listserv message regarding EPA's current call for TSCA SACC nominations (in case you haven't received this already).

Please let me know if you have any questions.

Thanks.

Steve
Steven M. Knott, M.S.
Chemist and Executive Secretary
FIFRA Scientific Advisory Panel and
Science Advisory Committee on Chemicals
U.S. EPA Office of Science Coordination and Policy
Knott.steven@epa.gov
(202) 564-0103

From: U.S. EPA Office of Chemical Safety and Pollution Prevention <oppt.epa@public.govdelivery.com>
Sent: Thursday, March 19, 2020 2:40 PM
To: Knott, Steven <Knott.Steven@epa.gov>
Subject: EPA Seeks Nominations for Science Advisory Committee on Chemicals

EPA Seeks Nominations for Science Advisory Committee on Chemicals

EPA is announcing its request for nominations of candidates for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Nominations are due no later than April 20, 2020. Any interested person or organization may nominate qualified persons to be considered for appointment to the SACC. Individuals also may self-nominate. Further details of information to be included in a nomination are provided in the March 20, 2020, Federal Register Notice in docket EPA-HQ-OPPT-2020-0135. The preferred method for submitting nominations is via email to Steven Knott, the SACC's Designated Federal Officer (knott.steven@epa.gov).

The agency is seeking nominations for individuals who have demonstrated high levels of expertise in scientific/technical fields relevant to chemical safety and risk assessment including, but not limited to: human health and ecological risk assessment, biostatistics, epidemiology, pediatrics, physiologically-based pharmacokinetics, toxicology and pathology, and the relationship of chemical exposures to women, children, and other potentially exposed or susceptible subpopulations.

In addition, nominees should have backgrounds and experiences that would contribute to the diversity of scientific viewpoints on the committee, including professional experiences in government, labor, public health, public interest, animal protection, industry, and other groups, as the EPA Administrator determines to be advisable (e.g., geographical location; social and cultural backgrounds; and professional affiliations).

The TSCA SACC serves as a primary scientific peer review mechanism of EPA's Office of Chemical Safety and Pollution Prevention and is structured to provide independent scientific advice and recommendations to EPA on the scientific basis for risk assessments, methodologies, and pollution prevention measures and approaches for chemicals regulated under the Toxic Substances Control Act.

For more information on the TSCA SACC, visit: https://www.epa.gov/tsca-peer-review

<image001.jpg>You can unsubscribe or update your subscriptions or e-mail address at any time on your Subscriber Preferences Page. All you will need is your e-mail address. If you have any questions or problems, please e-mail subscriberhelp.govdelivery.com for assistance. This service is provided to you at no charge by the U.S. Environmental Protection Agency. Follow us on Twitter at @EPAChemSafety.

This email was sent to knott.steven@epa.gov using GovDelivery Communications Cloud on behalf of: U.S. EPA Office of Chemical Safety and Pollution Prevention 707 17th St, Suite 4000 Denver, CO 80202 1-800-439-1420

<image002.jpg>

<image003.jpg>

CAUTION: This email originated from outside of USU. If this appears to be a USU employee, beware of impersonators. Do not click links, reply, download images, or open attachments unless you verify the sender's identity and know the content is safe.

From:	Julie Goodman
To:	Knott, Steven
Subject:	Julie Goodman Nomination to TSCA SACC (EPA-HQ-OPPT-2020-0135)
Date:	Tuesday, September 1, 2020 4:53:31 PM
Attachments:	EPA_biosketchform.pdf Goodman_CV.pdf

Dear Mr. Knott,

I would like to nominate myself for the TSCA Science Advisory Committee on Chemicals, Docket # EPA-HQ-OPPT-2020-0135. Please find my biosketch and current CV attached to this email, and additional information is below. Please let me know if you require any other materials.

Sincerely,

Julie Goodman, PhD, DABT, FACE, ATS

Nominee's Name: Julie E. Goodman, Ph.D., DABT, FACE, ATS
Organization: Gradient
Current business address: One Beacon Street, 17th Floor, Boston, MA 02108
Email address: jgoodman@gradientcorp.com
Telephone number: 617-395-5585
Expertise: Epidemiology, toxicology, systematic review, evidence integration, meta-analysis, carcinogenesis, dose-response analysis, product safety, risk assessment, risk communication.

Julie E. Goodman, Ph.D., DABT, FACE, ATS | 617-395-5525

Environmental Protection Agency (EPA)
Office of Science Coordination and Policy (OSCP)
Biosketch Instructions, Example, and Fillable Form

Thank you for your interest in peer reviews at the EPA. As part of the process of soliciting, nominating, and recruiting established members of a panel or committee or adding *ad hoc* members for select meetings, OSCP needs a one-page biographical sketch (a.k.a. biosketch).

We are requesting that you provide information that is focused and appropriate to represent your profession, expertise, scientific or related technical experience, and prior panel or committee experience like that of a Federal Advisory Committee (e.g., Scientific Advisory Panel, Scientific Advisory Board, Board of Scientific Counselors, or similar).

The one-page biosketch will be used in the candidate phase of recruiting and identifying members with the credentials that support the potential participation in a particular meeting and, if placed on a panel or committee meeting roster, will be used to document members who contributed to a meeting.

INSTRUCTIONS

The next page provides a description of the information that is requested by field name.

The following page is an example of a properly formated one-page biosketch.

The last section (2 pages) of this document is a fillable form that corresponds to the fields (sections) that comprise the biosketch. *Fields are character limited*. Scroll bars may appear for a field, but once the maximum characters are used the field will accept no additional information. We will receive the form and extract the information to a document for final review and formatting. If more than one page of information is received, we will contact you about any edits made to conform to the single page format.

NOTE: This PDF file is in an "extended format" and can be opened, fields filled in, and the file saved using either Acrobat Reader or Acrobat Professional. In the extended format you will be able to open the file later and edit the document.

BIOGRAPHICAL SKETCH TEMPLATE

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …); additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests. Usually 200-word count.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

EXAMPLE:

Daniel Schlenk, Ph.D.

Affiliation: Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California Riverside, CA.

Expertise: Research on understanding the biochemical factors that influence susceptibility to environmental and natural chemicals with a focus on Aquatic Ecotoxicology.

Education: PhD in Toxicology, Oregon State University. BS Toxicology Northeast Louisiana University.

Experience Summary: Dr. Daniel Schlenk is Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California-Riverside. He is a Fellow of the American Association for the Advancement of Science, and from 2007-2014. Dr. Schlenk was a member of the Board of Directors for the North American Society of Environmental Toxicology and Chemistry (2003-2006). His research interests focus on mechanisms of action of pesticides, PAHs, and emerging compounds in aquatic organisms.

Panel Experience: Dr. Schlenk is currently a member of EPA Science Advisory Committee on Chemicals (SACC; 2017-present); Dr. Schlenk's experience on Federal panels includes: Permanent Member US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Science Advisory Panel (2007-2012) and Chair US EPA FIFRA Science Advisory Panel (2012-2014). USEPA Chemical Safety Advisory Committee (CSAC) (2016) and the Toxic Substances Control Act (TSCA), Draft Risk Assessment Work Plan Chemical for 1-Bromopropane (2016); Ad hoc reviewer National Institute of Environmental Health Sciences (NIEHS) Freshwater Biomedical Centers (1996); US Department of Agriculture (1997-2000) and National Science Foundation (1996-present); National Oceanic and Atmospheric Administration (NOAA) Oceans and Human Health Initiative Grant Review Panel (2005); US EPA Endocrine Disrupter Mixtures Grant Review Panel (2005); US EPA Science Advisory Board, Aquatic Life Criteria Guidelines (2005); NIEHS P30 Core-Center Applications (2008); and NIEHS Superfund Research Program P42 Center Applications (2016). Dr. Schlenk has also served on numerous State and foundation review panels and committees.

Scroll to the top of this document for Instructions, biosketch template, and example. Use the fields below to enter you biosketch information.

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …) ; additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

Julie E. Goodman, Ph.D., DABT, FACE, ATS
Principal
jgoodman@gradientcorp.com

Areas of Expertise

Epidemiology, toxicology, systematic review, evidence integration, meta-analysis, carcinogenesis, dose-response analysis, product safety, risk assessment, risk communication.

Education & Certifications

Ph.D., Environmental Health Sciences/Toxicology, Johns Hopkins Bloomberg School of Public Health, 2002

Sc.M., Epidemiology, Johns Hopkins Bloomberg School of Public Health, 2000

S.B., Environmental Engineering, Massachusetts Institute of Technology, 1996

Diplomate, American Board of Toxicology (DABT), 2005; recertified 2010, 2015

Fellow, American College of Epidemiology (FACE), 2014

Fellow, Academy of Toxicological Sciences (ATS), 2014; recertified 2019

Professional Experience

2004 – Present GRADIENT, Boston, MA
Principal. Evaluate toxicity and epidemiology data in the context of causation analysis and human health risk assessments. Focus on substances in consumer products, pharmaceuticals, and medical devices, and chemicals in the workplace and the environment.

2009 – 2017 HARVARD T. H. CHAN SCHOOL OF PUBLIC HEALTH, Boston, MA
Adjunct Faculty Member. Department of Epidemiology. Co-instructor of course entitled, "Research Synthesis & Meta-analysis."

2002 – 2004 NATIONAL CANCER INSTITUTE, Bethesda, MD
Cancer Prevention Fellow. Conducted a number of molecular epidemiology studies analyzing the relationships between inflammatory gene polymorphisms and colon cancer risk. Instrumental in the development of a powerful statistical tool for cancer risk assessment.

Continuing Education Courses and Other Training

- Introduction to Open-Access Computational Toxicology Tools (web course), Society of Toxicology 2020 Annual Meeting, April 2020
- Protecting Human Research Participants Online Course, National Institutes of Health (NIH) Office of Extramural Research, 2015
- Tools and Technologies in Translational Toxicology, Society of Toxicology 2013 Annual Meeting, San Antonio, TX, March 2013

- Use of Expert Elicitation to Inform Decisionmaking, Society for Risk Analysis 2012 Annual Meeting, San Francisco, CA, December 2012
- Novel Statistical Challenges in Environmental Epidemiology Workshop, 3rd North American Congress of Epidemiology, Montreal, Canada, June 2011
- Comparative Biology of the Lung, Society of Toxicology 2010 Annual Meeting, Salt Lake City, UT, March 2010
- Introduction to the Benchmark Dose Methodology and Interactive Application of United States Environmental Protection Agency (US EPA) Benchmark Dose Software (BMDS), Version 2.1, Society for Risk Analysis 2010 Annual Meeting, Salt Lake City, UT, December 2010
- Green Innovation for Business Conference (Moderator, Green Chemistry and Greenwashing Workshops), Boston, MA, June 2009
- Decision-making for Recommendations and Communication Based on the Totality of Food-related Research, International Life Sciences Institute Workshop, Washington, DC, December 2008
- 2008 Board of Health Certification Program, Massachusetts Association of Health Boards, Marlborough, MA, November 2008
- What is Evolutionary Epidemiology? American College of Epidemiology Annual Meeting, Tucson, AZ, September 2008
- Research Ethics in Studying Genes and the Environment in Diabetes Among Ethnic Minorities, American College of Epidemiology Annual Meeting, Tucson, AZ, September 2008
- Use of Data for Development of Uncertainty Factors in Non-Cancer Risk Assessment, Society of Toxicology 47th Annual Meeting, Seattle, WA, March 2008
- International Society of Regulatory Toxicology and Pharmacology Workshop: Conducting and Assessing the Results of Endocrine Screening, Bethesda, MD, February 2008
- Assessment of Abuse Liability and Physical Dependence, Northeast Chapter Society of Toxicology Annual Meeting, Groton, CT, October 2007
- Practical Issues and Procedures for Preclinical Safety Testing, 2007 BioReliance Toxicology Technical Seminars, Boston, MA, October 2007
- Introduction to Pharmacoepidemiology: Practical Applications and Analytic Methods, American College of Epidemiology 25th Annual Meeting, Ft. Lauderdale, FL, September 2007
- SAS Programming I: Essentials, SAS Institute, Boston, MA, July 2007
- Introduction to Bayesian Modeling of Epidemiologic Data, Society for Epidemiologic Research 40th Annual Meeting, Boston, MA, June 2007
- Systematic Review and Meta-analysis, Society for Epidemiologic Research 40th Annual Meeting, Boston, MA, June 2007
- The Biology and Toxicology of the Peri- and Post-natal Development, Society of Toxicology 46th Annual Meeting, Charlotte, NC, March 2007
- Reproductive Toxicity Testing: Study Designs, Evaluation, Interpretation, and Risk Assessment, Society of Toxicology 45th Annual Meeting, San Diego, CA, March 2006
- Project Managers Bootcamp I, PSMJ Resources, Inc., Cambridge, MA, April 2005
- Development and Interpretation of Toxicokinetic Data for Risk and Safety Assessment, Society of Toxicology 44th Annual Meeting, New Orleans, LA, March 2005
- Survival Analysis, Graduate Summer Institute of Epidemiology and Biostatistics, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, June 2003
- Speaking on the Job, Cancer Prevention Fellowship Program, National Cancer Institute (NCI), Rockville, MD, February 2003
- Grants and Grantsmanship Workshop, Cancer Prevention Fellowship Program, NCI, Rockville, MD, January 2003
- Spotted Gene Expression Microarray Workshop, Advanced Technology Center, NCI, Gaithersburg, MD, October 2002
- Laboratory of Cellular Carcinogenesis and Tumor Promotion/Laboratory of Human Carcinogenesis/Laboratory of Experimental Carcinogenesis Interlaboratory Seminar, Monthly, 2002-2004
- Division of Cancer Prevention, Office of Preventive Oncology Colloquia Series on Cancer Prevention Topics, Weekly, 2002-2004

- Radiation Safety for Authorized Users, NIH Radiation Safety Branch, Bethesda, MD, Sept. 2002
- Molecular Prevention Course, NCI Summer Curriculum in Cancer Prevention, Rockville, MD, August 2002
- Principles & Practice of Cancer Prevention and Control Course, NCI Summer Curriculum in Cancer Prevention, Rockville, MD, July-August 2002

Professional Activities

- Member, Board of Directors, Academy of Toxicological Sciences, 2020-Present
- Scientific Advisory Board Member, National Stone, Sand, and Gravel Association, 2019-Present
- Invited Lecturer, "Introduction to Meta-analysis," Northeastern College of Professional Studies, May 8, 2019
- Invited Participant, "Excellence in Risk Analysis," Society for Risk Analysis (SRA) Workshop, June 2018
- Reviewer, R21 Hurricane Applications, National Institutes of Health (NIH), January 2018
- Member, Regis College Doctoral Thesis Committee, 2015-2017
- Reviewer, R21 NIH Exploratory/Developmental Research Grant Proposal, NIH, September 2017
- Invited Panelist, Cancer Prevention Fellowship Program (CPFP) Alumni Career Panel, September 2016
- Reviewer, K99 Career Research Grant Proposal, NIH, July 2016
- Invited Lecturer, "An Introduction to Meta-analysis," Johns Hopkins Bloomberg School of Public Health, April 5, 2016
- Member, Scientific Advisory Council, Evidence-based Toxicology Collaboration (EBTC) at Johns Hopkins Bloomberg School of Public Health, December 2015-Present
- Invited Observer, *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans*: *Volume 113: Some Organochlorine Insecticides and Some Chlorophenoxy Herbicides*, Lyon, France, June 2015
- Mentor, Society of Toxicology Mentor Match Program, January 2015-Present
- Member, Speaker Bureau, Society of Toxicology, July 2014-2016
- Chair, "Implementing NRC Recommendations: IRIS," SRA Annual Meeting, 2014
- Member, California Breast Cancer Research Program (CBCRP) Chemicals Testing and Occupational Exposures Review Panel, November 2014
- Proposal Reviewer, Scientific Panel, California Breast Cancer Research Program (CBCRP), June 2014
- Invited Epidemiology Panel Member, The International Council of Chemical Associations Long-Range Research Initiative and Joint Research Centre Workshop, "What is Safe? Integrating Multi-Disciplinary Approaches for Decision Marking about the Human Health and Environmental Impacts of Chemicals." Lugano, Switzerland, June 2014
- Proposal Reviewer, John Templeton Foundation, 2014
- Co-Chair, "Understanding Weight of Evidence: Exploring Different Approaches to Integrating Evidence from Diverse Data Streams," Society of Toxicology, 2014
- Co-Chair, "Epidemiology for Toxicologists: What the Numbers Really Mean," Society of Toxicology, 2014
- Best Paper Awards Selection Committee, Risk Assessment Section, Society of Toxicology, 2014
- Peer Reviewer, Provisional Peer-Reviewed Toxicity Values for Styrene-Acrylonitrile (SAN Trimer), US EPA Draft Document, December 2013
- Keynote Speaker and Scientific Committee Member, Isocyanates & Health Conference, April 2013
- Presidential Task Force Member, Strategic Plan, American College of Epidemiology, 2013
- Proposal Reviewer, National Science Foundation, 2013
- Invited Participant, ILSI Health and Environmental Sciences Institute Emerging Issue Workshop: Evaluating Causality in Epidemiology, October 2012
- Invited Panel Member, "Using Mode of Action to Support the Development of a Multipollutant Science Assessment," US EPA Workshop, May 2012
- Editorial Board Member, *Carcinogenesis*, 2012-2014

- Invited Participant on "Improving Science-Based Regulation," The George Washington University Regulatory Studies Center and the Center for Risk Science and Public Health, January 2012
- Member, Massachusetts Environmental Justice Assistance Network, 2010-Present
- Board Member, American College of Epidemiology, 2011-2013
- Nominating Committee, Society of Toxicology, 2009-2011
- Elected Member, Canton, Massachusetts Board of Health, 2008-Present
- Editorial Board Member, *The Open Biomarkers Journal*, 2008-Present
- Managing Editor, *Journal of Environmental Protection Science*, 2008-2010
- Member, Canton, Massachusetts Medical Reserve Corps, 2007-Present
- Peer Reviewer, *Texas Commission on Environmental Quality, Development Support Document for Nickel and Inorganic Nickel Compounds, Preliminary Draft*, May 2009
- Invited Observer, *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: Volume 100, Meeting C: Metals, Particles and Fibres*, Lyon, France, March 2009
- Abstract Awards Selection Committee, Risk Assessment Section, Society of Toxicology, 2008
- Secretary/Treasurer, Risk Assessment Specialty Section, Society of Toxicology, 2007-2009
- Editorial Board Member, *Journal of Environmental Protection Science*, 2007-2008
- Guest Lecturer, Cancer Epidemiology, University of Maryland, 2004
- Member, Cancer Prevention Fellowship Scientific Education Committee, NCI, 2003
- Guest Lecturer, Xenobiotic Metabolism, Johns Hopkins Bloomberg School of Public Health, 2001-2002
- Reviewer: *African Journal of Biotechnology; American Journal of Pathology; Annals of Epidemiology; Applied Economics Letters; Biomarkers & Prevention; Cancer Epidemiology; Cancer Genetics and Cytogenetics; Cancer Research; Carcinogenesis; Chemical Research in Toxicology; Chemico-Biological Interactions; CHEST; Clinical Cancer Research; Critical Reviews in Toxicology; Environmental Health Perspectives; Environment International; Environmental Science & Technology; Global Epidemiology; Human and Experimental Toxicology; Inhalation Toxicology; International Journal Of Environmental Health Research; International Journal of Environmental Research and Public Health; Journal of Cellular Biochemistry; Journal of Clinical Epidemiology; Jornal de Pediatria; Journal of Exposure Science and Environmental Epidemiology; Journal of Human and Ecological Risk Assessment; Journal of Occupational and Environmental Medicine; Journal of Toxicology and Environmental Health, Part A: Current Issues; Medical Journal of Australia; NeuroToxicology; PeerJ; Pharmacogenetics; Preventive Medicine Reports; Regulatory Toxicology and Pharmacology; Risk Analysis; Scientific Reports (Nature Publishing Group); Toxicology; Toxicology and Applied Pharmacology; Toxicological Sciences*

Honors and Awards

- Best Poster Award, Environment, Health & Safety Poster Session, Polyurethanes Technical Conference, October 2018
- Distinguished Alumna Award, Johns Hopkins University, April 2015
- Chauncey Starr Distinguished Young Risk Analyst Award, Society for Risk Analysis, 2014
- Best Overall Abstract, Risk Assessment Specialty Session, Society of Toxicology, San Antonio, TX, 2013
- International Dose-Response Society Outstanding New Investigator Award, 2012
- Top 10% Best Overall Abstracts in Risk Assessment, Risk Assessment Specialty Section, Society of Toxicology, Seattle, WA, 2008
- Fellows Award for Research Excellence: $1,000 Travel Award, National Institutes of Health, Bethesda, MD, 2004
- Honorable Mention Poster Presentation, Center for Cancer Research 4th Annual Fellows and Young Investigators Retreat, Williamsburg, VA, March 2004
- Graduate Student Travel Award, Gordon Research Conference on Hormonal Carcinogenesis, 1999, 2001
- Travel Award, Third World Congress on Alternatives and Animal Use in the Life Sciences, Bologna, Italy, 1999

- Howard Hughes Predoctoral Fellowship Award, 1997-2002
- NIEHS Training Grant Graduate Fellowship Award, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, 1996-1997
- Tau Beta Pi, National Engineering Honor Society, 1995-1996
- Chi Epsilon, National Civil Engineering Honor Society, 1994-1996

Professional Affiliations

American College of Epidemiology; Society for Risk Analysis; Society for Risk Analysis New England Chapter; Society of Toxicology; American Board of Toxicology; Academy of Toxicological Sciences; International Dose-Response Society

Selected Projects

Trade Organization: Evaluated and provided comments on US EPA's draft risk evaluation for trichloroethylene. Focused on the meta-analyses of kidney cancer, liver cancer, and non-Hodgkin's lymphoma.

Public School: Evaluated school facility information and environmental assessments that have been conducted on lead in school drinking water. Quantified typical student exposures and estimated health risks. Evaluated exposures and risks of PEX replacement pipes.

University: Described the main features of internal dose time courses that are important when pharmacodynamics are governed by an activation threshold. Presented the adverse outcome pathway (AOP) for NLRP3-induced chronic inflammatory diseases as a case study.

Non-Profit Research Institute: Developed an *in silico*-based health-protective screening approach for inhaled chemicals.

Law firm: Evaluated the potential human carcinogenicity of formaldehyde and methyl *tert*-butyl ether (MTBE).

Trade Organization: Conducted a systematic review of long-term exposure to fine particulate matter (PM_{25}) and all-cause mortality.

Waste Management Company: Evaluated whether specific health conditions, including cancer, were attributable to exposures to Radium 226, Thorium 230, or Uranium 238 that originated from a landfill.

Farm: Evaluated whether certain health conditions could be caused by exposures to nitrate in drinking water or hydrogen sulfide or ammonia in air and, if so, under what exposure conditions.

Trade Organization: Conducted a weight-of-evidence (WoE) analysis of talc and ovarian cancer, including a quantitative bias analysis of epidemiology studies.

Trade Organization: Evaluated the association between personal PM_{25} exposures and ambient PM_{25} concentrations, and the implications for the interpretation of epidemiology studies that estimate personal exposure based on ambient concentrations.

Private Company: Assessed whether appropriate epidemiology methods were used to evaluate a potential pediatric cancer cluster in a military housing complex. Evaluated whether public health and environmental investigations used methodologically sound analyses.

Consumer Product Company: Determined whether a framework for assessing the hazard of cleaning product ingredients was sufficient to support "non-toxic" claims on product packaging for a household cleaner.

Consumer Product Company: Evaluated the historical state of knowledge regarding the toxicity of butadiene and the development of myelodysplastic syndrome.

Railroad Company: Summarized the historical states of knowledge regarding the toxicity of vermiculite and of asbestos in the railroad industry.

Trade Organization: Conducted a systematic review of metallic nickel and cancer.

Research Organization: Estimated dietary phthalate intake based on data from the National Health and Nutrition Examination Survey (NHANES), a program of studies of United States residents conducted at the Centers for Disease Control and Prevention (CDC).

Personal Care Product Company: Conducted a risk assessment of zinc oxide in sunblock.

Trade Association: Reviewed and provided comments to the United States Environmental Protection Agency (US EPA) on its assessment plan for an updated arsenic health risk assessment.

Trade Organization: Evaluated best practices for evidence integration in National Ambient Air Quality Standards (NAAQS) Integrated Science Assessments (ISAs).

State Environmental Agency: Quantitatively evaluated how uncertainty and bias can impact epidemiology associations between air pollutants and respiratory morbidity at low exposures.

Law Firm: Evaluated the potential lung cancer, mesothelioma, and interstitial fibrosis risks from exposure to chrysotile asbestos from brakes based on epidemiology studies of vehicle brake repair workers and industrial hygiene, mode-of-action, and toxicology data.

Chemical Company: Evaluated and provided comments on US EPA's Toxicological Review of Libby Amphibole Asbestos. Interacted with several regulatory agencies throughout the interagency process of the Integrated Risk Information System (IRIS) review.

Trade Organization: Evaluated systematic review methods used by US EPA in IRIS and Toxic Substances Control Act (TSCA) evaluations.

Pesticide Companies: Evaluated the use of neurodevelopmental epidemiology studies by the US EPA in the re-registration process for organophosphate pesticides.

Consumer Product Company: Determined whether aspiration of a laundry pod caused long-term health effects in an infant.

Consumer Product Company: Evaluated the implications of a new toxicity study of an ingredient in a consumer product for adults and children who use the product and workers who manufacture the product. Provided an analysis of the potential Globally Harmonized System of Classification and Labeling of Chemicals (GHS) and Safety Data Sheet (SDS) implications of a the ingredient.

Trade Organization: Assessed whether a post-market skin patch epidemiology study should be used for risk assessment.

Trade Organization: Evaluated emission limits for several chemicals defined in certification guidelines for a consumer product.

Trade Organization: Reviewed and provided comments on Health Canada's Draft Screening Assessment Report and Risk Management Scope for talc.

Municipality: Evaluated whether childhood blood lead levels in a city appeared to be impacted by increases in water lead levels. Assessed the potential beneficial impact of the City's distribution of point-of-use water filters to residents.

Trade Organization: Developed detailed criteria for exposure characterization that can be used when designing future epidemiology studies and for evaluating completed studies to determine how their results should be considered in a regulatory setting.

Trade Organization: Determined whether nickel should be classified as a reproductive or developmental toxicant under California EPA's Proposition 65.

Consumer Product Company: Developed a statistical approach for a clinical study of a medical device.

Trade Organization: Performed a detailed quantitative analysis to determine the reliability and adequacy of the T25 Carcinogenic Potency Method for inhalation exposures of inorganic substances. This method is used to classify carcinogenic substances according to the European Union's guidance for Classification, Labelling and Packaging of Substances and Mixtures.

Law Firm: Evaluated the potential side effects and dose-response relationships for cosmetic botulinum toxin injections from reviews of clinical trials and FDA warning labels. Assessed whether claimed health effects in an individual existed prior to an injection with botulinum toxin, were included among the documented side effects of the toxin, or were indicative of systemic toxicity.

Trade Organization: Critically reviewed the draft recommendation for a non-health-based bisphenol A (BPA) occupational exposure limit (OEL) proposed by the Dutch Expert Committee on Occupational Health and Safety (DECOS). Derived and recommended a health-based BPA OEL that is consistent with European Commission directives.

Law Firm: Evaluated nickel concentrations in an urban neighborhood using air monitoring data. Assessed the cancer and non-cancer health risks of exposure to nickel in air and dust among residents.

Trade Organization: Evaluated the association between short-term exposures to $PM_{2.5}$ and hospital admissions for cardiovascular diseases.

Research Organization: Evaluated the impact of respiratory infections, outdoor pollen, and socioeconomic status on associations between $PM_{2.5}$ and ozone and pediatric asthma hospital admissions.

Research Organization: Critically reviewed the epidemiology literature on exposure to $PM_{2.5}$ and several birth outcomes.

Trade Organization: Reviewed and commented on the International Agency for Research on Cancer (IARC) Preamble, which summarizes the underlying scientific principles of the IARC Monographs, which evaluate the carcinogenic hazards of chemicals and other substances.

Baby Product Company: Evaluated whether a teething ring product contained more Bisphenol A than is permitted under Proposition 65.

Energy Company: Evaluated whether working on the site of a former Manufactured Gas Plant may have contributed to kidney cancer.

Steel Company: Assessed the state of knowledge related to employment in a steel mill or steel plant and asbestos-related disease to understand when the scientific community began to study the hazards of asbestos among steelworkers and when it was reasonable for a steel manufacturing company to have known that exposure to asbestos-containing materials could potentially lead to the development of respiratory disease in steelworkers.

Trade Organization: Evaluated US EPA's calculation of an inhalation unit risk (IUR) in its "Toxicological Review for Trichloroethylene in Support of Summary Information on the IRIS."

Trade Organization: Developed standards for epidemiology studies similar to good laboratory practice (GLP) standards, which are intended to assure the quality and integrity of non-clinical laboratory studies.

Manufacturer: Critically reviewed the quality of case-control studies conducted in North America that assessed the associations between captan exposure and the risk of multiple myeloma. Conducted a quantitative bias/uncertainty analysis of these studies.

Trade Organization: Evaluated the basis for the American Conference of Governmental Industrial Hygienists (ACGIH) lowering the Threshold Limit Value for toluene diisocyanate.

Law Firm: Evaluated exposure to O-toluidine and bladder cancer risk.

Trade Organization: Developed a framework for a systematic, objective, and transparent evaluation of the evidence for non-cancer causation that requires reviewers to conduct a systematic study quality analysis and consider how the evidence from several realms impacts the interpretation of others.

Law Firm: Evaluated exposures to landfill gases, including hydrogen sulfide, and potential health effects from these exposures in individuals residing near a municipal solid waste landfill. Evaluated potential odor impacts and the differences between odor perception and adverse health effects.

Trade Organization: Reviewed literature regarding several air toxics and health endpoints and provided recommendations on a proposed regulation in California to monitor communities for air pollution-attributable health effects.

Trade Organization: Critically reviewed the harmonized carcinogenicity classification and labeling for cobalt metal developed to comply with the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation by RIVM (Netherlands National Institute for Public Health and the Environment).

Toy Manufacturer: Evaluated whether brain injury could occur as a primary consequence of ingesting toy beads containing 1,4-butadiene, or as a secondary consequence of experiencing coma-like symptoms following ingestion of the beads.

Pharmaceutical Company: Assessed whether on-label use of a pharmaceutical increased cardiovascular disease risk based on randomized controlled trials and observational epidemiology studies.

US EPA: Contributed to the design of a model describing several frequently encountered toxicity endpoints in terms of a series of progressive pathophysiological steps.

Pharmaceutical Company: Performed an in-depth analysis of the toxicology and epidemiology data of a specific drug to determine whether the company could have anticipated potential adverse side effects in humans.

Pharmaceutical Company: In the context of a patent infringement lawsuit, performed an independent analysis of efficacy and toxicity data from animal experiments to determine if claims in the patent could be challenged.

Government Agency: Critically evaluated an epidemiology study of exposures and health outcomes in indigenous and Afro-Colombian communities living near a nickel mine and smelter and discussed with the government agency that conducted the study.

Electric Utility: Evaluated the potential non-cancer and cancer health effects from exposure to coal combustion residuals (CCR) as a whole, and arsenic and chromium specifically, as reported in epidemiology and toxicity studies. Determined whether potential exposures to CCR contributed to current or future health effects, or warrant medical monitoring.

Chemical Company: Conducted a meta-analysis of epidemiology studies that evaluated the use of a pharmaceutical during labor and dystocia.

Trade Association: Evaluated whether atherosclerosis development is a plausible mode of action for PM in cardiovascular pathogenesis, and whether this is supported by epidemiology evidence.

Trade Organization: Determined the safety of benzoic acid and its salts when used as preservatives in food and soft drinks based on an evaluation of pharmacokinetic data in rodents and humans, and human clinical studies of sodium benzoate administered as a therapeutic drug.

Trade Association: Critically reviewed the draft recommendation for a non-health-based OEL for di- and triisocyanates proposed by the DECOS of the Health Council of the Netherlands.

Trade Organization: Developed a database of epidemiology studies of occupational exposures to pesticides and cancer.

Trade Organization: Critically reviewed the epidemiology literature on long-term exposure to ambient ozone and asthma development.

Trade Organization: Reviewed the safety of benzoate when used as a preservative in soft drinks, with a specific focus on the quality of the current safety database and identifying data gaps regarding oral exposures.

Manufacturer: Evaluated the health risks of potential carbon monoxide exposures at a proposed bridge near a manufacturing facility.

Consumer Product Company: Systematically reviewed epidemiology, toxicity, exposure and transport, and mechanistic studies to evaluate whether personal use of cosmetic talc increases ovarian cancer risk.

Trade Organization: Evaluated whether an alternative form of the sulfur dioxide (SO_2) NAAQS would be as public health protective as the then-current form.

Trade Organization: Critically reviewed the approach US EPA used to quantify health co-benefits when assessing the impacts of the Clean Power Plan. Evaluated the scientific validity of the models, data sources, and assumptions underlying US EPA's calculations.

Chemical Company: Evaluated whether exposure to odorous chemicals emitted from spray foam insulation in a residence posed a potential health risk. Compared residents' exposure to odor thresholds, toxicity criteria, and health effect levels for specific constituents emitted from the foam.

Law Firm: Assessed human health risks associated with coal-fired power plant emissions, including particulate matter, SO_2, and nitrogen oxides (NO_x), based on air modeling results and available measurement data.

Trade Organization: Conducted a systematic review of epidemiology studies that evaluated proximity to unconventional natural gas development (UNGD) and perinatal outcomes.

Chemical Company: Provided chemical-level assessments (*i.e.*, analysis of inventory status, occupational exposure limits, and available toxicity data) and product-level assessments (*i.e.*, evaluation of Good Manufacturing Practice and regulatory hurdles) for several cosmetics and consumer products.

Research Organization: Critically evaluated toxicity studies that investigated $PM_{2.5}$ and developmental and reproductive effects.

Utility Group: Evaluated potential exposures and health impacts of PM in general, as well as two specific types of PM associated with power plant operations (*i.e.*, diesel exhaust emissions and coal dust emissions).

Manufacturer: Assessed the potential health risks of saline-filled breast implants based on a review of the peer-reviewed literature and pre- and post-market studies of silicone- and saline-filled breast implants.

Pharmaceutical Company: Evaluated whether historical data support the patentability of a drug that lowers blood lipid levels. Reviewed the experimental methods (including statistics) and results of efficacy studies with the drug to confirm the original study conclusions.

Trade Associations: Facilitated research that addresses the causality of the relationship between $PM_{2.5}$ and mortality. Selected research candidates, developed a request for proposal, evaluated solicited proposals, coordinated selected researchers for data access, and organized a symposium for researchers to present and discuss their findings.

Utility Company: Evaluated health effects associated with potential exposures to chemicals, including coal tar and polycyclic aromatic hydrocarbons (PAHs) such as benzo[a]pyrene, resulting from recreational activities in the vicinity of a former manufactured gas plant site.

Chemical Company: Evaluated whether the PAHs in an asphalt roofing underlayment would require its classification under the Occupational Safety and Hazard Administration's (OSHA) hazard communication standard.

Manufacturer: Evaluated the incidence, prevalence, risk factors, and potential alternative causes of health complaints among office workers allegedly exposed to chemicals in indoor air *via* vapor intrusion of contaminated groundwater. Also assessed whether there were any disease clusters at the site.

Trade Organization: Provided written and oral comments to the Clean Air Scientific Advisory Committee (CASAC) on exposure, epidemiology, toxicity, and mode-of-action studies and their bearing on US EPA's development of NAAQS for ozone (O_3), PM, NO_x, and sulfur oxides (SO_x) on numerous occasions.

Manufacturer: Reviewed asbestos exposure data related to the handling and installation of electrical equipment and epidemiology evidence regarding mesothelioma in electricians.

US Army: Assessed several dose-response functions, animal models, and endpoints to obtain the most appropriate model-predicted risk estimate to use in establishing a risk-based inhalation exposure criterion for vanadium pentoxide.

Appliance Manufacturer: Evaluated evidence for a cancer cluster in a neighborhood where soil containing polychlorinated biphenyl (PCBs) was historically used as landfill in a recreation area.

State Environmental Agency: Conducted WoE evaluations of the association between short-term and long-term ozone exposure and cardiovascular effects.

State Environmental Agency: Evaluated how meta-analyses have been or could be applied in the evaluation of health effects of air pollutants. Assessed the strengths and limitations of methods, issues that arise in meta-analyzing different types of data, assumptions that can influence the interpretation of results, and how bias and heterogeneity can be addressed.

Law Firm: Assessed the impact of coal-fired power plant emissions on exposures to fine PM, SO_2, and nitrogen dioxide (NO_2) and whether these exposures likely contribute to adverse health effects in Colorado residents.

Mining Company: Evaluated methods used to derive a proposed standard for nickel by the Province of Quebec, Canada.

Trade Association: Critically evaluated the test version of the Environmental Benefits Mapping and Analysis Program – Community Edition (BenMAP-CE) that US EPA used in the risk assessment for ozone as part of its NAAQS evaluation.

Utility Company: Reviewed the historical releases of compounds associated with manufactured gas plant processes, including PAHs such as benzo[a]pyrene, and the historical understanding of risk assessment, carcinogenesis, and the toxicity of these compounds.

State Environmental Agency: Reviewed epidemiology, controlled human exposure, experimental animal, and mechanistic studies of ozone and markers of inflammation and oxidative stress.

State Environmental Agency: Critically reviewed potential uses of Next Generation (NexGen) toxicity testing methods and associated interpretation techniques in assessing the risks associated with chemical exposures (*e.g.*, in high-throughput screening programs or detailed quantitative analyses for individual data-rich chemicals).

Chemical Company: Evaluated the utility of using epidemiology data in human health risk assessment and regulatory decision-making for the insecticide, chlorpyrifos.

Trade Organization: Critiqued draft templates for tabulating epidemiology and experimental animal study data for hazard identification proposed by the Developmental and Reproductive Toxicant Identification Committee (DART IC) of California's Office of Environmental Health Hazard Assessment (CalOEHHA). Proposed an alternative set of tables to systematically present data for consideration in a full evidence integration process.

State Environmental Agency: Critically reviewed epidemiology, controlled human exposure, experimental animal, and mechanistic studies of ozone and outcomes related to asthma exacerbation.

State Environmental Agency: Evaluated the relationship between ozone concentrations and asthma hospitalizations in Texas from 2001-2011.

Trade Organization: Conducted sensitivity analyses to determine how alternative assumptions impact exposure and risk estimates calculated using the US EPA Air Pollutants Exposure (APEX) Model.

Health Care Company: Analyzed the health effects of perchloroethylene and its breakdown products (trichloroethylene, 1,1-dichloroethylene, 1,2-dichloroethylene, and vinyl chloride) to address community concerns with remediation requirements. Also reviewed the bases for soil and groundwater remediation goals.

Chemical Company: Analyzed health risks from exposure to PCBs in caulking in a school in Massachusetts by analyzing potential exposures at the school and epidemiology and toxicology evidence. Also summarized the state of knowledge regarding PCBs when the school was built.

State Environmental Agency: Organized and participated in a workshop focused on the scientific evidence for ozone effects and the societal implications of lowering the ozone NAAQS.

Utility Company: Characterized and communicated exposures to chemicals, including PAHs such as benzo[a]pyrene, for occupants of residential and commercial properties constructed on the site of a former manufactured gas plant.

Trade Association: Evaluated non-cancer effects of PM.

Chemical Company: Evaluated whether inflammation and oxidative stress caused by ozone exposure are key events leading to respiratory toxicity.

Chemical Company: Conducted a WoE evaluation of PM and biomarkers of cancer.

Chemical Company: Evaluated whether there was evidence of any developmental health effects clusters at an office building. Assessed likely explanations for health claims.

Trade Association: Proposed a framework for evaluating causation that provides a structure for integrating different realms of evidence, weighing the strength of evidence for causation, and assessing the potential impact of uncertainty on the body of evidence.

Trade Organization: Critically reviewed the epidemiology literature evaluating nickel exposure and reproductive and developmental effects. Determined whether it supported a prioritization of nickel for CalOEHHA's consideration under California's Proposition 65.

Trade Organization: Evaluated whether higher regulatory limits on heavy metals in finished medical marijuana products would provide an adequate margin of safety for patients, and whether certain hydrocarbon gases could be safely used in the production of cannabis concentrates used in medical marijuana infused products.

Children's Personal Care Product Manufacturer: Conducted a comprehensive hazard and risk assessment using data reported by various research and regulatory agencies, and specific risk assessments for individual preservatives, to determine whether there could be health risks for children from regular use of personal care products containing these preservatives.

Law Firm: Evaluated whether exposures to diesel exhaust and jet fuel are associated with lung cancer based on a literature review, agency classifications, and key epidemiology studies on which classifications are based.

Electric Utility: Evaluated the scientific basis of health impacts associated with air quality regulations that would impact an electricity generation facility. Compared air quality data in the area around the facility to health-based NAAQS.

Trade Organization: Assessed the US EPA "Framework for Human Health Risk Assessment to Inform Decision Making" and compared it to US EPA's ongoing O_3 analysis. Focused on planning and "fit for purpose," WoE, transparency, reasonableness, consistency, at-risk factors, and uncertainty and variability.

Electric Utility: Analyzed air monitoring data to determine the potential public health impacts of stack air emissions of fine PM, O_3, NO_2, and SO_2.

Trade Organization: Conducted a quantitative analysis of controlled human exposure studies to address whether there is a subset of individuals who are susceptible to health effects of criteria air pollutants at particular exposure levels, but whose response is obscured by analyzing data at the group level.

Law Firm: Analyzed human health risks posed by chemicals measured in workplace indoor air that were alleged to have originated from groundwater contaminated by a nearby recycling facility. Focused on the epidemiology of the chemicals of concern at the levels measured in the workplace and the plaintiffs' health complaints, including cancer.

Trade Organization: Performed an O_3 mortality risk assessment using US EPA's Environmental Benefits Mapping and Analysis Program (BenMAP). Evaluated mortality risks by conducting a series of sensitivity analyses to assess how alterative model inputs impacted risk results.

Smelter: Assessed whether a smelter's permit would likely allow for SO_2 emissions that could lead to adverse health effects in the community.

Trade Organization: Reviewed the basis for the California Environmental Protection Agency's (CalEPA's) proposal to list SO_2 as a Proposition 65 developmental and reproductive toxicant. Evaluated whether the underlying studies provided sufficient and robust evidence that SO_2 causes developmental and reproductive effects.

Trade Organization: Reviewed and critiqued the assumptions and uncertainties associated with the statistical models on which US EPA's 2011 Benefits and Costs of the Clean Air Act Report was based.

Chemical Company: Evaluated US EPA's proposed national emission standards for hazardous air pollutants (NESHAPs) for mercury from major industrial boilers. Evaluated the agency's statistical approach for establishing the maximum achievable control technology (MACT) limit and determined how alternative approaches would impact the MACT derivation.

Trade Organization: Conducted meta-analyses and meta-regressions of airway hyper-responsiveness in asthmatic volunteers exposed to NO_2 in clinical studies. Presented these analyses to the US Office of Management and Budget.

Trade Organization: Assessed what constitutes an adverse health effect *vs*. normal biological variation (or adaption or compensation to stressors), and the role of statistics in assessing adversity. Used airway hyper-responsiveness to SO_2 as a case study.

Health Effects Institute: Compiled and reviewed studies regarding chronic and acute toxicity guidelines for mobile source air toxicants.

Trade Organization: Evaluated studies examining low-dose exposure to BPA and effects on reproduction and development using a W approach. Discussed results in written comments and oral testimony to CalEPA in the context of whether BPA should be listed as a female reproductive toxicant under Proposition 65.

Cleaning Product Company: Evaluated toxicity of chemicals in all-natural cleaning products.

Municipality: In response to citizens' concerns, independently investigated whether there was an increased incidence of cancer in residents living near a municipal landfill. Communicated findings with city officials and residents at public meetings.

Toy Distributor: Determined whether a toxicological evaluation of a toy was sufficient for determining children's health risks. Assessed the toxicity of a chemical found in the toy, potential routes of exposure, and possible health risks.

Trade Organization: In a Proposition 65 case, provided deposition and trial testimony regarding coffee and some of its components (including acrylamide) and cancer, with a focus on epidemiology evidence.

Trade Organization: Conducted a systematic review and meta-analyses of 2,4-dichlorophenoxyacetic acid (2,4-D) and non-Hodgkin's lymphoma, gastric cancer, and prostate cancer. Participated as an observer at the IARC Monograph 113 Meeting at which 2,4-D was evaluated.

Trade Organization: Assessed whether animal, mechanistic, and epidemiology evidence is consistent with the nickel ion bioavailability model, which asserts that the carcinogenicity of nickel-containing substances is based on the bioavailability of the nickel ion at nuclear sites of target respiratory epithelial cells.

Trade Association: Conducted two comprehensive critical WoE reviews of studies bearing on the ability of very low BPA exposures to affect reproduction and development *via* endocrine disruption. These analyses were presented to several state legislative committees, all of which were considering bans on BPA.

Public Agency: Evaluated the variability in water lead levels across a US city and the association between water lead levels and blood lead levels in children.

Trade Organization: Conducted a survey of nearly 50 WoE frameworks to evaluate best practices for determining causation. Defined the key concepts of WoE analyses and their application to particular problems, and articulated the best practices from among the spectrum of approaches.

Pesticide Company: Assessed whether epidemiology, toxicology, and mechanistic evidence support chlorpyrifos being a neurobehavioral toxicant in humans at relatively low exposure levels. Evaluated evidence using recently proposed frameworks for integrating human and animal data, as well as Gradient's hypothesis-based weight-of-evidence (HBWoE) approach.

Cleaning Product Company: Evaluated the potential risks of birth defects from exposure to the chemical components of products used in floor stripping and refinishing.

Trade Organization: Conducted a critical examination of a proposal by the National Academy of Sciences that linear low-dose extrapolation should be used for non-cancer and cancer endpoints as a default because measurement error in epidemiology studies linearizes dose-response curves.

Food Manufacturer: Evaluated the significance of lead in imported hot sauces after a journal article reported that some of the products contained elevated levels of lead. Prepared a critique and summary of the study findings, and compared lead levels to US FDA limits. Evaluated the potential impact of the lead exposures on blood lead levels.

Trade Organization: Evaluated potential health risks from BPA in epoxy-lined metal cans based on both peer-reviewed scientific literature and regulatory agency risk assessments.

Law Firm: Reviewed specific exposure information and occupational epidemiology literature for a claim regarding a causal association between formaldehyde inhalation and acute myeloid leukemia.

Law Firm: Evaluated whether radiation should have been considered as a potential cause of an individual's mesothelioma. Analyzed both specific exposure information and toxicology and epidemiology literature on radiation and mesothelioma.

Trade Association: Using the HBWoE approach, evaluated whether epidemiology, toxicology, and mechanistic evidence supports the plausibility of formaldehyde as a human leukemogen.

Chemical Companies: Calculated a benchmark dose (BMD) for an industrial chemical using US EPA's BMD Software (BMDS). Assessed several dose-response models and evaluated the impact of using historical control data.

Trade Organization: Evaluated whether epidemiology, animal toxicity, mechanistic, and pharmacokinetic evidence indicates that toluene diisocyanate is a human carcinogen.

Trade Organization: Critically reviewed meta-analysis of respiratory cancer risk following inhalation exposure to nickel compounds. Provided comments regarding the methods, limitations, and interpretation of results throughout the conduct of this study.

Trade Organization: Conducted a pilot meta-analysis of studies bearing on the ability of very low oral exposures to BPA to affect prostate weight in rodents. Investigated the possibility of publication bias and evidence for a temporal trend in the data.

Trade Organization: Critically reviewed a draft European Union report on the state of the science regarding endocrine-disrupting chemicals. Assembled a panel of experts to determine whether the draft report constituted a complete and unbiased analysis of endocrine disruptors.

Trade Organization: Evaluated potential health risks from BPA in epoxy-lined metal cans based on both the peer-reviewed scientific literature and regulatory agency risk assessments.

Trade Organization: Reviewed epidemiology studies assessing associations between BPA and several health effects.

Trade Association: Reviewed and prepared comments on ACGIH's proposed Threshold Limit Value for manganese. Reviewed the methodology applied by ACGIH, compared the use of published regression analyses of manganese dose-response data to benchmark dose modeling of more recent data, and identified appropriate adverse effect levels of manganese in occupational studies.

Chemical Manufacturer: Reviewed the epidemiology and mode-of-action data on acetic anhydride and cancer using a systematic WoE approach to determine whether the data are consistent with ACGIH cancer classification.

Law Firm: Evaluated epidemiology literature regarding present and future risks of cancer and non-cancer health effects in a group of individuals from inhalation exposures to trichloroethylene (TCE) and perchloroethylene (PCE).

Law Firm: Evaluated the epidemiology literature regarding cancer and non-cancer health effects of benzene, dioxin, and pentachlorophenol. Conducted a cluster analysis to determine whether individuals residing in an area with alleged exposures had increased rates of several cancers and non-cancer health effects.

Pesticide Companies: Critically reviewed epidemiology, toxicology, and mechanistic studies to assess whether exposure to atrazine in drinking water is associated with reproductive and developmental health effects.

Confidential Client: Evaluated the health effects associated with hexavalent chromium based on an assessment of the epidemiology literature. Assessed the scientific rigor of an analysis of potentially exposed individuals' survey responses.

Trade Organization: Classified, summarized, and entered relevant lead studies into the International Uniform Chemical Information Database (IUCLID) 5.2, a database for the intrinsic and hazard properties of chemical substances that companies can use to submit data under the REACH legislation in Europe.

Trade Organization: Provided written and oral testimony to the US National Toxicology Program (NTP) and its Board of Scientific Councilors regarding occupational epidemiology studies of styrene and whether styrene should be considered a human carcinogen.

Trade Organization: Developed scientifically sound approaches for incorporating human data into quantitative non-cancer risk assessment to support commentary on the ongoing US EPA revision of its dioxin assessment.

Trade Organization: Evaluated the associations between metal exposures and health outcomes using NHANES data.

Trade Organization: Conducted a WoE assessment of exposure to soluble nickel compounds and respiratory cancer risk based on animal carcinogenicity, mode-of-action, and occupational epidemiology studies.

Trade Organization: Conducted a critical review of the US EPA Toxicological Review of 1,4-Dioxane in support of "Summary Information" provided in IRIS. Proposed alternative methods to calculate the cancer slope factor and reference dose.

Law Firm: Evaluated the toxicology and epidemiology evidence regarding several pesticides and whether there was evidence for a causal association with certain birth defects.

Law Firm: Assessed recent occupational epidemiology studies of manganese and their bearing on the reference concentration (RfC).

Law Firm: Assessed whether epidemiology literature supports an association between low-level exposures to lead and IQ.

Trade Organization: Determined whether linear low-dose extrapolation should be used for non-cancer endpoints.

Law Firm: Assessed appropriateness of statistical analyses used by the Ramazzini Foundation for comparing cancer incidence rates in rats treated with MTBE and untreated rats.

Law Firm: Critically reviewed epidemiology literature of radium and osteosarcoma risk. Determined whether osteosarcoma rates were higher than expected in certain geographic regions in a southern state.

Law Firm: Critically reviewed potential health effects associated with exposure to heating oil from a basement spill.

Law Firm: Critically reviewed the epidemiology literature on the role of ionizing radiation in cancer risk in patients receiving radiation therapy, in nuclear energy facility workers, and in patients receiving Thorotrast treatments.

Chemical Company: Conducted a comprehensive review of the scientific literature on indoor dust levels of several flame retardants and an exposure assessment of each one.

Consumer Product Company: Interpreted the results of two genotoxicity screening assays in light of their sensitivity and specificity.

Toy Manufacturer: Conducted failure analyses of children's toys to determine whether proper or improper use was likely to lead to physical harm. Made recommendations regarding ways to make the toys safer.

Chemical Manufacturing Plant: Evaluated the mercury toxicology and epidemiology literature and determined whether levels in residential soil were above background and likely attributable to a nearby manufacturing plant.

Chemical Company: Conducted a critical review of neurodevelopmental toxicity studies of the flame retardant, decabromodiphenyl ether.

Petroleum Refining Company: Conducted an uncertainty analysis of the carcinogenicity of naphthalene using an HBWoE approach.

Power Plant: Critically reviewed published epidemiology studies of health effects in children residing near coal-fired power plants or coal mines. These studies examined respiratory outcomes, birth defects, and effects on physical development.

Law Firm: Analyzed health effects – including fetal, infant, and total death rates and cancer rates – and certain vital statistics in a Montana county. Compared overall health status of the county to that of the state.

Trade Organization: Evaluated and applied an uncertainty analysis focused on dioxin exposure and health effects data from key toxicology and human biomonitoring-based epidemiology studies as part of a margin-of-exposure analysis.

Law Firm: Evaluated toxicology and epidemiology evidence regarding glutaraldehyde and hydroquinone exposure and leukemia.

Trade Organization: Developed and refined a search strategy for the exposure and health effects of a chemical used in a manufacturing process using several databases, such as PubMed, Toxline, IRIS, and HSDB. Identified and screened relevant articles for inclusion in an electronic database.

Hospitals: Conducted screening level risk assessment for contaminants, including hexavalent chromium and polycyclic aromatic hydrocarbons, in product residue on surgical instruments used for medical procedures at several hospitals.

Industrial Consortium: Contributed to a toxicity and risk assessment in a class-action lawsuit by residents claiming adverse health effects from TCE and PCE in groundwater. Participated in a quantitative analysis of ingestion exposure, showering exposure, potential health risks, and proposed medical monitoring.

Cleaning Product Company: Designed methodology for testing the presence and activity of an enzyme in a cleaning product. Determined whether this enzyme was appropriate for the product.

Wood Treatment Plant: Analyzed dioxin and PCB congeners in individuals residing near a wood treatment plant and compared them to background levels reported by NHANES. Analyzed these compounds in soil, dust, and sediment to determine whether there were elevated risks of exposure.

Cleaning Products Company: Determined whether ingredients of several cleaning products, including floor strippers, could have caused or exacerbated several claimed health effects (such as respiratory effects) in individuals using the products or working in areas where the products were used.

Small Business: Assessed whether cancer cases at a small business could be attributed to a common exposure.

Trade Association: Re-analyzed published rat testicular carcinogenicity data on MTBE using the Poly-3 statistical method to account for survival differences among treatment groups.

Pesticide Company: Analyzed US EPA's use of the lower confidence limit on the benchmark dose ($BMDL_{10}$) to determine a point of departure for the cancer risk of dimethylarsenic acid in humans.

Research Organization: Critically reviewed epidemiology literature to determine if the effects of lead and mercury on human neurological development are additive or synergistic.

Flame Retardant Company: Provided toxicological, database, and risk analysis support for product development of phosphorus-based flame retardant chemicals with low potential for health and environmental impact.

Chemical Company: Contributed to the drafting of an evidence-based argument submitted to US EPA regarding whether acetonitrile should be delisted from the US EPA's Toxic Release Inventory.

Smelter: Reviewed general and company-specific historical knowledge of human and ecological toxicity of smelter contaminants.

Manufacturer: Summarized the cancer and non-cancer effects of cobalt and nickel for a company that fabricates tungsten heavy metal alloy products.

Publications – *Journal Articles*

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Haber, LT; Prueitt, RL; Goodman, JE; Thakali, S; Patterson, J. 2010. "Report of a Workshop: An Evaluation of Hypotheses for Determining the Carcinogenic Potential of Nickel-containing Substances." Presented at the Society for Risk Analysis Annual Meeting, Salt Lake City, Utah, December 5-8. 1p.

Goodman, JE; Kerper, LE; Petito Boyce, C; Prueitt, RL; Rhomberg, LR. 2010. "Weight of Evidence Exposures Analysis of Exposures to Dioxins and Dioxin-like Compounds and Associations with Thyroid Hormone Levels during Early Development." Presented at the Society of Toxicology (SOT) 49th Annual Meeting, Salt Lake City, UT. 1p.

Prueitt, RL; Goodman, JE; Thakali, S. 2010. "An Evaluation of Hypotheses for Determining the Carcinogenic Potential of Nickel-containing Substances." Presented at the Society of Toxicology (SOT) 49th Annual Meeting, Salt Lake City, UT. 1p.

Dodge, DG; Goodman, JE; Beck, BD. 2010. "Weight-of-evidence Analysis of Hydroquinone and Leukemia." *Toxicologist* 114(1):111-112. Abstract No. 514. Presented at the Society of Toxicology (SOT) 49th Annual Meeting, Salt Lake City, UT, March 7-11.

Thakali, S; Chandalia, JK; Seeley, M; Goodman, JE. 2010. "Meta-analysis of Nitrogen Dioxide Effects on Airway Hyper-responsiveness in Asthmatics: Effects of the Types of Airway Challenge, Exposure Methods, and Activites During Exposure." *Toxicologist* 114(1):401. Abstract No. 1886. Presented at the Society of Toxicology (SOT) 49th Annual Meeting, Salt Lake City, UT, March 7-11.

Goodman, JE; Chandalia, JK; Thakali, S; Seeley, M. 2009. "Meta-analysis of Controlled Nitrogen Dioxide Exposure Studies Assessing Airway Hyper-responsiveness in Asthmatics." Presented at the Society for Risk Analysis Annual Meeting, Baltimore, MD, December 6-9.

Goodman, JE; Rhomberg, LR; Pruiett, RL. 2009. "A Weight-of-evidence Analysis of the Human Carcinogenicity of Styrene." Presented at the Annual Meeting of the American College of Epidemiology, Silver Spring, MD, September 13-15.

Prueitt, RL; Goodman, JE; Dodge, DG; Thakali, S. 2009. "A Weight-of-evidence Evaluation of the Carcinogenicity of Soluble Nickel." *Toxicologist* 108(1):328. Abstract No. 1582. Presented at the Society of Toxicology (SOT) 48th Annual Meeting, Baltimore, MD, March 15-19.

Goodman, JE; Rhomberg, LR. 2009. "A Weight-of-evidence Approach to Evaluating Epidemiological Data on Styrene Cancer Hazards." *Toxicologist* 108(1):248. Abstract No. 1190. Presented at the Society of Toxicology (SOT) 48th Annual Meeting, Baltimore, MD, March 15-19.

Beyer, LA; Beck, BD; Goodman, JE. 2009. "Background Rates of Lymphomas/Leukemias and Leydig Cell Tumors in Sprague Dawley Rats." *Toxicologist* 108(1):421. Abstract No. 2028. Presented at the Society of Toxicology (SOT) 48th Annual Meeting, Baltimore, MD, March 15-19.

Goodman, JE; Bailey, LA; Beck, BD. 2008. "Recent Occupational Studies of Manganese and their Bearing on the Reference Concentration (RfC)." Presented at the Annual Meeting of the American College of Epidemiology, Tucson, AZ, September 14-16.

Aylward, LL; Goodman, JE; Charnley, G; Rhomberg, LR. 2008. "A Margin of Exposure Approach to Assessment of Non-cancer Risks of Dioxins Based on Human Exposure and Response Data." Presented at the 28th International Symposium on Halogenated Persistent Organic Pollutants, Birmingham, England, August 17-22.

Goodman, JE; Bailey, LA; Beck, BD. 2008. "Recent Studies of the Health Effects of Manganese and the Implications for the Reference Concentration (RfC)." *Toxicologist* 102. Abstract No. 1787. Presented at the Society of Toxicology (SOT) 47th Annual Meeting, Seattle, WA, March 16-20.

Dodge, DG; Haber, LT; Kopras, E; Goodman, JE; Pagan, I; Gift, JS; Rhomberg, LR. 2008 "Case Studies for the Development of a Pathophysiological Progression Model." *Toxicologist* 102(1):245. Abstract No. 1189. Presented at the Society of Toxicology (SOT) 47th Annual Meeting, Seattle, WA, March 16-20.

Beyer, LA; Slayton, TM; Goodman, JE; Greenberg, GI; Hudson, TC; Sax, SN; Beck, BD. 2008 "Evaluation of Key Information Informing the Basis of EPA's New Recommended Ozone Standard." *Toxicologist* 102. Abstract No. 1462. Presented at the Society of Toxicology (SOT) 47th Annual Meeting, Seattle, WA, March 16-20.

Pagan, I; Haber, LT; Rhomberg, LR; Goodman, JE; Dodge, DG; Foureman, GL. 2007. "Development of a Pathophysiological Progression Model for Selected Endpoints." Presented at the Society for Risk Analysis Annual Meeting, San Antonio, TX, December 9-12.

Haber, LT; Rhomberg, LR; Goodman, JE; Dodge, DG; Zhao, QJ; Pagan, I; Foureman, GL. 2007. "Considerations Regarding the Structure and Application of a Pathophysiological Progression Model." Presented at the Society for Risk Analysis Annual Meeting, San Antonio, TX, December 9-12.

Dodge, DG; Zhao, QJ; Haber, LT; Goodman, JE; Pagan, I; Foureman, GL; Rhomberg, LR. 2007. "Case Studies for the Development of a Pathophysiological Progression Model: Fatty Liver." Presented at the Society for Risk Analysis Annual Meeting, San Antonio, TX, December 9-12.

Mechanic, LE; Luke, BT; Goodman, JE; Chanock, SJ; Harris, CC. 2007. "Polymorphism Interaction Analysis (PIA): A Method for Investigating Complex Gene-gene Interactions." Presented at Approaches to Complex Pathways in Molecular Epidemiology, Santa Ana Pueblo, NM, May 30-June 2.

Goodman, JE; Gaylor, D; Beyer, LA; Rhomberg, LR; Beck, BD. 2007. "MTBE is Not Associated with a Statistically Significant Increase in Leydig Cell Tumors in Sprague-Dawley Rats." *Toxicologist* 96(1):339. Abstract No. 1637. Presented at the Society of Toxicology (SOT) 46th Annual Meeting, Charlotte, NC, March 25-29.

Rhomberg, LR; Goodman, JE; McConnell, EE; Sipes, IG; Witorsch, RJ; Slayton, TM; Yu, CJ; Lewis, AS. 2007. "An Updated Weight of the Evidence Evaluation of Reproductive and Developmental Effects of Low Doses of Bisphenol A." *Toxicologist* 96(1):427. Abstract No. 2067. Presented at the Society of Toxicology (SOT) 46th Annual Meeting, Charlotte, NC, March 25-29.

Beyer, LA; Goodman, JE; Seeley, MR; Slayton, TM; Beck, BD. 2007. "Carcinogenicity Evaluation of Methyl Tert-butyl Ether (MTBE)." *Toxicologist* 96(1):325. Abstract No. 1569. Presented at the Society of Toxicology (SOT) 46th Annual Meeting, Charlotte, NC, March 25-29.

Zanetti, KA; Kahn, MA; Bowman, ED; Goodman, JE; Chanock, S; Harris, CC. 2007. "Compromised Complement System Increases Colon Cancer Susceptibility in African-Americans." *Proc. Am. Assoc. Cancer Res.* 48.

Schoen, A; Eldan, M; Goodman, JE; Beck, BD. 2006. "DMA_V-induced Bladder Tumors: Unique Rat Susceptibility." *Toxicologist* 90(1):448. Abstract No. 2186. Presented at the Society of Toxicology (SOT) 45th Annual Meeting, San Diego, CA, March 5-9.

Goodman, JE; Harris, CC. 2005. "GST-T1, p53, and CASPASE-8 Polymorphisms and Colon Cancer Risk." Presented at the Society of Toxicology (SOT) 44th Annual Meeting, New Orleans, LA, March 6-10.

Goodman, JE; Bowman, E; Chanock, S; Harris, CC. 2004. "Arachidonate Lipoxygenase (ALOX) and Cyclooxygenase (COX) Polymorphisms and Colon Cancer Risk." *Proc. Am. Assoc. Cancer Res.* 44.

Goodman, JE; Bowman, E; Chanock, S; Harris, CC. 2004. "ALOX & COX Polymorphisms & Colon Cancer Risk: Association with ALOX-5 G-1753A & G-1700A." Center for Cancer Research Fourth Annual Fellows and Young Investigators Retreat, Williamsburg, VA, March 9-11.

Sullivan, AE; Goodman, JE; Silber, PM; Yager, JD. 2004. "Correlation Between Catechol-O-methyltransferase Genotype and Phenotype." *Toxicologist* 88.

Sullivan, AE; Goodman, JE; Yager, JD. 2003. "Catechol-O-methyltransferase (COMT) and Catechol Estrogens in Breast Cancer." Presented at the 226th National American Chemical Society Division of Toxicology Meeting, New York, NY, September 7-11.

Goodman, JE; Sullivan, AE; He, P; Silber, PM; Yager, JD. 2003. "Correlation Between Catechol-O-methyltransferase Genotype and Phenotype." AACR Molecular and Genetic Epidemiology of Cancer Conference Proceedings, Waikoloa, HI, January 18-23.

Goodman, JE; He, P; Yager, JD. 2002. "COMT Polymorphism and Catechol Estrogen Methylation in Breast Epithelial Cell Lines." *Proc. Am. Assoc. Cancer Res.* 45.

Goodman, JE; He, P; Yager, JD. 2001. "Kinetics of High and Low Activity Human Catechol-O-methyltransferase Activity for Catechol Estrogen Methylation." *Proc. Am. Assoc. Cancer Res.* 42.

Lavigne, JA; Goodman, JE; Fonong, T; Odwin-DeCosta, S; He, P; Yager, JD. 2001. "The Effects of Catechol-O-methyltransferase Inhibition on Catechol Estrogen Levels and Oxidative DNA Damage in MCF-7 Cells." *Proc. Am. Assoc. Cancer Res.* 42.

Goodman, JE; Lavigne, JA; Hengstler, JG; Helzlsouer, KJ; Yager, JD. 2000. "Catechol-O-methyltransferase Polymorphism Not Associated with Ovarian Cancer." *Proc. Am. Assoc. Cancer Res.* 41.

Chen, JQ; Delannoy, M; Goodman, JE; Lavigne, JA; Odwin, SE; He, P; Yager, JD. 2000. "Enhanced Transcript Levels of Mitochondrial Genes, Respiratory Chain Activity, Bcl-2 Levels and Glutathione Distribution by Ethinyl Estradiol in Female Rat Hepatocytes." *Proc. Am. Assoc. Cancer Res.* 41.

Invited Lectures, Testimony, and Other Presentations

"Food Safety." Presented at Gradient's Trends 75 Webinar, June 19, 2019.

"Evaluating Adverse Drug Effects in Pharmacoepidemiology Studies." Presented at Gradient's Trends 71 Webinar, February 28, 2018.

"Study Quality and Evidence Integration in the IRIS Process." Presented at the National Academies of Science, Engineering, and Medicine Review of Advances Made to the IRIS Process Workshop, Washington, DC, February 1, 2018.

"Challenges for the Agrochemical Industry." Presented at the International Society of Exposure Science (ISES) Annual Conference, Research Triangle Park, NC, October 17, 2017.

"National Ambient Air Quality Standards." Presented at the Institute for Humane Studies and the Mercatus Center Risk Analysis Seminar, Portland, OR, June 27, 2016.

"Why Epidemiologists Need Toxicologists (and Vice Versa)." Presented at the CropLife America & RISE 2016 Spring Conference, Arlington, VA, April 14, 2016.

"Systematic Review." Presented at the Asphalt Institute Spring Meeting, Nashville, TN, April 13, 2016.

"An Introduction to Meta-analysis." Presented at the Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, April 5, 2016.

"Evaluation of Scoring Approaches and Consideration of an Independent Approach." Presented at the 40th Annual Winter Meeting of Toxicology Forum, Washington, DC, February 10, 2016.

"Extrapolation of Controlled Human Study Results to the US Population." Presented at the Society for Risk Analysis Annual Meeting, December 6-9, 2015.

"How a Sensitivity Analysis of Raw Data Would Strengthen EPA's Chlorpyrifos Risk Assessment." Presented at the Society for Risk Analysis Annual Meeting, December 6-9, 2015.

"The Future of Toxicology." Presented at the SPI Food Packaging Summit, November 10, 2015.

"Evaluation of Evidence EPA Cites in Support of the Ozone National Ambient Air Quality Standards for Ozone Proposed Rule." Presented at the 2015 Env-vision Conference, May 12-14, 2015.

"The Scientific Evidence Does Not Support the Administrator's Proposed Conclusion that the Primary Ozone NAAQS Should Be Between 0.065 and 0.070 ppm." Testimony at the US Environmental Protection Agency (EPA) Public Hearing on the Proposed Updates to the National Ambient Air Quality Standards (NAAQS) for Ground-level Ozone, Washington, DC, January 29, 2015.

"Risk-of-bias Analysis: Case Study of Pleural Plaques and Lung Function." Presented at the Society for Risk Analysis Annual Meeting, December 7-10, 2014.

"Is a Stricter Ozone NAAQS Supported by the Science?" Presented at the Association of Battery Recyclers 2014 Fall Meeting, October 16, 2014.

"NexGen: Are We There Yet?" Presented at the 2014 Health Effects Institute Annual Conference, May 6, 2014.

"Hypotheses and Weight-of-evidence Frameworks." Presented at the 53rd Annual Society of Toxicology Meeting, March 23, 2014.

"When an Association Indicates Causation." Presented at the 53rd Annual Society of Toxicology Meeting, March 23, 2014.

"Rethinking Meta-analysis: Applications for Air Pollution Data and Beyond." Presented at the Society for Risk Analysis Annual Meeting, December 8-11, 2013.

"Incorporation of Weight-of-evidence Best Practices in the National Ambient Air Quality Standards Review Process." Presented at the Society for Risk Analysis Annual Meeting, December 8-11, 2013.

"Bradford Hill Viewpoints and Hypothesis-based Weight of Evidence." Presented at the Society for Risk Analysis Annual Meeting, December 8-11, 2013.

"Rethinking Meta-analysis: Applications for Air Pollution Data and Beyond." Presented at the Harvard Systematic Review Symposium, October 3-4, 2013.

"A Hypothesis-based Weight-of-evidence Approach to Evaluate the Human Carcinogenicity of Isocyanates." Presented at the Isocyanates & Health Conference, April 3, 2013.

"Using Epidemiology to Analyze Neurodevelopmental Toxicity Across Species." Presented at the 52nd Annual Society of Toxicology Meeting, March 14, 2013.

"Designing Case-control Studies." Presented at the New York Medical College School of Health Science & Practice, February 21, 2013.

"Designing Cohort Studies." Presented at the New York Medical College School of Health Science & Practice, February 11, 2013.

"Systemic Reviews and Meta-analysis." Presented in the Use of Expert Elicitation to Inform Decisionmaking Workshop, Society for Risk Analysis 2012 Annual Meeting, San Francisco, CA, December 2012.

"Survival Analysis & Meta-analysis." Presented at the New York Medical College School of Health Sciences & Practice, November 8, 2012.

"Overview of the Controversy Surrounding Bisphenol A Toxicity." Presented at the Biological Relevance and Health Concerns of Genotoxicity Conference, Newark, DE, October 24, 2012.

"Biological & Statistical Interaction." Presented at the New York Medical College School of Health Sciences & Practice, October 11, 2012.

Testimony regarding "EPA's Assessment of Health Benefits Associated with $PM_{2.5}$ Reductions for the Final Mercury and Air Toxics Standards." Presented to the Subcommittee on Energy and Power, United States Congressional Committee on Energy and Commerce American Energy Initiative Hearing, Washington, DC, February 8, 2012.

"Synthesizing Evidence: An Introduction to Systematic Reviews, Meta-analysis, and Expert Elicitation." Presented at the Society for Risk Analysis 2011 Annual Meeting, Charleston, SC, December 2011.

"Why Meta-analyses and Systematic Reviews Come to Different Conclusions About Formaldehyde and Leukemia." Presented at the Society for Risk Analysis 2011 Annual Meeting, Charleston, SC, December 2011.

"The Weight of Evidence Regarding Bisphenol A and Human Health." Presented at the Society for Risk Analysis New England Chapter Meeting, Harvard School of Public Health, Boston, MA, December 2011.

Testimony regarding Air Quality and Children's Health. Presented to the Subcommittee on Clean Air and Nuclear Safety and the Subcommittee on Children's Health and Environmental Responsibility, United States Senate Committee on Environment and Public Works Hearing, Washington, DC, June 8, 2011.

"On Babies, Bottles, and Bisphenol A." Presented at the Defense Research Institute Toxic Torts and Environmental Law Seminar, New Orleans, LA, February 2011.

"Bisphenol A and Human Health: What Does the Science Show?" Presented at the Policy of BPA Event, American Enterprise Institute, Washington, DC, June 2010.

"Human Health Risk Assessment." Presented at the Massachusetts Maritime Academy, Buzzards Bay, MA, May 2010.

"The Science Behind the Reconsideration of the Ozone NAAQS." Presented as part of the webinar, How Will EPA's New Ozone Standards Affect Your Community? April 2010.

"Weight-of-evidence Analysis of Reproductive and Developmental Health Effects of Bisphenol A." Presented at the Nypro Bisphenol A Information Event, Clinton, MA, March 2010.

"Everyday Exposures to Bisphenol A Do Not Cause Adverse Health Effects in Humans." Presented at the Harvard Extension School, Environmental Management Program, Cambridge, MA, March 2010.

"New Developments in Exploratory Research on 'Estrogenicity' – Progress Toward Validation of New Endpoints and Testing Methods." Presented at the Society of the Plastics Industry's Food, Drug, and Cosmetic Packaging Materials Committee Winter Conference, Atlanta, GA, December 2009.

"Avoiding Potential Long-term Liability through Risk Assessment for Material Selection." Presented at the 21st Annual Product Liability Conference, University of Wisconsin-Madison, Madison, WI, September 2009.

"Epidemiology and Risk Assessment." Presented at the Annual Meeting of the American College of Epidemiology, Silver Spring, MD, September 2009.

"Risk Assessment Techniques for Materials Selection." Presented as part of the Strategies for Substance Replacement in Products Webinar, May 2009.

"Investigation of Potential Cancer Clusters in Northampton, MA." Presented at the John F. Kennedy School, Northampton, MA, September 2008.

"Did Chemicals in Your Product Cause John Doe's Disease? The Toxicologist Speaks." Presented at the 20th Annual Product Liability Conference, University of Wisconsin-Madison, Madison, WI, September 2008.

"Investigation of Potential Disease Clusters in Northampton, MA: Progress Update." Presented at the Robert K. Finn Ryan Road School, Northampton, MA, October 2007.

"Investigation of Potential Disease Clusters in Northampton, MA." Presented at the Robert K. Finn Ryan Road School, Northampton, MA, May 2007.

"Single Nucleotide Polymorphisms (SNPs), Inflammation and Colon Cancer." Presented at the Cancer Prevention Fellowship Program Seminar Series, NCI, Rockville, MD, February 2004.

"The Epidemiology of Inflammation and Colon Cancer." Presented at the Laboratory of Human Carcinogenesis Meeting, NCI, Bethesda, MD, December 2003.

"Macrophage Migration Inhibitory Factor (MIF) in Inflammatory Bowel Diseases." Presented at the Laboratory of Human Carcinogenesis International Workshop, Bethesda, MD, September 2003.

"Chronic Inflammation and Colon Cancer Risk." Presented at the Cancer Prevention Fellowship Program Seminar Series, NCI, Rockville, MD, June 2003.

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November 13, 2020

[via email: knott.steven@epa.gov]

U.S. Environmental Protection Agency
Office of Science Coordination and Policy (7201M)
1200 Pennsylvania Ave. NW.
Washington, DC 20460-0001

Re: Nomination of John Curley PhD., to the Science Advisory Committee on Chemicals

Dear:

It is my privilege to recommend John J. Curley, PhD as a candidate for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). I, personally, approached Dr. Curley as a prospective candidate based on our last five-years of working together in the nanotechnology industry. Over the years, his work has contributed to the success of numerous patents, products and most importantly, the mentoring of junior scientists. I have over twenty-five-year experience in the environmental, health and safety realm and have worked with numerous professionals. When I come across such examined expertise that Dr. Curley possess, I want to do what I can to ensure the individual has every possibility to realize the depth of their potential contribution to the scientific community.

Dr. Curley's has an exceptional understanding of his field and more importantly the innate ability to communicate complex chemistry solutions for our pilot plant. As a senior scientist Dr. Curley has shown ongoing initiative, leadership and dedication through his support of our Safety Excellence Team over the years, and is the designated Company Chemical Officer. He actively participates in the evaluation of material hazards used in research and development, and development of safe processes for the high-heat, high-pressure, chemical processes used by Nanosys to manufacture of quantum dots.

I highly recommend Dr. Curley for SACC. Thank you for your consideration.

Best regards,

Eric Fuller
Director of Environmental, Health, Safety and Sustainability
Nanosys, Inc.
Email: efuller@nanosysinc.com

Michael J. Kosnett, MD, MPH
Diplomate, American Boards of Internal Medicine,
Preventive Medicine (Occupational Medicine), and Medical Toxicology

Toxicology Consulting Office: 4495 Hale Parkway, Suite 301
Denver, CO 80220
(303) 571-5778
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April 13, 2020

Steven M. Knott, MS,
Designated Federal Officer (DFO)
Office of Science Coordination and Policy (7201M),
Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460.

Re: Nomination of Daniel A. Goldstein, MD to the TSCA Science Advisory Committee on Chemicals

Dear Mr. Knott:

I am pleased to nominate Daniel A. Goldstein, M.D. for appointment to the Toxic Substances Control Act (TSCA), Science Advisory Committee on Chemicals (SACC). I have known Dr. Goldstein for over 25 years as a colleague in the field of medical toxicology and occupational and environmental health. He has extensive experience concerning the assessment and management of clinical and environmental risks posed by chemicals in commerce. After completing a residency in Pediatrics and a fellowship in Clinical Pharmacology, Dr. Goldstein became board certified in Pediatrics, Medical Toxicology and Clinical Pharmacology. After several years as a clinical consultant in private practice, he began work as a clinical toxicologist for the Monsanto Company at its headquarters in St. Louis in 1998. Over the course of 20 years of work at Monsanto, he became a Monsanto Distinguished Science Fellow. He retired from Monsanto in 2018, and now serves as an independent consultant in Medical, Industrial, and Environmental Toxicology based out of his office in Chesterfield, MO.

Dr. Goldstein is an Adjunct Professor of Emergency Medicine, Washington University School of Medicine in St. Louis, and a member of the Sub-board of Medical Toxicology of the American Board of Pediatrics, the professional body that oversees board certification in the specialty of Medical Toxicology for potential diplomates who have been previously board certified in Pediatrics.

As detailed in his attached Curriculum Vitae (which also serves as a biosketch), Dr. Goldstein has served on numerous federal, state, and international advisory committees and work groups engaged in the evaluation of the toxicology and risk management of industrial chemicals and

pesticides. Moreover, for his entire 21 years at Monsanto, he was a member of the FIFRA 6(a)2 and TSCA 8(e) adverse event reporting committee. As such, he is highly familiar with the practical implementation aspects of reporting data for both FIFRA and TSCA. This experience will enable him to offer invaluable assistance to SACC in reviewing multiple aspects of TSCA draft documents and reports.

I am confident that the extraordinary breadth of knowledge, accomplishment, and independent critical thought that characterizes Dr. Goldstein's approach to science and medicine will enable him to offer exemplary service to the TSCA SACC.

Sincerely,

Michael J. Kosnett, MD, MPH, FACMT
Associate Clinical Professor
Division of Clinical Pharmacology & Toxicology
Department of Medicine
University of Colorado School of Medicine, and
Department of Environmental and Occupational Health
Colorado School of Public Health

ENDOCRINE SOCIETY
Hormone Science to Health

April 19, 2020

Steven Knott
Office of Science Coordination and Policy
Environmental Protection Agency
1200 Pennsylvania Ave. NW.
Washington, DC 20460-0001

Re: Docket Number: EPA-HQ-OPPT-2020-0135 FRL-10006-50

Dear Mr. Knott,

On behalf of the Endocrine Society, I appreciate the opportunity to nominate Heather Patisaul, PhD, to serve on the EPA Science Advisory Committee on Chemicals (SACC). Founded in 1916, the Endocrine Society is the world's oldest, largest, and most active organization dedicated to the understanding of hormone systems and the clinical care of patients with endocrine diseases and disorders. The Society's membership of over 18,000 includes researchers who are making significant contributions to our understanding of the effects of exposures to manufactured chemicals that interfere with hormone systems – a new area of science investigating endocrine disrupting chemicals (EDCs). To ensure that the SACC will be able to provide relevant advice based on the latest endocrine science, it will be important to include scientists on the SACC with expertise on EDCs and hormonal systems.

Dr. Patisaul is a leading expert on the mechanisms by which EDCs alter neuroendocrine pathways in the brain related to sex specific physiology and behavior. She is specifically interested in phytoestrogens, flame retardants, and BPA (Bisphenol A). In addition to her research expertise, Dr. Patisaul has served on numerous national and international expert panels, including several task forces and committees for the Endocrine Society. We enthusiastically submit Dr. Patisaul's nomination for the EPA to consider as it builds the SACC; her CV and full biosketch are included as separate attachments.

Sincerely,

Gary D. Hammer, MD, PhD
President
Endocrine Society

2055 L Street NW
Suite 600
Washington, DC
20036

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F. 202.736.9705

endocrine.org

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Heather B Patisaul

eRA COMMONS USER NAME (credential, e.g., agency login):hpatisaul

POSITION TITLE: Associate Dean for Research and Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
University of Florida, Gainesville, FL	B.S.	1991-1995	Zoology
Emory University, Atlanta, GA	Ph.D.	1996-2001	Ecology/Evolution
Yerkes National Primate Research Center, Emory University	Postdoc.	2001-2004	Behavioral Neuroscience
CIIT Centers for Health Research, RTP, NC	Postdoc.	2004-2005	Neurotoxicology

A. Personal Statement

I have a well-established history of interdisciplinary research, teaching, and mentoring in environmental neuroscience and am an innovator in the field of neuroendocrine disruption. My research explores the mechanisms by which exposure to endocrine disruptors, during critical windows of development, impacts sex specific neuroendocrine physiology and behavior. Compounds of focus include Bisphenol A (BPA; found in plastics and epoxy resins) phytoestrogens (found in soy-based foods), and fire retardants including the mixture Firemaster 550 (FM 550). Our more recent work focuses on the placenta and how adverse effects on this ephemeral organ can impair brain development. I have published over 80 papers, and given over 70 invited talks, including three keynotes. My track record of research leadership includes promotion to Associate Dean for Research for the College of Sciences in August 2019, and my ongoing and prior work on the NIEHS TARGET II and NIEHS CLARITY-BPA consortia. I have also participated on 15+ national and international expert panels and workshops on health effects associated with neurotoxicants and endocrine disruptors, including the 2012 Workshop on Low Dose Effects of Endocrine Active Chemicals co-organized by the US National Institute for Environmental Health Sciences/NIH and the Joint Research Centre's Institute for Health and Consumer Protection, and the 2010 World Health Organization Expert Panel on the health risks of BPA. I also served on two National Academies of Science Committees, most recently the Committee on Incorporating 21st Century Science into Risk-Based Evaluations. I chaired the 2016 Gordon Research Conference on Environmental Endocrine Disruptors and am a member of multiple societies including the Society of Toxicology and the Endocrine Society where I serve on multiple committees and task forces. Continuously NIH-funded since 2007, I am an NIEHS ONES Awardee, and the co-chair of the Molecular/Cellular-Based Systems and Model Organisms Team of the NCSU Center for Human Health and the Environment (CHHE) at NC State University. I have a robust research program, a diverse network of collaborators, and have proved to be a productive mentor and scholar.

1. Witchey, SK, Fuchs, J, **Patisaul, HB**. (2019) Perinatal Bisphenol A (BPA) Exposure Alters Brain Oxytocin Receptor (OTR) Expression in a Sex- and Region- Specific Manner: a CLARITY-BPA Consortium Follow-up Study. Neurotoxicology. 74:139-148.
2. Rock, KD, Gillera, SE, Devarasetty, P, Horman, B, Birnbaum, LS, Fenton, SE, **Patisaul, HB**. (2019) Sex-specific Behavioral Effects of Developmental Exposure to Tetrabromobisphenol A (TBBPA) in Wistar Rats. Neurotoxicology. 75:136-147.

3. Baldwin, KR, Phillips, AL, Horman, B, Arambula, SE, Rebuli, ME, Stapleton, HM, **Patisaul, HB**. (2017) Sex Specific Placental Accumulation and Behavioral Effects of Developmental FM 550 Exposure in Wistar Rats. Scientific Reports. Aug 2;7(1):7118. doi: 10.1038/s41598-017-07216-6.
4. Phillips AL, Chen A, Rock KD, Horman B, **Patisaul HB**, Stapleton HM. (2016) Transplacental and Lactational Transfer of Firemaster® 550 Components in Dosed Wistar Rats. Toxicol Sci. 153(2):246-257. doi: 10.1093/toxsci/kfw122.
5. Rebuli, ME, **Patisaul, HB** (2016) Assessment of sex specific endocrine disrupting effects in the prenatal and pre-pubertal rodent brain. Steroid Biochemistry & Molecular Biology. Jun;160:148-59.

B. Positions and Honors

Positions and Employment

2005-2006 Research Investigator, CIIT Centers for Health Research, Research Triangle Park, NC
2006-2012 Assistant Professor, Department of Zoology (now Biological Sciences), North Carolina State University, Raleigh, NC
2012-2015 Associate Professor, Department of Biological Sciences, North Carolina State University, Raleigh, NC
August 2015 Professor, Department of Biological Sciences, North Carolina State University, Raleigh, NC
August 2019 Associate Dean for Research, College of Sciences, North Carolina State University, Raleigh, NC

Other Experience and Professional Memberships

1998- Member, Society for Neuroscience
1998- Member, Society for Behavioral Neuroendocrinology
Education Committee (2008 – 2010)
2002- Member, the Endocrine Society
2004- Member, Triangle Consortium for Reproductive Biology
2007 Peer Reviewer of the EPA's Draft Integrated Summary Report for the Pubertal Female Endocrine Disruptor Screening Assay
2007 NIEHS Peer Reviewer – Superfund Basic Research and Training Program
2009 Peer Reviewer for the EPA's Hershberger Immature Male Model Validation
2009 Science Communication Fellow for Environmental Health News
2009 NIEHS Peer Reviewer – Children's Centers (P01 and P20)
2010 NSF Peer Reviewer – Modulation II Spring Panel
2010 Co-editor: Special issue on endocrine disruptors for *Frontiers in Neuroendocrinology*
2010 Member, Society for Toxicology
2010 Panelist, World Health Organization Expert Panel on the health risks of Bisphenol A
2011 Invited Participant, Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) Scientific Vision Workshop on Environment
2011 Invited Participant, National Institute of Environmental Health Sciences (NIEHS) Strategic Planning Stakeholder Community Workshop.
2013 Member of the National Academy of Sciences committee to evaluate the EPA document, State of the Science Evaluation: Nonmonotonic Dose Responses as They Apply to Estrogen, Androgen, and Thyroid Pathways and EPA Testing and Assessment Procedures
2013- Associate Editor for the journal *Endocrine Disruptors*
2014 Guest Associate Editor for the journal *Endocrinology*
2014 Vice Chair of the GRC on Environmental Endocrine Disruptors
2015- Member of the ICER study section for NIH
2015- Member of the National Academy of Sciences committee on Incorporating 21st Century Science Into Risk-Based Evaluations
2016- Member of the Endocrine Society's *Advocacy, Public Outreach and Communication Committee*
2016 Chair of the GRC on Environmental Endocrine Disruptors
2020 Chair of the Endocrine Society's *Advocacy, Public Outreach and Communication Committee*

Honors

1999 Two-year ARCS Scholar
2002 Young Investigator Award, Workshop on Steroid Hormones and Brain Function

2007 NIEHS Outstanding New Environmental Scientist (ONES) Award
2009 Science Communication Fellow for Environmental Health News
2013 NC State University Faculty Excellence Scholar
2015 NC State University "Thank a Teacher" Award (student-selected)
2017 Outstanding Reviewer for Endocrinology
2019 NC State University Alumni Association Outstanding Research Award

C. Contributions to Science

1. **Phytoestrogens are endocrine disruptors in the *adult* brain:** I was the first to demonstrate that phytoestrogens could antagonize estrogen in the adult brain. My early publications showed that isoflavone and phytoestrogen mixtures in soy diet or commercially available dietary supplements could antagonize estrogen via ERα and ERβ in several regions of the rodent brain. I further showed these molecular effects are accompanied by disrupted estrogen-dependent behaviors including aspects of female proceptive and receptive reproductive behavior. Portions of this work were funded via an NIMH NRSA, and summarized in a book chapter on endocrine disruptors. These findings significantly contributed to general awareness that soy is a hormonally active food and can interfere with estrogen-sensitive endpoints in animal models and estrogen-sensitive conditions such as breast cancer. At the time I initiated these contributions, little was known about the functional role of ERβ. I was able to demonstrate that ERβ expression is estrogen-sensitive and it mediates estrogen-dependent release of oxytocin and vasopressin. For this collective body of work, I received a Young Investigator Award in 2002 from the Workshop on Steroid Hormones and Brain Function. I was also invited to present a retrospective of this work for the 2016 meeting of the Scottish Section of the Nutrition Society.

a) **Patisaul, HB**, Whitten, PL and Young, LJ (1999). Regulation of estrogen receptor beta mRNA in the brain: Opposite effects of 17β-estradiol and the phytoestrogen, coumestrol. Molecular Brain Research. 67:165-171.
b) **Patisaul, HB**, Dindo, M, Whitten, PL, Young, LJ (2001). Soy isoflavone supplements antagonize reproductive behavior and ERα- and ERβ- dependent gene expression in the brain. Endocrinology. 142:2946-2952.
c) **Patisaul, HB**, Melby, M, Whitten, PL, Young, LJ (2002). Genistein affects ERβ- but not ERα-dependent gene expression in the hypothalamus. Endocrinology. 143:2189-2197.
d) **Patisaul, HB** (2016). Endocrine disruption by dietary phyto-oestrogens: impact on dimorphic sexual systems and behaviours. Proc Nutr Soc. Jul 8:1-15. [Epub ahead of print]

2. **Phytoestrogens are endocrine disrupting in the *developing* brain:** Building on the contributions described above, I demonstrated that soy and soy phytoestrogens are endocrine disrupting in the developing brain. Through this work I showed that this frequently results in the abrogation or elimination of sex differences in neuroendocrine pathways fundamental to sexually dimorphic behaviors. These seminal findings were cited in the 2010 NTP-CERHR Monograph on Soy Infant Formula and have heightened awareness of the potential health consequences of soy-based foods. This has shifted public perception of soy, particularly soy formula. These studies had broad, cross-cutting impacts because they identified novel mechanisms by which endocrine disruptors can alter the developing brain, and yielded critical insight regarding how those neural impacts translate to behavioral outcomes. Understanding how soy phytoestrogens interact with anthropogenic endocrine disruptors including Bisphenol A (BPA) to influence neurodevelopment remains a part of my work. These contributions have been supported by an NIEHS ONES award in 2007, and an NIEHS R21.

a) **Patisaul, HB**, Fortino, AE, Polston, EK (2006). Neonatal genistein or bisphenol-A exposure alters sexual differentiation of the AVPV. Neurotoxicology and Teratology. 28(1):111-118.
b) **Patisaul, HB**, Fortino, AE, Polston, EK (2007). Differential disruption of nuclear volume and neuronal phenotype in the preoptic area by neonatal exposure to genistein and Bisphenol-A. Neurotoxicology. 28(1):1-12.
c) **Patisaul, HB**, Bateman, HL (2008). Neonatal exposure to endocrine disrupting compounds or an ERβ agonist increases adult anxiety and aggression in male rats. Hormones and Behavior. 53(4): 580-588.
d) **Patisaul, HB**, Jefferson, WN. (2010). The pros and cons of phytoestrogens. Frontiers in Neuroendocrinology 31(4): 400-419. [*Was one of the top 10 most frequently downloaded papers from this journal in 2010*]

3. **BPA (bisphenol a) is an endocrine disruptor in the developing hypothalamus and alters sexually dimorphic pathways fundamental to reproduction and reproductive maturation:** I pioneered understanding of Bisphenol A (BPA)-related effects in the developing brain. In conjunction with my fundamental mechanistic work investigating ER-mediated sexual differentiation of neuroendocrine systems, I was the first to show that BPA exposure, during critical windows of development, can alter sexually dimorphic hypothalamic pathways fundamental to sex-specific physiology and behavior. For the first time, my lab demonstrated that disrupted organization of kisspeptin and related pathways may be a mechanism by which BPA and other endocrine disruptors can accelerate female puberty. As part of this work we were the first to map kisspeptin gene expression in both sexes across neonatal development, contributing fundamental information regarding the ontogeny of this sexually dimorphic signaling pathway. This work was supported by an NIEHS ONES award in 2007 and has substantially impacted regulatory policy, in the US and abroad, related to endocrine disrupting compounds and understanding of how exogenous chemicals impacts the fetal basis of adult disease. Importantly, through collaborative efforts with the FDA/NCTR, funded in part by an NIEHS U01, we have shown that "low dose" prenatal BPA can alter the sex-specific expression of ERα and ERβ in the neonatal brain.

a) Losa, SM, Todd, KL. Sullivan, A, Cao, J, Mickens, JA, **Patisaul, HB.** (2011). Neonatal exposure to genistein adversely impacts the ontogeny of hypothalamic kisspeptin signaling pathways and ovarian development in the peripubertal female rat. Reproductive Toxicology. 31(3):280-289.
b) Cao, J, **Patisaul, HB**. (2011). Sexually dimorphic expression of hypothalamic estrogen receptors α and β and Kiss1 in neonatal male and female rats. Journal of Comparative Neurology 519(15):2954-2977.
c) Losa-Ward, SM, Todd, KL, McCaffrey, KA, **Patisaul, HB**. (2012) Disrupted organization of RFamide pathways in the hypothalamus is associated with advanced puberty in female rats neonatally exposed to Bisphenol A (BPA). Biology of Reproduction. 87(2):28
d) Rebuli, ME, Cao, J, Sluzas, E, Delclos, KB, Camacho L, Lewis SM, Vanlandingham MM, **Patisaul HB**. (2014) Investigation of the Effects of Subchronic Low Dose Oral Exposure to Bisphenol A (BPA) and Ethinyl Estradiol (EE) on Estrogen Receptor Expression in the Juvenile and Adult Female Rat Hypothalamus. Toxicological Sciences. 140(1):190-203.

4. **Endocrine disruption of the social brain: emerging contaminants and animal models:** I am developing new model systems for characterizing impacts of chemical exposures on social behaviors and the neurophysiological systems underlying sociality. A major barrier to understanding environmental contributions to social disorders is the limited capacity of traditional animals to model human social traits. We are pioneering the development of the prairie vole (*Microtus ochrogaster*) as a model organism to address this key gap in environmental endocrine disruption. Prairie voles are a pro-social, well established animal model for exploring the etiology of ASD but relatively unfamiliar to toxicologists and others seeking to understand how environmental contaminants contribute to human psychiatric disease. In conjunction with this work, we are examining how emerging contaminants, including fire retardants, may contribute to disruption of social behavior and their underlying neural pathways particularly oxytocin and vasopressin signaling.

a) Rebuli, ME, Gibson, P, Rhodes, CL, Cushing, BS, **Patisaul, HB**. (2016). Sex differences in microglial colonization and vulnerabilities to endocrine disruption in the social brain. General and Comparative Endocrinology. *Epub ahead of print*
b) **Patisaul, HB**, Sullivan, AW, Radford, ME, Walker, DM, Adewale, HB, Bozena, W, Coughlin, JL, Buckley, B, Gore, AC. (2012) Anxiogenic effects of low-dose developmental Bisphenol A (BPA) exposure are associated with gene expression changes in the adolescent amygdala and mitigated by soy diet in rats. PLoS One. 7(9):e43890
c) Sullivan, AW, Elsworth, CB, Stetzik, LA, Perry, A, *D'Addezio, AS,* Cushing, BS, **Patisaul, HB**. (2014). A novel model for neuroendocrine toxicology: Neurobehavioral effects of BPA. Endocrinology. 155(10):3867-3881. [*cover article*]
d) Filer, D, **Patisaul, HB,** Schug, T, Reif, D, Thayer, K. (2014). Test driving Toxcast: Endocrine profiling for 1858 chemicals included in Phase II. Current Opinion in Pharmacology. 19:145-152.

Complete List of Published Work in MyBibliography

http://www.ncbi.nlm.nih.gov/sites/myncbi/heather.patisaul.1/bibliography/40623513/public/?sort=date&direction=ascending

D. Research Support

Ongoing Research Support

R01ES028110 (Patisaul) 08/01/2017 – 07/31/2022
The placenta: a novel target of sex specific neurotoxicity by fire retardants
These studies will establish the degree to which fire retardants sex-specifically bioaccumulate and disrupt placental activity, particularly in regards to impacts on the developing brain. Systems of interest include placental neurotransmitter production and thyroid hormone disruption.

AR160055 (Patisaul) A Department of Defense Autism Research Program, Idea Development Award
Environmental Contaminants and Autism Risk 08/15/2017 - 08/14/2020
This project will use the prairie vole to explore how developmental exposure to fire retardants impact the development of the social brain and behaviors considered relevant to autism spectrum disorder.

Multi-PI and Training Grants

P30 ES025128-01 (Smart) 4/1/2015-3/31/2025
Center for Human Health and the Environment
I am co-chair of the Molecular/Cellular-Based Systems and Model Organisms Team
The aim of the Center for Human Health and Environment is to understand how human health, at both the individual and population level, is impacted by environmental factors and to implement this knowledge to prevent and/or reduce the adverse impacts of environment factors on human health. This grant was just renewed for an additional 5 years.

Completed

U011ES020929-01 (Patisaul) 09/19/2011 – 09/09/2017
Neurobehavioral effects of Bisphenol A across age and sex
This was a consortium project coordinated by NIEHS and NCTR/FDA. It uses\d animals enrolled in the NCTR/FDA chronic BPA exposure study (collectively referred to as the CLARITY project) to test the hypothesis that perinatal exposure to BPA alters sex-specific brain development and behavior.

R56ES022957-01A1 (Patisaul) 09/10/2014 – 09/09/2017
Toxicokinetics and metabolic disrupting actions of the flame retardant mixture FM550
This project was conducted in collaboration with co-PI Scott Belcher and collaborator Heather Stapleton to explore the sex specific impacts of FM550 on metabolic reprogramming. Also of interest was the potential for FM550 to gestationally and lactationally transfer from the dam to the fetus.

R21ES021233-01 (Patisaul) 01/01/2012 – 04/30/2015
Interaction of BPA and soy isoflavones on sociosexual behavior
This project tested the hypothesis that a soy-rich diet can mitigate the adverse sociosexual behavioral effects of perinatal BPA exposure using a rat model.

RO1ES016001-01 (Patisaul) 07/04/2007 – 05/31/2013
Endocrine Disruption of the Hypothalamic Signaling that Regulates Puberty
The major goals of this project were to identify the hypothalamic pathways through which exposure to the endocrine disruptors genistein and BPA advance female puberty.

RC2 ES018736-01 (Swan) 11/01/2009 – 12/01/2012
Prenatal Bisphenol A and Sexually Dimorphic Neurodevelopment
The primary objective of this grant was to determine if early life exposure to low dose BPA alters hypothalamic sexual differentiation.

F31MH012763-01A1 (Patisaul) 04/01/2001 – 10/01/2001
Effect of Phytoestrogens on Estrogen Dependent Processes
Through this training grant (NRSA) I explored how phytoestrogens impacted ERα and ERβ expression in the brain and impacted sexually dimorphic behaviors including reproductive behavior.

Environmental Protection Agency (EPA)
Office of Science Coordination and Policy (OSCP)
Biosketch Instructions, Example, and Fillable Form

Thank you for your interest in peer reviews at the EPA. As part of the process of soliciting, nominating, and recruiting established members of a panel or committee or adding *ad hoc* members for select meetings, OSCP needs a one-page biographical sketch (a.k.a. biosketch).

We are requesting that you provide information that is focused and appropriate to represent your profession, expertise, scientific or related technical experience, and prior panel or committee experience like that of a Federal Advisory Committee (e.g., Scientific Advisory Panel, Scientific Advisory Board, Board of Scientific Counselors, or similar).

The one-page biosketch will be used in the candidate phase of recruiting and identifying members with the credentials that support the potential participation in a particular meeting and, if placed on a panel or committee meeting roster, will be used to document members who contributed to a meeting.

INSTRUCTIONS

The next page provides a description of the information that is requested by field name.

The following page is an example of a properly formated one-page biosketch.

The last section (2 pages) of this document is a fillable form that corresponds to the fields (sections) that comprise the biosketch. *Fields are character limited*. Scroll bars may appear for a field, but once the maximum characters are used the field will accept no additional information. We will receive the form and extract the information to a document for final review and formatting. If more than one page of information is received, we will contact you about any edits made to conform to the single page format.

NOTE: This PDF file is in an "extended format" and can be opened, fields filled in, and the file saved using either Acrobat Reader or Acrobat Professional. In the extended format you will be able to open the file later and edit the document.

BIOGRAPHICAL SKETCH TEMPLATE

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …); additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests. Usually 200-word count.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

EXAMPLE:

Daniel Schlenk, Ph.D.

Affiliation: Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California Riverside, CA.

Expertise: Research on understanding the biochemical factors that influence susceptibility to environmental and natural chemicals with a focus on Aquatic Ecotoxicology.

Education: PhD in Toxicology, Oregon State University. BS Toxicology Northeast Louisiana University.

Experience Summary: Dr. Daniel Schlenk is Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California-Riverside. He is a Fellow of the American Association for the Advancement of Science, and from 2007-2014. Dr. Schlenk was a member of the Board of Directors for the North American Society of Environmental Toxicology and Chemistry (2003-2006). His research interests focus on mechanisms of action of pesticides, PAHs, and emerging compounds in aquatic organisms.

Panel Experience: Dr. Schlenk is currently a member of EPA Science Advisory Committee on Chemicals (SACC; 2017-present); Dr. Schlenk's experience on Federal panels includes: Permanent Member US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Science Advisory Panel (2007-2012) and Chair US EPA FIFRA Science Advisory Panel (2012-2014). USEPA Chemical Safety Advisory Committee (CSAC) (2016) and the Toxic Substances Control Act (TSCA), Draft Risk Assessment Work Plan Chemical for 1-Bromopropane (2016); Ad hoc reviewer National Institute of Environmental Health Sciences (NIEHS) Freshwater Biomedical Centers (1996); US Department of Agriculture (1997-2000) and National Science Foundation (1996-present); National Oceanic and Atmospheric Administration (NOAA) Oceans and Human Health Initiative Grant Review Panel (2005); US EPA Endocrine Disrupter Mixtures Grant Review Panel (2005); US EPA Science Advisory Board, Aquatic Life Criteria Guidelines (2005); NIEHS P30 Core-Center Applications (2008); and NIEHS Superfund Research Program P42 Center Applications (2016). Dr. Schlenk has also served on numerous State and foundation review panels and committees.

Scroll to the top of this document for Instructions, biosketch template, and example. Use the fields below to enter you biosketch information.

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …) ; additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

Maureen K. Little
544 West 50th Street, Apt 1RW
New York, New York 10019
646.632.6138 (office)
(b) (6)
mlittle@health.nyc.gov
(b) (6)

Education

Columbia University, New York, NY
Doctor of Public Health in Environmental Health Sciences--2015
Dissertation: *Measuring Indoor Allergens, Fungal Sensitization, and Associations with Asthma*
Coursework included: Molecular toxicology, fundamental (systemic) toxicology, risk assessment (tutorial), endocrine toxicology, toxicokinetics, molecular biophysics, tutorial in lab working on oncogene/oncoproteins, management of hazardous waste and public health, ten semesters of departmental journal club, and principles of aerobiology
Skills developed: strong research, analytical, science writing, immunoassays (*e.g.,* ELISAs and variants), gene assays, cell culture, environmental sampling methods, and project management skills. Planning, researching, writing, and defending my dissertation enhanced my ability to comprehend and critically evaluate scientific data, effectively manage my project and time, successfully employ statistical and non-statistical analytical techniques and software, and communicate findings to diverse audiences.

Tulane University, New Orleans, LA
Master of Public Health in Epidemiology--2001

Smith College, Northampton, MA
Bachelor of Arts in Biochemistry--1997

Other Experience:

Diplomate, American Board of Toxicology (2015 to present)

Member, EPA Children's Health Protection Advisory Committee (2017 to present)

Recent or Current Professional Experience (*ongoing work)

New York City Department of Health and Mental Hygiene (NYC DOHMH):

Bureau Science Advisor and City Research Scientist, Environmental Disease and Injury Prevention--2004-present

Major toxicology issues investigated by NYC DOHMH team in which I am the toxicologist.

- **Polychlorinated biphenyls in NYC public schools**—at early stages, advised schools in collecting air, dust wipe, and bulk samples, established the sources of PCBs in various school buildings, and characterized potential health risks to students and staff. At later stages, reviewed new sampling data, advise NYC Department of Education, and School Construction Authority on toxicological, chemical, and other health issues, and interacted with the regional Environmental Protection Agency. At all stages, communicated the health risks extensively with the school community and general public.

- ***Dry cleaning and industrial solvents—**Review toxicological and environmental data to assess potential exposure and health effects from solvents such as perchloroethylene, trichloroethene, aromatic solvents (*e.g.*, benzene, toluene, ethylbenzene, and mixed xylenes), and alternative dry cleaning solvents; recommend engineering controls to prevent exposure such as vapor barriers underneath buildings or soil vapor mitigation systems; recommend alternative dry cleaning solvents to be used in collocated dry cleaning establishments (in residential buildings) and proactively measure levels of solvents in such buildings.
- ***NYC Brownfields—**coordinate the health department's review of brownfield projects, which are building developments on sites impacted by prior industrial, commercial, or other sources of chemical contamination. Our role is to look at the methods by which exposures to site contaminants will be minimized and promote strategies for the safety of future building occupants.
- ***Soils of parks, gardens, prisons, and other locations—**assess routes of exposure, determine potential toxicity to exposed persons, implement measures to assist any exposed or affected individuals and prevent future exposures, for a variety of investigations involving detection of elevated concentrations of metals and metalloids (including lead, mercury, arsenic, beryllium, cadmium), polycyclic aromatic hydrocarbons, pesticides, PCBs, or other analytes—usually in shallow soil.
- **Electronic cigarettes—**reviewed existing health and toxicological data on electronic cigarettes and the individual components to characterize the potential risks to electronic cigarette users and bystanders. Additionally identified large data gaps to inform NYC DOHMH departmental policy on these products.
- ***Disinfectants used after Hurricane Sandy and against the COVID-19 and Ebola viruses—** Interpreted existing federal and state guidance as well as the literature on the active ingredients of cleaning and disinfecting products; determined the most effective and least toxic cleaning products and disinfectants to be used on sewage and mold after Hurricane Sandy and against the COVID-19 and Ebola viruses; developed cleaning guidance for impacted residents, businesses, schools, and general public.
- **Synthetic turf—**reviewed industry and peer-reviewed data on artificial turf systems used in NYC parks and elsewhere in place of grass or 'natural turf fields'. Conducted air and bulk sampling, measurements and calculations/limited modeling of heat, usage patterns, and other factors. Assessed the health risks of playing on or consuming synthetic turf components (especially lead and various thermoplastics/recycled tires) to field users from these data. Recommended best practices and materials as well as informed City and policy decisions.
- ***Mold—**advise the public and other City agencies on health effects of fungi as well as how to assess and remediate water and mold problems. Routinely review the literature on mold-related topics (e.g., mycotoxins, fungal allergens, fungal microbiomes), building materials, and best practices for reducing exposure to indoor mold and the sometimes toxic methods of mold remediation.
- "**Fungal Exposure in NYC Homes Damaged by Hurricane Sandy and Respiratory Outcomes in Asthmatic Children**"— Health Department Principal Investigator (Partnering with Columbia University) on this grant funded by the U.S. Centers for Disease Control and Prevention. Our main objectives were to identify the common species of fungi in homes after undergoing remediation due to damage from Hurricane Sandy, demonstrate the association with pre-renovation species profiles, and show clear links between the fungal exposure in the home and increased asthma morbidity in children. Although we tested for allergic sensitization to fungi and common domestic allergens (*e.g.,* from cockroaches, mice, mites, *etc.*), we also examined non-allergic effects on asthma and health symptoms in this population of NYC children and adults.

Other example projects:

Polystyrene trays—calculated the ranges of styrene consumed by children due to use of polystyrene trays in

NYC public schools under various conditions and advised NYC Department of Education

Salons—toxicity assessments of various hair and nail salon products as well as cosmetics sold directly to consumers. Analytes of interest have included formaldehyde, mercury, and phthalates.

Moisture cure urethanes (MCUs)— identified target compounds, measured concentrations of volatile organic compounds and diisocyanates in occupied buildings in which MCUs had been applied, and determined the chemical causes of the symptoms, following widespread reports of respiratory and other illnesses due to MCU use in a NYC community.

Metals in food and groundwater—performed toxicity assessments for consumers of rice products contaminated with arsenic, cadmium, mercury, or lead and matzo made using contaminated and unpermitted groundwater.

Markers—assessed exposure and toxicity of water-based, alcohol-based, and organic solvent based markers used in NYC public school classrooms and simulated worst case scenarios to measure maximum exposure concentrations.

Previous positions

--Public Health Epidemiologist, Asthma Initiative (MHRA), 8/2001-3/2002, and Environmental and Occupational Disease Epidemiology Program– NYC DOHMH, 4/2002-2004,

--Intern, Infectious Disease Epidemiology Section, Office of Public Health , New Orleans, LA— 2/2000 to 8/2001

--Peace Corps Volunteer, Kyrgyz Republic, Central Asia—6/1997 to 8/1999

--Research Assistant, Smith College, Northampton, MA 5/96-5/97

From:	Corinne Schiff
To:	Knott, Steven
Cc:	Corinne Schiff
Subject:	Nomination of Dr. Maureen Little for TSCA Science Advisory Committee on Chemicals (docket identification (ID) number EPA-HQ-OPPT-2020-0135)
Date:	Monday, August 31, 2020 7:08:56 PM
Attachments:	biosketchform_mkl.pdf cv_maureenklittle_for EPA SACC.docx

Dear Selection Committee:

I write to enthusiastically nominate Dr. Maureen Little for participation on the SCA Science Advisory Committee on Chemicals (docket identification (ID) number EPA-HQ-OPPT-2020-0135). Dr. Little would be an excellent addition to the Committee, and I strongly recommend her nomination.

Attached is Dr. Little's curriculum vitae and a biographical sketch. Dr. Little specializes in public health toxicology, which entails examining a wide range of known or potential toxic threats to public health including exposure assessment, measurement, and risk communication. Her specific areas of expertise are examining toxic and allergenic impacts from soil and indoor environments as well as risk communication. Dr. Little's contact information is below followed by a statement regarding areas of expertise.

Thank you for your consideration, and please feel free to contact me if I can provide additional information.

Sincerely,

Corinne Schiff
Deputy Commissioner
Environmental Health Division
New York City Department of Health and Mental Hygiene
125 Worth Street, m 331
New York, NY 10013
646.632.6496 (o)
646.784.4625 (m)

***

Contact information:

Maureen Little, DrPH, DABT
Bureau Science Advisor
Environmental Disease and Injury Prevention
New York City Department of Health and Mental Hygiene
125 Worth Street CN 34C
New York, New York 10013
mlittle@health.nyc.gov
646.632.6138 (office)
(b) (6)

Disciplinary and specific areas of expertise:
Dr. Little specializes in public health toxicology, which entails examining a wide range of known or potential toxic threats to public health including exposure assessment, measurement, and risk communication. Her specific areas of expertise are examining toxic and allergenic impacts from soil and indoor environments as well as risk communication.

Sent from the New York City Department of Health & Mental Hygiene. This email and any files transmitted with it may contain confidential information and are intended solely for the use of the individual or entity to whom they are addressed. This footnote also confirms that this email message has been swept for the presence of computer viruses.

From: McKee, Burt
To: Knott, Steven
Subject: Nomination for Chemical Safety and Risk Assessment
Date: Monday, March 23, 2020 11:23:27 AM

Dear Honorable Steven Knott,
I would appreciate the opportunity to self-nominate for the Science Advisory Committee on Chemicals. To simplify my submittal, I will offer partial information for your/committee review:
Position:
*Quality Control Supervisor: Birds Eye Foods (defunct) in Winter Haven, Florida for two years. Primary responsibility was to ensure the safety of our products ie. microbial contamination.
United States Air Force: Crew Chief of F-106 Delta Dart with nuclear capability.
Award(s) Airman of the Year
*Deputy Chief/Hazardous Materials Commander for Polk County, Florida for thirteen years. Firefighting, extrication and medical response to any and all situations.
Award(s) Firefighter of the Year for 1984 for rescuing two people from a hazardous materials event.
Other qualifications: First fire department member in Polk County, Florida to achieve a Master's Degree. Instructor through Florida Fire College as well as Polk Community College (the name at that time)
Vice-President ConAgra Foods: United Agri Products Division (Pesticide and Fertilizer Division). Provide training opportunities, and hazardous materials assessments at company, other private companies, and public facilities.
Partial Awards:
Florida Department of Environmental Protection Environmental Leadership Award
Twice: Florida Governor's Health and Safety Award
Twice: Tom Yatabe Award for Emergency Planning and Community Right To Know
Committees:
Member Florida State Emergency Response Commission
Chairman, Central District Local Emergency Planning Committee
Member, University of Florida Center (now Hinckley Center) for Solid and Hazardous Waste
Chairman, University of Florida Agriculture Intervention Committee: Tasked with reducing chemical and physical injuries on farms
Achievements:
Worked with state agencies to develop Operation Cleansweep. This program properly disposes, at no cost, cancelled and unusable pesticides. The amount collected, through 2020 is almost two million pounds.
Worked with federal and state agencies to develop pesticide container recycling and education programs.
Worked with federal and state agencies to develop Best Management Practices for Pesticide and Fertilizer Users.
Worked with federal and state agencies to develop safety materials to be used on farms and other facilities that use pesticides and other hazardous materials,
*Emergency Planner for Central Florida Regional Planning Council; Some of the tasks were to teach OSHA Response Classes, conduct on-site inspections to ensure compliance of Emergency Planning and Community Right to Know Laws, inspection for compliance with Small Quantity Generators of Hazardous Materials, and table-top & full scale exercises involving hazardous materials.

Achievements:
Conducted three different full Scale exercises involving chemical release, biological release, and explosive devises. The exercises were some of the first in the nations to employ Civils Support Teams, and the teams we worked with were the 4th CST out of Atlanta, and the new 44th CST out of Camp Blanding. One of the exercises we conducted was in May of 2001, before 9/11.
Invited by the EPA to conduct the first hazardous material training in the People's Republic of Vietnam. This was a four person team comprised of three members of EPA, as well as myself.
Other Qualifications:
Developed the 2019 Responder Safety Initiative. The Florida Division of Emergency Management sent me to Houston, Texas in order to provide the information to a national audience.
Have taught over 1,000 OSHA 1910.120 Awareness, Operations, and Technician Response classes in most states, as well as some countries.
Serving on the Florida Division of Emergency Management Training Task Force.
If there is more information on any specific item, or if we wish me to list more qualifications, I will gladly do so.
Burt McKee, Environmental/Regulatory Coordinator
Polk County Florida BoCC-County Manager's Office
863 269-9172

From:	Marissa Baker
To:	Knott, Steven
Subject:	Nomination for EPA SACC
Date:	Wednesday, April 8, 2020 11:28:15 PM
Attachments:	epa biosketch.docx baker cv_april2020.docx

Hi Steven!
Please find attached my materials for my self-nomination to the EPA SACC.

My contact information is as follows:
Marissa Baker
University of Washington
4225 Roosevelt Way NE, Suite 100
Seattle WA 98105
206-616-4709

Disciplinary and specific areas of expertise: exposure assessment, biomonitoring, metabolomics, occupational hygiene.

Further information is detailed in my CV and biosketch.

All the best!

Marissa G. Baker, PhD
Assistant Professor
Industrial Hygiene Program Director
Department of Environmental & Occupational Health Sciences
University of Washington
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MARISSA G. BAKER

April, 2020

BIOGRAPHICAL INFORMATION

University of Washington School of Public Health
Department of Environmental & Occupational Health Sciences
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Home Address
[redacted]
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cell phone: [redacted]

Personal Data
Date of Birth: [redacted]

EDUCATION

University of Washington, Seattle, WA USA — 2017
PhD, Environmental & Occupational Hygiene
Dissertation: *"Investigation of biomarkers related to manganese exposure in metalworkers"*

University of Washington, Seattle, WA USA — 2011
MS, Occupational and Environmental Exposure Sciences
Thesis: *"NO_2 exposure and probability of walking in Seattle, WA"*

Northwestern University, Evanston, IL USA — 2007
BA, Biological Sciences (Human Biology concentration)

PROFESSIONAL POSITIONS

Assistant Professor, Dept. of Environmental & Occupational Health Sciences — 2019—present
University of Washington

Acting Assistant Professor, Dept. of Environmental & Occupational Health Sciences — 2018—2019
University of Washington

Deputy Director, Northwest Center for Occupational Health & Safety — 2018—present

Associate Editor, Frontiers in Public Health — 2018—present

Acting Instructor, Dept., of Environmental & Occupational Health Sciences — 2017—2018
University of Washington

NIH Ruth L. Kirschstein National Research Service Award (F31), Pre-Doctoral Fellow — 2016—2017
Dept. of Environmental & Occupational Health Sciences, University of Washington

Pre-Doctoral Biostatistics, Epidemiologic, and Bioinformatics Training in Environmental Health Fellow — 2015—2016
Dept. of Environmental & Occupational Health Sciences, University of Washington

Research Scientist, Dept. of Environmental & Occupational Health Sciences 2011—2015
University of Washington

Graduate Research Assistant, Dept. of Environmental & Occupational Health Sciences 2010—2011
University of Washington

Health and Safety Intern 2010
Boeing Company, Renton, WA

NIOSH Education and Research Center (ERC) Trainee 2009—2010 (MS student)
University of Washington 2014—2015 (PhD student)
Department of Environmental and Occupational Health Sciences

HONORS, AWARDS, SCHOLARSHIPS

DEOHS Outstanding PhD Student	2017
International Society of Exposure Science IPA/DGUV Award for Young Exposure Scientists	2016
University of Washington Graduate Student Travel Award	2016
American Industrial Hygiene Foundation Award	2015
University of Washington Top Graduate Scholar Award	2014

PROFESSIONAL ACTIVITIES (UNIVERSITY OF WASHINGTON AFFILIATED)

Member, UW MPH re-envisioning committee	2018—2019
Member, Work, Society, and Health Working Group	2018—
Fellow, Consortium for the Advancement of Undergraduate STEM Education	2017—2019
School of Public Health Evidenced Based Teaching Fellow	2017—2019
Cascadia Symposium (Organizer and Chair of Scientific Committee)	2018
Institute for Health Metrics and Evaluation Global Burden of Disease-Population Health Initiative	2017
Future of Occupational Health Symposium (Organizer and Chair of Scientific Committee)	2015

PROFESSIONAL ACTIVITIES (OUTSIDE UNIVERSITY OF WASHINGTON)

ACGIH Physical Agents Committee (Consultant)	2018—
Associate Editor (Occupational Health & Safety), Frontiers in Public Health	2018—
Scientific Committee, EPICOH (Epidemiology in Occupational Health)	2019
NIEHS Data Science Innovation Lab, Participant	2019
NIOSH Intramural Reviewer	2019
Grant Reviewer, Puerto Rico Idea Network of Biomedical Research Excellence	2018
Course Director, AIHA Local Section Conference Short Course	2018
Working Group Member, IARC Monograph 118: Welding and related chemicals	2017

Professional Memberships/Affiliations

Member, ICOH (International Commission on Occupational Health)	2017—
Member, EPICOH (Chair of EPICOH Early Career Network)	2017—
Member, American Industrial Hygiene Association	2011—
Member, Pacific Northwest Chapter of American Industrial Hygiene Association	2011—

Peer Review Activities

Annals of Work Exposures and Health
Journal of Exposure Science & Environmental Epidemiology
Environmental Science & Technology
International Archives of Occupational and Environmental Health
PLoS ONE

Environmental Research
Biomarkers
Toxicology Letters
Environment International
Toxicological Sciences
BMC Biochemistry
BMJ Open
Scientific Reports

BIBLIOGRAPHY

A. Refereed Research Articles: Published

1. **Baker, Marissa G**., Christopher D. Simpson, Bert Stover, Lianne Sheppard, Harvey Checkoway, Brad A. Racette, and Noah S. Seixas. 2014. "Blood Manganese as an Exposure Biomarker: State of the Evidence." *Journal of Occupational and Environmental Hygiene* 11(4): 210-217.

2. **Baker, Marissa G.**, Christopher D. Simpson, Lianne Sheppard, Bert Stover, Jackie Morton, John Cocker, and Noah Seixas. 2015. "Variance components of short-term biomarkers of manganese exposure in an inception cohort of welding trainees." *Journal of Trace Elements in Medicine and Biology*, 29: 123-129.

3. **Baker, Marissa G**., Susan R. Criswell, Brad A. Racette, Christopher D. Simpson, Lianne Sheppard, Harvey Checkoway, and Noah S. Seixas. 2015. "Neurological outcomes associated with low-level manganese exposure in an inception cohort of asymptomatic welding trainees." *Scandinavian Journal of Work, Environment & Health* 41(1): 94-101.

4. Reiss, Boris, Christopher D. Simpson, **Marissa G. Baker**, Bert Stover, Lianne Sheppard, and Noah S. Seixas. 2015. “Hair manganese as an exposure biomarker among welders.” *Annals of Occupational Hygiene* 60(2): 139-149.

5. **Baker, Marissa G**, Bert Stover, Christopher D. Simpson, Lianne Sheppard, and Noah S. Seixas. 2016. “Using exposure windows to explore an elusive biomarker: blood manganese.” *International Archives of Occupational and Environmental Health*, 89(4): 679-687.

6. Peckham, Trevor, **Marissa G. Baker**, Janice Camp, Joel Kaufman, Noah S. Seixas. 2017. “Creating a Future for Occupational Health.” *Annals of Work Exposure and Health* 61(1): 3-15.

7. **Baker, Marissa G,** Christopher D. Simpson, Yvonne Lin, Laura Shireman, and Noah S. Seixas. 2017. “The use of metabolomics to identify biological signatures of manganese exposure*.” Annals of Work Exposure and Health*. 61(4):406-415.

8. Doubleday, Annie*, **Marissa G Baker**, Jérôme Lavoué, Jack Siemiatycki, and Noah S Seixas. 2018. Assessing the burden of occupational exposures in the Pacific Northwest region of the United States. *American Journal of Industrial Medicine.* https://doi.org/10.1002/ajim.22931

9. **Baker, Marissa G,** Yvonne S Lin, Christopher D Simpson, Laura M Shireman, Susan Searles Nielsen, Brad A Racette and Noah S Seixas. 2019. The reproducibility of global urinary metabolomics profiles in assessing manganese exposure. *Journal of Trace Elements in Medicine & Biology*. 51: 204-211.

10. Rachel M. Shaffer, Samuel P. Sellers, **Marissa G. Baker**, Rebeca de Buen Kalman, Joey Frostad, Megan K. Suter, Susan C. Anenberg, John Balbus, Niladri Basu, David C. Bellinger, Linda Birnbaum,

Michael Brauer, Aaron Cohen, Kristie L. Ebi, Richard Fuller, Philippe Grandjean, Jeremy J. Hess, Pushpam Kumar, Philip J. Landrigan, Bruce Lanphear, Stephanie J. London, Andrew A. Rooney, Jeffrey D. Stanaway, Leonardo Trasande, Katherine Walker, Howard Hu. 2018. Improving and Expanding Estimates of the Global Burden of Disease Due to Environmental Health Risk Factors. *Environmental Health Perspectives.* 127(10)

*Student for whom I was primary mentor

B. Research Articles in Revision

1. Marissa G. Baker, Trevor K. Peckham, Noah S. Seixas. Estimating the burden of United States workers exposed to infection or disease: a key factor in containing risk of COVID-19 infection. PLoS One.

2. Marissa G. Baker. Characterizing occupations that cannot work from home: a means to identify susceptible worker groups during the COVID-19 pandemic. American Journal of Public Health.

C. Other Scholarly Publications

1. Guha, Neela; Loomis, Dana; Guyton, Kathryn Z.; Grosse, Yann; El Ghissassi, Fatiha; Bouvard, Véronique; Benbrahim-Tallaa, Lamia; Vilahur, Nadia; Muller, Karen; Straif, Kurt; International Agency for Research on Cancer Monograph Working Group; Hansen, J.; Nersesyan, A.. K.; Lavoué, J.; Luce, D.; Ahrens, W.; Fukushima, S.; Kromhout, J.; Peters, Susan; 't Mannetje, A.; Albin, M.; **Baker, M. G.**; Fritz, J. M.; Gwinn, W. M.; Lunn, R. M.; Tokar, E. J.; Zeidler-Erdely, P. C. 2017. "Carcinogenicity of welding, molybdenum trioxide, and indium tin oxide." *The Lancet Oncology* 18, no. 5 (2017): 581-582.

D. Books and Book Chapters

1. **IARC Working Group on the Evaluation of Carcinogenic Risks to Humans.** 2018. "IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 118: Welding, Molybdenum Trioxide, and Indium Tin Oxide." World Health Organization, IARC Press.

CONFERENCES & SYMPOSIA PRESENTATIONS

*Seixas N and **Baker MG.** Overview on exposure to welding fumes—information from welding databases and scientific studies. Oral presentation. International Symposium on Exposure to Manganese and Neurotoxicity in Welders, Institute for Prevention and Occupational Medicine of the German Social Accident Insurance Institute of the Ruhr-Universität Bochum, May 9, 2012, Bochum Germany.

Baker MG, Seixas N, Simpson C, Sheppard L, Stover B, Eisen M. Manganese in blood as an exposure biomarker among newly exposed welders. Oral presentation. X2012 Conference, July 5, 2012, Edinburgh, Scotland.

Reiss B, Seixas N, Simpson C, **Baker MG**, Warner C. Hair as a biomarker for welder's exposure to manganese. Oral presentation. X2012 Conference, July 5, 2012, Edinburgh, Scotland.

Baker MG, Seixas N, Simpson C. Manganese in blood as an exposure biomarker among newly exposed welders. Oral presentation. ISES Conference, November 1, 2012, Seattle, WA.

Reiss B, Seixas N, Simpson C, **Baker MG**, Sheppard L. Hair as a biomarker for welder's exposure to manganese. Poster presentation. AIHce, May 18-23, 2013, Montreal, Canada.

Seixas N, **Baker MG**, Reiss B, Sheppard L, Stover B, Simpson C. Use of exposure windows for biomarker assessment. Oral presentation. EPICOH Conference, June 18-21, 2013, Utrecht, The Netherlands.

Reiss B, **Baker MG**, Simpson C, Seixas N. Hair as a biomarker for welder's exposure to manganese. Poster presentation. 9th International Symposium on Biological Monitoring in Occupational and Environmental Health, September 11-13, 2013, Manchester, United Kingdom.

Baker MG, Seixas N, Simpson C, Morton J, Cocker J. Plasma and urine manganese as short-term biomarkers of exposure. Poster presentation. 9th International Symposium on Biological Monitoring in Occupational and Environmental Health, September 11-13, 2013, Manchester, United Kingdom.

Baker MG, Simpson C, Sheppard L, Stover B, Morton J, Cocker J, Seixas NS. Variance components of short-term biomarkers of manganese exposure in an inception cohort of welder trainees. Oral presentation. Airmon Conference, June 18, 2014, Marseille, France.

***Baker MG**. The utility of biomarkers in environmental and occupational health research. Oral presentation. Pacific Northwest Section of AIHA Spring Symposium. April 9, 2015, Lacey, WA.

***Baker MG**. The Future of Occupational Health. Oral Presentation. 2015 Puget Sound Association of Safety Engineers Professional Development Conference. June 5, 2015, Ellensburg, WA.

***Baker MG**. The Future of Occupational Health: How research can inform practice. Oral Presentation. 2016 Spring Conference of the Oregon State Association of Occupational Health Nurses. April 1, 2016, Woodburn, OR.

Baker MG, Simpson C, Lin Y, Shireman L, Seixas N. Use of metabolomics in characterizing occupational exposures to manganese in metalworkers. Oral presentation. EPICOH/X2016 Joint Conference, Sept 7, 2016, Barcelona, Spain.

***Baker MG**. The Future of Occupational Health: How research can inform practice. Oral Presentation. Oregon Governor's Conference on Occupational Health. March 9, 2017, Portland, OR.

Baker MG, Simpson C, Lin Y, Shireman L, Seixas N. Investigating the reproducibility of metabolomics profiles of Washington State metal workers. Oral presentation. EPICOH 2017, August 29, 2017, Edinburgh, Scotland.

***Baker MG**. The Future of Occupational Health: New directions, new challenges. Oral Presentation. Northwest Occupational Health Conference. October 26, 2017, Spokane, WA.

***Baker MG**. A look inside the International Agency for Research on Cancer (IARC) Monograph process for welding fumes. Oral Presentation. UW DEOHS Department Seminar. December 7, 2017, Seattle, WA.

***Baker MG.** The use of metabolomics for exposure assessment in occupational health: linking to the exposome. Oral Presentation. University of British Columbia Department Seminar. April 6, 2018, Vancouver, BC, Canada.

Baker, MG. The changing burden of occupational exposures in the Pacific Northwest. Oral Presentation Western States Occupational Network (WestON) Annual Meeting. September 13, 2018, Denver, CO.

Baker MG, Simpson C, Lin Y, Shireman L, Seixas N. The use of NMR for targeted metabolomics in manganese exposure studies. Oral Presentation. X2018, September 25, 2018, Manchester, UK.

Doubleday A, **Baker MG**, Lavoue J, Siemiatycki J, Seixas NS. Assessing the burden of occupational exposures in the Pacific Northwest Region of the United States. Poster Presentation. X2018, September 25, 2018, Manchester, UK.

***Baker MG.** The use of existing data sources for occupational exposure surveillance: from global to local. Oral presentation. Northwest Occupational Health Conference (AIHA Local Section meeting). October 10, 2018, Bremerton, WA.

***Baker MG.** Assessing the burden of occupational exposures in Idaho. Keynote presentation. Idaho AIHA Local Section Meeting. November 29, 2018, Boise, ID.

***denotes invited presentations**

FUNDING HISTORY

A. Currently Funded Projects

NIOSH/CDC Education & Research Center. N. Seixas, PI.
Role: Co-investigator & Industrial Hygiene Program Director (15% FTE)

NIEHS "Novel PET Markers of Mn neurotoxicity in age-related cognitive impairment." S. Criswell, PI
Role: Co-investigator (15% FTE)

International Manganese Institute "Investigation of metabolites related to manganese exposure in metalworkers using targeted mass spectrometry methods." M. Baker, PI (5% FTE)

NIOSH/CPWR "Promoting safety and well-being among sheet metal worker women through mentoring". M. Baker & N. Seixas, Co-PIs (10% FTE)

B. *Recently Completed Support*

NIEHS "Investigation of metabolites related to manganese exposure in metalworkers." M. Baker, PI
F31 Predoctoral Fellowship, 9/15/2016-9/15/2017

DEOHS Medical Aid & Accident Fund Grant. "Identification of potential biomarkers related to manganese exposure in Puget Sound Metalworkers." M. Baker & C. Simpson, Co-PIs
Internal funding award, 10/1/2015—06/30/2017

DEOHS Medical Aid & Accident Fund Grant. "Exploring the Future of Occupational Health: Speaker series and symposium." N. Seixas and J. Kaufman, Co-PIs
Role: Senior/Key Personnel (25% FTE), internal funding award, 6/1/2014—6/1/2016

NIEHS. "Imaging biomarkers of neurotoxicity in welders (Metabolomics supplement)". B. Racette, PI.
Role: Senior/Key Personnel (25% FTE), 11/1/2014—10/31/2016

UW EDGE Center (NIEHS). "Metabolomics signals for manganese exposure among welders." N. Seixas, PI.
Role: Senior/Key Personnel (25% FTE), 4/1/2014—3/31/2015

NIEHS. "Characterization of exposure and response biomarkers among welder apprentices." N. Seixas, PI
Role: Senior/Key Personnel (80% FTE), 9/15/2010—4/30/2014

TEACHING HISTORY

A. Teaching Development

School of Public Health Evidence-based Teaching Fellow 2017—2019
University of Washington, Seattle, WA

Fellow, Consortium for evidence-based undergraduate STEM education (CAUSE) 2017—2019
University of Washington, Seattle, WA

B. Formal Courses

Course Design and Instruction—undergraduate students

SPH 381: Science in Public Health*, 140 students, 5 credits

Lead Instructor	Winter, 2018
Lead Instructor	Spring, 2018
Lead Instructor	Winter, 2019
Lead Instructor	Spring 2019

EnvH 472: Environment, Risk, and Society, 45 students, 3 credits

Instructor	Autumn 2019

**50% of instruction is environmental & occupational health content*

Course Design and Instruction—graduate students

EnvH 592: Work & Health in the 21st Century, 10 students, 2 credits

Co-instructor	Winter, 2016

EnvH 572: Environment, Risk, and Society, 5 students, 3 credits

Instructor	Autumn 2019

EnvH 511: Intro to Environmental & Occupational Health, 25 students, 3 credits
Course offered as a hybrid online and in-person course

Co-instructor	Spring 2016
Co-instructor	Winter 2017
Lead instructor	Winter 2018
Lead instructor	Winter 2019

C. Course Development

EnvH 472/572: Environment, Risk, and Society, 45 students, 3 credits
Assisted lead instructor with adopting course for Active Learning Classroom and integrating Active Learning strategies into the class

PHI 514: From Evidence to Action and Back: Implementing Public Health Interventions, 4 credits
Worked on a team to develop learning objectives for the course and individual sessions, develop content for each module, integrate environmental & occupational health content, define assessment methods, and map the class to CEPH competencies as part of the University of Washington MPH re-envisioning process

D. Reoccurring Guest Teaching

EnvH 311: Intro to Environmental & Occupational Health, 100 students, 3 credits
Guest Lecturer, “Occupational Health & Safety”

EnvH 453: Industrial Hygiene, 8 students, 3 credits
Guest Lecturer, “Exposure Data Analysis and Interpretation”

ADVISING & FORMAL MENTORING

Annie Doubleday, Graduate Student Research Assistant (2018)
Kayla Carter, Graduate Student Research Assistant (2019-2020)

Preceptor:

Aly Robinson, Primary Mentor for MPH Capstone (current)
Vindy Garcha, Primary Mentor for MPH Capstone (current)
Siobhan Kelly, Primary Mentor for MPH Capstone (current)
Allen Chan, Primary Mentor for MS thesis (current)

Committee Member

M.C. Nachtigal, MPH committee member (graduated 2019)
Ryan Babadi, PhD committee member (current)
Brianna Willis, MPH committee member (current)
Kaitlyn Kelly, MPH committee member (current)

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Baker, Marissa Gayl

eRA COMMONS USER NAME (credential, e.g., agency login): bakermg

POSITION TITLE: Assistant Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Northwestern University, Evanston, IL	BA	06/2007	Biology
University of Washington, Seattle, WA	MS	12/2011	Environmental & Occupational Exposure Sciences
University of Washington, Seattle, WA	PhD	09/2017	Environmental & Occupational Hygiene

A. Personal Statement

My academic training and previous research experiences makes me well-prepared to contribute to the EPA Science Advisory Committee on Chemicals. Trained in occupational hygiene, I have a fundamental knowledge of occupations—including which exposures are prevalent in different occupations, how they are generally assessed and applied in the workplace, and the feasibility of different controls. My general area of research in environmental and occupational health is in exposure assessment of fumes and metals, and the use of biomarkers as a means of monitoring, evaluating, and diagnosing environmental health exposures and their related outcomes. For my dissertation work, I used metabolomics methods to investigate small molecule biomarkers of manganese (Mn), by evaluating biochemical perturbations that differ between Mn-exposed and unexposed persons. I have experience in novel investigative techniques, such as metabolomics, for both exposure assessment and assessment of markers of disease outcomes. I believe utilization of new techniques will be vital as the field of environmental health looks to assess subtle and long term health effects associated with exposure to compounds at very low levels. I can contribute to the SACC due to my background in exposure assessment and ability to summarize, synthesize, and vet chemical exposure data. Notably, I have been included (as Co-I or PI) on several federal grants assessing biomarkers of exposure and effect in occupational cohorts. Through these projects, I have gained considerable expertise in collecting biological, exposure, and questionnaire data, and in analyzing these data, both in the laboratory and using statistical methods. I developed biosampling methods which were used in the field, notably methods for collecting hair and toenail samples. I have also helped develop data collection instruments and refined lab analysis techniques for measuring Mn in various biological samples. For my PhD work, I collected and analyzed Mn exposure data and biosamples collected in a variety of metalworking settings, and modeled exposures based from questionnaire data when personal sampling data was not able to be obtained. I have also developed expertise in the use of metabolomics for exposure assessment, from collecting appropriate data, to data analysis methods and interpretations. I sat on the Exposure Assessment section of an IARC Monograph Working Group assessing welding fumes, molybdenum trioxide, and indium tin oxide where my knowledge of welding techniques, processes, and materials was utilized. My expertise with exposure assessment, understanding of different work processes and techniques, and experience on an IARC Monograph make me well-suited to contribute to this committee.

B. Positions and Honors

Positions and Employment

09/2011-09/2013	Research Coordinator, UW Dept of Env & Occupational Health, Seattle, WA
09/2013-09/2015	Research Scientist, UW Dept of Env & Occupational Health, Seattle, WA
09/2015-09/2016	Doctoral Research Assistant, UW Dept of Env & Occupational Health, Seattle, WA
09/2016-09/2017	NIEHS Ruth L. Kirschstein NRSA Predoctoral Trainee
10/2017-09/2018	Acting Instructor, UW Dept of Env & Occupational Health, Seattle, WA
07/2018-09/2019	Acting Assistant Professor, UW Dept of Env & Occupational Health, Seattle, WA
09/2019--	Assistant Professor, UW Dept of Env & Occupational Health, Seattle, WA

Other Experience and Professional Memberships

Member, American Industrial Hygiene Association Pacific Northwest Chapter
Member, Association for Women in Science Seattle Chapter
Chair, ICOH Scientific Committee on Epidemiology in Occupational Health (EPICOH) Early Career Network
Scientific Committee, EPICOH 2020
Working Group Member, IARC Monograph 118 “Welding, Welding Fumes, and Related Chemicals”
Member, International Commission on Occupational Health (ICOH)
Fellow, Consortium for the Advancement of Undergraduate STEM Education

Honors

University of Washington Graduate Top Scholar Award, 2014
American Industrial Hygiene Foundation Award, 2015
International Society for Exposure Scientists (ISES) IPA/DGUV Award for Young Exposure Scientists, 2016
UW Department of Environmental & Occupational Health Outstanding PhD Student, 2017

C. Contributions to Science

1. Comprehensively investigated the utility of common biomarkers of Mn (urine, blood, plasma) in relationship to measured and modeled airborne exposures. Historically, interpretation of common biomarkers of Mn (such as urine, blood, plasma) have been difficult, with some researchers finding relationships between Mn exposure and Mn in the biofluid, and others finding no such relationship. I served as key personnel on an NIH grant that used a superior study design including an unexposed baseline and longitudinal measures of exposure and biofluid to investigate the relationship between Mn in biofluids and in air. We found that intra-individual variability in plasma Mn and inter-individual variability in whole blood Mn make interpretation difficult, and in cross-sectional studies these variance components were not previously investigated. Similarly, we found that at low levels of Mn exposure, such as would be present in environmental or community exposures, urine Mn tends to be below the limit of lab detection, making interpretation challenging and uninformative. This is valuable work for environmental health scientists and neurologists looking at health outcomes related to Mn exposure.

Research Articles

- **Baker, Marissa G**., Christopher D. Simpson, Bert Stover, Lianne Sheppard, Harvey Checkoway, Brad A. Racette, and Noah S. Seixas. "Blood Manganese as an Exposure Biomarker: State of the Evidence." Journal of Occupational and Environmental Hygiene 11, no. 4 (2014): 210-217. PMCID: PMC3965573
- **Baker, Marissa G**., Christopher D. Simpson, Lianne Sheppard, Bert Stover, Jackie Morton, John Cocker, and Noah Seixas. "Variance components of short-term biomarkers of manganese exposure in an inception cohort of welding trainees." Journal of Trace Elements in Medicine and Biology (2014). PMCID: PMC4241381

Abstracts

- **Baker, Marissa G**, Seixas Noah, Simpson Christopher. Manganese in blood as an exposure biomarker among newly exposed welders. Oral presentation. ISES Conference, November 1, 2012, Seattle, WA.
- **Baker Marissa G**, Simpson Christopher, Sheppard Lianne, Stover Bert, Morton Jackie, Cocker John, Seixas Noah S. Variance components of short-term biomarkers of manganese exposure in an inception cohort of welder trainees. Oral presentation. Airmon Conference, June 18, 2014, Marseille, France.

2. Investigated novel biomarkers of manganese, and novel exposure modeling techniques, to further determine if a suitable biomarker for Mn exists. For this work, I was key personnel on an NIH grant, and was responsible for all data collection and a majority of the data analysis. In addition to investigating commonly and easy to collect biomarkers such as plasma, blood, and urine, I also investigated the utility of both hair and MRI as biomarkers of exposure to Mn. I found that even at low levels and with slight changes, T1-weighted indices of the basal ganglia were associated with changes in Mn exposure. Similarly, we found that Mn in hair was associated with exposure over a preceding 30-day period, which represents about 1 cm of hair growth. We also investigated the use of exposure time windows to relate blood Mn to Mn measured in the air. With this novel method of exposure modeling, we found that blood Mn may begin to relate to Mn exposure at higher levels of exposure, or over longer time periods. In totality, this work helped to further elucidate the role of Mn in the body, and the time course between exposure, uptake, and health effects. This is valuable work for environmental health, and neurologists looking at health outcomes related to Mn exposure.

Research Articles

- **Baker, Marissa G.,** Susan R. Criswell, Brad A. Racette, Christopher D. Simpson, Lianne Sheppard, Harvey Checkoway, and Noah S. Seixas. "Neurological outcomes associated with low-level manganese exposure in an inception cohort of asymptomatic welding trainees." Scandinavian Journal of Work, Environment & Health 41, no. 1 (2015): 94-101. PMCID: PMC4354936
- Reiss, Boris, Christopher D. Simpson, **Marissa G. Baker**, Bert Stover, Lianne Sheppard, and Noah. S. Seixas. “Hair manganese as an exposure biomarker among welders.” Annals of Occupational Hygiene 60, no. 2 (2016): 139-49. PMCID: PMC4834832.
- **Baker, Marissa G,** Bert Stover, Christopher D. Simpson, Lianne Sheppard, and Noah S. Seixas. “Using exposure windows to explore an elusive biomarker: blood manganese.” International Archives of Occupational and Environmental Health 89, no. 89 (2016): 679-87. PMCID: PMC4829443.

Abstracts

- Seixas Noah, **Baker Marissa G**, Reiss Boris, Sheppard Lianne, Stover Bert, Simpson Christopher. Use of exposure windows for biomarker assessment. Oral presentation. EPICOH Conference, June 18-21, 2013, Utrecht, The Netherlands.

3. Investigate the utility of global and targeted metabolomics to distinguish between persons exposed and unexposed to Mn. Typically, metabolomics has been used to identify biomarkers or physiological alterations related to health effects. Using metabolomics to distinguish between patients and controls is a relatively novel concept (especially in occupational settings) and is a key approach in exploring the exposome—the biological signatures of lifelong environmental exposures within individual physiological histories. In this work, I analyzed urine that was collected from multiple occupational cohorts with exposure to Mn over various time points, in conjunction with measured and modeled Mn exposure. From univariate global analyses in the primary cohort, nine ions were found to be related to Mn exposure, and Mn exposure could be classified fairly well (AUC = 0.8) in a second set of samples collected from the same study participants. However, the models were less robust when using samples from a different cohort. This work underscores the challenges of using metabolomics to identify putative biomarkers for use in occupational settings, and helps to establish best practices for the use of metabolomics in occupational or environmental health research.

Research Article

- **Baker, Marissa G**, Christopher D. Simpson, Yvonne S. Lin, Laura M. Shireman, and Noah S. Seixas. “The use of metabolomics to identify biological signatures of manganese exposure.” Annals of Work Exposures and Health 61, no. 4 (2017):406-415.
- **Baker, Marissa G,** Yvonne S. Lin, Christopher D. Simpson, Laura M. Shireman, Susan Searles Nielsen, Brad A. Racette, and Noah S. Seixas. “The reproducibility of urinary ions in manganese exposed workers.” Journal of Trace Elements in Medicine and Biology 51, (2019):204-211

Abstract

- **Baker, Marissa G**, Christopher D. Simpson, Yvonne S. Lin, Laura M. Shireman, and Noah S. Seixas. Investigating the reproducibility of metabolomics profiles of Washington State metal workers. Oral Presentation. EPICOH Conference, Aug 28-31, 2017, Edinburgh, UK.

4. Utilize existing data sources to understand the burden of environmental and occupational exposures for working populations. Using existing data sources (state and national employment data, BLS O*NET data,

CANJEM) I have developed methodology to estimate the number of workers nationally or regionally exposed to a set of occupational exposures—including chemical, physical, biological, safety, and structural/psychosocial exposure and how this may change over a ten-year period or in relation to a public health emergency. I found that psychosocial exposures have the largest prevalence in the workforce, though more traditional chemical exposures are still common and increasing. I also have found that a large proportion of US workers are susceptible to biological infections at work, and cannot work from home, which is especially relevant during the COVID-19 pandemic.

Research Article

- Doubleday Annie, **Marissa G. Baker,** Jerome Lavoue, Jack Siemiatycki, and Noah S. Seixas. "Estimating the population prevalence of traditional and novel occupational exposures in Federal Region X. American Journal of Industrial Medicine 62, (2019):111-122.

Preprints Under Review

- **Marissa G. Baker,** Trevor K. Peckham, Noah S. Seixas. "Estimating the burden of United States workers exposed to infection or disease: a key factor in containing risk of COVID-19 infection." medRxiv 2020.03.02.20030288; doi: https://doi.org/10.1101/2020.03.02.20030288 (in revision with PlosOne)

- **Marissa G. Baker.** "Characterizing occupations that cannot work from home: a means to identify susceptible worker groups during the COVID-19 pandemic. medRxiv 2020.03.21.20031336; doi: https://doi.org/10.1101/2020.03.21.20031336 (In revision with American Journal of Public Health)

5. Assess the carcinogenicity of welding fume, molybdenum trioxide, and indium tin oxide as part of an International Agency for Research on Cancer (IARC) Monograph Working Group (monograph 118). I was asked to sit on the IARC Monograph 118 to assess the carcinogenicity of welding, welding fumes, and related chemicals. I was part of the exposure sub-group, and took the lead on estimating the number of persons worldwide exposed to welding fume, compiling measured welding fume exposure by different welding processes and base metals used, and summarizing differences between welding techniques and materials used. Based on epidemiological and mechanistic data evaluated at the meeting, and informed by exposure expertise, the working group classified welding as a class 1 carcinogen.

Publications:

- Guha Neela, Loomis D, Guyton KZ, Grosse Y, El Ghissassi F, Bouvard V, Benbrahim-Tallaa L, Vilahur N, Muller K, Straif K, on behalf of the **International Agency for Resarch on Cancer Monograph Working Group.** "Carcinogenicity of welding, molybdenum trioxide, and indium tin oxide." The Lancet Oncology 18, no. 5 (2017): 581-582
- **IARC Working Group on the Evaluation of Carcinogenic Risks to Humans.** "IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 118: Welding, Molybdenum Trioxide, and Indium Tin Oxide." World Health Organization, IARC Press.

Full list of published work: http://www.ncbi.nlm.nih.gov/sites/myncbi/1l3Jgbppz-75v/bibliography/42497913/public/

D. Additional Information: Research Support and/or Scholastic Performance

Current Research Support

5T42OH008433 Seixas (PI) 7/1/2017-6/30/2020

NIOSH/CDC

Education and Research Center

The major goals of the Education and Research Center are to provide training grant funding for the interdisciplinary education and training of occupational safety and health professionals in medicine, nursing, industrial hygiene, safety and ergonomics.

Role: Co-Investigator

3001-1110 (Baker & Seixas) 9/1/2019 – 8/31/2024
NIOSH/Center for Construction Research and Training (CPWR)
Advancing Women in the Sheet Metal Workers' Trade: A coordinated mentoring program to promote safety, health, and well-being.
The goal is to develop and disseminate a mentorship program through local unions of the International Association of Sheet Metal, Air, Rail and Transportation Workers (SMART), and evaluating its success in reducing women's injury and work stress, while improving retention.
Role: Co-PI (sub)

1R01ES029524 Criwell (PI) 9/12/2019 – 05/31/2024
NIEHS
Novel PET Markers of Cognitive Impairment in Manganese Neurotoxicity
This proposal employs state-of-the-art molecular imaging methods combined with an innovative statistical and exposure assessment approach to understand the dual roles of the cholinergic and dopaminergic systems in Mn induced cognitive impairment.
Role: Co-PI (sub)

Recently Completed Research Support
Baker (PI) 3/1/2019 - 2/28/2020
International Manganese Institute
Investigation of metabolites related to manganese exposure in metalworkers using targeted mass spectrometry methods
The goal is to conduct targeted metabolomics analyses on a group of workers with relatively high daily Mn inhalation exposures, and unexposed controls from a similar worksite to determine known metabolites that differ between the two groups due to Mn exposure.
Role: PI

F31ES027304 Baker (PI) 9/15/2016-9/30/2017
NIEHS
"Investigation of metabolites related to manganese exposure in metalworkers"
Manganese (Mn) is a common exposure in welding fume, and found in both environmental and occupational settings. Finding metabolites that are related to (specifically) Mn exposure or (generally) welding fume exposure would help in understanding the path Mn takes through the body, from exposure to disease outcome. This fellowship aimed to identify metabolites that differ between exposed and unexposed shipyard welders and workers, which could inform a reliable and reproducible biomarker of exposure.
Role: PI

Departmental MA/AF Grant Baker (PI) 10/1/2015-06/30/2017
"Identificiation of potential biomarkers related to manganese exposure in Puget Sound Metalworkers"
This internal grant seeks to use advanced mass spectrometry (MS) and nuclear magnetic resonance (NMR) methods to identify the chemical structure of nine ions we found to be different between Mn exposed and unexposed metalworkers. This information is critical for interpretation and application of these chemicals as potential biomarkers of inhalation exposure to Mn. (Key Research Personnel—conceived of and authorered grant)
Role: PI

From: Carl Zimring
To: Knott, Steven
Subject: Nomination for EPA-HQ-OPPT-2020-0135
Date: Thursday, August 20, 2020 7:48:53 PM

Dear Officer Knott,

I write to nominate Dr. Damon Chaky to be considered for appointment to the Toxic Substances Control Act (TSCA), Science Advisory Committee on Chemicals (SACC). Dr. Chaky is an environmental chemist whose research has been on the origin, transport, behavior, and fate of chemical contaminants in the greater New York City urban environment and the lakes and rivers of the Hudson Basin. A list of his publications may be found here: https://sites.google.com/pratt.edu/dchaky/publications. Dr. Chaky may be reached at dchaky@pratt.edu or (b) (6).

I have worked with Dr. Chaky for several years and have found him to be a careful, thoughtful colleague who is considerate of process within committeework. Between his training and bearing, he would be an excellent addition to SACC.

Yours sincerely,
Carl Zimring

Carl Zimring | Professor of Sustainability Studies
PRATT INSTITUTE
200 Willoughby Avenue | DeKalb Hall 108 | Brooklyn, NY 11205
phone: 718-687-5958 | czimring@pratt.edu

RESUME OF NITIN HATE', MD, DIM

I recently retired from my job as Medical Director of a occupational/marine medicine program at Port Canaveral, FL. This 10,000 SF facility opened in July 2017, but I have been working with this employer as a consultant before that and was instrumental in the design and marketing of the program. Program caters to local industry and cruise-lines operating out of Port Canaveral. During my tenure I trained two primary care physicians (who would succeed me) in Occupational Medicine, in a distant learning residency program affiliated with University of Pennsylvania (U-Penn). One resident has graduated and passed his occupational medicine board examination. The other in right behind him. I am now looking for a new assignment with a progressive healthcare establishment to design and deliver a state of the art occupational medicine programs. There is a dwindling number of new occupational medicine physicians and a lot of senior physicians are retiring.

The need for preventive programs to protect the work force is universally recognized. The goal of occupational medicine is:
1Primary prevention to prevent injury and toxic exposure in the workplace.
2Secondary prevention to offer expeditious medical care and return the employees to work.
3Tertiary prevention is to rehabilitate employees who are unable to return to previous work.

I joined Occupational Medicine Residency program at Mt. Sinai in New York, in 1981 and trained under the world renowned Dr. Irvin Sellikoff. Here I was able to see hundreds of workers exposed to asbestos and other toxic substances. We followed injured employees in clinic and assisted them to return to work, and helped them to avoid long term morbidity.

I then joined the Centers for Disease Control (CDC) as an Epidemic Intelligence Service (EIS) Officer, and served my tenure at National Institute for Occupational Safety & Health (NIOSH). I took part in epidemiology training, surveillance programs and conducting plant walk-throughs. I worked closely with industrial hygienist, safety professionals and career epidemiologists. While at NIOSH, I passed Occupational Medicine Board Examination.

I then served as a consultant in occupational medicine to establish a new programs in Massachusetts, New Jersey and Florida. I designed occupational medicine program in conjunction with local hospitals, and physician groups. I also served as an adjunct assistant professor at UMDNJ and Florida Institute of Technology.

In 1992, started private practice in Occupational Medicine, in Florida. I have provided consulting service to many employers and local governments, in occupational and environmental medicine. I provided ongoing support in health and safety compliance and helped industries with OSHA compliance and controlling their workers' compensation experience and premiums. I am recognized as expert witness on occupational exposure and disease including Indoor Air Quality (IAQ) issues. I have testified on numerous of toxic exposure cases.

I have performed over 25,000 disability examinations for Social Security Administration and private insurance. I am board certified in Occupational as well as Environmental Medicine. I am certified to provide DOT examinations and as certified Medical Review Officer (MRO) for Federal Drug Testing programs.

I just retired from a position as the Medical Director for Occupational And Maritime Medicine Center at Port Canaveral, in Florida. I also served as a site supervisor for an occupational medicine residency program affiliated with University of Pennsylvania (U-Penn), mentoring two residents within our organization. One has graduated and passed occupational medicine board examination. I am looking for exciting projects that can use my training and experience in the field occupational medicine.

I graduated with M.B.,B.S. Degree from Grant Medical College, Mumbai, India's oldest Medical school, in 1972. Then completed residency training in Internal Medicine including a two year period when I served as a chief resident. I was also in charge of poisoning unit which provided support to two neighboring hospitals.

I then served as the Chief Medical Office of Scindia Steam Navigation Co. Ltd,, India's largest shipping and ship building company. Here, I saw an opportunity to prevent health hazard in the workplace. During my term at the company I revamped employee health insurance scheme. This concept was adopted by others. I was instrumental in phasing out use of asbestos for insulation. I instituted many safety measures. I routinely performed plant walk-through to follow up on the injured employees I was treating. I encouraged the use of lifeline and personal protective equipment, and disciplined employees who disabled safety devices.

I was instrumental in reviving a defunct Industrial Medicine post graduate program and became the first graduate and earned Diploma In Industrial Medicine (DIM)

Highlights:

Board Certified in Occupational & Environmental Medicine
CDC trained epidemiologist
Occupational Medicine educator
Expert in Occupational Medicine and Indoor Air Quality
Research and innovator in infection control
Medical Director and Program Development
Marine Medicine experience of 7 years in India and 2 year in US
40+ years of Experience
DOT, MRO, OSHA and other certification

From: (b) (6)
To: Knott, Steven
Subject: NOMINATION for Task force
Date: Thursday, March 19, 2020 3:49:20 PM
Attachments: Hate.Nitin.CV. NEW 2020.pdf

This is in response to you email seeking nomination for TSCA task force. I have recently retired from a full time job and am available for challenging assignments. I have enclosed my resume for your information. Please contact me if you think that you can use my services. Thank you.

- Nitin Hate', MD
(b) (6)

From:	Sheba Saji
To:	Knott, Steven
Subject:	Nomination for TSCA (Sheba Saji)
Date:	Thursday, April 16, 2020 5:46:38 PM
Attachments:	Official CV-Sheba Saji.docx

Hello Steven,

My name is Sheba Saji and I would like to self-nominate myself for candidacy for the Toxic Substances Control Act (TSCA). I am a toxicology/industrial hygiene professional currently working as an industrial hygienist and a consultant for an EHS consulting firm. I have completed an M.S in cell and molecular biology and an MPH in toxicology and risk assessment from the College of Public Health, University of South Florida. I have a strong passion for understanding and evaluating the hazards and risks for different occupational settings, and in assessing toxicological profiles of various chemical compounds and substances.

I have attached my CV in this email. Thank you for your time and consideration.

--

Sheba Saji, MS, MPH, CPH
EHS Specialist, International Safety Systems
Email: sheba1@mail.usf.edu

Sheba Saji

E:sheba.saji@issehs.com
L:www.linkedin.com/in/shebasaji

EDUCATION

(2018-2019) MPH, University of South Florida
College of Public Health
Toxicology and Risk Assessment
Faculty Advisor: Dr. Marie Bourgeois/ Dr. Raymond Harbison

(2016-2017) M.S., University of South Florida
College of Arts and Sciences
Cell and Molecular Biology

(2013-2016) B.S., University of South Florida
College of Arts and Sciences
Major: Biology
Minor: Environmental Politics and Policy

Relevant Coursework

Exposure Assessment
Environmental/Occupational Toxicology
Environmental and Occupational Risk Assessment
Industrial Hygiene
Industrial Toxicology
Hazardous Materials and Communication in the Workplace
Environmental Policy

PROFESSIONAL EXPERIENCE

(March 2020-Present) Industrial Hygienist/Environmental Health and Safety (EHS) Specialist, International Safety Systems
Edison, New Jersey

- Performed several industrial hygiene assessments for potential health hazards at various workplaces including chemicals, particulates, noise, vibration, heat stress and ergonomics.
- Conducted qualitative and quantitative industrial hygiene exposure assessments including walk-through surveys and inspections.
- Conducted occupational safety audits.
- Prepared concise technical reports for the assessments
- Assisted Project Manager in coordinating, planning and executing projects.
- Assisted in industrial hygiene/safety related training courses.

(August 2019-December 2019) Graduate Research Assistant/Coordinator, College of Public Health (COPH), University of South Florida
Tampa, Florida
Department of Environmental and Occupational Health
During this assistantship, I was involved in various projects including the investigation of PARP enzymes in chemical-induced hepatoxicity and cardiotoxicity, as well as the assessment of pesticides in breast milk and urine.
Advisor: Dr. Marie Bourgeois/Dr. Raymond Harbison

(June 2019-August 2019) NIOSH Occupational Health Internship Program
Boston, Massachusetts
The **Occupational Health Internship Program (OHIP)** is a full-time internship designed to link the interests of students with the needs of workers employed in underserved or high hazard occupations. I was selected as one of 26 interns nationally, who were assigned to a union or worker organization where we received supervision from a designated staff member and an academic mentor. During this internship, I worked with SEIU Local 888 union based in Braintree, Massachusetts. This project entailed the analysis of the prevalent hazards

encountered by custodial workers at different school settings around Massachusetts. At the culmination of the internship, a comprehensive report regarding the hazards, OSHA recommendations, several factsheets about selected health and safety topics, and a sample training module were submitted and provided to the custodial workers and the union representatives. This project was also presented to NIOSH staff.

The primary hazards that were analyzed included:

1. Solitary work
2. Asbestos exposure
3. Exposure to harsh chemicals
4. Unsafe work environments
5. Regular exposure to bloodborne pathogens and infectious agents

For the completion of this project, I visited 12 schools in MA and set up focus group-styled interviews with the custodians. During these interviews, I would ask the custodians about the hazards they were vulnerable to, and their responses were recorded and analyzed for trends and common issues.
Advisor: Dr. Beth Rosenberg

(January 2019-May 2019) Research Assistant, Twin Systems, Inc (Hazardous Materials/Waste Consulting)
This internship was completed to fulfill the MPH program requirement for field experience. Twin Systems is a private consulting company based in Lakeland, Florida. During this internship. I participated in the evaluation of chemical safety data sheets (SDS) and assessment of hazards at both Publix, a grocery store chain, and Mosaic, a company that produces potash and phosphate fertilizer. In addition, I attended several industrial hygiene trainings conducted for employees in the food and fertilizer industries.
Training courses

- 8-hour HAZWOPER
- Confined space entry

Advisor: Dr. Robin DeHate

(January 2018-May 2018) Adjunct Teaching Assistant, University of South Florida
Course: **Principles of Immunology** (online)
For this position, I assisted Dr. My Lien Dao with an online course section of "Principles of Immunology". I regularly communicated with undergraduate students, graded assignments and reviewed course materials.

(January 2018-August 2018) Research Laboratory Technician/Coordinator, USF Health Byrd Alzheimer's Institute

- Learned various molecular biology techniques, such as plasmid transformation/purification, western blot, etc., in order to learn and investigate the role of the protein TDP43 in the neurodegenerative disorder, amyotrophic lateral sclerosis (ALS).
- Managed and trained an eight-member volunteer research team.
    - Arranged weekly meetings
    - Assigned research studies to undergraduate volunteers
    - Ordered lab supplies
    - Performed wet-lab experiments
    - Performed analysis and presentation of data
- **PI: Dr. Maj-Linda B. Selenica**

(January 2017-May 2017) Research Trainee, Moffitt Cancer Center

- Participated in the **2017 Moffitt Scientific Symposium** and exhibited a poster presentation on "Xerostomia and the tumor microbiome in head and neck cancer".
- **PI: Dr. Christine Pierce Campbell**

(August 2016-December 2016) Research Laboratory Technician/Coordinator, University of South Florida

- Designed experiments to test the efficacy of antimicrobial compounds, such as zinc oxide and chitosan, on various multi-drug resistant pathogens.
- **PI: Dr. Alya C. Limayem**

(November 2015-July 2016) Pharmacy Technician, CVS Pharmacy

- Customer service

(March 2012- August 2013) Instructor, Kumon

- Instructed students from the ages of 3-18 in the subjects of mathematics and reading.

PROFESSIONAL CERTIFICATIONS

- **(2015-2016) Certified Pharmacy Technician**
- **(2016) American Health Association: Professional Level CPR & AED**
- **(2017) Institutional Animal Care and Use Committee (IACUC)**
- **(2018) USF Health Professional Integrity and Compliance (HIPAA Certification)**

VOLUNTEER EXPERIENCE

(February 2019-Present) Clinical Information Intern, Helpsy Health Inc
Web-based (online)
(February 2019-May 2019) Volunteer, International Professors Project
Web-based (online)
(February 2019-May 2019) Recruiting Coordinator (HR), JerseySTEM
Web-based (online)
(August 2017-Present) Volunteer, UN Women (Gulf Coast Chapter)
Sarasota, Florida
(February 2017-Present) Volunteer, Girl Scouts of West Central Florida (STEM)
Tampa, Florida
(February 2016) Intern, Business and Professional Women/St. Petersburg-Pinellas
St Petersburg, Florida
(December 2015-July 2016) Volunteer, Florida Cancer Specialists & Research Institute
Largo, Florida
(September 2015-August 2016) Volunteer, St. Petersburg General Hospital
St. Petersburg, Florida
(November 2015-July 2016) Volunteer (Pre-Med Pals Program), Saint Anthony's Hospital
St. Petersburg, Florida
(March 2015- October 2015) Volunteer Training Team (OV), American Red

Cross (Tampa Bay Chapter)
St. Petersburg, Florida
(May 2015- October 2015) Child Life Volunteer, All Children's Hospital
St. Petersburg, Florida
(July-August 2014) Volunteer, Palms of Largo
Largo, Florida
(June-July 2012) Executive Internship Program (EIP), Northside Hospital
St. Petersburg, Florida
(June-July 2011) Volunteer, Largo Medical Center
Largo, Florida
(June 2009) Volunteer, YMCA
Clearwater, Florida

ACCOMPLISHMENTS/AWARDS/RECOGNITIONS

- **(2018)** Video appearance in the **USF Health Women's Health Collaborative** presentation
- **(2018) Service Chair**: Maternal and Child Health Student Organization
- **(2014) Secretary**: Student Environmental Awareness Society-University of South Florida, St. Petersburg
- **(2014) Event Coordinator**: Women Empowerment Club-University of South Florida, St. Petersburg

ORGANIZATIONS/MEMBERSHIPS

- **(2018-2019) American Public Health Association (APHA)**
- **(2018-Present) Society of Environmental Toxicology and Chemistry (SETAC)**
- **(2018-Present) Florida Environmental Health Association (FEHA)**
- **(2017-Present) U.S. National Committee for UN Women**
  - Gulf Coast Chapter
- **(2014) Student Environmental Awareness Society, University of South Florida, St. Petersburg**

SKILLS

Molecular Biology: western blotting, plasmid purification (miniprep), qPCR, flow cytometry, subcellular fractionation, bacterial transformation, minimum inhibitory concentrations (MIC) assays, immunohistochemistry (IHC), restriction digestion, transmission electron microscopy (TEM), scanning electron microscopy (SEM) BCA assays, asceptic microbiology techniques, multiplex assays, ELISA, cell cultures, animal dissections, animal husbandry, saline perfusions, mice colony maintenance, etc.

- **Microsoft Word**
- **Microsoft Excel**
- **Microsoft PowerPoint**
- **Microsoft OneNote**
- **Microsoft Access**
- **EndNote**
- **WordPress**
- **Social media**
- **Analytical skills**
- **Research**
- **Customer service/engagement**
- **Organization skills**

- **Record Keeping**
- **Industrial Hygiene**
- **SAS**
- **SPSS**
- **Knowledge of OSHA, EPA and FDA standards**
- **Grant writing**
- **JIRA**
- **Slack**
- **Python**
- **Tableau**
- **Adobe InDesign CC**
- **R**
- **G-suite**

COURSES

- **Certificate Course on Research Methodology (2016)**
- **Preparing for College Teaching (PCT)-ATLE**
- **Basic Introduction to Biosafety**
- **Biomedical Responsible Conduct of Research**
- **Clinical Research Coordinator (CRC)**
- **Dual Use Research of Concern (DURC)**
- **Good Clinical Practice**
- **Human Gene Transfer**
- **Personal Protective Equipment**
- **Responsible Conduct of Research for Administrators**
- **VA Human Subjects Protection and Good Clinical Practices**

Research Experience

Publications

"eIF5A recruits cytoplasmic TDP-43 and promotes accumulation into arsenite-induced stress granules in a hypusine-dependent manner" (**In progress**)

Presentations

- American Public Health Association (APHA) 2020 conference
  Poster Presentation: "An Overview of PSR Florida's Climate and Health: A Call to Action Empowerment Grant"

- National Conference on Worker Safety and Health conference (December 2019)
  "**An Overview of Occupational Hazards among School Custodians in Massachusetts"**
  2nd prize- Poster contest

- Moderator for APHA's Environmental Section **(Illness and Injuries in the Workplace)-**November 2019

- Southeastern Regional Chapter of Society of Toxicology conference (October 2019)
  "A Potential Protective Role for PARP1 Inhibitors in Prevention of Drug Induced Organ Toxicity"

- 12th Annual Conference on Alzheimer's Drug Discovery Foundation (February 2018)

"Neurotrophin-5 is involved in the regulation of synaptic plasticity in Alzheimer's disease" (co-author)

- International Symposium on Neural Transplantation and Restoration (Clearwater, FL)
  "The role of eIF5A hypusination on TDP-43 accumulation and stress granule formation in FTD TDP-43 proteinopathy" (2018)

- USF Health Research Day 2018 **"Recruitment of TDP-43 to stress granules in a hypusine-dependent manner"** (Poster presentation: co-author)
  Corresponding authors: Zainuddin Quadri, PhD, Shayna Smeltzer, M.S. Frank Zamudio, B.S., Daniel C. Lee, PhD, Maj-Linda Selenica, PhD

- USF Health Research Day 2018 **"The role of TDP-43 on the blood-brain barrier and synaptic function"** (Poster presentation)
  Corresponding authors: Frank Zamudio, B.S, Shayna Smeltzer, M.S., Nicholas Stewart, Anjanet Loon, B.S. and Dr. Maj-Linda Selenica, PhD

- **Temporal distributions of krill size for *Euphausia superba*** (Research Study)

- American Society for Microbiology (ASM) Microbe 2017 Conference (Poster Presentation): **Nanotherapeutic Approaches for the Emerging Multi-Drug Resistant Fecal Bacteria** (Co-author)

- Moffitt Cancer Center Scientific Symposium (Poster Presentation): **Xerostomia and the tumor microbiome in head and neck cancer** (May 2017)

- USFSP Symposium**: The Immunology of a Heart Transplant** (2016)
- USFSP Symposium: **Does Krill Size Increase with Depth?** (2015)

From:	Fallace, Katie (MDH)
To:	Knott, Steven
Subject:	Nomination materials for EPA-HQ-OPPT-2020-0135 TSCA SACC
Date:	Monday, April 20, 2020 10:45:34 AM
Attachments:	image001.gif KLFallace-CV2020.docx KLF_BIOSKETCH FORM.pdf

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Hello Steven,

I am self-nominating for the TSCA SACC. Below you will find my contact information and attached you will find my biosketch form and CV. The biosketch form was updated from a previous nomination, if there is another version of the form you would like me to use please send me a copy of it.

Nominee contact information:

Katherine Fallace, MPH, CPH
Minnesota Department of Health
Orville L. Freeman Building
625 Robert St. N,
St. Paul, MN 55164
Email: Katie.fallace@state.mn.us
Phone: (651) 201-4927

Thanks!

Katie

Katherine “Katie” Fallace, MPH, CPH
Research Scientist | Health Risk Assessment Unit

Minnesota Department of Health
Office: 651-201-4927
Pronouns: She/Her/Hers

iconmdhmnemail

Environmental Protection Agency (EPA)
Office of Science Coordination and Policy (OSCP)
Biosketch Instructions, Example, and Fillable Form

Thank you for your interest in peer reviews at the EPA. As part of the process of soliciting, nominating, and recruiting established members of a panel or committee or adding *ad hoc* members for select meetings, OSCP needs a one-page biographical sketch (a.k.a. biosketch).

We are requesting that you provide information that is focused and appropriate to represent your profession, expertise, scientific or related technical experience, and prior panel or committee experience like that of a Federal Advisory Committee (e.g., Scientific Advisory Panel, Scientific Advisory Board, Board of Scientific Counselors, or similar).

The one-page biosketch will be used in the candidate phase of recruiting and identifying members with the credentials that support the potential participation in a particular meeting and, if placed on a panel or committee meeting roster, will be used to document members who contributed to a meeting.

INSTRUCTIONS

The next page provides a description of the information that is requested by field name.

The following page is an example of a properly formated one-page biosketch.

The last section (2 pages) of this document is a fillable form that corresponds to the fields (sections) that comprise the biosketch. *Fields are character limited*. Scroll bars may appear for a field, but once the maximum characters are used the field will accept no additional information. We will receive the form and extract the information to a document for final review and formatting. If more than one page of information is received, we will contact you about any edits made to conform to the single page format.

NOTE: This PDF file is in an "extended format" and can be opened, fields filled in, and the file saved using either Acrobat Reader or Acrobat Professional. In the extended format you will be able to open the file later and edit the document.

BIOGRAPHICAL SKETCH TEMPLATE

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …); additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests. Usually 200-word count.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

EXAMPLE:

Daniel Schlenk, Ph.D.

Affiliation: Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California Riverside, CA.

Expertise: Research on understanding the biochemical factors that influence susceptibility to environmental and natural chemicals with a focus on Aquatic Ecotoxicology.

Education: PhD in Toxicology, Oregon State University. BS Toxicology Northeast Louisiana University.

Experience Summary: Dr. Daniel Schlenk is Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California-Riverside. He is a Fellow of the American Association for the Advancement of Science, and from 2007-2014. Dr. Schlenk was a member of the Board of Directors for the North American Society of Environmental Toxicology and Chemistry (2003-2006). His research interests focus on mechanisms of action of pesticides, PAHs, and emerging compounds in aquatic organisms.

Panel Experience: Dr. Schlenk is currently a member of EPA Science Advisory Committee on Chemicals (SACC; 2017-present); Dr. Schlenk's experience on Federal panels includes: Permanent Member US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Science Advisory Panel (2007-2012) and Chair US EPA FIFRA Science Advisory Panel (2012-2014). USEPA Chemical Safety Advisory Committee (CSAC) (2016) and the Toxic Substances Control Act (TSCA), Draft Risk Assessment Work Plan Chemical for 1-Bromopropane (2016); Ad hoc reviewer National Institute of Environmental Health Sciences (NIEHS) Freshwater Biomedical Centers (1996); US Department of Agriculture (1997-2000) and National Science Foundation (1996-present); National Oceanic and Atmospheric Administration (NOAA) Oceans and Human Health Initiative Grant Review Panel (2005); US EPA Endocrine Disrupter Mixtures Grant Review Panel (2005); US EPA Science Advisory Board, Aquatic Life Criteria Guidelines (2005); NIEHS P30 Core-Center Applications (2008); and NIEHS Superfund Research Program P42 Center Applications (2016). Dr. Schlenk has also served on numerous State and foundation review panels and committees.

Scroll to the top of this document for Instructions, biosketch template, and example. Use the fields below to enter you biosketch information.

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …) ; additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

Katherine L. Fallace, MPH, CPH

(b) (6)
(b) (6) | Katie.fallace@state.mn.us

EDUCATION

The American College of Toxicology & Teratology Society
Practical Reproductive and Developmental Toxicology Educational Course
May 2017
Philadelphia, PA

University of Minnesota
MPH, Environmental Health Sciences: Regulatory Toxicology & Risk Assessment
May 2016
Minneapolis, MN

University of Wisconsin-Madison
B.S., Biology-Neuroscience; Pharmacology & Toxicology
May 2010
Madison, WI

PROFESSIONAL EXPERIENCE

Minnesota Department of Health
Research Scientist, Toxicologist
7/2018-Present
St. Paul, MN

- Develop and review health based values for chemicals found in Minnesota water using a multi-duration risk assessment approach
- Screen chemicals and prioritize for later review based on exposure and hazard information
- Provide consultation and technical assistance to public and stakeholders regarding chemical risks and health based guidance
- Create public health messaging for chemicals that have health based values
- Represent the views of our unit and plan meetings/webinars a as a member of the steering team for the Federal-State Toxicology Risk Analysis Committee
- Provide support to the University of Minnesota School of Public Health's graduate toxicology programs as a guest lecturer, advisory board member, and mentor
- Serve as a field coordinator for radiological emergency responses

Association of Schools and Programs of Public Health
Environmental Health Fellow at the U.S. Environmental Protection Agency
9/2016 –7/2018
Washington, DC

- Evaluated hazard, exposure, and risk assessments created by EPA program offices for appropriate consideration of children's health and provide critical review
- Created and edited documents relating to considering susceptible populations during the risk assessment process for new and existing chemicals, including systematic review materials and case studies
- Prioritized chemicals to be evaluated under the Toxic Substances Control Act for the Office of Children's Health Protection (OCHP) using children's health relevant exposure and hazard criteria
- Searched and evaluated toxicological and epidemiological scientific literature for chemical specific information on biomonitoring, reproductive, and developmental adverse effects
- Provided expertise to external stakeholder groups on the new susceptible subpopulations provisions in the amended Toxic Substances Control Act

3M
Technical Aide- Toxicology and Compliance Solutions
5/2016 – 9/2016
Maplewood, MN

- Summarized toxicology results for various materials
- Created and updated biocompatibility and biologic effects reports on existing products

Minnesota Pollution Control Agency,
Student Intern- Air Data Analysis Unit
5/2015 – 5/2016
St. Paul, MN

- Wrote and presented a summary report on health effects of nano- and ultrafine particulate matter
- Compiled scientific literature on other ultrafine particulate matter monitoring programs and health effects

Minnesota Department of Health
Student Worker/Paraprofessional- Hepatitis Unit
9/2014 – 10/2015
St. Paul, MN

- Compiled and verified viral hepatitis cases for the CDC and state using MAVEN surveillance software
- Advised medical staff on hepatitis vaccination, testing recommendations, and reporting requirements

University of Wisconsin, Department of Medicine
Clinical Trial Coordinator- Gastrointestinal & Hepatology Division
6/2011 – 8/2014
Madison, WI

- Conducted study visits for clinical treatment trials and research registries and recruited and consented patients
- Worked closely with healthcare providers in clinic to provide patient care

- Ensured regulatory compliance and facilitated monitoring agencies with data queries
- Created research source documents and instructions for new clinical trials and trained new staff

University of Wisconsin, Department of Medicine
Research Assistant- Dr. Vaishali Bakshi's Lab
1/2007 – 4/2011
Madison, WI

- Designed and performed behavioral animal studies concerning neurotransmitters and a sensorimotor gating model of schizophrenia
- Data management and analysis

HONORS AND AWARDS

- US Environmental Protection Agency's Office of the Administrator Team Excellence Award (Dec. 2017)
- University of Minnesota's School of Public Health Student Senate Travel Award (Feb. 2017)

PRESENTATIONS & PUBLICATIONS

- Fallace, K. "U.S. EPA: Overview and Regulatory Toxicology." Regulatory Toxicology. University of Minnesota School of Public Health. Minneapolis, MN. Annual Guest Lecture.
- Fallace, K. "Environmental Health Risk Assessment." Environmental Health Effects: Introduction to Toxicology. University of Minnesota School of Public Health. Minneapolis, MN. 13 March 2019. Guest Lecture.
- Fallace, K; Foos, B; Wills, M. "Approaches for considering fetal and early postnatal life stages in environmental health risk assessment." 29 May 2018, Poster presented at the 6th Prenatal Programming and Toxicity Conference, Tórshavn, Faroe Islands.
- Fallace, K; Foos, B; Willis, M; Branch, F; Benson, A. "Susceptible subpopulations in environmental health: What can be applied in risk evaluation under the amended Toxic Substances Control Act?" 12 March 2018, Poster presented at the 57th annual meeting of the Society of Toxicology, San Antonio, TX.
- Fallace, K. "Applying My Bachelors of Science in Pharmacology & Toxicology." Toxicology Seminar. University of Wisconsin-Madison. Madison, WI. 29 January 2018. Guest Lecture.
- Euling, S; Fallace, K. "TSCA Systematic Review: Tagging Susceptibility Articles during Full Text Review." Office of Pollution Prevention and Toxics, U.S. Environmental Protection Agency. Washington, DC. 18 December 2017. Training presentation.
- Fallace, K. "Ultrafine Particulate Matter: An Overview and Health Effects Summary." Minnesota Pollution Control Agency. St. Paul, MN. 23 May 2016. Presentation.
- Baisley SK, **Fallace KL**, Rajbhandari AK, Bakshi VP. Mutual independence of 5-HT(2) and α1 noradrenergic receptors in mediating deficits in sensorimotor gating. Psychopharmacology (Berl). 2012 Apr;220(3):465-79. doi:10.1007/s00213-011-2490-2.
- Alsene KM, **Fallace K**, Bakshi VP. Ventral striatal noradrenergic mechanisms contribute to sensorimotor gating deficits induced by amphetamine. Neuropsychopharmacology. 2010 Nov; 35(12):2346-56. doi: 10.1038/npp.2010.106.

PROFESSIONAL MEMBERSHIPS

- Society for Birth Defects Research & Prevention, formerly Teratology Society (Aug. 2017-Current)
- Society of Toxicology (Oct. 2014 – Present)

From:	Kosnett, Michael
To:	Knott, Steven
Subject:	Nomination of Daniel A. Goldstein MD for appointment to the TSCA Science Advisory Committee on Chemicals
Date:	Monday, April 13, 2020 3:47:11 PM
Attachments:	Danield Goldstein TSCA SACC nomination letter.pdf DAG-CV-SHORT-11-15-2019.pdf

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Steven M. Knott, MS,
Designated Federal Officer (DFO)
Office of Science Coordination and Policy (7201M),
Environmental Protection Agency
Dear Mr. Knott:
In response to the Federal Register notice 85 FR 16094 attached please find my nomination letter and the CV of Daniel A. Goldstein, MD for consideration of his appointment to the TSCA Science Advisory Committee on Chemicals.
Sincerely,
Michael J. Kosnett, MD, MPH
4495 Hale Parkway, Suite 301
Denver, CO 80220-6204
303.571.5778

Curriculum Vitae

DANIEL A. GOLDSTEIN, M.D.

Consultant in Medical, Industrial, and Environmental Toxicology

1009 Wellington Terrace

Chesterfield, MO 63017

Tel: 314-922-5845 **Updatde:11/15/2019** **dagtox@gmail.com**

Born: (b) (6)

Citizenship: U.S.A.

Scope of practice: Clinical, Occupational and Environmental Toxicology, Acute and Chronic Poisoning, Clinical Pharmacology.

Training:

1976 Bachelor of Science - *Cum Laude*, Molecular Biology -- *University of Wisconsin at Madison.*

1977 Completed eighteen months of graduate course work and research (partially concurrent with undergraduate studies) in Human Genetics and Immunology, Department of Molecular Biology -- *University of Wisconsin at Madison.* (No degree granted).

1981 Doctor of Medicine, *Johns Hopkins University School of Medicine* -- Baltimore, Maryland.

1984 Completed Residency in Pediatrics, *Johns Hopkins Hospital* -- Baltimore, Maryland.

1984 Clinical and Research Fellow, Division of Clinical Pharmacology, *Hospital for Sick Children* -- Toronto, Ontario.

1984 Postgraduate course in Clinical Pharmacology, Drug Development, and Regulation. Center for the Study of Drug Development. *University of Rochester.*

Practice Experience:

1986	Private Practice: General Pediatrics and Toxicology - Towson, Maryland
1987 - 1988	Accord Medical Centers, Department of Toxicology - Denver, CO
1988 - 1998	Private Practice: Toxicology and Pediatrics - Denver, CO
1989 - 1994	Consulting Medical Director, ENSECO, Inc. - Somerset, NJ
1989 - 1990	Colorado Department of Health, Division of Prevention Programs - Disability Advisory Board
1991 - 1996	Medical Director: Section of Toxicology, Department of Internal Medicine, Swedish Medical Center- Denver, CO.
1991 - 1998	Member, Pharmacy and Therapeutics Subcommittee - Swedish Medical Center- Denver, CO
1992 - 1993	Member, Denver Medical Society - Bar Association Liaison Committee
1993 - 1998	Appointee, Colorado Air Quality Commission Air Quality Science Advisory Board
1993 - 1998	Member, Biosafety Committee, AMGEN Boulder, Incorporated
1996 - 2005	Assistant Editor, TOMES Plus Information System
1998- 1999	Associate Medical Director, Product Coordinator. Monsanto Company, St. Louis, MO
1999- 2018	Lead, Medical Sciences and Outreach, Distinguished Science Fellow (Retired) Monsanto Company,

St. Louis, MO

2002- 2017	Senior Science Fellow, Monsanto Company, St. Louis, Mo.
2017- 2018	Distinguished Science Fellow, Monsanto Company, St. Louis, Mo.
2009- 2018	Lead, Medical Sciences and Outreach. Monsanto Company, St. Louis, MO
2018-Present	Consultant, Medical, Industrial and Environmental Toxicology
2018-Present	Bayer (purchased Monsanto) contract employee

Honors and Awards:

1973	National Honor Society
1974	Bergenthal Scholarship for Outstanding Freshman Engineers
1974	Elected to Phi-Beta-Sigma
1975	U.S. National Science Foundation Summer Research Scholarship in Chemistry
1976	Phi-Beta-Kappa
1976	Haelfer Award for Outstanding Senior Chemist
1981	Alpha-Omega-Alpha Medical Honor Society
1984	Canadian Medical Research Council Fellowship Training Grant

Certifications and Licensure:

1981	Federal Licensure Examination (U.S.)
1981	License to Practice Medicine - State of Maryland (discontinued 1988)
1985	National Board of Medical Examiners
1986	Fellow of the Royal College of Physicians of Canada (Pediatrics)
1986	American Board of Medical Toxicology
1986	American Board of Pediatrics
1987	License to Practice Medicine - State of Colorado (discontinued, 2001)
1991	American Board of Clinical Pharmacology
1995	Special Qualification in Toxicology - Joint board exam by the American Board of Emergency Medicine, American Board of Pediatrics and American Board of Preventative Medicine (Recertification, 2008)
1997	Fellow of the American College of Medical Toxicology
1998	License to Practice Medicine- State of Missouri

Faculty and Academic Appointments:

1988 - 1998	Assistant Clinical Professor of Pediatrics, University of Colorado -- School of Medicine.
1986 - 1988	Co-Director, Adverse Drug Reaction and Clinical Pharmacokinetics Clinic - National Jewish Hospital- Denver, CO
1991 - 1998	Adjunct Professor - Environmental Sciences and Engineering Ecology -- Colorado School of Mines.
2016-	Adjunct Professor of Emergency Medicine, Washington University School of Medicine.

Committee and Board Memberships:

U.S. E.P.A. Child Health Protection Advisory Committee

Alternate Member	2000-2001
Member	2001-2007
Member- Science and Research Working Group	2000-2007
Co-Chair, Science and Regulatory Working Group	2002-2003
Co-Chair, Science Policy Working Group	2003-2007

ILSI Risk Science Institute- Workshop to Develop a Framework for Assessing Risks to Children from Exposure to Environmental Agents

Planning committee member 2000-2001
Conference participant July 2001

American Crop Protection Association- Child Health Task Force
Member 2000-2004

Council for Biotechnology Information
Member, Medical and Health Outreach Sub-committee 2000-2003
Chair, Medical and Health Outreach Sub-committee & 2002-2003
Member, Outreach Steering Committee

U.S. Environmental Protection Agency, Science Advisory Board. Supplemental Guidance for Assessing Cancer Susceptibility from Early Life Exposure to Carcinogens.
Ad-hoc SAB Member May 2003

ECETOC (European Centre for Ecotoxicology and Toxicology of Chemicals)
Child Health Task Force, Brussels, Belgium 2003-2004

NAFTA Council for Environmental Cooperation -Expert Review of North American Indicators of Children's Health and the Environment. Ottawa, Canada
Appointed U.S. Technical Representative / Consulting expert June, 2004

Technical Workshop on Human Milk Surveillance and Biomonitoring for Environmental Chemicals in the United States (University of Pennsylvania, Hershey PA)
Invited expert participant. September, 2004

NAFTA Council for Environmental Cooperation -Expert Review of the Draft Special Feature Report on Toxics and Children's Health ("Taking Stock"), Montreal, Canada. November 2004

NAFTA Council for Environmental Cooperation - Expert Review of the Draft: Children's Health and the Environment in North America: a First Report on Available Indicators and Measures
Appointed U.S. Technical Representative / Consulting expert March 2005

The Biomonitoring Equivalents Pilot Project Derivation and Communication Expert Workshop, Estes Park, CO.
Panel Expert Member June, 2007

American College of Medical Toxicology, Board of Directors, Board Member 2006-2009

Cranfield University Institute of Environment and Health, ECETOC Workshop: Framework for the Development and Application of Environmental Biological Monitoring Guidance Values. Woburn, U.K. June 2009

NCEH/ATSDR National Conversation on Public Health and Chemicals in the Environment.
Member, Biomonitoring Working Group (Chair, Chemical Use and Exposure Pathways Sub-Group), Member, Leadership Council June 2009 – Dec 2011

Medical Toxicology Foundation (Non-profit affiliate, American College of Medical Toxicology).
Advisory Board member. 2009-2013

American Board of Pediatrics, Medical Toxicology Sub-Board (Examining body for

Board Certification in Medical Toxicology).
Member, Vice Chair (2012) and Chair (2013-14) Dec. 2010- Present

ILSI/HESI (International Life Sciences Institute, Health and Environmental Sciences Institute) Emerging Issues Committee (Science Advisory Board)
Member 2012-present
Chair 2016-2017

Publications and other Authorships:

Spielberg S.P., Gordon G.B., Blake D.A., Goldstein D.A., Herlong F.H., Predisposition to Phenytoin Toxicity Assessed *In Vitro*. *New England Journal of Medicine,* 305:722-726 (1981).

Contributing Editor. Formulary and Fluid and Electrolytes in Cole C.G. (ed.) *The Harriet Lane Handbook* (tenth edition), Year Book Medical Publishers, Chicago (1984).

Goldstein D.A., Zimmerman B., Spielberg S.P., Anaphylactic Response to Hydrocortisone in Childhood, *Annals of Allergy,* 55:599-600 (1985).

Goldstein D. Tetracyclines in *Antimicrobial Drugs in Infants and Children,* Koren G., Prober C.R., Gold R. (eds) Marcel Dekker, NY.

Goldstein D.A., Tan Y.K., Soldin J.S., Pharmacokinetics and Absolute Bio-availability of Salbutamol in Healthy Adult Volunteers. *European Journal of Clinical Pharmacology,* 32:631-634 (1987).

Goldstein D.A., Clarke J.T.R., Soldin S.J. Volume of Distribution of Phenytoin Not Altered in Storage Disease. *AMA Archives of Neurology,* 44:577-578 1987).

Goldstein D.A., McGuigan M., et. al., Acute Tricresylphosphate Intoxication in Children, *Human Exp Toxicology,* 7:179-182 (1988).

Vaisman N, Koren G, Goldstein D, Canny GJ, Tan YK, Soldin S, Pencharz P. Pharmacokinetics of inhaled salbutamol in patients with cyctic fibrosis versus healthy young adults. J Pediatrics 111:914-917 (1988)

Goldstein D.A., Therapeutic Drug Monitoring in *Office Based Pediatrics*, Dershewitz R. (ed.). JP Lippincott, Philadelphia.

Goldstein D.A., Teitelbaum D.T., Your Occupational Physical, (Privately published).

Goldstein DA, Acquavella JF, Mannion RM, Farmer DR. An Analysis Of Glyphosate Data From The California Environmental Protection Agency Pesticide Illness Surveillance Program. *J Toxicol Clinical Toxicol* 40(7):885-892, 2002.

ILSI (International Life Science Institute: Final Report: Workshop to Develop A Framework For Assessing Risks to Children From Exposures to Environmental Agents. ILSI, Washington DC, 2003

U.S. EPA Science Advisory Board, Ad-hoc Committee. A Review of EPA's Draft Supplemental Guidance for Assessing Cancer Susceptibility from Early-Life Exposure to Carcinogens. EPA-SAB-04-003, March, 2004. (Panel member / Co-author)

Goldstein DA, Shelton PE, Cullen MR, Easterday PA, Eppard PJ, Cabanilla BR. Responding to the Challenge of Novel Technology: An Industrial Hygiene and Safety Program for Antibody Production in Maize. *J. Occupational Envir Medicine* 46(8):784-790, 2004.

Goldstein DA, Thomas JA. Biopharmaceuticals Derived from Genetically Modified Plants. *Quarterly Journal of Medicine* 97(11): 705-716, 2004

Fischman ML, Goldstein DA, Cullen MR. Emerging Technologies (Chapter 18). In: Rosenstock L, Cullen M, Brodkin C, Redlich C. *Textbook of Clinical Occupational and Environmental Medicine*, Elsevier. New York, 2005.

ECETOC Task Force, Technical Report Number 96: Trends in Children's Health and the Role of Chemicals: State of the Science Review. ECETOC Publication, Brussels, Belgium, June 2005.

Wong RY, Bates MN, Goldstein DA, Hayes SG, Hench KD, Lawrence RA, Paul IM, Zhengmin Q. Human Milk Research for Answering Questions About Human Health. J Toxicol Envir Health 68(20), part A:1771-1802, 2005. (In: Lekind JS (ed) Part A: Current Issues- Technical Workshop on Human Milk Surveillance and Biomonitoring for Environmental Chemicals in the United States, published as *J Toxicol Envir Health* volume 68, Part A)

Berlin CM, Lakind JS, Fenton SE, Wang RY, Bates MN, Brent RL, Condon M, Crase BL, Dourson ML, Ettinger AS, Foos B, Furst P, Giacoia GP, Goldstein DA, Hayes SG, Hench KD, Kacew S, Koren G, Lawrence RA, Mason A, McDiarmid MA, Moy G, Needham LL, Paul IM, Pugh LC, Zhengmin Q, Salamone L, Selevan SG, Sonawane B, Tarzian AJ, Tully MR, Uhl K. Conclusions and Recommendations of the Expert Panel: Technical Workshop on Human Milk Surveillance and Biomonitoring for Environmental Chemicals in the United States. J Toxicol Envir Health 68(20), part A:1825-1830, 2005. (In: Lekind JS (ed) Part A: Current Issues- Technical Workshop on Human Milk Surveillance and Biomonitoring for Environmental Chemicals in the United States, published as *J Toxicol Envir Health* volume 68, Part A)

Goldstein DA, Tinland B, Gilbertson LA, Staub JM, Bannon GA, Goodman RE, McCoy RL, Silvanovich A. Human safety and genetically modified plants: a review of antibiotic resistance markers and future transformation selection technologies. *Journal of Applied Microbiology* 99(1): 7-23, 2005.

Hays SM, Aylward LL, LaKind JS, Bartels MJ, Barton HA, Boogaard P, Brunk C, DiZio S, Dourson M, Goldstein DA, Lipscomb J, Kilpatrick ME, Krewski D, Krishnan K, Nordberg M, Okino M, Tan YM, Viau C, Yager JW. Guidelines for the Derivation of Biomonitoring Equivalents: Report from the Biomonitoring Equivalents Expert Workshop. *Reg. Toxicol. Pharmacol.* 54 (3):sup 4-15,2008

LaKind JS, Aylward LL, Brunk C, DiZio S, Dourson M, Goldstein DA, Kilpatrick ME, Krewski D, Bartels M, Barton H, Boogaard P, Lipscomb J, Krishnan K, Nordberg M, Okino M, Tan C, Viau C, Yager JW, Hays SM. Guidelines for the Communication of Biomonitoring Equivalents: Report from the Biomonitoring Equivalents Expert Workshop. *Reg. Toxicol. Pharmacol.* 54(3):sup 16-23, 2008

Vicini J, Ballam J, Denham S, Staub R, Goldstein D, Cady R, McGrath MF, Etherton T, Kris-Etherton P, Lucy M. Survey of Milk Composition in the United States as Affected by Bovine Somatotropin Label Claims. *Journal of the American Dietetic Association* 108:1198-1203, 2008.

Harris WS, Lemke SL, Hansen SN, Goldstein DA, DiRienzo MA, Su H, Nemeth MA, Taylor ML, Ahmed G, George, C. Stearidonic Acid-Enriched Soybean Oil Increased the Omega-3Index, an Emerging Cardiovascular Risk Marker. *Lipids* 43:805-811, 2008.

Roberts DM, Buckley NA, Mohamed F, Eddleston M, Goldstein DA, Mehrsheikh A, Bleeke MS, Dawson AH. A prospective observational study of the clinical toxicology of glyphosate-containing herbicides in adults with acute self-poisoning. *Clin Toxicol* 48(2):129-36, 2010.

Lemke SL, Vicini JL, Su H, Goldstein DA, Nemeth MA, Krul ES, Harris WS. Dietary intake of stearidonic acid-enriched soybean oil increases the omega-3 index: randomized, double-blind clinical study of efficacy and safety. *Am J Clin Nutr*. 92:766-75, 2010.

Krul ES, Lemke SL, Mukherjea R, Taylor ML, Goldstein DA, Su H, Liu P, Lawless A, Harris WS, Maki KC. Effects of Duration of Treatment and Dosage of Eicosapentaenoic Acid and Stearidonic Acid on Red Blood Cell Eicosapentaenoic Acid Content. *Prostaglandins, Leukotrienes and Essential Fatty Acids* 86:51-59, 2012.

Lemke SL, Maki KC, Hughes G, Taylor ML, Krul ES, Goldstein DA, Su H, Rains TM, Mukherjea R. Consumption of Stearidonic Acid Rich Oil in Foods Increases Red Blood Cell Eicosapentaenoic Acid. *J Acad Nutr Diet*. 113:1044-1056, 2013.

Casey JM, Banz WJ, Krul ES, Butteiger DN, Goldstein DA, Davis JE. Effect of stearidonic acid-enriched soybean oil on fatty acid profile and metabolic parameters in lean and obese Zucker rats. *Lipids in Health and Disease* 12:147 (2013)

Goldstein, DA. Tempest in a Tea Pot: How did the Public Conversation on Genetically Modified Crops Drift so far from the Facts? *J. Med Toxicol* 10(1):402-407. Published online May, 2014 at: DOI 10.1007/s13181-014-0402-7

Goldstein, DA. *The Historical Apothecary Compendium: A Guide to Terms and Symbols* (Book), Schiffer Publications, Atglen, Pennsylvania, 2015. ISBN: 978-0-7643-4926-3

McGuire MK, McGuire MA, Price WJ, Shafii B, Carrothers JM, Lackey KA, Goldstein DA, Jensen PK, Vicini JL. Glyphosate and aminomethylphosphonic acid are not detectable in human milk. Am J Clinical Nutrition. Published ahead of print March 30, 2016, doi: 10.3945/ajcn.115.126854.

Abstracts and Selected Lectures:

Hughes H.E., Goldstein D.A., The Teratogenic Effects of Concomitant Use of Ergotamine, Beta Blockers, and Caffeine (Abstract). *The David Smith Malformation and Morphogenesis Meeting,* June 1985.

Koren G., Barzily Z., Goldstein DA. Tenfold Errors in Computation of Drug Doses in Children -- A Neglected Iatrogenic Disease. *Pediatric Research,* 20:258A (1986).

Goldstein DA. Successful Hemodialysis of Procainamide and N-Acetyl Procainamide in Acute Overdose (Abstract/Poster) ABMT Annual Scientific Meeting, 1988.

Goldstein, D.A., Reactive Airways Disease Syndrome Following Inhalational Exposure to Hydrochloric Acid Mist or Vapors. *Veterinary and Human Toxicology,* 36(4):345 August 1994.

McConnell EE (moderator), MacGregor J, Goldman L, Kendall R, Goldstein DA, Ellis G (short lectures & panel discussion). Issues Session: The value and Ethics of Using Human Pesticide Data for the Registration of Pesticides. 39th Annual Meeting of the Society of Toxicology, Philadelphia, PA, March 2000.

Goldstein, DA. Safety of Bioengineered Foods (lecture). Modified Foods in the Marketplace- Public Health and Nutrition Update- 2000, University of North Carolina, April, 2000

Goldstein DA., The Medical Toxicologist in Industry- Two Years Before the Mast. American Assoc. of Poison Control Centers / American College of Clinical Toxicology / Canadian Assoc of Poison Control Centers and Clinical Toxicologists (Conjoint Meeting), Tucson, AZ, September 2000. (Lecture, Panel Discussion).

Goldman, L, Damstra T (moderators), Bearer C, Goldstein DA, Kirshner A, Paulson J, Schwetz B, Sonawane R, Cleveland C (discussants). Panel Discussion: How Do We Strengthen the Science and Practice of Assessing Risks to Children. Children's Health and the Environmment 2000. Colorado Springs, CO, September 2000

Sonawane B., G.L. Ginsberg, D.A. Goldstein, N.B. Beck· A Conceptual Framework To Evaluate The Risks Of Environmental Chemical Exposures To Children: Issues For Consideration. (Abstract/Lecture) International Union of Toxicology, International Congress of Toxicology (ICT-IX), Brisbane, Australia, July, 2001.

Goldstein, DA. Agrochemical Toxicology- Introduction: Pesticide Regulation- What a Clinician Needs to

Know. American College of Occupational Medicine State of the Art Conference (SOTAC), October 2002.

Goldstein, DA. Agrochemical Toxicology- A Mechanistic Approach to Herbicide Toxicology. American College of Occupational Medicine State of the Art Conference (SOTAC), October 2002.

Goldstein, DA. Differential Susceptibility of Older Persons to Environmental Hazards: An Industry Viewpoint. National Academy of Sciences workshop on Differential Susceptibility of Older Persons to Environmental Hazards, December 2002.

Goldstein, DA. Making the Case: The Need to Improve Health Care Provider Education and Practice: The Issue in Perspective. NEETF (National Environmental Education Task Force), National Forum Agenda: National Strategies for Health Care Providers: Pesticide Initiative, June 2003, Washington DC

Acquavella JF, Goldstein, DA. Farm Family Exposure Study: Results for Glyphosate (Roundup™). Brasilian Toxicology Congress, Londrina, Brazil, September 2003

Goldstein, DA. Farmers and Farm Families: Pesticide Exposure, Personal Protection, Risk Assessment, and Epidemiology. American College of Occupational Medicine, Kansas City, Missouri.

Goldstein, DA. Long Term Risk Assessment of Genetically Modified (GM) Organisms in Crops and Food. MediChem, Paris, 2004.

Goldstein DA, Acquavella JF, Farmer DR. Physico-Chemical Properties of Pesticides Related to Probable Exposure Routes and Exposure Prevention Strategies: Observations from the Farm Family Exposure Study. (Poster) MediChem, Paris, 2004.

Goldstein DA. An Evaluation of Environmental Health Trends Among Children Based on Medical and Scientific Evidence (Abstract/Lecture). Society of Toxicology (SOT), New Orleans, March 2005.

Goldstein DA, Farmer DL, Levine SL, Garnett RP. Mechanism of Toxicity of Commercial Glyphosate Formulatons: How Important Is The Surfactant? (Invited lecture/abstract) European Association of Poison Control Centers and Clinical Toxicologists, Berlin, May 2005.

Goldstein DA. Nutritionally Enhanced GM Food: Food Security, Nutrition, and Human Health. IX Congresso Brasileiro de Nutrologia, Sao Paulo, Brazil, September 9

Goldstein DA. Nutritionally Enhanced GM Food: Food Security, Nutrition, and Human Health (Invited lecture/abstract) IX Congresso Brasileiro de Nutrologia, Sao Paulo, Brazil, September 9, 2005

Goldstein DA. Plant-Made-Pharmaceutical Production in Food Crops- Yes?... No?... Maybe: (Invited lecture (tele-presentation) and panel discussion.) Oregon Department of Agriculture and Department of Human Services-Biopharming Ad Hoc Committee. March 27,2006

Goldstein DA. Introduction to Plant Biotechnology: Technology, Safety, and Human Health. Maui Medical Society, September, 2006.

Goldstein, DA. Biodiagnostic Markers: Pitfalls on the Path from Biomonitoring to Medical Diagnosis (Invited lecture, followed by panel discussion). 2007 Pesticide Worker Safety and Health Conference, US EPA OPP Worker Protection Branch, Arlington, Virginia, October 2-4, 2007.

Food Biotechnology (invited lecture and discussion) Graduate seminar series, St. Louis University School of Public Health. St. Louis, Missouri, April 2, 2008.

Goldstein DA, Lemke SL. Use of Biotechnology for Nutritional Improvements: The Oil Case Monsanto Company. (Invited lecture) Nutri-Health (Nutri-Salud) Forum, Buenos Aires, Argentina, April 11, 2008.

Lemke SL, Goldstein DA, Su H, Nemeth MA, Krul ES, Harris WS. Plant biotechnology and heart health: the effects of stearidonic acid-enriched soybean oil on the omega-3 index and other markers. American Heart Association Scientific Session, November, 2009.

Lemke SL, Wilkes RS, Welsby D, Goldstein DA, Krul ES, Mukherjea R, and Harris WS. Stearidonic acid-enriched soybean oil as an effective source of long-chain polyunsaturated fat in foods. Experimental Biology (FASEB), Anaheim, California, April 2010.

Krul ES, Lemke SL, Mukherjea, R, Goldstein DA, Su H, Nemeth MA, Harris WS. Stearidonic acid-enriched soybean oil: a novel source of cardioprotective omega-3 fatty acids. Experimental Biology (FASEB), Anaheim, California, April 2010.

Mukherjea R, Krul ES, Liu P, Lemke SL, Taylor ML, Goldstein DA, Su H, Harris WS, Maki KC. Effects of Duration of Dose and Treatment of Dietary Eicosapentaenoic Acid (EPA) and Stearidonic Acid (SDA) on EPA Levels in Red Blood Cell (RBC) Membranes. FASEB J. 25:349, April 2011.

Goldstein DA. Epidemiology and the Media- Industry Responses: A Dental Hygiene Approach. CropLife America, Spring Meeting, Washington DC, April 2011.

Garlich FM; Goldman M, Pepe J, Nelson LS, Allan MJ, Goldstein DA, Goldfarb DS; Hoffman RS. (2011) Hemodialysis Clearance of Glyphosate Following a Life-threatening Ingestion of Glyphosate-Containing Herbicide. Clinical Toxicology 49:264. Presented at EAPCCT, Dubrovnik, Croatia, May 2011.

Casey JM, Banz WJ, Krul ES, Butteiger DN, Goldstein DA, Davis JE. Stearidonic acid-enriched soybean oil improved metabolic and omega-3 profile in obese Zucker rats. Presented at ASN/Experimental Biology, San Diego, CA, April 2012.

Park EI, Mary TL, Su H, Nemeth MA, Lemke, SL, Goldstein, DA, Wilkes, RS, and Vicini, JL. Stearidonic Acid (SDA) from soybeans affects the EPA levels in red blood cells. ISFAAL, Vancouver, Canada, May 2012.

Goldstein DA. The use of epidemiology in pesticide risk assessment. ILSI Brazil Annual meeting, Campinas, Brazil, April 2013.

Goldstein DA. Contrasts and Interactions between epidemiology and toxicology. Symposium on epidemiology and pesticide risk assessment, ILSI Brazil Annual meeting, Campinas, Brazil, April 2013.

Goldstein DA. From Bt to RNAi: Current and emerging uses of insecticidal toxins in genetically engineered crops. Natural Toxins Pre-Meeting Symposium, American College of Medical Toxicology Spring Meeting, Phoenix, AZ, March, 2014.

Goldstein DA. Information Challenges: A Clinical Perspective- Reporting Data and Diagnostic Biomarkers. CropLife America Spring Meeting, Washington DC, May 2014.

Goldstein DA. Nourishing 9 Billion-: Comments (Brief slide presentation, discussion, and workshop) Tufts University SolutionLab- Nourishing 9 Billion. Fletcher School of Law and Diplomacy, Medford MA, April, 2015.

Goldstein DA. PAS/SPR (Pediatric Academic Societies / Society for Pediatric Research Debate: Plant Biotechnology. Presentation and debate at PAS/SPR annual meeting, San Diego, CA, May 2015.

Goldstein DA. Glyphosate Safety. Symposium on the Toxicological Aspects of Glyphosate. CropLife Sri Lanka, Colombo, Sri Lanka, November 2015

Goldstein DA. Glyphosate Safety. Symposium on Emerging Trends on Agrochemicals and CKDu. Toxicological Society of Sri Lanka, Colombo, Sri Lanka, November 2015.

Goldstein DA. Glyphosate Safety. Special Session on CKDU (PGIA Congress, special session), University of Peradeniya. Kandy, Sri Lanka, November 2015.

Goldstein DA. Glyphosate/Pesticide Residues in Feed. American Society of Animal Sciences, Baltimore, MD, July 2017.

Goldstein DA. Glyphosate and Cancer (IARC): Epidemiology and Exposure Perspectives. World Toxicologic Pathology Congress, Sao Paulo, Brazil. April 22, 2018.

Letters and Editorials:

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Goldstein DA, Dunn SE, Karberg K. "Reversible Parkinsonism" following glyphosate exposure. (Response to: Reversible Parkinsonism induced by acute exposure glyphosate. Qian Zheng et al. Parkinsonism & Related Disorders 50:121). Parkinsons and Related Diseases. doi: 10.1016/j.Prkreldis.2018.06.012 (Accepted 5 June 2018)

From: Eric Fuller
To: Knott, Steven
Cc: John Curley; Eric Fuller Personal
Subject: Nomination of John Curley PhD., to the Science Advisory Committee on Chemicals
Date: Friday, April 10, 2020 11:21:18 PM
Attachments: Nanosys Letterhead_John Curley nomination.doc

April 6, 2020

[via email: knott.steven@epa.gov]

U.S. Environmental Protection Agency
Office of Science Coordination and Policy (7201M)
1200 Pennsylvania Ave. NW. Washington, DC 20460-0001

Re: Nomination of John Curley PhD., to the Science Advisory Committee on Chemicals

Dear: Science Advisory Committee

It is my privilege to recommend John J. Curley, PhD as a candidate for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). I, personally, approached Dr. Curley as a prospective candidate based on our last five years of working together in the nanotechnology industry. Over the years, his work has contributed to the success of numerous patents, products and most importantly, the mentoring of junior scientists. I have over twenty-five-year experience in the environmental, health and safety realm and have worked with numerous professionals. When I come across such examined expertise that Dr. Curley possess, I want to do what I can to ensure the individual has every possibility to realize the depth of their potential contribution to the scientific community.

Dr. Curley's has an exceptional understanding of his field and more importantly the innate ability to communicate complex chemistry solutions for our pilot plant. As a senior scientist Dr. Curley has shown ongoing initiative, leadership and dedication through his support of our Safety Excellence Team over the years, and is the designated Company Chemical Officer. He actively participates in the evaluation of material hazards used in research and development, and development of safe processes for the high-heat, high-pressure, chemical processes used by Nanosys to manufacture of quantum dots. I highly recommend Dr. Curley for SACC.

Thank you for your consideration.

Best regards,
Eric Fuller
Director of Environmental, Health, Safety and Sustainability

Nanosys, Inc.
Email: efuller@nanosysinc.com

From: Vorhees, Charles
To: Knott, Steven
Subject: Nomination to SACC
Date: Tuesday, March 31, 2020 2:28:42 PM
Attachments: Vorhees-CV-CV.docx

Dear Dr. Knott,

Todd Peterson kindly sent me word of upcoming openings on the EPA SACC. I am self-nominating for a position on the SACC.

I have served as ad hoc on several of these over the last year (see p. 27 of my attached CV) and find this work important and gratifying.

My full CV is attached. If you need any further information, please do not hesitate to ask.

Thanks you for your consideration.

Stay Safe,

Chip

Charles V. Vorhees, Ph.D., Professor
Dept. of Pediatrics, University of Cincinnati
Division of Neurology
Cincinnati Children's Research Foundation
Cincinnati, OH 45229
Email: Charles.vorhees@cchmc.org
Tel: 513-636-8622

CARR JOSEPH SMITH

Personal Information:

Home Address: (b) (6)

Phone: (b) (6)

Place of Birth: (b) (6)

Education

Ph.D. Molecular Biophysics
Florida State University, 1984

B.S. Biology
Minor Chemistry.
University of South Alabama, 1978

Diplomat of the American Board of Toxicology,
November 1994- present

Professional Experience – Employment History:

February 1, 2011 – Present
Toxicology Advisor
Albemarle Corporation, Baton Rouge, LA

August 10, 2015 – August 1, 2017
Teaching Faculty Florida
State University, Department of Nurse Anesthesia

June, 2006 – August, 2013
Visiting Scholar
University of North Carolina at Chapel Hill School of Medicine
Department of Pathology & Laboratory Medicine
Francis Owen Blood Research Laboratory

March 1, 2007 – September 1, 2010
Vice President, Product Development
Entegrion, Inc.
RTP, NC

January 1, 2004 – February 9, 2006
Director, Scientific Affairs
Lorillard Tobacco Company

November 2001 – July 1, 2006
Adjunct Associate Professor of Physiology and Pharmacology
Wake Forest University School of Medicine

February 9, 1999 – August 2013
Adjunct Member of the "Center for Cardiovascular Research"
University of North Carolina at Chapel Hill, School of Medicine

September 1986 – September 2006
Adjunct Instructor of Pathology
University of South Alabama, College of Medicine

July 1992-1997
Associate, Virgil Scudder & Associates, Media Training,
New York, New York

May 2002 – March 1, 2007
Member, Scientific Advisory Board, Entegrion Corporation
Previously a UNC-Chapel Hill Company

August 2002 – September 18, 2003
Principal Scientist, Toxicology Research
R.J. Reynolds Tobacco Company

August 1998 – July 2002
Master Scientist, Toxicology Research
R.J. Reynolds Tobacco Company

May 1994 – July 1998
Senior Staff Scientist, Toxicology
R&D, R.J. Reynolds Tobacco Company.

January 1989 – April 1994
Senior Scientist, Toxicology Research
R.J. Reynolds Tobacco Company.

December 1986 - January 1989
R&D Scientist
R.J. Reynolds Tobacco Company.

September 1986 - November 1986
Staff Fellow

Food and Drug Administration (FDA)

September 1984 - August 1986
Instructor of Pathology and Allied Health
University of South Alabama, College of Medicine

Honors and Awards

Albemarle Corporation Special Recognition Award (July 23, 2019)

Who's Who in Medicine and Healthcare® (2002-2003)

Who's Who in Science and Engineering® (June, 2003)

Society of Toxicology (Full Member)

Research Assistantship Molecular Biophysics
(Florida State University, 1978 – 1984)

Merit Scholarship
(University of South Alabama, 1976 – 1977)

High School Bowl Scholarship
(University of South Alabama, 1975 – 1976)

Three-year Degree Program
(University of South Alabama, 1975 – 1978)

Talks Presented (Lacking Searchable Abstracts)

Carr J Smith and Thomas A Perfetti. Improving the ACGIH TLV Process. Presented on April 23, 2019 at the *Parts Cleaning Conference*, Cleveland Convention Center, Cleveland Ohio.

Carr J Smith, J Wesson Ashford, Thomas A Perfetti. Putative Survival Advantages in Young Apolipoprotein ε4 Carriers Are Associated with Increased Neural Stress. Presented to the 16th Annual Congress of the Society for Brain Mapping and Therapeutics. Los Angeles CA March 15-17, 2019

Carr J Smith and J Wesson Ashford. APOE ε4 Allele-Associated Alzheimer's Disease Risk Is Consistent with Increased Lifetime Exposure to a Neurotoxic Process. Presented to the 15th Annual Congress of the Society for Brain Mapping and Therapeutics. Los Angeles CA April 12-15, 2018

James S. Ashford, Yiliam F. Rodriguez, Angelico M. Jaramillo, Scarlett B. Hinson, Brian K. Kradel, Carr J. Smith. Non-Invasive MemTrax Evaluation of Episodic Memory Pre- and Post-

General Anesthesia for Cardiac Surgery. Presented to the 14th Annual Congress of the Society for Brain Mapping and Therapeutics. Los Angeles CA
April 20, 2017
Evidence-Based Medicine, Panama City FL. September 19, 2011.
Presented to the nurse anesthesia Masters' program at Bay Medical College.

History of Tobacco Litigation, Harvard Square, Cambridge MA. August 4, 2011.
Presented to Gradient Corporation.

The Possible Role of Mast Cells (Allergy) in the Production of Keloid and Hypertrophic Scarring November 12, 1987, University of North Carolina at Chapel Hill.
Presented at Surgery Grand Rounds, to the Department of Surgery.

Differences Between Smokers and Nonsmokers October 4, 1996.
Presented at the University of Alabama at Birmingham, School of Public Health.

Teaching Experience

Calculus Tutor for Veterans Administration: 1976-1977

Swimming Instructor Chandler Branch YMCA: summer 1978

Florida State University, Biochemistry Teaching Assistant: One Semester 1980

Florida State University, Coordinated Three American Cancer Society Undergraduate Fellows: 1982

Instructor of Pathology & Allied Health at the University of South AL College of Medicine, Taught "Understanding Cancer" for two quarters: 1985 and 1986

Adjunct Associate Professor of Physiology & Pharmacology, Wake Forest University School of Medicine, Oral Examiner to First and Second Year Medical Students in the Parallel Curriculum Program

Extensive Coaching Experience Up Through Varsity High School Level: assistant varsity track coach for sprinters and jumpers (2 years); assistant junior varsity girls basketball coach (1 season); interim head girls varsity tennis coach (part of one season)

Mentored ten personal research assistants

Teaching Faculty, Florida State University Department of Nurse Anesthesia Masters Program, August 2015-August 2017; Adjunct Appointment August 2017-June 2019

Bibliography

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113. Smith CJ, Perfetti TA, Hayes AW, Berry Sir Colin.
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110. J. Wesson Ashford, MD, PhD, Frederick A. Schmitt, PhD, Carr J. Smith, PhD, DABT, Vinod Kumar, MD, FRC Psych, Nusha Askari, Ph.D. Chapter 3. Assessment of Cognitive Impairment, Alzheimer's Disease, and Other Forms of Dementia. Third edition of Ethnicity and the Dementias. Edited by Gwen Yeo, Linda A. Gerdner, Dolores Gallagher-Thompson. Routledge, 414 pages, 2019.

109. Carr J Smith, J Wesson Ashford, Thomas A Perfetti. Putative Survival Advantages in Young Apolipoprotein e4 Carriers are Associated with Increased Neural Stress. Journal of Alzheimer's Disease 68 (2019) 885–923 DOI 10.3233/JAD-181089
IOS Press

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DOI: 10.1177/2397847319840645

104. Carr J Smith and Thomas A Perfetti. Improving the ACGIH threshold limit value (TLV)

process. Toxicology Research and Application. Volume 2: 1–23, 2018.
DOI: 10.1177/2397847318801758

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94. Laudatory speech that Dr. Carr J. Smith gave at the occasion of the rescheduled Tobacco Science Research Conference where Dr. Thomas A. Perfetti was presented with the 2017TSRC Lifetime Achievement Award. Beiträge zur Tabakforschung International/*Contributions to Tobacco Research,* Volume 27 @ No. 8 @ December 2017, DOI: 10.1515/cttr-2017-0018

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tumors in rats and mice in NTP 2-year inhalation studies. Toxicol Res Appl 2017; 1: 1–22 DOI: 10.1177/2397847317714802.

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29. Smith CJ, Fischer TH, Sears SB, Walker JC. Environmental tobacco smoke, cardiovascular disease and the non-linear dose-response hypothesis. Indoor Air 99. Proceedings of the 8th International Conference on Indoor Air Quality and Climate held in Edinburgh, Scotland, 8-13 August 1999, pp 233-237.

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23. Smith CJ, Mullens MA. Environmental tobacco smoke and cardiovascular disease. CORESTA Congress, Smoke and Technology Group, pages 408-422. Brighton, England, October 11-15, 1998.

22. Smith CJ, Hansch C, Morton MJ. QSAR treatment of multiple toxicities: the mutagenicity and cytotoxicity of quinolines. Mutation Research 379 (1997) 167-175.

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20. Smith CJ, Livingston SD, Doolittle DJ. An international literature survey of "IARC group I carcinogens" reported in mainstream cigarette smoke. Food and Chemical Toxicology 35 (1997) 1107-1130.

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12. CJ Smith and TJ Steichen. The atherogenic potential of carbon monoxide. Atherosclerosis (1993); 99:137-149.

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keloid and hypertrophic scar. Journal of Burn Care and Rehabilitation (1987); 8(2): 125-131. (Cited in Skin and Allergy News, June 1987)

5. CJ Smith, AM Leggett and JJ Lefante. Allergic etiology of benign fibrocystic changes of the breast. Medical Hypotheses (1987); 24: 21-28.

4. DF LeClerc, CJ Smith and EC Toren. Axial dispersion in coiled tubular reactors. Analytica Chimica Acta (1987); 194: 109-117.

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2. CJ Smith. Effect of a low-fat diet on hormone levels in women with cystic breast disease. Letter to the editor in JNCI (1987); 79(3): 607.

1. CJ Smith, HE Van Wart and DE Schwartz. A quantitative assay for the hydrolysis of structurally intact basement membranes. Analytical Biochemistry (1984); 139: 448-458.

Published Abstracts

41. Carr J Smith. Considerations toward setting an OEL for 1-brompropane. Abstract number 0949. IUTOX 2019, Honolulu Hawaii, July 16, 2019.

40. Carr Smith, Steve Anderson, Indu Kheterpal, Joseph Miller, Sylvia Jacobi. Ames Salmonella Mutagenicity Assay of Volatile 1-Bromopropane in a Closed System. European Environmental Mutagenesis & Genomics Society, Copenhagen Denmark, August 14-18, 2016.

39. Carr Smith, Steve Anderson, Sylvia Jacobi. NTP 2-Year Inhalation Studies Highly Discordant Between Rats and Mice. European Environmental Mutagenesis & Genomics Society, Copenhagen Denmark, August 14-18, 2016.

38. Fischer TH, Bodie AP, Manning JE, McCurdy SL, Rich PB, Nichols TC, Scull CM, McCord MG, Dacorta JA, Johnson PC, Smith CJ. The design and testing of a dual fiber textile matrix for accelerating surface hemostasis. Abstract 1965 in Transfusion, Volume 49, page 2260, October 2009.

37. A. P. Bode, T. H. Fischer, C. J. Smith. Stasix®, A Novel Hemostatic Agent from Lyophilized Platelets, Corrects The Bleeding Time In Canine Model of Open-Heart Surgery. 07-AB-387-AABB, May, 11, 2007. East Carolina University, Greenville, NC. [2]The University of North Carolina at Chapel Hill, Chapel Hill, NC. Entegrion, Inc., Research Triangle Park, NC.

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35. CJ Smith, TA Perfetti, MJ Morton, A Rodgman, R Garg, CD Selassie and C. Hansch. The relative toxicity of substituted phenols reported in cigarette mainstream smoke. Abstract and presentation in Workshop Session: Strategies to Identify Bioactive Substances in Complex Air Pollutant Mixtures. Society of Toxicology, 2004, #1559, Baltimore.

34. CJ Smith, MJ Morton, BG Brown, DW Bombick, DL Heavner, MW Ogden, JH Robinson and DJ Doolittle. Individual variations in cigarette mainstream smoke biomarkers of exposure. Abstract and presentation in Platform Session: Biomarkers of Exposure and Effects. Society of Toxicology, 2004, #1248, Baltimore.

33. P Martin, CJ Smith, Rajni Garg, GA Long, Corwin Hansch. Molecular parameters reported for a series of polycyclic aromatic hydrocarbons (PAHs). Abstract 43, Volume 58, 58th Tobacco Science Research Conference, 2004.

32. MF Stiles, CJ Smith, TD Guy, WT Morgan, WS Pritchard, JH Robinson. Afternoon carbon monoxide measures in smokers smoking their usual brand cigarette. Abstract 20, Volume 58, 58th Tobacco Science Research Conference, 2004.

31. JH Robinson, TD Guy, WT Morgan, WS Pritchard, CJ Smith, MF Stiles. Afternoon carbon monoxide measures in smokers smoking their usual brand cigarette. SS10, October 23, 2004 CORESTA Conference, Kyoto, Japan.

30. CJ Smith and P Martin. Conducting clinical evaluations in human smokers switching to reduced-toxicity cigarettes. Abstract 5, presented as a Symposium lecture to the 56th Tobacco Science Research Conference, Lexington, KY, September 29-October 2, 2002.

29. Doolittle DJ, Bombick DW, Smith CJ, Bombick BR. The effect of cigarette design on in vitro toxicity. 2002 CORESTA Congress, Abstract APST 5, September 22-27, New Orleans.

28. Bombick BR, Smith CJ, Bombick DW, Doolittle, DJ. Procedures for in vitro toxicity testing of tobacco smoke. 2002 CORESTA Congress, Abstract ST1, September 22-27, New Orleans.

27. Smith CJ, Perfetti TA, Morton MJ, Rodgman A, Garg R, Selassie CD and Corwin Hansch. The relative toxicity of substituted phenols reported in cigarette mainstream smoke. 2002 CORESTA Congress, Abstract ST9 and presentation, September 22-27, New Orleans.

26. CJ Smith, TH Fischer, DL Heavner, MA Rumple, DL Bowman, BG Brown, MJ Morton, DJ Doolittle. Urinary thromboxane, prostacyclin, cortisol and 8-hydroxy-2'-deoxyguanosine in nonsmokers exposed and not exposed to environmental tobacco smoke (ETS). Abstract 77 published in The Toxicologist, Volume 60, Number 1, March 2001. Poster #77 presented on Monday, March 26, 2001 at Society of Toxicology 40th Annual Meeting, San Francisco, March 25-29, 2001.

25. DL Bowman, BR Bombick, JT Avalos, RA Davis, WT Morgan, CJ Smith, DJ Doolittle. Relationship between FTC 'tar' and urine mutagenicity in smokers of tobacco-burning or Eclipse cigarettes. Poster presented at 55th Tobacco Science Research Conference, Greensboro, NC, September 9-12, 2001.

24. Clapp WL, Fagg BS, Smith CJ. Reduction in Ames Salmonella mutagenicity of mainstream cigarette smoke condensate by tobacco protein removal. Abstract T1, Seventeenth Annual Meeting, Genotoxicity and Environmental Mutagen Society (GEMS), Monday, October 25, 1999. Same presentation also given at the Tobacco Workers Conference, Williamsburg, VA, on January 13, 2000.

23. Carr J Smith and Corwin Hansch. The relative toxicity of compounds in mainstream cigarette smoke condensate. Abstract, 54th Tobacco Science Research Conference, September 24-27, 2000.

22. Smith CJ, Fischer TH, Heavner DL, Rumple MM, Bowman DL, Brown BG, Morton MJ, Doolittle DJ. ETS exposure is not associated with platelet aggregation in nonsmokers. Abstract ST20, 2000 CORESTA Congress, Lisbon, Portugal, October 15-19.

21. Smith CJ, Fischer TH, Sears SB, Walker JC. Environmental tobacco smoke, cardiovascular disease and the non-linear dose- response hypothesis. Poster presented at the 8th International Conference on Indoor Air Quality & Climate, Edinburgh, Scotland, August 8-13, 1999. Paper number 926, session M3.

20. Smith CJ, Perfetti TA, Mullens MA, Rodgman A, Doolittle DJ. An international literature survey of IARC carcinogens in cigarette mainstream smoke. Abstract 28, 53rd Tobacco Science Research Conference, September 12-15, 1999.

19. Walker JC, Polyakov VV, Connell VL, Barreto AD, Kendal-Reed M,Howell MA, Smith CJ. Predicting real-world responses from odor/irritation psychophysical data: problems encountered and a solution proposed. Poster presented at the 21st Meeting of the Association for Chemoreception Sciences, Sarasota, FL, April 14-18, 1999. Abstract published in Chemical Senses, 24(5), pp. 544.

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17. Smith CJ. Environmental tobacco smoke and cardiovascular disease risk. Abstract ST46, 1998 CORESTA Congress, October 15, 1998.

16. Smith CJ, Steichen TJ, Fischer TH. Platelet aggregation in Cigarette smokers. Abstract 60, 52nd Tobacco Science Research Conference, September 16, 1998.

15. Doolittle DJ, Brown BG, Avalos JT, Smith CJ, Bombick BR. (1998). Genetic toxicology studies comparing smoke from cigarettes which burn or primarily heat tobacco. Talk and poster presented at the 8th International Congress of Toxicology. Abstract published in Toxicology Letters, 95 (Supplement 1): 186.

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13. Doolittle D, Brown B, Avalos J, Bombick D, Smith C, McKarns S, Reed-Bombick B. Genetic toxicology studies comparing cigarettes which burn or primarily heat tobacco. 7th ICEM, Section XIII, Identification and evaluation of environmental mutagens, September 10, 1997.

12. Doolittle DJ, McKarns SC, Davis RA, Livingston SD, Bombick BR, Avalos JT, Smith CJ (1996). Human urine mutagenicity study comparing cigarettes which burn or primarily heat tobacco. Presented at the 27th annual meeting of Environmental Mutagen Society. Abstract published in Environmental and Molecular Mutagenesis, 27:18.

11. Robinson JH, Stiles MF, Smith CJ, Guy TD, Morgan TD, Ingebrethsen BJ. Predicting smokers' blood carboxyhemoglobin (COHb) levels from expired air carbon monoxide measures. Abstract 62, 50th Tobacco Chemists' Research Conference, October 23, 1996.

10. Ingebrethsen BJ, Guy TD, Stiles MF, Robinson JH, Smith CJ, Morgan WT. A numerical model of carboxyhemoglobin concentration during smoking. Abstract 60, 50th Tobacco Chemists' Research Conference, October 23, 1996.

9. Smith CJ, Guy TD, Stiles MF, Morton MJ, Collie BB, Ingebrethsen BJ, Robinson JH. A repeatable method for determination of carboxyhemoglobin levels in smokers. Abstract 61, 50th Tobacco Chemists' Research Conference, October 23, 1996.

8. Doolittle DJ, McKarns SC, Davis RA, Livingston SD, Bombick BR, Avalos JT, Smith CJ (1995). Human urine mutagenicity study comparing cigarettes which burn or primarily heat tobacco. Presented at 2nd International Conference on Environmental Mutagens in Human Populations.

7. Doolittle DJ, McKarns SC, Davis RA, Livingston SD, Bombick BR, Avalos JT, Smith CJ. Human urine mutagenicity study comparing cigarettes which burn or primarily heat tobacco. The International Congress of Toxicology - VII, July 2-6, 1995. Abstract published in the International Toxicologist, 7: 46.

6. McKarns SC, Smith CJ, Payne VM, Davis DL, Stringer LW, Doolittle DJ. Pulmonary function is correlated with hematologic markers of inflammation. American Thoracic Society

International Conference, May 21-24, 1995.

5. C Waldren, D Vannais, A Ueno, D Doolittle, C Smith, B Schaeffer, P Sinclair, S Woods, J Sinclair. Mutant spectra in mammalian cells exposed to heterocyclic amines (HA) found in cooked foods. Environ. Molec. Mutagen 23, Supplement 23, 71 (1994).

4. G Solomon, F Dimeo, WT Lawrence, Carr Smith, and AJ Banes. Modulation of DNA synthesis by nicotine, cotinine and cigarette smoke condensates in endothelial, bone marrow stem and 3T3 target cells. Abstract 1424 in Molecular Biology of the Cell, Supplement, Volume 3, September 1992.

3. J Sinclair, B Schaeffer, P Sinclair, S Wood, D Doolittle, C Smith, D Snead, A Ueno, D Vannais, C Waldren. MEIQ is a potent mutagen in cultured mammalian cells. Ninth annual meeting of the Genotoxicity and Environmental Mutagen Society, October 24, 1991.

2. C Waldren, J Sinclair, S Wood, T Puck, P Webb, D Doolittle, C Smith and A Ueno. Mutation analysis by the human-hamster hybrid cell/primary embryonic chick hepatocyte [A_L/PECH] method. Abstract 234 in Environmental and Molecular Mutagenesis (1990); 15(Supplement 17).

1. Smith CJ, Van Wart H. Role of hydrolytic enzymes in the metastasis of L1210 and L5178Y murine leukemias. Abstract 17, Seventh Annual Cancer Research Seminar, American Cancer Society, Florida Division, Inc. February 11, 1984.

Patents

Smith CJ, Lippiello PM, Bencherif M, Caldwell WS, Dull GM. Pharmaceutical compositions for prevention and treatment of ulcerative colitis. World Patent WO 96/20599 (1996); U.S. Patent No. 5,604,231, February 18, 1997.

Grants

Intramural Grant (1984) – 5K for the study of signal transduction proteins in the electrical receptors of the Ampullae of Lorenzini in sharks. University of South Alabama, School of Medicine, 1984

Served as grant administrator for approximately 12 million dollars in industrial grants

Co-principal investigator on the two following grants:
BBA07-006 OFFICE OF NAVAL RESEARCH
Project Title: Factor VIIa~Stasix™ Particle Conjugates for Hemostasis

Office of Naval Research BA07-006
Project Title: SPIO-Stasix™ Particles for Wound Site Imaging and Hemostasis

Professional Service

American Chemical Council Risk Assessment Committee, Washington DC, 2018-present

July 2000 – July 2006
Member of Wake Forest University, School of Medicine
Institutional Review Board (IRB) for the Protection of
Human Research Subjects

Appointed to the Technical Oversight Scientific Advisory Board
of the Florida State University Sensory Research Institute
August 2, 1999 -Summer, 2006.

Served as an invited participant in "Health Effects of Odors" workshop sponsored by USEPA and the National Institute on Deafness and Communication Disorders, sponsored by Duke University on April 16-17, 1998.

Served as an outside reviewer for the United States Environmental Protection Agency (EPA) for the "Air Quality Criteria for Carbon Monoxide" document. Reviewed the following chapters:

Chapter 8. Population Exposure to Carbon Monoxide
Chapter 10. Health Effects of Carbon Monoxide
Chapter 12. Evaluation of Sub-populations Potentially at Risk

Served as a reviewer for the journals Lancet, Current Computer Aided Drug Design, Regulatory Toxicology and Pharmacology, Human & Experimental Toxicology, Food and Chemical Toxicology, Inhalation Toxicology, Bioorganic & Medicinal Chemistry Letters, African Journal of Biotechnology , Toxicological & Environmental Chemistry, Journal of Clinical Immunology and Toxicological Sciences.

Currently a reviewer for the *Journal of Alzheimer's Disease* and for *Toxicology and Research Application*

Cardiovascular Toxicology Consultant to the "Program for Coronary Bypass Gene Therapy Advisory Committee," Center for Thrombosis and Hemostasis, and The University of North Carolina at Chapel Hill

Continuing Education

I. Regulatory Affairs

A. "U.S. EPA Sustainable Futures Workshop"	6/2013
B. " Global Harmonized Standard (GHS) Certification, conducted by ICC THE Compliance INC.	3/6/2013
C. "Hazardous Materials Management: Compliance with the DOT Requirements," conducted by the	4/12/12

Environmental Resource Center

D. Certified Global Health Safety & Environment Auditor, sponsored by Albemarle Corporation — 6/2012

E. "The Past, Present, and Future of FDA Human Drug Regulation," conducted by CDER Learn (online course), sponsored by the Center for Drug Evaluation and Research — 3/3/2011

II. Project Management

A.	Basic Project Management Course	11/29-11/30/88
B.	Managing & Measuring Performance	12/7/88
C.	Interviewing Techniques	12/8/88
D.	Kepner-Tregoe	12/13-12/15/88
E.	Motivational Techniques	1/9/89
F.	Communication Skills	1/10-1/12/89
G.	Financial Management/Planning	1/17-1/19/89
H.	Leadership Development Skills	1/24-1/26/89
I.	Stress Management	1/30/89
J.	Time Management/Conducting Productive Meetings	1/30/89

III. Risk Assessment

A. "Analyzing Risk - Science, Assessment & Management," conducted by the Office of Continuing Education and The Center for Risk Analysis, Harvard School of Public Health — 9/28–10/1/93

B. "Biological Mechanisms and Quantitative Risk Assessment," US EPA Health Effects Research Laboratory — 11/1-11/4/93

C. "Principles of Route-to-Route Extrapolation for Risk Assessment," sponsored by the US EPA — 3/19-3/21/90

D. Research Triangle Chapter of Society for Risk Analysis Exposure Assessment Symposium — 10/25/93

III. Total Quality First — 12/91

IV. Influence, Collaborating for Results — 3/1-3/3/93

V. Innovation Training — 3/31-4/2/93

VI. Diversity Training — 8/24-8/26/94

VII. Statistics Courses
(Instructor - Dr. Raymond H. Myers, Virginia Polytechnic Institute and State University)

A.	Introductory Regression and Experimental Design	8/26-8/28/87
B.	Regression Seminar	9/14-9/18/87
C.	Response Surface Methodology	5/31-6/2/89

VIII. Pulmonary Science

A.	Post-Graduate Course sponsored by the American Lung Association - "Lung Growth & Development: Basic & Clinical Considerations"	5/13/89
B.	Pulmonary Function Testing	7/7-7/8/93

IX. Toxicology

A.	Mid-America Toxicology Course	4/23-4/28/94
B.	Ecotoxicology: Responses, Biomarkers and Risk Assessment, Society of Toxicology	3/5/95

X.	Clinical Trials Management Workshop II	8/4-8/5/95
XI.	Louisiana State University Industrial Fire School	9/9-9/11/96
XII.	Techniques in Recombinant DNA Technology, Department of Physiology and Pharmacology, Wake Forest University School of Medicine	7/13-7/17/98
XIII.	Clinical Research Investigator/ Coordinator Certificate (CRICC) Program	3/14/00
XIV.	Conducting Research Responsibly, satellite teleconference from the Society of Research Administrators	9/23/01

XV. Mediacom Training - Extensive
Hill & Knowlton, Inc., NY, NY
Virgil Scudder & Associates, NY, NY
Powell & Tate, Washington, D.C.

References for Carr J. Smith

Charles A. Waldren, PhD
Professor of Environmental Health Science (retired)
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Fort Collins, CO
Shipping: 644 Fearrington Post
Pittsboro, NC 27312
Phone: (b) (6)
Email: (b) (6)

Todd Stedeford, PhD, JD, DABT
Chief
Existing Chemicals Assessment Branch
Risk Assessment Division (7403M)
Office of Pollution Prevention and Toxics
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1200 Pennsylvania Avenue, NW
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Phone: (b) (6)
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Albemarle Corporation
4250 Congress Street, Suite 900
Charlotte, NC 28209

April 20, 2020

Submitted via Email

U.S. EPA
Mr. Steven M. Knott, MS (DFO)
Office of Scientific Coordination and Policy
Mail Code: 7201M
1200 Pennsylvania Av NW
Washington, DC 20460

RE: Nomination of Carr J. Smith to
TSCA Science Advisory Committee on Chemicals (SACC)
Docket ID: EPA-HQ-OPPT-2020-0135

Dear Mr. Knott:

I would like to nominate Dr. Carr J. Smith, Ph.D., DABT to for consideration for appointment to the TSCA Science Advisory Committee on Chemicals (SACC).

Dr. Smith has been an invaluable member of the Product Stewardship/Toxicology group supporting a wide variety of research programs for Albemarle since 2011, leveraging his broad expertise in the area of human health risk assessment, toxicology, and pathology, especially in the area of carcinogenesis. His acumen and influence in this space is even greater than his relatively recent relationship with Albemarle, as reflected in his more than 30 years of experience across a wide variety of business, industry and academic positions with diverse responsibilities.

I have personally found Dr. Smith to have a high level of competence, knowledge, and expertise in his field and a valuable business partner, driving for scientific excellence and understanding with every project. I believe he would be an asset to your agency, providing independent advice and expert consultation with respect to the scientific and technical aspects of issues relating to implementation of TSCA.

Dr. Smith's contact information is as follows:

Carr J. Smith, Ph.D., DABT
Albemarle Corporation
6400 Brindlewood Court
Mobile, Alabama 36608
carr.smith@albemarle.com
(b) (6)

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For further detail and information, attached please find Dr. Smith's most current curriculum vitae as well as a biographical document outlining additional details on his background, research activities and service on other advisory committees and with international professional organizations.

Please feel free to contact me directly with any questions concerning this nomination.

Sincerely,
ALBEMARLE CORPORATION

Bob Miller, Jr.
Sr. Director, Global Product Stewardship
980.299.5628
bob.miller@albemarle.com

From:	Bob Miller
To:	Knott, Steven
Subject:	Nomination to SACC
Date:	Monday, April 20, 2020 4:39:39 PM
Attachments:	image001.png Nomination to SACC (Smith, Carr).pdf CarrJSmithCV7-24-19.docx SACC Biographical Info (Smith, Carr).docx

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Docket ID: EPA-HQ-OPPT-2020-0135

Dear Mr. Knott:

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I have personally found Dr. Smith to have a high level of competence, knowledge, and expertise in his field and a valuable business partner, driving for scientific excellence and understanding with every project. I believe he would be an asset to your agency, providing independent advice and expert consultation with respect to the scientific and technical aspects of issues relating to implementation of TSCA.

Dr. Smith's contact information is as follows:

Carr J. Smith, Ph.D., DABT
Albemarle Corporation
6400 Brindlewood Court
Mobile, Alabama 36608
carr.smith@albemarle.com
(b) (6)

For further detail and information, attached please find Dr. Smith's most current curriculum vitae as well as a biographical document outlining additional details on his background, research activities and service on other advisory committees and with international professional organizations.

Please feel free to contact me directly with any questions concerning this nomination.

Best Regards, Bob.

Bob Miller, Jr. | | Sr. Director, Global Product Stewardship
4250 Congress St | Charlotte, NC 28209 USA | office: 980.299.5628 | mobile: 925.483.4520
email: bob.miller@albemarle.com | www.albemarle.com

SACC Nomination – Biographical Information

Carr J. Smith

Current Contact Information:

Carr J. Smith, Ph.D., DABT
Albemarle Corporation
6400 Brindlewood Court
Mobile, Alabama 36608
carr.smith@albemarle.com
(b) (6)

Disciplinary and Specific Areas of Expertise

Inhalation toxicology

Hazard assessment of chemicals

Quantitative Structure-Activity Relationships (QSAR) – 20 year collaboration with Dr. Corwin Hansch, Pomona College, Developer of QSAR

Animal models of chemical carcinogenesis

Animal models of atherosclerosis

Mechanisms of carcinogenesis – genotoxicity, tumor promotion, tumor progression

Risk factors for cancer – high level expert on tobacco-related disease causation

Pathological aspects of inflammation and fibrosis

Mechanisms of atherosclerosis

Risk factors for atherosclerosis

Mechanisms of pulmonary disease

Risk factors for pulmonary disease

Mechanisms of Alzheimer's disease

Risk factors for Alzheimer's disease

Evolutionary aspects of Alzheimer's risk genes

Hormonal aspects of adipose tissue and subjects with obesity

Expert on Institutional Review Board procedures for the Protection of Human Research Subjects

Biographical Sketch

Current Position

Toxicology Advisor, Albemarle Corporation, Charlotte, NC

Project member, Alzheimer's Project at the Stanford Veterans Administration, Palo Alto, CA

Educational Background

B.S. Biology, Minor Chemistry - University of South Alabama, Mobile Alabama

Ph.D. Molecular Biophysics – Florida State University, Tallahassee Florida

Instructorship, Human Experimental Pathology – Department of Pathology, University of South Alabama College of Medicine

American Board of Toxicology, Certified in General Toxicology

Research Activities

1. Recently published a comprehensive review of the hormones and inflammatory mediators secreted by adipose tissue. (*Toxicological Sciences*).
2. Conducted a comprehensive analysis of daily chemical exposure from natural sources other than homeostatic metabolic pathways. (In press – *Toxicology Research and Application*)
3. Recently published a methods paper describing the simultaneous calculation of mutagenicity and cytotoxicity in Ames assays. (*Toxicology Research and Application*)
4. Manuscript in preparation on the applicability of the Koc parameter in evaluating the safety of drinking water sources.
5. Manuscript in preparation on the relative environmental persistence of synthetic versus natural plant pesticides.
6. Recently co-designed a primate protocol for the delivery of hydroxy-chloroquine via platelet incorporation and infusion for treatment of COVID-19. Project is a collaboration between the Medical University of South Carolina Pulmonology Department, Charleston; Medical College of Wisconsin, Versiti Blood Research Institute; and the Williams Foundation.
7. Manuscript in preparation on the role that genetically low innate immunity associated with the apolipoprotein ε4 allele plays in protecting infants from bacterial gastrointestinal infections and mortality.

Recent service on other federal advisory committees and national or international professional organizations

Member *Ad hoc* Risk Assessment Committee, American Chemistry Council

Associate Editor, *Journal of Alzheimer's Disease*

Session Chair, Society for Brain Mapping and Therapeutics 2020, Alzheimer's Genetics

Reviewer for *Toxicology and Research Application*

Reviewer for *Human and Experimental Toxicology*

From: Daniel Sch enk
To: Knott Steven
Subject: Nomination
Date: Wednesday Ap il 1 2020 2:50:11 PM

Hi Ste e

I'd like to nominate Da id Volz in our Department. He is pretty much a clone of me with expert se in Eco and Human Health (actually teaches our Risk assessment courses here). Let me know if you need CV etc.

Best

Dan

Daniel Schlenk Ph.D.
Professor
Aquatic Ecotoxicology
Department of En ironmental Sciences
Uni ersity of California Ri erside

Associate Edi or
En ironmental Science & Technology
En ironmental Science & Technology Letters

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From: Hong, Huixiao
To: Knott, Steven
Subject: Nomination: EPA–HQ–OPPT–2020–0135
Date: Sunday, August 23, 2020 5:31:02 PM
Attachments: image001.png
CV-Huixiao-Hong.docx
Biosketch-Huixiao_Hong.docx

Dear Mr. Knott,

I am submit a nomination for TSCA Science Advisory Committee on Chemicals (docket identification (ID) EPA–HQ–OPPT–2020–0135). Below please find the information of the nominee.

1. Current contact information for the nominee: name: Huixiao Hong; organization: National Center for Toxicological Research, U.S. Food and Drug Administration; business address: 3900 NCTR Road, Jefferson, AR 72079; email: Huixiao.Hong@fda.hhs.gov; daytime phone: 870-543-7296
2. Disciplinary and specific areas of expertise of the nominee: toxicology, chemical risk assessment, toxicogenomics
3. The nominee's curriculum vitae: please see attached file
4. The nominee's biographical sketch: please see attached file

Please let me know if you have any questions on my nomination. Thanks for your consideration. Look forward to hearing from you.

Yours sincerely,

Huixiao

Huixiao Hong, Ph.D
Chief, Bioinformatics Branch
National Center for Toxicological Research
Division of Bioinformatics and Biostatistics
U.S. Food and Drug Administration
Tel: 870-543-7296
Huixiao.Hong@fda.hhs.gov

Huixiao Hong, Ph.D.

Affiliation: Chief of Bioinformatics Branch, National Center for Toxicological Research, US Food and Drug Administration, AR.

Expertise: Chemistry, endocrine disrupting, liver toxicity, toxicogenomics, computational toxicology.

Education: PhD in Chemistry, Nanjing University, P.R. China.

Experience Summary: Dr. Hong is the Chief of Bioinformatics Branch and Supervisory Research Chemist at the National Center for Toxicology Research, US Food and Drug Administration. He was the Manager of Bioinformatics Division at Z-Tech, an ICFI company, at NCTR in 2002-2007. He was a senior computational scientist in ROW Science in 2000-2002. Dr. Hong held a Research Scientist position at Sumitomo Chemical Company in Japan in 1998-2000. He was a visiting scientist at National Cancer Institute (NCI) at National Institutes of Health (NIH) in 1995-1998. He was an Associate Professor and the Director of Laboratory of Computational Chemistry at Nanjing University in China in 1992-1995. Dr. Hong has more than 200 publications and has received many awards during his career.

Panel Experience: Dr. Hong is currently a member of Steering Committee, OpenTox Asscoation (2018-present). Dr. Hong is currently a member of Board of Directors, Middle South Computational Biology & Bioinformatics (2016-present). Dr. Hong’s experience on Federal panels includes: FDA's Broad Agency Announcement (BAA) Review Panel (2015-2018); FDA's Data Science Council (2016-present); FDA's Chemoinformatics Subcommittee, Health Informatics Committee; FDA's Modeling and Simulations Working Group Leadership Circle (2016-present).

CURRICULUM VITAE

1. Educational Background

Ph.D. (Computational Chemistry), 1990, Nanjing University, Nanjing, China

2. Professional Experience

2018-present: Chief, Bioinformatics Branch, Division of Bioinformatics and Biostatistics, FDA/National Center for Toxicological Research, Jefferson, AR, US.

2015-2018: Research Chemist (GS-15), Division of Bioinformatics and Biostatistics, FDA/National Center for Toxicological Research, Jefferson, AR, US.

2010-present: Adjunct Professor, Department of Information Science, Donaghey College of Engineering and Information Technology (EIT), University of Arkansas at Little Rock, AR, US.

2007-2015: Staff Fellow (GS-15), Division of Bioinformatics and Biostatistics, FDA/National Center for Toxicological Research, Jefferson, AR, US.

2002-2007: Manager, Bioinformatics Division, ICF International, IT contact at FDA/National Center for Toxicological Research, Jefferson, AR, US.

2000-2002: Senior Computational Scientist, ROW Science, IT contact at FDA/National Center for Toxicological Research, Jefferson, AR, US.

1998-2000: Research Scientist, Organic Synthesis Research Lab, Sumitomo Chemical Co., Ltd, Osaka, Japan.

1995-1998: Visiting Scientist, National Cancer Institute, National Institutes of Health, Bethesda, MD, US.

1992-1995: Associate Professor, Director, Laboratory of Computational Chemistry, Nanjing University, Nanjing, China.

1990-1992: Postdoctoral Fellow, Maxwell Institute for Molecular Science, Leeds University, UK.

3. Honors and Awards

2020: FDA Outstanding Intercenter Scientific Collaboration Award, for the liver toxicity working group promotes interdisciplinary collaborations to improve risk management of FDA regulated products with a potential for drug-induced liver injury.

2019: FDA Group Recognition Award, to the Adaptive Computer Automation Team, for developing a computer program to automatically evaluate the quality of persistent organic pollutant analytical data.

2018: FDA Group Recognition Award (Verzenio Continuous Manufacturing Review Team), for superior teamwork in the review and inspection of the continuous manufacturing

process for Verzenio tablets to enable accelerated approval of this breakthrough therapy.

2018: FDA/NCTR Director's Award, for providing outstanding service to NCTR/FDA by organizing the first annual NCTR Science Forum to enhance collaboration, communication, team spirit, and innovation among scientists.

2017: FDA/NCTR Special Act Award, for outstanding contributions in developing the neighbor-edges based and unbiased leverage algorithms (Nebula) for predicting ToxCast bioactivity and the big data analysis algorithm Nebula to enhance FDA's bid data analysis capability.

2017: FDA/NCTR Group Recognition Award, for outstanding achievement in the development of new methods for quality assessment and analysis of next generation sequencing data of miRNA.

2017: FDA/NCTR Special Act Award, for outstanding assistance in organizing the Mid-South Computational Biology and Bioinformatics Society Regional Meeting in Little Rock, Arkansas.

2017: FDA/NCTR Selection for the 10-Year Career Service Award, for 10-years of sustained service to NCTR.

2016: FDA Commissioner's Special Citation Award, for as a member of the Research to Review and Return (R2R) Cross-Center Bioinformatics Projects Benefitting Regulatory Business Processes.

2016: FDA Chief Scientist Publication Award, for Data Methods, Analysis, and Study Design. Genome Biology: An investigation of biomarkers derived from legacy microarray data for their utility in the RNA-seq era: Applicability of microarray-derived gene signature and predictive models in regulatory review of data from next-generation sequencing and vice-versa.

2016: FDA/NCTR Director's Award, for development an assay to measure the human sex hormone binding globulin of endocrine disrupting chemicals to enhance safety evaluation of the FDA-regulated products.

2016: FDA/NCTR Special Act Award, for excellence in long-term commitment to organize monthly meetings for enhanced communication and knowledge sharing among postdoctoral fellows and their mentors.

2016: FDA/NCTR Director's Special Citation Award, for exceptional achievement and leadership in computational chemistry at NCTR.

2015: FDA/NCTR Scientific Achievement Award for Excellence in Analytics Science, for contributions leading to better understanding of the technical performance and clinical utility of next-generation sequencing technologies that prepare the FDA's readiness for reviewing data from this emerging genomics technology.

2015: FDA Chief Scientist Publication Award for Basic, Translation or Applied Science, Publication: A Comprehensive Assessment of RNA-seq Accuracy, Reproducibility and Information Content by the Sequencing Quality Consortium—for contributions leading to better understanding of the technical performance & clinical utility of next-

generation sequencing technologies that prepare the FDA's readiness for reviewing data from this emerging genomics technology.

2013: FDA/NCTR Scientific Achievement Award, for excellence of scientific achievement in establishing baseline practices for analyzing Genome Wide Association Studies (GWAS) data.

2012: FDA/NCTR Special Act Award, in recognition of your special role on the FDA's Microarray Quality Control (MAQC) project and your supporting yet pivotal role in many aspects of the project to include coordinating efforts, preparing datasets for analysis, working with staff scientists to achieve goals and ensure the success of the project.

2011: FDA Group Recognition Award, for employing unique modeling approaches to address the complicated issue of polypharmacy.

2011: FDA Award of Outstanding Inter-center Science Collaboration, for exemplary scientific collaboration across FDA centers in the development and validation of predictive modeling using microarray data, furthering regulatory science at the FDA.

2008: FDA/NCTR Outstanding Service Award, for demonstrating scientific flexibility by authoring three manuscripts that scan three disciplines aimed at the young science of Genome Wide Association Studies (GWAS).

2005: FDA Commissioner's Special Citation Award, for outstanding teamwork and exceptional accomplishment in the development of a potential review tool for the Critical Path project on pharmacogenomics data submission.

2005: First Grade Awards for patents by Sumitomo-chem. Co. Ltd., Japan.

1993: The Best Paper Award, 2nd Conference of Young Scientists, China.

1990: Exchanging Scholarship between EU and China, EU/UK, for scholarship 1990-1992.

1989: Guanghua Award, for Outstanding Graduate Students, Nanjing University, China.

1988: Prize on Advancement in Sciences and Technologies, State Education Committee of PR China, for development of a series of simulations of analytic instrumentations.

4. Special Invitations (>60, recent ones listed)

2020 June: Invited presentation at 2020 SOT Annual Meeting, June 2, 2020, virtual (online). Presentation title: **Nebula for big data analysis: HLA-peptide binding prediction as a case.**

2019 Apr: Keynote presentation at the 6th Ecotoxicology Conference, April 27, 2019, Guangzhou, China. Presentation title: **Facilitating Chemical Risk Assessment through Predicting ToxCast Data by Nebula (Neighbor-Edges Based and Unbiased Leverage Algorithm).**

2019 Apr: Plenary presentation at the International Symposium on Chemical Risk Prediction and Management (ISCRPM-2019), April 26, 2019, Guangzhou, China. Presentation title: **Coupling androgen receptor with cofactors to enhance assessment of androgenic activity of chemicals**.

2019 Apr: Invited seminar by Dalian University of Technology, April 24, 2019, Dalian, China. Presentation title: **Principle and Practices for Predicting Toxicity of Chemicals by Computational Methods**.

2018 Oct: Sponsored plenary presentation at the High-end Forum of Environmental Computational Chemistry and Predictive Toxicology, October 26, 2018, Jinhua, China. Presentation title: **Endocrine Disruptors Knowledge Base - The FDA legacy toxicology database and applications**.

2018 Sept: Invited presentation at FDA Scientific Computing Days, September 18, 2018, Silver Spring, MD, USA. Presentation title: **Network Analysis and Deep Learning for Big Data**.

2018 Aug: Sponsored plenary presentation at Chinese Standard Materials Symposium, August 22, 2018, Beijing, China. Presentation title: **Determination of high confident call sets and callable regions for Chinese Quartet samples**.

2018 July: Invited presentation at the FDA Modeling and Simulations working group annual meeting, July 9, 2018, White Oak, MD, USA. Presentation title: **Modeling and Simulation Activities at NCTR**.

2018 June: Invited presentation at the FDA Genomics Working Group meeting, June 28, 2018, White Oak, MD, USA. Presentation title: **Germline Variants Detection by Whole Genome Sequencing**.

2018 Apr: Plenary presentation at the International Symposium on Chemical Risk Prediction and Management (ISCRPM-2018), April 26, 2018, Dalian, China. Presentation title: **Reproducibility of Computational Prediction Models for Chemical Risk Assessment**.

2018 Mar: Invited presentation at the 255th Annual American Chemical Society Meeting, March 21, 2018, New Orleans, LA, USA. Presentation title: **Competitive docking model for prediction of the human nicotinic acetylcholine receptors α7 and a4b2 binding of tobacco constituents**.

2018 Feb: Invited presentation at the 2nd MAQC Annual Meeting, February 25, 2018, Shanghai, China. Presentation title: **Assessing reproducibility of SNVs and small indels detected in whole genome sequencing**.

2017 Sept: Invited presentation at Computational Chemistry/Computational Modeling Meeting, US Army Engineer Research and Development Center (ERDC), September 12, 2017, Vicksburg, MS. Presentation title: **Endocrine Disruptors Knowledge Base Facilitates Computational Modeling in Toxicology.**

2017 Sept: Invited seminar at NIAID, NIH, September 8, 2017, Rockville, MD. Presentation title: **Development of toxicological databases at FDA/NCTR.**

2017 Apr: Plenary presentation at the 4th Ecotoxicology Conference, April 27, 2017, Hangzhou, China. Presentation title: **Computational Predictive Toxicology and Applications in Regulatory Science**.

2017 Apr: Plenary presentation at the International Symposium on Chemical Risk Prediction and Management (ISCRPM-2017), April 26, 2017, Hangzhou, China.

Presentation title: **Computational Toxicology and Applications in Regulatory Science**.

2017 Apr: Invited seminar by Zhejiang Normal University, April 25, 2017, Jinghua, China. Presentation title: **Computational Predictive Toxicology and Applications in Regulatory Science**.

2017 Apr: Invited seminar by Dalian University of Technology, April 23, 2017, Dalian, China. Presentation title: **QSAR Modeling: Principal, Best Practices, and Popular Algorithms**.

2016 Dec: Invited seminar by Dalian University of Technology, December 5, 2016, Dalian, China. Presentation title: **Endocrine Disruptors Knowledge Base-The FDA legacy toxicology database and its current progress**.

2016 Oct: Invited seminar by Arkansas State University, October 13, 2016, Jonesboro, Arkansas, USA. Presentation title: **Development of bioinformatics algorithms and their applications in toxicological research**.

2016 Sept: Invited presentation at 21st EuroQSAR, September 6, 2016, Verona, Italy. Presentation title: **QSAR models for prediction of drug-induced liver injury in human using Decision Forest algorithm and a large set of FDA-approved drugs**.

2016 Jul: Invited presentation at Joint Statistical Meeting 2016, July 31, 2016, Chicago, Illinois, USA. Presentation title: **Network analysis based algorithm Nebula for risk evaluation of chemicals**.

2016 Jun: Invited seminar by U.S. Army Engineer Research and Development Center, June 20, 2016, Vicksburg, MS, US. Presentation title: **Endocrine Disruptors Knowledge Base-The FDA legacy toxicology database and its current progress**.

2016 Mar: Feature presentation at the 13th Annual MCBIOS Conference, March 4, 2016, Memphis, TN, US. Presentation title: **Predictive toxicology in regulatory science: Endocrine disruptor knowledge base**.

2016 Feb: Invited presentation at Japan Multiplex bio-Analysis Consortium meeting, February 12, 2016, Tokyo, Japan. Presentation title: **DNA/RNA Data Submission to US FDA**.

2016 Feb: Invited presentation at 17th MAQC meeting, February 11, 2016, Tokyo, Japan. Presentation title: **Quality Control and Best Practice for Analysis of Whole Genome Sequencing Data**.

2015 Apr: Plenary presentation at 2nd Ecotoxicology Conference, April 27, 2015, Xiamen, China. Presentation title: **Application of ToxCast data to safety evaluation of FDA-regulated products: opportunities and challenges**.

2015 Apr: Plenary presentation at the International Symposium on Chemical Risk Prediction and Management, April 26, 2015, Xiamen, China. Presentation title: **Predictive models for risk assessment of chemicals: current status, open challenges and future perspectives**.

2015 Apr: Invited seminar by Dalian University of Technology, April 23, 2015, Dalian, China. Presentation title: **Predictive toxicology for regulatory applications**.

5. Offices, Committee Assignments or Special Assignments Held in Professional Societies

2018: Steering Committee member, OpenTox Association

2018: Session Chair, OpenTox USA 2018, July 11-12, Raleigh, North Carolina, USA.

2018: Chairman, 2018 International Symposium on Chemicals Risk Prediction and Management (ISCRPM), April 25-28, 2018, Dalian, China.

2018: Organizing Committee member, the 1st NCTR Annual Science Forum, April 20, 2018, Little Rock, Arkansas, USA.

2017: Organizing Committee member, 3rd International Conference on Retroviruses and Novel Drugs, July 27-28, 2017, Vancouver, Canada.

2017-: Member, Leadership Circle of FDA Modeling and Simulation Working group.

2016: Organizing Committee member, International Pharmacy Conference, July 14-15, 2016, Philadelphia, Pennsylvania, USA.

2016-: Member, Board of Directors, MidSouth Computational Biology & Bioinformatics Society, USA.

2013-2015: Member, Next-generation sequencing data submission working group, FDA.

2013-: Member, Data Mining Council, FDA.

2013: Organizing Committee member, 2nd International Conference and Exhibition on Biowaivers & Biosimilars**,** September 23-25, 2013, Raleigh, NC, USA.

2013: Organizing Committee member, International Summit on Clinical Pharmacy & Dispensing, Nov 18-20, 2013, San Antonio, TX, USA.

2011: Organizing Committee member, International Conference & Exhibition on Pharmaceutical Regulatory Affairs**,** September 6-7, 2011, Baltimore, USA.

2011-: Member, ICCVAM Endocrine Disruptor Working Group, NIEHS, NIH.

2010: Chair, Operating Committee of the Pharmaceutical R&D World Congress on Bioequivalence & Bioavailability, March 1-3, 2010, Hyderabad Marriott Hotel & Convention Centre, Hyderabad, 500080 India.

2010: Chair, section of Endocrinology and Drug Discovery, 8th Annual Congress of International Drug Discovery Science and Technology (IDDST), October 23-26, 2010, International Conference Center, Beijing, China.

2009: Chair, Organizing Committee, Session of Current Strategies of Bioequivalence & Bioavailability in Drug Development, BIT 7th Annual Congress of International Drug Discovery Science & Technology, October 22-25, 2009, Shanghai, China.

2008-2010: Coordinator, Genome-wide association studies working group, Microarray Quality Control (MAQC) Consortium.

2006-2009: Member, Voluntary Data Analysis and Review Team (VDART) of FDA.

2006-2009: Member, Interdisciplinary Pharmacogenomics Review Group (IPRG) of FDA.

1994-1997: Chair, Society of Computational Chemistry of Jiangsu Province, China.

6. Participation in National Scientific Meetings and Workshops (>100, recent ones listed)

2019 Mar: FDA Bioinformatics for Regulatory Science Research Workshop at SOT 2019 conference, March14, Baltimore, Maryland, USA, to give an oral presentation "Twenty years of development of chemoinformatics at NCTR--Endocrine Disruptors Knowledge Base as A Showcase".

2019 Mar: SOT 2019 conference, March 10-14, Baltimore, Maryland, USA, to give a poster presentation "Analyzing ToxCast Data Using Nebula (Neighbor-Edges Based and Unbiased Leverage Algorithm)".

2018 Mar: SOT 2018 conference, March 11-15, San Antonio, Texas, USA, to give a poster presentation "Structural changes of androgen receptor ligand-binding domain due to antagonist binding elucidated by long time molecular dynamic simulations".

2018 Feb: 2nd MAQC meeting, Shanghai, China, to give an oral presentation "Assessing reproducibility of SNVs and small indels detected in whole genome sequencing".

2017 Sept: Computational Chemistry and Computational Modeling Meeting, US Army Engineer Research and Development Center (ERDC), Vicksburg, MS, to give an oral presentation "Endocrine Disruptors Knowledge Base Facilitates Computational Modeling in Toxicology".

2017 Sept: FDA Scientific Computing Days / FDA Cool Tools session, White Oak, MD, to give an oral presentation "Bioinformatics tools developed at NCTR".

2017 Sept: SEQC2 WG#1 and WG#3 Workshop, San Francisco, California, to coordinate the workshop and give an oral presentation "Assessing reproducibility of SNVs and small indels detected in whole genome sequencing".

2017 Aug: 8th ACM Conference on Bioinformatics, Computational Biology and Biomedical Informatics, Boston, MA, to give a poster presentation "Development of nicotinic acetylcholine receptor nAChR α7 binding activity prediction model: Coupling machine learning with competitive molecular docking".

2017 Mar: SOT 2017 conference, March 12-16, Baltimore, Maryland, USA, to give a poster presentation "Predicting drug-induced liver injury in human using a large set of FDA-approved drugs".

2017 Mar: The 14th annual conference of MidSouth Computational Biology & Bioinformatics Society (MCBIOS), Little Rock, Arkansas, USA, to chair a workshop on PubChem, to organize the meeting.

2017 Apr: Second SEQC-2 workshop, April 10-13, Cary, North Carolina, USA, to coordinate the working group for germline variant detection using whole genome sequencing.

2017 Apr: International Symposium on Chemical Risk Prediction and Management (ISCRPM-2017), April 24-25, 2017, Hangzhou, China, to give an oral presentation "Computational Toxicology and Applications in Regulatory Science".

2017 Apr: The 4th Ecotoxicology Conference, April 25-28, 2017, Hangzhou, China, to give an oral presentation "Computational Predictive Toxicology and Applications in Regulatory Science".

2016 Mar: The 13th annual conference of MidSouth Computational Biology & Bioinformatics Society (MCBIOS), Memphis, TN, USA, to chair an oral presentation section, to give a feature presentation "Predictive Toxicology in Regulatory Science: Endocrine Disruptors Knowledge Base" and to serve as a judger for poster presentations.

2016 Mar: SOT's 55th Annual Meeting, New Orleans, LA, USA, to give a poster presentation "Enhancement of the Endocrine Disruptor Knowledge Base for Assessing Endocrine Activity of Untested Chemicals".

2016 Apr: OpenTox USA 2016, Baltimore, MD, USA. I am invited to discuss the selection of benchmark data sets and algorithms for OpenTox consortium.

2016 May: NIH Tobacco Regulatory Science Conference, Bethesda, MD, USA, to give an oral presentation "Competitive docking model for prediction of the human nicotinic acetylcholine receptor α7 binding of tobacco constituents".

2016 June: QSAR 2016, June 13-17, 2016, Miami, Florida, USA, to give a poster presentation "Three dimensional structures of human nicotinic acetylcholine receptor α7 constructed through homology modelling and molecular dynamics simulation".

2016 Jul: Annual Conference of American Society of Statistics, July 30-August 4, 2016, Chicago, Illinois, USA, to give an oral presentation "Network analysis based algorithm Nebula for risk evaluation of chemicals".

2016 Sept: EuroQSAR 2016, September 5-8, 2016, Verona, Italy, to give an oral presentation "QSAR models for prediction of drug-induced liver injury in human using Decision Forest algorithm and a large set of FDA-approved drugs".

2016 Sept: First SEQC-2 workshop, September 13-14, Bethesda, Maryland, USA, to coordinate the working group for germline variant detection using whole genome sequencing.

2016 Sept: FDA Scientific Computing Days, September 27-28, Silver Spring, Maryland, USA, to give an oral presentation "Knowledge Bases Promote Scientific Computing in Regulatory Science".

2015 Mar: The 12th annual conference of MidSouth Computational Biology & Bioinformatics Society (MCBIOS), Little Rock, AR, USA, to chair an oral presentation section and to serve as a judger for poster presentations.

2015 Mar: SOT's 54th Annual Meeting, San Diego, CA, USA, to give a poster presentation "Potential Applications of ToxCast Data in Safety Evaluation of FDA-regulated Products: Comparative Analyses between ToxCast Data and FDA Databases".

2015 May: FDA Science Forum, Silver Spring, MD, USA, to give a poster presentation "Quality control metrics improve repeatability and reproducibility of single-nucleotide variants derived from whole genome sequencing".

2015 Aug: The 4th International Conference and Exhibition on Addiction Research and Therapy, Orlando, FL, USA, to give an oral presentation "Three dimensional structures of human nicotinic acetylcholine receptors constructed through homology modelling and molecular dynamics simulations".

2015 Aug: The 250th ACS National Meeting & Exposition, Boston, MA, USA, to given an oral presentation "Analyzing ToxCast Data Using Nebula (Neighbor-Edges Based and Unbiased Leverage Algorithm)" and a poster presentation "Analyzing ToxCast Data Using A Novel Network Algorithm: Nebula (Neighbor-Edges Based and Unbiased Leverage Algorithm)".

7. Outside Professional Advisory and Consulting Activities

Advisory board of scientific projects

2019- presnt: Member of Advisory Board, the Embryoposome project, the EU Framework Programme for Research and Innovation Horizon 2020.

Editorial board of scientific journals

2009-presnt: Member of Editorial Board, Biomarkers in Medicine (http://www.futuremedicine.com/page/journal/bmm/editors.jsp)

2009-prsent: Executive Editor, Journal of Bioequivalence & Bioavailability (http://www.omicsonline.org/editorialboard-bioequivalence-bioavailability-open-access.php)

2009-prsent: Member of Editorial Board, Advances in Bioinformatics (http://www.hindawi.com/journals/abi/editors/)

2012-present: Academic Editor, British Journal of Pharmaceutical Research (http://sciencedomain.org/journal/14/editorial-board-members)

2012-present: Member of Editorial Board, World Journal of Medical Genetics (http://www.wjgnet.com/2220-3184/edboard.htm)

2014-present: Editorial Advisor, International Journal of Innovative Research and Development (http://www.ijird.com/index.php/ijird/pages/view/edibrd)

2015-present: Editorial Board Members (Chemoinformatics), Combinatorial Chemistry & High Throughput Screening (http://benthamscience.com/journals/combinatorial-chemistry-and-high-throughput-screening/editorial-board/)

2016-present: Editorial Board Members, International Journal of Environmental Research and Public Health (http://www.mdpi.com/journal/ijerph/editors)

2018-presnt: Member of Editorial Board, Journal of Environmental Science and Health, Part C (https://www.tandfonline.com/loi/lesc20)

Peer review for scientific journals

Reviewed more than 200 manuscripts for >50 journals listed below.

1988-2007: (1) Journal of Chemical Information and Computer Science; (2) Journal of Chemical Information and Modeling; (3) Journal Medicinal Chemistry; (4) Journal of Computational Chemistry; (5) Analytica Acta; (6) SAR and QSAR in Environmental Research; (7) Journal of Physical Chemistry; (8) BMC Bioinformatics; (9) Knowledgebase; (10) Journal of Computer and Applied Chemistry (*in Chinese*); (11) Inorganic Chemistry (*in Chinese*); (12) Analytic Instrument (*in Chinese*); (13) Journal of University Chemistry (*in Chinese*); (14) Journal of Chemistry (*in Chinese*); (15) Journal of Nanjing University (*in Chinese*)

2007-prsent: (1) Environmental Health Perspectives; (2) Environmental Science and Technology; (3) Toxicological Science; (4) Bioinformactics; (5) PLoS Computational Biology; (6) PLoS One; (7) Regulatory Toxicology and Pharmacology; (8) Journal of Computational Biology; (9) Chemical Research in Toxicology; (10) Journal of Chemical Information and Modeling ; (11) Journal Medicinal Chemistry; (12) Journal of Computational Chemistry; (13) SAR and QSAR in Environmental Research; (14) Physical Chemistry Chemical Physics; (15) BMC Bioinformatics ; (16) BMC Genomics; (17) BMC Research Notes; (18) The Pharmacogenomics; (19) Scientific Reports; (20) Scientific Data; (21) Database-The Journal of Biological Databases and Curation; (22) Chemosphere; (23) Journal of Endocrinology; (24) Pharmacogenomics; (25) Journal of Cheminformatics; (26) Biomarkers in Medicine; (27) Journal of Bioequivalence & Bioavailability; (28) Molecules; (29) International Journal of Environmental Research and Public Health; (30) Pharmaceutics; (31) British Journal of Pharmaceutical Research; (32) OA Bioinformatics; (33) Advances in Bioinformatics; (34) Combinatorial Chemistry & High Throughput Screening; (35) Journal of Pharmacogenomics & Pharmacoproteomics; (36) Letters in Drug Design and Discovery; (37) Journal of Drug Metabolism & Toxicology; (38) World Journal of Medical Genetics; (39) Science China- Life Science; (40) Journal of Molecular Graphics and Modelling; (41) Journal of Proteomics and Bioinformatics; (42) Protein Science; (43) Proteomics; (44) Steroids; (45) Medical Science Monitor; (46) Evidence-Based Complementary

and Alternative Medicine; (47) IEEE-ACM Transaction on Computational Biology; (48) Journal of Molecular Modeling; (49) Toxicology and Applied Pharmacology; (50) ALTEX; (51) Transactions on Information Technology in BioMedicine; (52) IEEE Transactions on Biomedical Engineering; (53) International Journal of Biological Macromolecules; (54) Oncotarget; (55) Science of the total environment; (56) Brief in Bioinformatics; (57) Pharmacological Research; (58) Ecotoxicology and Environmental Safety.

Peer review for grant applications

2019: The grant proposal #1104 of The United Arab Emirates University (UAEU; http://www.uaeu.ac.ae/en/) "Application of Artificial Intelligence in Data Quality Management and Clinical Decision Support in the Mutaba'ah: Mother and Child Health Study".

2018: FDA Broad Agency Announcement grant application "Evaluate the accuracy of carcinogenicity predictions for selected chemicals as an independent validation of (qualitative) structure-activity relationship or (Q)SAR models developed from FDA data".

2016: The Austrian Science Fund grant proposal (P 29672-N31) "Deep Learning for In-Silico Toxicogenetics Testing".

2015: FDA Chief Scientist grant application "De-immunizing therapeutic coagulation proteins: Factor VIIa as a model system".

2014: FDA Broad Agency Announcement grant application "Modernize Toxicology to Enhance Product Safety - In silico safety profiling of kinase inhibitors".

2014: FDA Chief Scientist grant application "Case-based decision support environment for the safety surveillance of biologics, medical devices and drugs utilizing the FDA document resources".

2010: China, Zhejiang University, grant proposals for the Director Award of Pharmaceutical Informatics Institute.

2008: France, French National Research Agency grant application "Robotic and methodological development of a multiplex approach combining surface nano-immunocapture and mass spectrometry".

2006: UK, Medical Research Council grant application "Reducing animal studies by functionally validated biomarkers for toxicity studies".

1994: China, Nature Science Foundation grant application "Development of interfaces to connect computer with analytical instruments for chemistry laboratories in Chinese universities".

Ph.D. dissertation committees

2016-presnt: University of Arkansas for Medical Science/University of Arkansas Little Rock Bioinformatics Program (Ph.D. Student: Kristin McEuen; sponsored by FDA)

2016-2018: Arkansas State University, Department of Computer Science (Ph.D. Student: Jason Causey)

2012-2015: University of Arkansas for Medical Science/University of Arkansas Little Rock Bioinformatics Program (Ph.D. Student: Heng Luo; sponsored by FDA)

M.S. thesis committees

2016-2018: East Carolina University, Department of Biology (M.S. Student: Joshua Mogus)

2015-2016: University of Arkansas for Medical Science/University of Arkansas Little Rock Bioinformatics Program (M.S. Student: Kristin McEuen; sponsored by FDA)

2010-2012: University of Arkansas for Medical Science/University of Arkansas Little Rock Bioinformatics Program (M.S. Student: Jie Liu; sponsored by EPA)

2010-2012: University of Arkansas for Medical Science/University of Arkansas Little Rock Bioinformatics Program (M.S. Student: Heng Luo; sponsored by FDA)

1993-1995: Nanjing University, China (M.S. Student: Haishang Li)

8. FDA Special Assignments and Advisory Committees

2016-present: FDA modeling and simulation working group. I served as the leadership for the working group.

2014-present: Tox21 Bioinformatics Working Group. Tox21 is a large federal government toxicological project that involved many agencies including FDA. The bioinformatics working group is responsive for storage, management, analysis, sharing and presenting the data generated from the project. I contributed my expertise in bioinformatics to help safely and efficiently analyze and manage the data.

2014-present: As the PI, I initiated and established the collaboration with CTP scientist (Dr. Michael Orr) to prepare the protocol (E0754801) to develop an in silico high throughput screening of tobacco constituents with addiction potential using molecular docking based on three-dimensional structure of nicotinic acetylcholine receptors a7 and a4b2. The results from this project will help CTP scientists in assessing addictiveness of tobacco constituents when regulating new tobacco products.

2014-2016: FDA Chief Scientist Grant review. I reviewed Chief Scientist Grant applications that helped the agency invest its limited resources in right projects that will most likely make significantly scientific progresses that protect and improve the public health.

2014 Sept: FDA QSAR round table meeting. The meeting was initiated to promote better application of QSAR in the regulatory applications of all products centers. As one NCTR representative, I gave a presentation on the QSAR methods and

systems developed at NCTR and contributed my expertise to inform the agency of better application of QSAR in regulatory decision making.

2013-present: FDA Data Mining Council. I attended the bi-monthly routine WebEx meeting. As one representative from NCTR, I have been updating the progresses of NCTR in data mining field. I gave presentations on new methods and applications from NCTR; I also made efforts to invite NCTR scientists in the field to give presentations to the council. My efforts helped the council keep the agency informed of the emerging techniques in data mining.

2013-2015: FDA Next-Generation Sequencing Data Submission Working Group. I attended the working group meetings to discuss the format, security, type of next-generation sequencing data that are submitted to the agency. A draft guideline for next-generation sequencing data submission was generated.

2013-2014: FDA BAAA grant review. I reviewed some BAAA grant applications that helped the agency select the most needed outside FDA project to advance the agency's regulatory science.

2012-present: Endocrine Disruptors Working Group. Endocrine disruptors raised concerns on regulation of chemicals for US federal government agencies including FDA. This working group was formed to better understanding of the risk assessment of chemicals in terms of endocrine disrupting potential. As one FDA representative, I attended most of the routine WebEx meetings and contributed my expertise to the working group.

2012-2014: FDA Scientific Computing Board. I attended multiple the FDA Scientific Computing Board planning meeting to discuss the scientific computation needs. I analyzed the computational chemistry needs for the agency and help the board making long-term strategic plan for scientific computation development.

2012-2014: As a Co-PI in a research project E0750901 (priority setting of harmful and potential harmful constituents (HPHCs) in tobacco products with bioinformatics) that was developed in collaboration with CTP scientist (Dr. Michael Orr), I contributed my expertise in development of the bioinformatics methods that could inform CTP of potential HPHCs in tobacco products and smoke.

2008-2010: FDA-led Microarray Quality Control (MAQC) Consortium. I coordinated the genome-wide association studies working group in MAQC. I made study design, coordinated teleconferences and face-to-face meeting to discuss data analysis, manuscripts preparation and submission. The working group made significant contributions to the scientific community through publication of 5 research articles in the prestigious journal in pharmacogenomics field: *The Pharmacogenomics Journal* of Nature Publish Group.

2007-2010: FDA Voluntary Data Analysis and Review Team. Closely working with Dr. Federico Goodsaid, the team leader from CDER, I reviewed 6 genomics and proteomics data submissions to CDER. I was the major reviewer who conducted data analysis and provide in-depth review comments to the sponsors. For each submission, I traveled to FDA White Oak campus to attend review

meeting with reviewers from CDER and scientists from the company and to present my review comments. By reviews helped CDER to publish the guideline to the industry for genomic data submission.

2007-2010: FDA Interdisciplinary Pharmacogenomics Review Group. As a member, I reviewed the genetic data for an investigational new drug (IND) application submitted to CDER. I reviewed the data, analysis methods and conclusions drawn from the genetic studies. I also conducted alternative data analysis to provided review comments to CDER. My review comments helped regulatory decision making for this submission.

9. Other Significant Information

Management experience

I have been the Chief of Bioinformatics Branch, FDA/NCTR/DBB since April 1, 2018.

I held the position of Director, Bioinformatics Division, the IT contract at NCTR for 5 years (2002 to 2007). I supervised the 6 employees (4 senior scientists with Ph.D. and 2 software engineers with Master degree).

I have been organizing and leading the weekly postdoctoral fellows meeting of Division of Bioinformatics and Biostatistics since 2011.

I occasionally organized and coordinated workshops and seminars for the Division, the Center and outside NCTR.

I frequently served as Organizing Committee member for national and international scientific conferences.

Training junior scientists

As a mentor in ORISE and the NCTR Summer Student Program, I have been training junior scientists to design, perform experiments and analyze results for presentation and preparation of written reports and manuscripts.

Visiting Scientists: Associate Professor, Dr. Mao Shu, Chongqing University of Technology, China (2013 – 2015)

Postdoctoral Fellows: Zuowei Ji (2020 – present)

Wenjing Guo (2018 – present)

Bohu Pan (2017 – present)

Selvaraj Chandrabose (2016 – 2017)

Suguna Devi Sakkiah (2015 – 2018)

Hui Wen Ng (2013 – present)

Hao Ye (2014 – 2016)

Wenqian Zhang (2012 – 2014)

Jie Shen (2012 – 2013)

Svetoslva H Slavov (2010 – 2011)

Lei Xu (2009 – 2010)

Ph.D Students: Sami Boussetta (2017 – 2017)

Heng Luo (2013 – 2016)

Mathew Price Hardin (2015 – 2015)

Wenyi Wang (2015 – 2015)

Tianyun Fu (2014 – 2014)

Baraka Williams (2013 – 2013)

Nintao Cheng (2011-2011)

Zhenqiang Su (2005 – 2006)

Haishan Li (1992 – 1995)

Yufeng Shi (1992 – 1992, Master degree)

PI and co-PI for NCTR protocols

E0729701: Baseline practices for analyzing genome-wide association study (GWAS) data (**PI**).

E0741501: Further development and refinement of the FDA's Endocrine Disruptor Knowledge Base for assessing endocrine disrupting potential of drugs and food additives (**PI**).

E0754801: High-throughput Screening Tobacco Constituents for Addiction Potential Using Docking of Nicotinic Acetylcholine Receptors (**PI**).

E07563801: A systematic investigation of personal genome assembly for precision medicine with next-generation sequencing (**PI**).

E0764001: Enhance Prediction of Potential Endocrine Activity of Chemicals by Integrating Multiple Endpoints Data (**PI**)

E0766601: The design and development of machine learning algorithms to assist with automated pattern recognition of persistent organic pollutants in foods and feeds (**PI**)

E0765001: Sequencing Quality Control Phase 2 (SEQC2): A Consortium Effort to Assess Next-Generation Sequencing for an Enhanced Regulatory Science Research and Precision Medicine (**co-PI**)

E0750901: Priority setting of harmful and potential harmful constituents (HPHCs) in tobacco products with bioinformatics (**co-PI**).

E0751801: microRNA as noninvasive biomarkers for tobacco smoke (**co-PI**).

E0720701: The MicroArray Quality Control (MAQC) Project – An FDA-led, Community-wide Effort toward Personalized medicine (**co-PI**).

S00705: Critical Path Funding in Support of the Phase II of the MicroArray Quality Control Project (MAQC-II) Towasrd Personalized Medicien (**co-PI**).

E0731901: SEQC-(MAQC-III): The Sequencing Quality Control Project (**co-PI**).

E0755801: CTP Bioinformatics for Text and Topic Modeling (**co-PI**).

E0755901: CTP Bioinformatics Tobacco Constituents Knowledge Base and HPHC Toxicology (**co-PI**).

E0753501: CTP Scientific Enclave, Tobacco Constituents Knowledge Base, and Topic Modeling for Tobacco Industry Documents (**co-PI**).

E0760501: Development and evaluation of predictive models for the management of risk of drug-induced liver injury (DILI) in the Investigational New Drug (IND) phase (**co-PI**).

E0762001: Developing a novel data mining and data visualization method for safety surveillance of the FDA adverse event reporting systems—Use FAERS as a pilot study (**co-PI**).

E0766501: A database of pharmacogenomics biomarkers for application to the minority groups (**co-PI**).

Collaborations with other FDA centers

2007 – present: CDER (Dr. Shashi Amur); genomics data submission program; biomarkers qualification process.

2007 – 2012: CDER (Dr. Federico Goodsaid); voluntary genomic data submission program; genetic data review for IND applications.

2009 – 2011: CDER (Dr. Li Zhang); voluntary genomic data submission program; genome-wide data association data analysis.

2012 – present: CDER (Dr. Wafa Harrouk); development of estrogenic activity database (EADB); predicting estrogenic activity of chemicals in sunscreen using QSAR model for estrogen receptor (ER) binding activity.

2012 – present: CFSAN (Dr. Jason Aungst); development of estrogenic activity database (EADB); predicting estrogenic activity of food additives using QSAR model for estrogen receptor (ER) binding activity.

2012 – present: CBER (Dr. Samir Lababidi); development of methods for uncertainty estimation of classification models.

2012 – present: CTP (Wendy Aronson & Deborah Sholtes); development of the tobacco constituent knowledge base (TCKB).

2012 – 2014: CTP (Dr. Mike Orr); development of bioinformatics tools for evaluation of toxicological endpoints on tobacco constituents.

2013 – present: OC (Dr. Lawrence Callahan & Dr. Frank Switzer); integrating the substance register system (SRS) with FDALabel database and endocrine disruptors knowledge base (EDKB).

2013 – present: CDER (Dr. Eric Donaldson); developing guideline for industry for next-generation data submission to FDA.

2013 – present: CBER (Dr. Vahan Simonyan); next-generation sequencing data analysis; implementing data analysis pipelines in HIVE.

2013 – present: CVM (Dr. Hesha J Duggirala); data mining methods development and applications.

2014 – present: CTP (Dr. Carmine Leggett); development of in silico high throughput screening of tobacco constituents with addiction potential.

2015 – present: CDER (Dr. Diego Rua); development of estrogenic activity prediction model for safety evaluation of sunscreen ingredients.

Collaborations with other government agency

2008 – present: NIH/NCI (Dr. Marc Nicklaus); integrating molecular descriptors calculation software Mold2 with CACTVS tools system used in NCI.

2010 – 2012: CDC/ATSDR (Dr. Eugene Demchuk); developing QSAR models for prediction of CYP3A4 and CYP2D6 inhibitors.

2011 – present: EPA/NCCT (Dr. Ann Richard); developing estrogenic activity database (EADB) and endocrine disruptor knowledge base (EDKB).

2012 – 2013: NIH/NIEHS (Dr. Christina Teng); development of estrogenic activity database (EADB).

2013 – 2014: NIH/NIEHS (Dr. Jennifer Fostel); comparing Tox21 chemicals with EADC (estrogenic activity database of chemicals).

2013 – present: NIH/NCATS (Dr. Ruili Huang); developing QSAR models for predicting chemicals assayed in Tox21 project.

2013 – present: NIH/NIEHS (Dr. Raymond Tice); Predicting estrogenic activity of ~8300 chemicals screened in Tox21 using ER QSAR models.

2013 – present: US Army Engineer Research and Development Center (Dr. Ping Gong); predictive toxicology.

2013 – 2015: EPA/NCCT (Dr. Imran Shah); developing models for predicting in vivo hepatotoxicity using ToxCast data.

2013 – present: EPA/NCCT (Dr. Richard Judson); developing estrogenic activity database (EADB); ToxCast data analysis; developing consensus modeling for estrogenic activity prediction.

2014 – 2015: EPA/OSCP (Dr. Scott Lynn); qualitative and quantitative predictions of estrogenic activity for the 109 chemicals in list 2 of EDSP tier 1 battery of assays.

2015 – present: US Army Research Laboratory (Dr. Joshua M. Sadler); estrogenic activity of renewable replacements for bisphenol A.

2015 – present: Naval Air Warfare Center (Dr. Benjamin G. Harvey); estrogenic activity of methylene dianiline.

Collaborations with academic institutes

2008 – present: University of Texas Southern Medical School (Dr. Quanzhen Li); microarray gene expression data analysis; HLA genotyping using next-generation sequencing.

2008 – present: Zhejiang University, China (Dr. Xiaohui Fan); classification methods for genomics data analysis.

2008 – present: East China Normal University, China (Dr. Tieliu Shi); data analysis pipelines for analysis of miRNA next-generation sequencing data.

2009 – 2014: Marshfield Clinic Research Foundation (Dr. Simmon M Lin); SNP genotyping data analysis and next-generation sequencing data analysis.

2009 – 2011: Northwestern University (Dr. Nadereh Jafari); SNP genotyping data analysis and next-generation sequencing data analysis.

2012 – 2013: Texas A&M University (Dr. Susie Y Dai), developing estrogenic activity database (EADB).

2012 – present: Arkansas Children Hospital/University of Arkansas for Medical Science (Dr. Charlotte Hobbs); detection of de novo mutations using target sequencing for genetic study of pediatric heart defect.

2012 – present: Fudan University, China (Dr. Leming Shi); microarray gene expression data analysis and next-generation sequencing data analysis.

2013 – present: East China University of Science and Technology, China (Dr. Yun Tang); QSAR for drug discovery.

2014 – present: University of Arkansas for Medical Science (Dr. Donald Johann, Jr.); next-generation sequencing data analysis.

2014 – present: Arkansas State University (Dr. Xiuzheng Huang); development of algorithms for transcitpome assembly.

2014 – present: University of South Mississippi (Dr. Joe Chaoyang Zhang and Dr. Nan Wang). miRNA next-generation sequencing data analysis.

2015 – present: Dalian University of Technology, China (Dr. Jingwen Chen and Dr. Xianliang Qiao); computational predictive toxicology.

2015 – present: Drexel University (Dr. Giuseppe R. Palmese); QSAR models for prediction of estrogen receptor binding of BPA replacement compounds.

2015 – present: Rowan University (Dr. Joseph F. Stanzione); QSAR models for prediction of estrogen receptor binding of BPA replacement compounds.

Collaborations with industry

2007 – present: GSK (Dr. Ansar Jawaid and Dr. Jayne Fox); genome-wide association studies; pharmacogenomics.

2009 – present: SAS Institute Inc. (Dr. Kelci Miclaus and Dr. Wenjun Bao); SNP genotyping data analysis and microarray gene expression data analysis.

2009 – 2014: Expression Analysis Inc. (Dr. Wendell D Jones); SNP genotyping data analysis, microarray gene expression data analysis and next-generation sequencing data analysis.

2009 – 2012: Golden Helix Inc (Dr. Christophe G Lambert); SNP genotyping data analysis.

2009 – 2012: Health Solutions Group, Microsoft (Dr. Silvia C Vega); SNP genotyping data analysis.

2010 – present: Elli Lilly (Dr. Jian Wang and Dr. Troy B Hawkins); genomics and genetics data analysis.

2013 – present: Elli Lilly (Dr. Jie She); in slico methods for prediction of ADMET in drug discovery.

2014 – present: Thomson Reuters (Dr. Zhenqiang Su); analysis of next-generation sequencing data.

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From: Babcock, Chris (EGLE)
To: Knott, Steven
Subject: Nominations for Science Advisory Committee on Chemicals
Date: Thursday, March 19, 2020 2:55:07 PM
Attachments: Babcock - Resume.docx

I would be interested on being on the committee. I have over 25 years of experience, mixed between private and state governmental work.

Sincerely,

Chris Babcock, M.S., CHMM
Sr. Environmental Quality Analyst
ISO 14001:2015 and ISO 45001:2018 Lead Auditor
Sustainable Development Unit
Materials Management Division
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PROFESSIONAL PROFILE

Program Manager with 25 years of environmental project management experience with a focus on regulatory compliance, risk mitigation, sustainability, public outreach and compliance assistance.

- ISO 45001:2018 Occupational Safety and Health Exemplar Global Lead Auditor Certification.
- ISO 14001:2015 Environmental Management Systems Exemplar Global Lead Auditor Certification.
- OSHA 40-hour HAZWOPER-certified per 29 CFR 1910.120, maintained since 1998.
- OSHA 30-hour Hazard Recognition Training for General Industry Certification.
- Class A, B and C UST MDE Certified Operator.
- RCRA/DOT 8-Hour Hazardous Waste Management and Transportation Training Certification.
- Storm Water Management - Industrial Site, Certified Operator.
- Globally Harmonized System and OSHA Hazardous Communication Certification.
- Project Management Professional 36-hour Training Course, Project Management Institute.
- Exposure Air Monitoring: Awareness and Best Practices Certificate, Bowen EHS.
- How to Conduct Incident Investigations Certificate, Bowen EHS.
- Watershed Management Training Certificate (15 modules) - USEPA Watershed Academy.
- RCRA and CERCLA Environmental Regulatory 5-day Training Course, Archer Institute, Hilton Head, SC.
- Army National Guard Environmental Regulatory 5-day Training Course, Little Rock, AR.
- Michigan State Police Courses: Integrated Emergency Mgmt., EMHSD and 51st CST/Hazmat Training.
- FEMA Emergency Management, Incident Command System Courses: 100, 200, 300, 700, 800 and 915.
- Proficient in Microsoft Office, Outlook, SharePoint, EPOCH, HQAES, MAERS and MiWaters.

PROFESSIONAL EXPERIENCE

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY (EGLE), Lansing, Michigan
Senior Environmental Quality Analyst, *July 2019 - Present*

Function as the Materials Management Division, Sustainability Unit's statewide program manager in the areas of:

- Multi-Media Pollution Prevention Integrated Assessments, Environmental Management Systems, EGLE Clean Marinas Program and serve as a participating member of the Michigan PFAS Action Response Team.
- Engage stakeholders including media, government officials, and the public regarding pollution control efforts.

EXELON (Fortune 100 company), Washington, DC
Program Manager, October 2017 – June 2019

Serve as program manager for the Washington DC, Maryland and Virginia service areas. Core responsibilities were executed with the goal of maintaining compliance with established company Key Performance Indexes:

- ISO14001 EMS Audits, Tier II Reporting, Greenhouse Gas Emission Tracking and Forecasting.
- Spill response oversight, Incident Management Team Lead for Environmental Dept., UST removal/investigations.
- Hazardous, Non-Hazardous, Universal and Liquid Waste Inspections and Program Management.
- Health and Safety with Root Cause Analysis.

MICHIGAN DEPARTMENT OF MILITARY AND VETERANS AFFAIRS, ANG, JOINT FORCES HQ, Lansing, Michigan
Environmental Quality Specialist, *March 2017 – June 2017*

Function as the Department's Environmental Specialist, for Army National Guard bases statewide, in the areas of:

- ISO 14001 EMS, NEPA, Tier II Reporting, and WWTP Inspections.
- Hazardous, Non-Hazardous, Universal, Liquid Waste Inspections and Program Management.
- Headquarters Army Environmental System Courses: 100, 110, 120, 310, 320, 330, 340 and 350.

DEPARTMENT OF ENVIRONMENTAL QUALITY, Lansing, Michigan
Senior Environmental Quality Analyst, District Program Manager for Groundwater, August 2004 – March 2017

- Responsible for compliance oversight of approximately 100 Groundwater Discharge and National Pollution Discharge Elimination System facilities. Ensure facilities comply with state and federal statutes and permits.
- Supervised and performed in excess of 600 environmental compliance inspections.
- Review hydrogeological work plans, reduced monitoring requests, termination requests, and applications.

DEPARTMENT OF ENVIRONMENTAL QUALITY, Lansing, Michigan (continued)

- Pursue compliance and enforcement actions and appear in court as DEQ expert witness.
- Appointed to Emergency Management Support Team (2010-2015).
- Represent DEQ at Michigan State Emergency Operations Center by participating in trainings and mock exercises to prepare for and recover from the effects of declared emergencies or disasters (2010-2015).
- Statewide Groundwater Discharge Committee and Statewide Groundwater SME (2004-2017).
- Appointed to DEQ Board of Examiners for Industrial/Commercial WWTP Operators (2010-2014).
- Michigan Department of Environmental Quality Courses: Industrial Storm Water, Soil Erosion and Sedimentation Control, Wastewater Treatment Training Courses: Activated Sludge, Laboratory QA/QC, Sequencing Batch Reactor, Rotating Biological Contactor, Oxidation Ditches, Collection Systems, Advantax and Lagoons.

LANSING COMMUNITY COLLEGE, Lansing, Michigan
Adjunct Associate Professor, August 2005 - May 2017 (employed while working full-time at Michigan DEQ)

- Instructor for face-to-face and online sections of Environmental Science and Natural Resource Conservation.
- Prepare and maintain course PowerPoint presentations, educational materials, and coordinate field work.

INNOVATIVE ENVIRONMENTAL SOLUTIONS, INC., Dorr, Michigan
Project Manager, January 2003 – August 2004

- Supervised and performed groundwater pump tests and analyses, soil and groundwater sampling, and computer modeling of environmental fate and transport of soil and groundwater contaminants.
- Supervised and reviewed NEPA EISs and ensure clients compliance with CWA, RCRA and CERLA regulations.
- Created, analyzed, and reviewed hydrogeology work plans for regulatory permitting and compliance.
- Supervised above ground storage tank (AST) and underground storage tank (UST) investigations and removals.
- Prepared UST/LUST report submittals, and Phase I, II, and III environmental site assessments (ESAs).

ENVIROGEN/PM ENVIRONMENTAL, Lansing, Michigan
Project Manager, September 2000 - January 2003

- Supervised and performed groundwater well installations; groundwater pump and treat systems; soil vapor extraction and air-sparge operations; and remedial investigations and feasibility studies.
- Supervised and reviewed NEPA EISs and ensure clients compliance with CWA, RCRA and CERLA regulations.
- Prepared budget proposals and health and safety plans, and supervised field investigations and remedial actions for State of Michigan-funded and USEPA Superfund project sites.
- Created, analyzed, and reviewed hydrogeology work plans for regulatory permitting and compliance.
- Prepared Environmental Impact Statements, baseline environmental assessments, and Phase I, II and III ESAs.

ABONMARCHE ENVIRONMENTAL, St. Joseph, Michigan
Project Manager, September 1997 – September 2000

- Supervised and performed groundwater well installations, computer modeling of fate of soil and groundwater contaminants, river sediment sampling, and AST/UST investigations and removals.
- Prepared NEPA EISs and ensure clients compliance with CWA, RCRA and CERLA regulations.
- Performed asbestos building inspections, bulk grab, air clearance sampling and microscope analysis (NIOSH 582). Performed indoor air quality and noise assessments, including sample collection.
- Prepared baseline environmental assessments, and Phase I, II, and III ESAs.

EDUCATION

WESTERN MICHIGAN UNIVERSITY, Kalamazoo, Michigan
***Master of Science**, December 1998*
Major: Earth Science, Specialization: Hydrogeology

CENTRAL MICHIGAN UNIVERSITY, Mount Pleasant, Michigan
***Bachelor of Science**, May 1995*
Major: Earth Science, Minors: Geography and Conservation

PROFESSIONAL MEMBERHIP'S: American Water Works Association, National Pollution Prevention Roundtable, The Water Research Foundation, Michigan Association of Hazardous Materials Professionals.

April 19, 2020

TO: Steven M. Knott, MS, Designated Federal Officer (DFO)
Office of Science Coordination and Policy (7201M)
Environmental Protection Agency
1200 Pennsylvania Avenue NW, Washington, DC 20460

FROM: John C. Rupp Jr. Assistant Director (retired)
International Union, UAW Health & Safety Department
3622 Elder Rd. S., West Bloomfield, MI 48324

RE: Nominations for Science Advisory Committee on Chemicals
Docket Identification (ID) number EPA-HQ-OPPT-2020-0135

Dear Mr. Knott,

I am writing as a member of the public and former Assistant Director of the United Auto Workers Health & Safety Department to nominate Darius D. Sivin, Ph.D. for your consideration for membership of the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Understanding that the EPA SACC is a federal advisory committee seeking professional and qualified persons to provide independent advice and expert consultation on the scientific and technical aspects relating to implementing the TSCA, I wholeheartedly recommend Dr. Sivin to become a member of the committee.

I have known Dr. Sivin both professionally and personally for more than twenty (20) years. This includes ten (10) years directing and supervising his activities as International Representative, for the International Union, UAW Health & Safety Department. During that time Dr. Sivin had key responsibility for safety and health issues related to chemical materials, risk assessments and policy direction for the more than 300,000+ UAW members employed in more than 2,000 workplaces.

These members work in a wide variety of workplaces in a diverse number of occupations. His professional activities include providing chemical assessment of products used in workplaces; conducting risk assessments related to chemical exposures; developing and delivering training for both workers and safety professionals; and authoring tools and guidance documents to support the safe use of chemical materials in the workplace.

Additionally, he has led scientific occupational health research, managed grant-funded health and safety training and has acted as the Principal Investigator for a variety of government grants related to chemical safety in the workplace. This includes grants from agencies such as the National Institute of Environmental Health Sciences (NIEHS), US Department of Labor- Occupational Safety and Health Administration (OSHA), National Institute for Occupational Safety and Health (NIOSH), and the MI Department of Labor and Economic Growth (CET-MIOSHA).

I believe that his education and professional experience including, his current work as a member of the ACGIH Chemical Substances Threshold Limit Value Committee and past membership in the World Health Organization (WHO) Nanomaterials and Workers' Health Guideline Development Group, makes him uniquely qualified to become a member of your committee and help achieve the EPA Director's stated goal of advancing "chemical safety for our families and our future". Thank you for your consideration.

Sincerely,

John C. Rupp Jr.

attachments:

John C. Rupp Jr.
(b) (6)
(b) (6)
mobile: (b) (6)
email: (b) (6) @aol.com

Darius D. Sivin, Ph.D.

Takoma Park, MD · (b) (6) · (b) (6)@gmail.com

Environmental/Occupational Health scientist focusing on chemical hazards. He has more than 20 years of experience using exposure assessment, epidemiology, dose-response modeling, risk assessment, and systematic reviews to make working environments safer so that people can enjoy healthy, long, productive lives.

Health and Safety - Led scientific occupational health research and managed grant-funded health and safety training.
Principal Investigator - Managed health and safety training programs. Received $10 million + in government grants.
Publications - Reports, Articles, Guidelines, Agency Comments, Congressional Testimony, Conference Presentations
Education - Ph.D. Johns Hopkins University, School of Public Health - Occupational Health and Safety
Languages - English (native); French (proficient), Spanish (competent)

Occupational Exposure Assessment
Dose-Response Modeling
Epidemiology
Human Health Risk Assessment

PROFESSIONAL EXPERIENCE

International Representative, International Union, UAW — Washington, DC / Detroit, MI — 2002 – Pres.

- Wrote comments on chemical disaster prevention, toxic substances and international regulatory cooperation, submitted by UAW Health & Safety Director (2018-Pres.)
- Collaboratively developed nanotechnology health and safety guidelines for World Health Organization (2013-17)
  - Guidelines relied on systematic reviews
- Awarded $10.1 M in health and safety grants as Principal Investigator / Project Director (2012-Pres.)
  - Directed and managed health and safety curriculum development, trainer development, strategic planning, program planning, program evaluation, grant budgeting, and long-term relationships with funders (2012-2016)
  - Conducted investigations and wrote reports on more than 100 hazardous workplaces, dealing with chemical exposures, ergonomics, traumatic injuries and other hazards (2002-2016)
  - Developed training material and conducted worker training on health and safety including industrial hygiene, chemical hazards, ergonomics, nanotech, mold, shiftwork, policy, electrical hazards and other topics
- Delivered more than 9 conference presentations to universities and to national research and professional organizations.
- Authored more than 10 sets of comments to 4 federal agencies on proposed actions, including actions related to crystalline silica and nanotech (2006-14)
- Represented UAW in matters of OSHA policy and standard setting (2011-14)
- Nominated by UAW for Presidential Appointment to the Chemical Safety Board (2011)
- Awarded Grants by OSHA, and Michigan OSHA (2012-13)
- Testified about chemical facility security before U.S. Senate committees and one U.S. House committee (2009-10)
- Developed the UAW's position on toxic substances, chemical security and other issues related to Occupational Health and wrote position papers (2009-10)
- Participated in the management of joint union-employer health and safety research programs (2002-2007)
- Served as lead negotiator from Health and Safety Department in Chrysler and Ford contract negotiations (2007)
- Led discussions with EPA about incorporating the industrial hygiene hierarchy of controls into Significant New Use Rules on nanomaterials.

Health Scientist, Occupational Safety & Health Administration — Washington, DC — 1999 - 2000

- Performed analysis and wrote Federal Register text for the OSHA Ergonomics Standard Preamble
- Coordinated conference on cooperation among federal agencies to protect the public from toxic substances

Research Associate, Hunter Center for Occupational / Environmental Health — New York, NY — 1994 - 1996

Research Analyst, Washington State Department of Labor & Industries — Olympia, WA — 1993 - 1994
- Drafted preamble to proposed Washington State Occupational Lead Standard

EDUCATION

PhD - Public Health. Johns Hopkins School of Public Health, Baltimore MD — 2002

MES - Master of Environmental Studies, The Evergreen State College — 1994

AB - Bachelor of Arts - Politics/Economics/Rhetoric/Law (Honors), University of Chicago — 1990

LANGUAGES

English (native). French (proficient). Spanish (competent).

PROFESSIONAL ACTIVITIES

ACGIH Chemical Substances Threshold Limit Value Committee — 2004 - Pres.
Participate in a committee that uses epidemiology, dose-response modeling, and risk assessment to recommend airborne concentrations of chemicals to protect worker health

WHO NANOH Guideline Development Group — 2013 - 2017
Collaboratively developed and currently implementing guideline to protect workers from potential risks of manufactured nanomaterials

NEW SOLUTIONS: A Journal of Environmental and Occupational Health Policy
Associate Editor — 2018 - Pres

Special Emphasis Panel to review applications submitted in response to the SBIR RFA-ES-16-006, SBIR RFA-ES-15-008 "E-learning for HAZMAT and Emergency Response." — 2015, 2016
http://grants.nih.gov/grants/guide/rfa-files/RFA-ES-16-006.html, http://grants.nih.gov/grants/guide/rfa-files/RFA-ES-15-008.html

Planning Committee — 2013
Workshop on Stakeholder Perspectives on the Perception, Assessment, and Management of the Potential Risks of Nanotechnology

Review Panel — 2013
Served as reviewer for *NIOSH Draft Strategic Plan for Nanotechnology Research and Guidance for FY2013- 2016*

Institute of Medicine Panel — 2012
Challenges and Benefits of Harmonizing the Federal and ISO Respiratory Protective Device Standards
http://www.nationalacademies.org/hmd/~/media/Files/Activity%20Files/PublicHealth/PPEinWorkplace/2012-DEC-10/Agenda.pdf

Manufacturing Sector Council, National Occupational Research Agenda (NORA) — 2011 – 2016
Participated in the development of an agenda to stimulate innovative research and workplace interventions

National Conversation on Public Health and Chemical Exposures — 2009 - 2010
Chaired subgroup of Chemical Emergencies Workgroup

American Public Health Association — 2005 - 2006
Served as Governing Counselor

GRANTS AND AWARDS

National Institute of Environmental Health Sciences *UAW Hazardous Material Worker Health and Safety Training* (U45) 3U45ES006180-25S1 (Sivin, Principal Investigator) $51,000. 2016-2017

National Institute of Environmental Health Sciences *UAW Hazardous Material Worker Health and Safety Training* (U45) 2U45ES006180-24 (Sivin, Principal Investigator) $7,679,980.00. 2015-2020

National Institute of Environmental Health Sciences, *UAW Hazardous Material Worker Health and Safety Training* (U45) 2U45ES006180-23 (Sivin, Principal Investigator) $728,679.00. 2014-2015

National Institute of Environmental Health Sciences, *UAW Hazardous Material Worker Health and Safety Training* (U45) 2U45ES006180-22 (Sivin, Principal Investigator) $601,607. 2013-2014.

National Institute of Environmental Health Sciences, *UAW Hazardous Material Worker Health and Safety Training* (U45) 2U45ES006180-21 (Sivin, Principal Investigator) $743,876.00. 2012-2013

US Department of Labor- Occupational Safety and Health Administration, *Susan Harwood Training Grant – International Union, UAW* SH-27639-12-60-F (Sivin, Project Director) $165,000. 2012-2013

MI Department of Labor and Economic Growth (CET-MIOSHA) *Consultation Education and Training Grant – International Union, UAW* (Sivin, Project Director) $88,000.00. 2012-2013

National Institute for Occupational Safety and Health *Pollution prevention and worker toxic exposures: a method.* R03-OH-003644. (Sivin, Principal Investigator) $50,000.00. 1999-2002

PROFESSIONAL CONFERENCE PRESENTATIONS

Sivin D. (2019). *Resilience of Chemical and Refining Infrastructure* Washington, DC: National Council for Science and the Environment (Poster Presentation)

Sivin D. (2014). "Unions and Potentially Hazardous Technologies: From the Shop Floor to the Halls of Congress." *Democratizing Technologies: Assessing the Role of NGO's in Shaping Technological Futures.* Santa Barbara: UCSB Center for Nanotechnology and Society. http://www.cns.ucsb.edu/demtech2014/presentations

Sivin D. (2013). "A Labor Perspective on the Assessment and Management of the Potential Risks of Nanotechnology." *2013 NNI Stakeholder Perspectives on the Perception, Assessment, and Management of the Potential Risks of Nanotechnology.* Washington DC: National Nanotechnology Initiative. pp.18-19 http://www.nano.gov/sites/default/files/darius_sivin1.pdf

Sivin D. (2012). "A union perspective: Nanomaterial exposures in the automotive industry and recent regulatory developments." Abstracts: 140th Annual Meeting & Exhibition. San Francisco, CA: American Public Health Association. https://apha.confex.com/apha/140am/webprogram/Paper263032.html

Sivin D. (2012). "Strategies for Setting Occupational Exposure Limits for Engineered Nanomaterials: Labor Perspective." Washington: DC American Chemistry Council. https://nanotechnology.americanchemistry.com/Nanotechnology/Panel-Activities/Workshop-Strategies-for-Setting-Occupational-Exposure-Limits-for-Engineered-Nanomaterials/Session-1-Sivin.pdf

Sivin D (2011). "Enhancing EPA/OSHA Cooperation to Protect Workers." *Abstracts: 139th Annual Meeting & Exhibition.* Washington, DC: American Public Health Association. https://apha.confex.com/apha/139am/webprogramschedule/Paper249632.html

Sivin D. (2009). "Chemical Security: Worker Participation" Abstracts*: 137th Annual Meeting & Exhibition.* Philadelphia: American Public Health Association. http://apha.confex.com/apha/137am/webprogram/Session27371.html

Sivin D. (2006). "Mapping: A tool for controlling exposure to metalworking fluids." *Abstracts: 134th Annual Meeting & Exhibition.* Boston: American Public Health Association, http://apha.confex.com/apha/134am/techprogram/paper_138690.htm

Sivin D. (2005). "Performance of a UAW-DaimlerChrysler ergonomics job analysis screening tool" Abstracts*: 133rd Annual Meeting & Exhibition.* Philadelphia: American Public Health Association, http://apha.confex.com/apha/133am/techprogram/paper_110830.htm

GUIDELINES

Bard D, Brouwer D, Ghazi-Khansari M, Gulumian M, Kortum E, Lee N, Lifshitz YR, Mraz J, Murashov V, Myojo T, Packroff R, Ponce del Castillo A, **Sivin D**, Van Broekhuizen P, de Fatima Torres M, Waissmann W, Zheng Y, Arcuri A, Kojola B, Ostiguy C, Sng J, Thieriet N, Verbeek J, and Yang JS. (2017). *WHO guidelines on protecting workers from potential risks of manufactured nanomaterials.* Geneva: World Health Organization. http://www.who.int/occupational_health/publications/manufactured-nanomaterials/en/

Chmielewski I, Bart C, Fox R, Freeman C, Hardy L, Love A, Lu J, MacGregor B, Mans J, Maynard W, Potvin J, Rozovics T, **Sivin D**, Uahinui T, Vandenbergh S, and Waters T. (2007). *Ergonomics Guidelines for Small Lot Delivery Systems.* Southfield, MI: Automotive Industry Action Group.

Adams J, Bart C, Brown J, Comai A, Fox R, Hardy L, Howe J, Love A, Nunes J, Podwoski B, **Sivin D**, Smith A, Uahinui T, and Wynn W. (2005). Guideline *for Manually Handled Containers.* Southfield, MI: Automotive Industry Action Group.

COMMENTS SUBMITTED TO EXECUTIVE AGENCIES

Sivin D (2014, August 18) *Post-Hearing Brief of the International Union, UAW on U.S. Department of Labor – Occupational Safety and Health Administration's Proposed Rule on Occupational Exposure to Respirable Crystalline Silica* (78 Fed Reg 56274, September 12, 2013) Docket No OSHA-2010-0034. http://www.regulations.gov/#!documentDetail;D=OSHA-2010-0034-4215

Sivin D (2014, August 18). *Comments of the International Union, UAW on Docket ID No. EPA-HQ-OPP-2011-0184, Agricultural Worker Protection Standard Revisions*. http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPP-2011-0184-2392

Sivin D (2014, Mar 31). *Comments of the International Union, UAW on Process Safety Management and Prevention of Major Chemical Accidents* Occupational Safety and Health Administration 29 CFR Part 1910 [Docket No. OSHA–2013–0020] RIN 1218–AC82. http://www.regulations.gov/#!documentDetail;D=OSHA-2013-0020-0084

Sivin D (2014, Mar 31). *Comments of the International Union UAW on Executive Order 13650, Section 6(a) Solicitation of Public Input on Options for Policy, Regulation, and Standards Modernization.* Docket ID: OSHA-2013-0026. http://www.regulations.gov/#!documentDetail;D=DHS-2013-0075-0392

Sivin D (2014, Mar 10). *Comments of the International Union, UAW on U.S. Department of Labor – Occupational Safety and Health Administration's Proposed Rule to Improve Tracking of Workplace Injuries and Illnesses.* Docket No. OSHA–2013–0023. http://www.regulations.gov/#!documentDetail;D=OSHA-2013-0023-1384

Sivin D (2014, Feb 13). Comments of the International Union, UAW on *External Review Draft: Update of NIOSH Carcinogen Classification and Target Risk Level Policy for Chemical Hazards in the Workplace.* CDC–2013–0023;NIOSH 240–A. http://www.regulations.gov/#!documentDetail;D=CDC-2013-0023-0032

Sivin D (2014, Feb 11). *Testimony and Comments of the International Union, UAW on U.S. Department of Labor – Occupational Safety and Health Administration's Proposed Rule on Occupational Exposure to Respirable Crystalline Silica.* https://www.regulations.gov/document?D=OSHA-2010-0034-2282

Sivin D (2012, March 19)**.** *Comments of the International Union, UAW on EPA's Proposed Significant New Use Rules on Certain Chemical Substances.* EPA-HQ-OPPT-2010-0279-0128. http://www.regulations.gov/#!searchResults;rpp=25;po=0;s=EPA-HQ-OPPT-2010-0279-0128;fp=true;ns=true

Sivin D (2011, December 29). *UAW Comments on NIOSH Carcinogen Policy, Docket Number NIOSH-240.* http://www.cdc.gov/niosh/docket/archive/pdfs/NIOSH-240/0240-120911-sivin.pdf

Sivin D (2009, March 31). *Comments Regarding Executive Order on OMB Regulatory Review.* http://www.reginfo.gov/public/jsp/EO/fedRegReview/Darius_Sivin_UAW.pdf

PUBLICATIONS

Bannerman B, Birnbaum N, Curtis K, Darbonne J, Eaton J, Fallon F, Hughes J, Hughes N, James J, Jordan T, Kagey B, Kirk M, Lizak Welles W, McBride J, Orr M, Orum P, Phinney C, **Sivin, D**, Smallwood S, Swick D, Thomas C, and Tomassoni A (2010). *National Conversation on Public Health and Chemical Exposures, Chemical Emergencies Work Group: Final Report.* Washington DC. http://www.resolv.org/site-nationalconversation/files/2011/02/FINAL-CEWG-Report-with-Erratta.pdf

Herbert R, Dropkin J, Warren N, **Sivin D**, Doucette J, Kellogg L, Bardin J, Kass D, Zoloth S (2001). "Impact of a Joint Labor-Management Ergonomics Program on Upper Extremity Musculoskeletal Symptoms Among Garment Workers." *Applied Ergonomics* 32: 453-460

Tran NL, Burke, TA, Shalauta NL, Chossek K, **Sivin D**, Fox M (1999). *Methodology for Environmental Health Risk Assessment of Operational Significance (MEHRAOS), Tier II.* Final Report prepared for the Defense Intelligence Agency Environmental Health Branch at the Armed Forces Medial Intelligence Center(AFMIC), Fort Detrick, MD.

Osleeb J, Kass D, Blanco H, Zoloth S, **Sivin D**, and Baimonte A (1997). *Baseline Aggregate Environmental Load Profile of Greenpoint/Williamsburg Brooklyn*. New York: NYC Dept. of Environmental Protection.

Perkins J, Flores H, Patterson B, Schmitt V, and **Sivin D** (1994). *The Lessons from Phosdrin Poisoning in Washington State.* Working Paper 94-1. Master's Program in Environmental Studies: The Evergreen State College, Olympia, WA.

CONGRESSIONAL TESTIMONY

Sivin D (2010, July 28). Testimony on the subject of Protecting America's Water Treatment Facilities before the Committee on Environment and Public Works, United States Senate.
http://www.epw.senate.gov/public/_cache/files/dc0a54fe-7d77-4b61-a3c0-8658962274c5/sivintestimonycombined.pdf

Sivin D (2010, March 3). Testimony on the subject of Chemical Security: Assessing Progress and Charting a Path Forward before the Committee on Homeland Security and Government Affairs, United States Senate.
http://www.hsgac.senate.gov/download/2010-03-03-sivin-testimony

Sivin D (2009, Oct 1). Testimony on the subject of H.R. 2868 The Chemical Security Anti-Terrorism Act of 2009 and H.R. 3258, The Drinking Water System Security Act of 2009 before the Subcommittee on Energy and the Environment of the Committee on Energy and Commerce, United States House of Representatives.
https://www.gpo.gov/fdsys/pkg/CHRG-111hhrg74101/html/CHRG-111hhrg74101.htm

NON-PROFIT BOARDS

National Havurah Committee	2014 - Pres.
Vice Chair	2018 – Pres.
Chair of Personnel Committee	2017 – Pres.
Set personnel policy, recruit and hire staff, major donor relations	
MoEd, an Afterschool Jewish Community	2014 - 2019
Minyan Segulah of Shepard Park and Silver Spring	2013
Ann Arbor Reconstructionist Havurah	2003 - 2004

From: John Rupp Jr
To: Knott, Steven
Subject: Nominations for Science Advisory Committee on Chemicals
Date: Sunday, April 19, 2020 7:03:34 PM
Attachments: 2020-04-19 EPA TSCA SACC Nomination DS.pdf
Darius Sivin CV 2020-4-11.pdf

Dear Mr. Knott,

I am writing as a member of the public and former Assistant Director of the United Auto Workers Health & Safety Department to nominate Darius D. Sivin, Ph.D. for your consideration for membership of the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Understanding that the EPA SACC is a federal advisory committee seeking professional and qualified persons to provide independent advice and expert consultation on the scientific and technical aspects relating to implementing the TSCA, I wholeheartedly recommend Dr. Sivin to become a member of the committee.

I have known Dr. Sivin both professionally and personally for more than twenty (20) years. This includes ten years directing and supervising his activities as International Representative, for the International Union, UAW Health & Safety Department. During that time Dr. Sivin had key responsibility for safety and health issues related to chemical materials, risk assessments and policy direction for the more than 300,000+ UAW members employed in more than 2,000 workplaces.

These members work in a wide variety of workplaces in a diverse number of occupations. His professional activities include providing chemical assessment of products used in workplaces; conducting risk assessments related to chemical exposures; developing and delivering training for both workers and safety professionals; and authoring tools and guidance documents to support the safe use of chemical materials in the workplace.

Additionally, he has led scientific occupational health research, managed grant-funded health and safety training, and has acted as the Principal Investigator for a variety of government grants related to chemical safety in the workplace. This includes grants from agencies such as the National Institute of Environmental Health Sciences (NIEHS), US Department of Labor-Occupational Safety and Health Administration (OSHA), National Institute for Occupational Safety and Health (NIOSH), and the MI Department of Labor and Economic Growth (CET-MIOSHA).

I believe that his education and professional experience including, his current work as a member of the ACGIH Chemical Substances Threshold Limit Value Committee and past membership in the World Health Organization (WHO) Nanomaterials and Workers' Health Guideline Development Group, makes him uniquely qualified to become a member of your committee and help achieve the EPA Director's stated goal of advancing "chemical safety for our families and our future". Thank you for your consideration.

Sincerely,

John C. Rupp Jr.

attachments:

PS: please let me know you received this email and the attached files OK, thank you.

John C. Rupp Jr.
(b) (6)
(b) (6)

mobile: (b) (6)
email: (b) (6) @aol.com

From: Ronald Hines
To: Knott, Steven
Subject: Nominations for US EPA TSCA SACC
Date: Friday, April 17, 2020 6:36:04 PM
Attachments: image003.png
REIF.pdf

Good evening Steven,

I had one additional individual that sent in his material for consideration as a nominee for the US EPA TSCA SACC (material attached).

Ron

Ronald N. Hines, MS, PhD, ATS
President (2019-2020)

11190 Sunrise Valley Drive, Suite 300
Reston VA 20191

(b) (6) (b) (6) gmail.com

Name:
David M. Reif, PhD

Organization:
North Carolina State University

Address:
CB 7566, 1 Lampe Drive, NC State University, Raleigh, NC 27695

Email:
dmreif@ncsu.edu

Telephone:
919-513-3812

Discipline and specific areas of interest:
Bioinformatics
Visual Analytics
High Throughput Screening
Software Development
Computational Toxicology
Gene-Environmental Interactions and Differential Susceptibility
Epidemiology
Risk Assessment

BIOGRAPHICAL SKETCH

Prov de the fo ow ng nformat on for the Sen or/key personne and other s gn f cant contr butors.
Fo ow th s format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Reif, David

eRA COMMONS USER NAME (credential, e.g., agency login): davidreif

POSITION TITLE: Associate Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
College of William and Mary, Williamsburg, VA	BS	05/2002	Biology
Vanderbilt University, Nashville, TN	MS	05/2005	Applied Statistics
Vanderbilt University, Nashville, TN	PhD	08/2006	Human Genetics
US Environmental Protection Agency, Research Triangle Park, NC	Post-doc	09/2008	Computational Toxicology & Exposure Science

A. Personal Statement

My overarching research goal is to understand the complex interactions between human health and the environment through the analysis of high-dimensional data from diverse sources (http://reif-lab.org/). To accomplish this goal, I design experiments, develop methods, and implement software to distill useful information via data integration. My publications cover topics including childhood asthma epidemiology, high-throughput screening (HTS) of environmental chemicals, gene-environment (GxE) interactions, exposure modeling and prediction, modeling of biological pathways, public database development, vaccinomics, dosimetry of PFAS, risk assessment, and genetics. Beyond publications, I have developed and distributed software for cross-laboratory information management, web-based results browsers, and integrated visual analysis of diverse, high-dimensional data.

In my previous appointment as a Principal Investigator (PI) with the U.S. EPA National Center for Computational Toxicology (NCCT), I developed analytical methods for the inter-agency ToxCast/Tox21 programs. I directed the implementation of analytical pipelines for transforming diverse data collected across a suite of assay platforms into results on publicly-available websites. I built internal, web-based tools to share all stages of analysis across EPA, enabling results to be used for publications by scientists with different backgrounds. I also invented new data integration methods, including the ToxPi framework (https://toxpi.org/), which uses visualization as a means of interdisciplinary communication. Currently, I am an Associate Professor and resident member of the Bioinformatics Research Center (BRC), with a primary appointment in the transdisciplinary Department of Biological Sciences and associate membership in the Department of Statistics. I am also Director of our Bioinformatics Consulting and Service Core (BCSC). As Director of the Data Management and Analysis Core (DMAC) of our new P42 Superfund Center (Superfund) and co-Director of the Integrated Health Sciences Facility Core (IHSFC) of our P30 Center for Human Health and the Environment (CHHE), I have worked to leverage NC State's considerable data science resources toward furthering our impact on Environmental Health Sciences research.

B. Positions and Honors

Positions and Employment

2006 - 2008 Postdoc (Biologist), US Environmental Protection Agency, National Center for Computational Toxicology, Research Triangle Park, NC

2008 - 2012	Principal Investigator (Statistician), US Environmental Protection Agency, National Center for Computational Toxicology, Research Triangle Park, NC
2008 - 2012	Adjunct Professor, North Carolina State University, Department of Statistics, Raleigh, NC
2013 -	Associate Professor, North Carolina State University, Bioinformatics Research Center, Center for Human Health and the Environment, Department of Biological Sciences, Raleigh, NC
2019 -	Director, Bioinformatics Consulting and Service Core, North Carolina State University, Raleigh, NC

Other Experience and Professional Memberships

2006 -	Member, Society of Toxicology (SOT)
2011 -	Board of Sponsors, Federation of American Scientists (FAS)
2015 - 2018	Managing Editor, BioData Mining
2016 -	Associate Editor, Environmental Health Perspectives (EHP)
2017 -	Editorial Board, Journal of Exposure Science and Environmental Epidemiology (JESEE)
2018 -	Member, American Society of Human Genetics (ASHG)
2018 -	Associate Editor, BioData Mining
2019 -	Editorial Board, Frontiers in Toxicology

Honors

1998 - 2002	Monroe Scholar, College of William and Mary
2011	Presidential Early Career Award for Scientists and Engineers (PECASE), Executive Office of the President
2011	Science Achievement Award in Health Sciences, U.S. EPA
2011	Gold Coin Award, Deep Water Horizon Oil Spill Response Team, U.S. EPA
2012	Impact Award, Comptox Chemical Toxicity Databases, U.S. EPA
2015, 2017	Working Groups, Volume 113 and Volume 120, Monographs on the Evaluation of Carcinogenic Risks to Humans, World Health Organization (WHO) International Agency for Research on Cancer (IARC)
2015	Committee Member, “Predictive Toxicology Approaches for Military Assessments of Acute Exposures”, National Academy of Sciences (NAS)
2018	Planning Committee and Session Moderator, “Informing Environmental Health Decisions Through Data Integration”, National Academy of Sciences (NAS)
2018 - 2019	Committee Member, “A Scoping Plan to Assess the Hazards of Organohalogen Flame Retardants”, National Academy of Sciences (NAS)

C. Contributions to Science

Bibliography on PubMed
https://www.ncbi.nlm.nih.gov/myncbi/david.reif.1/bibliography/public/

1. **Data Integration and Visualization.** Systems Biology provides a theoretical framework that advocates integrating data across multiple sources. However, translating this theory into practice requires the development of analytical methods that integrate across diverse sources and effectively communicate results. One such example is the Toxicological Prioritization Index (ToxPi), which was developed to satisfy these requirements by providing visual profiles of a statistically appropriate metric for combining data measured on different scales. The ToxPi has been effective in communicating results from high-dimensional data to interdisciplinary audiences and the general public. It has been featured in publicly-accessible tools deployed in support of regulatory programs at the U.S. EPA and the interagency Tox21 program. The ToxPi has also been used by independent research groups as a framework for integrating high-dimensional data into their own analyses. The free software application (https://toxpi.org/) has been downloaded and used by groups in over 50 countries since its posting in 2018. Bridging disciplines, I have also developed statistical methods for the integration of genetic, gene expression, proteomic, and clinical data across epidemiological cohorts, as well as bioinformatic methods for connecting population genetic variation to chemical risk assessment.

a. Reif DM, McKinney BA, Motsinger AA, Chanock SJ, Edwards KM, Rock MT, Moore JH, Crowe JE. Genetic basis for adverse events after smallpox vaccination. J Infect Dis. 2008 Jul 1;198(1):16-22. PubMed PMID: 18454680; PubMed Central PMCID: PMC2746083.

b. Reif DM, Martin MT, Tan SW, Houck KA, Judson RS, Richard AM, Knudsen TB, Dix DJ, Kavlock RJ. Endocrine profiling and prioritization of environmental chemicals using ToxCast data. Environ Health Perspect. 2010 Dec;118(12):1714-20. PubMed PMID: 20826373; PubMed Central PMCID: PMC3002190.

c. Reif DM, Sypa M, Lock EF, Wright FA, Wilson A, Cathey T, Judson RR, Rusyn I. ToxPi GUI: an interactive visualization tool for transparent integration of data from diverse sources of evidence. Bioinformatics. 2013 Feb 1;29(3):402-3. PubMed PMID: 23202747; PubMed Central PMCID: PMC3988461.

d. Kosnik MB, Reif DM. Determination of chemical-disease risk values to prioritize connections between environmental factors, genetic variants, and human diseases. Toxicol Appl Pharmacol. 2019 July 16;379:114674. [Epud ahead of print] PubMed PMID: 31323264.

2. **Predictive Toxicology and Environmental Health.** New strategies are needed to address the data gap between the bioactivity of chemicals in the environment versus existing hazard information. Even with new data-generation technologies that use in silico and in vitro models, predicting the toxicological effects in vivo remains a challenge. I have been working with interdisciplinary collaborators to bring translational in vivo models, such as zebrafish, into the predictive exercise. By applying novel experimental designs and informatic approaches, toxicology and environmental health can move toward a predictive science. We have shown that high-throughput screening (HTS) using a vertebrate organism (embryonic zebrafish) can keep pace with in vitro systems, can be integrated with information in disparate databases, and can predict early, chemical-elicited behavioral responses that predict teratogenic consequences at a later developmental stage. I have taken an active, leadership role in developing analytics and harmonization for interlaboratory efforts, such as the Systematic Evaluation of the Application of Zebrafish in Toxicology (SEAZIT) program. As an example of impact, a recent paper from my collaboration with Robert Tanguay's lab (Balik-Meisner et al. 2018 *EHP*) was named as NIEHS Extramural Paper of the Month for demonstrating how HTS data streams can be leveraged to detect gene-environment interactions (GxE) causing differential susceptibility to chemical exposure.

a. Padilla S, Corum D, Padnos B, Hunter DL, Beam A, Houck KA, Sipes N, Kleinstreuer N, Knudsen T, Dix DJ, Reif DM. Zebrafish developmental screening of the ToxCast™ Phase I chemical library. Reprod Toxicol. 2012 Apr;33(2):174-87. PubMed PMID: 22182468.

b. Reif DM, Truong L, Mandrell D, Marvel S, Zhang G, Tanguay RL. High-throughput characterization of chemical-associated embryonic behavioral changes predicts teratogenic outcomes. Arch Toxicol. 2015 Jul 1; PubMed PMID: 26126630; PubMed Central PMCID: PMC4701642.

c. Zhang G, Roell KR, Truong L, Tanguay RL, Reif DM. A data-driven weighting scheme for multivariate phenotypic endpoints recapitulates zebrafish developmental cascades. Toxicol Appl Pharmacol. 2017 Jan 1;314:109-117. PubMed PMID: 27884602; PubMed Central PMCID: PMC52245237.

d. Balik-Meisner M, Truong L, Scholl EH, La Du JK, Tanguay RL, Reif DM. Elucidating Gene-by-Environment (GxE) Interactions Associated with Differential Susceptibility to Chemical Exposure. Environmental Health Perspect. 2018 Jun;126(6):067010. PubMed PMID: 29968567. PubMed Central PMCID: PMC6084885.

3. **Translational Impact.** Translation has been a central goal of my research. The impact has been both immediate, as in the rapid response to the environmental emergency presented by the Deep Water Horizon oil spill, and forward-looking, as in frameworks for bringing new types of data into risk assessment processes that consider population genetic susceptibility differences. I have also worked with risk assessors and community partners to build interactive software tools (https://toxpi.org/gis) that provide insight into region-specific drivers of environmental justice and emergency preparedness/vulnerability. Novel methods development and software that I created have been featured in official publications by influential scientific bodies such as the World Health Organization's (WHO) International Agency for Research on Cancer (IARC) and the National Academy of Sciences (NAS). In addition to citations, I have served on expert committees for these organizations to author publications detailing how data integration

methods can be used for translational and predictive toxicology applications. Material from my scientific publications are moving into phases of consideration for regulatory use, where burgeoning acceptance of New Approach Methodologies (NAMs) may transform environmental and public health protection. Considering citations as a measure of impact, my bibliometrics are strong, with an *h*-index of 44 that includes 22 papers cited over 100 times and 40 cited over 50 times.

a. Judson RS, Martin MT, Reif DM, Houck KA, Knudsen TB, Rotroff DM, Xia M, Sakamuru S, Huang R, Shinn P, Austin CP, Kavlock RJ, Dix DJ. Analysis of eight oil spill dispersants using rapid, in vitro tests for endocrine and other biological activity. Environ Sci Technol. 2010 Aug 1;44(15):5979-85. PubMed PMID: 20602530; PubMed Central PMCID: PMC2930403.

b. Chiu WA, Guyton KZ, Martin MT, Reif DM, Rusyn I. Use of high-throughput in vitro toxicity screening data in cancer hazard evaluations by IARC Monograph Working Groups. ALTEX. 2018;35(1):51-64. doi: 10.14573/altex.1703231. Epub 2017 Jul 24. PubMed PMID: 28738424; PubMed Central PMCID: PMC5783793.

c. Marvel SW, To K, Grimm FA, Wright FA, Rusyn I, Reif DM. ToxPi Graphical User Interface 2.0: Dynamic exploration, visualization, and sharing of integrated data models. BMC Bioinformatics. 2018 Mar 5;19(1):80. doi: 10.1186/s12859-018-2089-2. PubMed PMID: 29506467; PubMed Central PMCID: PMC5838926.

d. Bhandari S, Lewis PGT, Craft E, Marvel SW, Reif DM, Chiu WA. HGBEnviroScreen: Enabling Community Action through Data Integration in the Houston-Galveston-Brazoria Region. Int J Environ Res Public Health. 2020 Feb 11;17(4). doi: 10.3390/ijerph17041130. PubMed PMID: 32053902; PubMed Central PMCID: PMC7068489.

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

P42 ES031009 (Mattingly) 02/01/2020-01/31/2024
NIH/NIEHS
Center for Environmental and Health Effects of PFAS
The major goal of this Superfund Center is to advance understanding about the environmental and health impact of PFAS.
Role: PI of Data Management and Analysis Core (DMAC)

R56 ES030007-01A1 (Reif) 06/15/2019-05/31/2020
NIH/NIEHS
Gene-Environment Interactions Causing Differential Susceptibility to Chemical Exposure in High-Throughput Screening
The major goal of this project is generate genetic data using the zebrafish model to explore differential susceptibility to environmental chemical exposure.

R01 CA161608-07 (Reif) 04/01/2019-03/31/2022
NIH/NCI
Genetic Etiology of Cancer Drug Response
The major goal of this project is to identify genetic factors that can be functionally associated with the etiology of differential drug and combination therapy responses.

EPA-G2018 #83948101 (Tanguay) 05/01/2019-04/31/2022
U.S. EPA
System toxicological approaches to define and predict the toxicity of Per and Polyfluoroalkyl Substances
The major goal of this project is to determine the effects of PFAS on development and develop predictive exposure models.
Role: PI of Sub-contract to North Carolina State University

Contract 18-E0010 (Reif and Fourches) 12/10/2018-02/28/2020

California Office of Environmental Hazard Health Assessment (OEHHA)
Computational Toxicology Models of PFAS Hazard
The major goal of this project is to perform molecular docking, data integration, and translation of results for PFAS compounds.

U01 ES027294-03 (Tanguay) 09/30/2016-08/31/2021
NIH/NIEHS
Multidimensional in vivo Assessments of Engineered Nanomaterials and Biological Interactions
The major goal of this project is to generate comprehensive models of biological consequences of nanomaterial exposure.
Role: PI of Sub-contract to North Carolina State University

P30 ES025128-05 (Smart) 04/20/2015-03/11/2020
NIH/NIEHS
Center for Human Health and the Environment (CHHE)
The major goal for this project is to leverage bioinformatics expertise toward translational research in the environmental health sciences.
Role: Bioinformatics Team Lead (Co-Investigator) and Co-Director, IHSFC

Completed Research Support

Contract, NTP SEAZIT Program (Reif and Haendel) 08/13/2018-05/04/2019
NIH/NIEHS
Integrated Data Analysis for Systematic Evaluation of the Application of Zebrafish in Toxicology.

R01 ES023788-05 (Mattingly) 01/01/2015-12/31/2018
NIH/NIEHS
Advancing mechanism-based studies with cross-species chemical-phenotype data.
Role: Co-Investigator

G2013-STAR-L1 (Rusyn) 06/01/2015-05/31/2019
U.S. EPA
Cardiotoxicity Adverse Outcome Pathway: Organotypic culture model and in vitro/in vivo extrapolation for high-throughput hazard, dose-response and variability assessments.
Role: Co-Investigator

G2014-STAR-E1 (Tanguay) 01/01/2014-05/31/2019
U.S. EPA
System toxicological approaches to define flame retardant adverse outcome pathways.
Role: PI of Sub-contract to North Carolina State University

CURRICULUM VITAE

PERSONAL DATA

Name:	David M. Reif
Office Address:	CB 7566, 344 Ricks Hall, NC State University, Raleigh, NC 27695
Office Phone:	919-513-3812
Office Email:	dmreif@ncsu.edu
Website URLs:	www.reif-lab.org www.toxpi.org www.toxpi.org/covid-19/map/

EDUCATION AND TRAINING

2006-2008	U.S. Environmental Protection Agency (Research Triangle Park, NC) Post-doc in Computational Toxicology
2002-2006	Vanderbilt University (Nashville, TN) Ph.D. in Human Genetics
2003-2005	Vanderbilt University (Nashville, TN) M.S. in Applied Statistics
1998-2002	College of William & Mary (Williamsburg, VA) Monroe Scholar Honors Program B.S. in Biology (Major) & Finance (Minor)

POSITIONS AND PROFESSIONAL EXPERIENCE

2013-present	Associate Professor, Department of Biological Sciences (Primary Appointment), Bioinformatics Research Center (Resident Member), Bioinformatics Consulting and Service Core (Director), Center for Environmental and Health Effects of PFAS (Director, DMAC), Center for Human Health and the Environment (Co-Director, IHSFC), Department of Statistics (Associate Faculty), NC Agromedicine Institute (Member) Chancellor's Faculty Excellence Program (Bioinformatics Cluster), North Carolina State University, Raleigh, NC
2013-present	Affiliate Member, Center for Pharmacogenomics and Individualized Therapy, University of North Carolina, Chapel Hill, NC
2008-2012	Principal Investigator (Statistician), National Center for Computational Toxicology, U.S. Environmental Protection Agency, Research Triangle Park, NC
2009-2012	Adjunct Assistant Professor,

	Department of Statistics, North Carolina State University, Raleigh, NC
2008	Visiting Scholar, Department of Statistics, North Carolina State University, Raleigh, NC
2006-2008	Federal post-doc (Biologist), National Center for Computational Toxicology, U.S. Environmental Protection Agency, Research Triangle Park, NC (advisor: Elaine Cohen Hubal)
2002-2006	Graduate Research Assistant, Center for Human Genetics Research, Vanderbilt University, Nashville, TN (advisors: Jason Moore and Jonathan Haines)
1999-2001	Research Assistant, Department of Biology, College of William & Mary, Williamsburg, VA (advisor: Patty Zwollo)
2001	Summer Associate, Navigant Consulting, Washington, DC

SELECTED HONORS AND AWARDS

2019	Invited Expert, “Implementing a Class Approach to Hazard Assessment of Organohalogen Flame Retardants”, National Academy of Sciences (NAS)
2018	Committee Member, “Committee on a Scoping Plan to Assess the Hazards of Organohalogen Flame Retardants”, National Academy of Sciences (NAS)
2018	Planning Committee & Session Moderator, “Informing Environmental Health Decisions Through Data Integration”, National Academy of Sciences (NAS)
2018	NIEHS Paper of the Month, “Elucidating Gene-by-Environment (GxE) Interactions Associated with Differential Susceptibility to Chemical Exposure”
2017	Working Group, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans – “Benzene”, World Health Organization (WHO) International Agency for Research on Cancer (IARC)
2015	Working Group, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans – “Some Organochlorine Insecticides and Some Chlorphenoxy Herbicides”, World Health Organization (WHO) International Agency for Research on Cancer (IARC)
2014	Committee Member & Chapter Lead, “Predictive Toxicology Approaches for Military Assessments of Acute Exposures”, National Academy of Sciences (NAS)
2014	STAA Level II Award, for the Expocast project, Office of Research and Development, U.S. EPA
2013	STAA Level I Award, for Advancing Chemical Safety Assessment via the Development of Predictive Reproductive and Developmental Toxicity Models, Office of Research and Development, U.S. EPA
2012	Impact Award, for Comptox Chemical Toxicity Databases, Office of Research and Development, U.S. EPA
2012	Honor Award (Bronze Medal), for Development of Reproductive, Developmental, Vascular Disruption and Cancer Predictive Models, Office of Research and Development, U.S. EPA

2012	STAA Level III Award, for the Analysis of Eight Oil Spill Dispersants Using Rapid, In Vitro Tests for Endocrine and Other Biological Activity, Office of Research and Development, U.S. EPA
2012	STAA Level III Award, for the Endocrine Profiling and Prioritization of Environmental Chemicals Using ToxCast Data, Office of Research and Development, U.S. EPA
2011	Presidential Early Career Award for Scientists and Engineers (PECASE), Executive Office of the President **The first time an EPA scientist won a PECASE, which is "The highest honor bestowed by the United States government on science and engineering professionals in the early stages of their independent research careers"*
2011	Science Achievement Award in Health Sciences, Office of Research and Development, U.S. EPA **An Agency-level award selected by an external peer panel to recognize significant advances in health sciences and impact on regulatory programs*
2011	EPA Gold Coin Award, Office of the Administrator, U.S. EPA **A special award to recognize the rapid scientific response to the Deep Water Horizon oil spill emergency*
2011	Honor Award (Bronze Medal), for the Mechanistic Indicators of Childhood Asthma (MICA) study, Office of Research and Development, U.S. EPA
2011	STAA Level II Award, for the Toxicity Reference Database (ToxRefDB), Office of Research and Development, U.S. EPA
2011	Quality Step Increase (QSI) Award, Office of Research and Development, U.S. EPA
2010	OTS Award, Office of Public Affairs, U.S. EPA
2010	S (Superior Accomplishment) Award, National Center for Computational Toxicology, U.S. EPA
2010	S (Superior Accomplishment) Award, National Health and Environmental Effects Research Laboratory, U.S. EPA
2009	OTS Award, National Center for Computational Toxicology, U.S. EPA
2007	OTS Award, Human Studies Division, U.S. EPA
2005	International Travel Grant, Vanderbilt University
2003-2005	NIH Training Grant in Human Genetics, Vanderbilt University
2002	Phi Sigma Biology Honors Fraternity, College of William & Mary
2001	Omicron Delta Kappa Leadership Fraternity, College of William & Mary
2001	Monroe Scholarship Supplemental Award for International Research, College of William & Mary
2000-2001	Howard Hughes Medical Institute Undergraduate Research Grant, College of William & Mary

1998-2002 Monroe Scholar,
College of William and Mary

RESEARCH INTERESTS (KEYWORDS)

Bioinformatics; Data Integration; Computational Toxicology; Environmental Health Sciences; Statistical Genetics; Epidemiology (Genetic, Veterinary, Agricultural, Environmental); Translational Research; Environmental Exposure; Risk Assessment; Gene-Environment Interactions; Visual Analytics and Statistical Graphics; Aquatic Model Organisms (Zebrafish); High Throughput Screening; Software Development; Environmental Statistics

PROFESSIONAL SOCIETIES (ACTIVE)

Society of Toxicology (SOT), Full Member, 2008 – current
Federation of American Scientists (FAS), Board of Sponsors, 2012 – current
International Society of Exposure Science (ISES), Member, 2016 – current
American Society of Human Genetics (ASHG), Member, 2017 – current

REVIEWER SERVICE

Publications

Editorial Board, *Frontiers in Toxicology*, 2019 – current

Associate Editor, *Environmental Health Perspectives (EHP)*, 2016 – current

Editorial Board, *Journal of Exposure Science and Environmental Epidemiology (JESEE)*, 2016 – current

Associate Editor (Managing Editor 2015-18), *BioData Mining*, 2018 – current

Journal Reviewer for:
Bioinformatics; Biotechniques; BMC Bioinformatics; Environmental Health Perspectives; Environmental Pollution; Environmental Toxicology and Chemistry; Frontiers in Environmental Science; Genetic Epidemiology; Human Genetics; IEEE/ACM Transactions on Computational Biology and Bioinformatics; Journal of Agricultural, Biological, and Environmental Statistics; Journal of Exposure Science and Environmental Epidemiology; Journal of Infectious Disease; Journal of Statistical Software; Journal of the American Statistical Association; Medical Science Monitor; Neuropsychiatric Genetics; Nucleic Acids Research; Pharmacogenomics; PLoS Genetics; PLoS One; Toxicological Sciences

Grants

Grant Reviewer, Medical Research Council (MRC)
Research Councils UK

Study Section *ad hoc* Member, Systemic Injury and Environmental Exposure (SIEE),
National Institutes of Health

Study Section *ad hoc* Member, Digestive, Kidney and Urological Systems (DKUS),
National Institutes of Health

Study Section *ad hoc* Member, Bioengineering Sciences and Technologies (BST),
National Institutes of Health

Grant Reviewer, National Center for Environmental Research (NCER),
U.S. Environmental Protection Agency

Study Section *ad hoc* Member, Biomedical Computing and Health Informatics (BCHI),
National Institutes of Health

Grant Reviewer, Division of Information and Intelligent Systems (IIS)
National Science Foundation

Professional and Fellowships

External Tenure Evaluator,
City University of New Year (CUNY)
University of Indiana

Promotion Committee,
National Institutes of Environmental Health Sciences

Graduate Fellowship Reviewer, Science to Achieve Results (STAR),
U.S. Environmental Protection Agency

Translational and Regulatory

Expert Reviewer,
CalEPA's Proposed Toxicological Priority (ToxPi) Framework
Office of Environmental Health Hazard Assessment (OEHHA), State of California

Peer Reviewer,
National Academy of Sciences (NAS)

Peer Reviewer,
International Agency for Research on Cancer (IARC)

TEACHING

Full Semester Courses

2019-current Course Co-Director & Lecturer,
Computational Environmental Health Sciences (BIO 592),
North Carolina State University, Raleigh, NC, USA [Spring Session]

2014-current Course Director & Lecturer,
Introduction to Bioinformatics (GN 427),
North Carolina State University, Raleigh, NC, USA [Fall Session]

2014 Course Director & Lecturer,
Introduction to Bioinformatics (GN 427),
North Carolina State University, Raleigh, NC, USA [Spring Session]

2011 Lab Course Director & Lecturer,
Statistical Genetics Practicum (STAT 489, STAT 498),
North Carolina State University, Raleigh, NC, USA [Summer Session]

2010 Lab Course Director & Lecturer,
Statistical Genetics Practicum (STAT 489, STAT 498),
North Carolina State University, Raleigh, NC, USA [Summer Session]

2010 Course Director & Lecturer,
Introduction to R (*STAT 610*),
North Carolina State University, Raleigh, NC, USA [Spring Session]

2008 Course Director & Lecturer,
Introduction to R (*STAT 610*),
North Carolina State University, Raleigh, NC, USA [Spring Session]

2006 Teaching Assistant & Guest Lecturer,
Statistics for Biomedical Researchers (IGP 304),
Vanderbilt University, Nashville, TN, USA [Spring Session].

Short Courses

2019 *Introduction to R and Biostatistics* (with Ken Rice),
Winter Institute in Statistical Genetics,
NYU - Abu Dhabi, Abu Dhabi, United Arab Emirates [Short Course]

2016 *Bioinformatics* (with Nadia Singh and Dahlia Nielsen),
Research Initiative for Scientific Enhancement (RISE) program,
Fayetteville State University, Fayetteville, NC, USA [Short Course]

2015-2016 *Practical Bioinformatics: Introduction to R*,
North Carolina State University, Raleigh, NC, USA [Summer].

Lectures

2016-current *Responsible Conduct in Science (GN 850 / TOX 820)*
North Carolina State University, Raleigh, NC, USA.

2015-current *Biochemical and Molecular Toxicology (TOXC / ENVR 442)*,
University of North Carolina at Chapel Hill, Chapel Hill, NC, USA.

2015-current *Principles of Toxicology (TOX 710)*,
North Carolina State University, Raleigh, NC, USA.

2015-2018 *Advanced Toxicology (TOXC / ENVR 707)*,

University of North Carolina at Chapel Hill, Chapel Hill, NC, USA.

2013 *Genetic Algorithms (CSC 530)*,
North Carolina State University, Raleigh, NC, USA.

2011 *Analytics Methods and Applications (Institute for Advanced Analytics)*,
North Carolina State University, Raleigh, NC, USA.

2006 *General Biology I & II*,
Nashville State Technical College, Nashville, TN, USA.

Research & Academic Program Participation and Direction

2015-current Training Faculty
Environmental Science and Engineering
University of North Carolina at Chapel Hill

2014-current Training Faculty
Toxicology
North Carolina State University

2013-current Training Faculty
Genetics
North Carolina State University

2013-current Training Faculty
Statistics
North Carolina State University

2013-current Training Faculty
Bioinformatics
North Carolina State University

2013-current Training Faculty
Functional Genomics
North Carolina State University

2011-2012 Faculty Mentor
Computation for Undergraduates in Statistics Program
National Science Foundation (PI: Sujit Ghosh)

2010-2011 Faculty Mentor
Computation for Undergraduates in Statistics Program
National Science Foundation (PI: Sujit Ghosh)

Graduate Student Committees

Rachel Spreng, Bioinformatics, PhD; North Carolina State University
Ryan Lougee, Toxicology, PhD; North Carolina State University
Sarah Wisotsky, Bioinformatics, PhD; North Carolina State University

Hsieh (Larry) Wu, Bioinformatics, MS; North Carolina State University
William Kohlway, Bioinformatics PhD; North Carolina State University
Ander Wilson, Statistics PhD; North Carolina State University
Ravi Mathur, Bioinformatics PhD; North Carolina State University
Baljinder Kaur, Crop Sciences PhD; North Carolina State University
Sean Watford, Environmental Science and Engineering PhD; University of North Carolina
Tao Jang (Co-Chair), Bioinformatics PhD; North Carolina State University
Patrick Perkins, Bioinformatics PhD; North Carolina State University
Erin Peterson Genetics PhD; North Carolina State University
Jun Ma, Bioinformatics PhD; North Carolina State University
Brandon Baker, Genetics PhD; North Carolina State University
Hayden Brochu, Bioinformatics MS; North Carolina State University
Bethany Cook, Chemistry PhD; North Carolina State University
Shuping Ryan, Bioinformatics MS; North Carolina State University
Desiree Unselt, Genetics PhD; North Carolina State University
Yaxu Wang, Bioinformatics PhD; North Carolina State University
Drake Phelps, Veterinary School PhD; North Carolina State University
Brian Ting, Statistics PhD; North Carolina State University
Mark Simmers, Toxicology PhD; North Carolina State University
Sagi Guerra, Toxicology PhD; North Carolina State University

Graduate Students Mentored

2019-current Preethi Thunga
Bioinformatics PhD (expected 2022)
North Carolina State University

2019-current Melody Hancock
Physiology MS (expected 2021)
North Carolina State University

2019-current Dylan Wallis
Toxicology PhD (expected 2022)
North Carolina State University

2017-current Aldo Carmona-Baez (joint with Reade Roberts)
Genetics PhD (expected 2020)
North Carolina State University

2016-2019 Marissa Kosnik
Toxicology PhD (graduated)
North Carolina State University

2015-2019 Kimberly To
Bioinformatics PhD (graduated)
North Carolina State University

2014-2018 Kyle Roell
Bioinformatics PhD (graduated)
North Carolina State University

2014-2017 Michele Balik-Meisner
Bioinformatics PhD (graduated)
North Carolina State University

2013-2016 Guozhu Zhang
Bioinformatics PhD (graduated)
North Carolina State University

2013 Ankita Kalantri
Department of Computer Science MS (graduated)
North Carolina State University

Postdoctoral Scholars Mentored

2019-current Adrian Green, PhD
Bioinformatics Research Center
North Carolina State University

2012 Lisa Truong, PhD
National Center for Computational Toxicology
U.S. Environmental Protection Agency

2012 Cory Strope, PhD
National Center for Computational Toxicology
U.S. Environmental Protection Agency

Scientific Staff

2014-current Skylar Marvel (PhD, Research Associate)
Department of Biological Sciences
North Carolina State University

2015-2016 Galen Collier (PhD, Research Scholar)
Department of Biological Sciences
North Carolina State University

2012 Sean Watford (BS, Research Fellow)
National Center for Computational Toxicology
US EPA

2011-2012 Dayne Filer (BS, Research Fellow)
National Center for Computational Toxicology
US EPA

2011-2012 Parth Kothiya (MS, Research Fellow)
National Center for Computational Toxicology
US EPA

FUNDING

Current Research Support

NIH/NIEHS U01 ES-027294 09/01/2016 – 08/31/2021
Multidimensional in vivo Assessments of Engineered Nanomaterials and Biological Interactions
Role: PI of Sub-contract (PI: Robert Tanguay, Oregon State University)

NIH/NIEHS R15 06/01/2018 – 03/31/2021
Prenatal Supplementation Reduces the Severity of Toxicant-Induced Birth Defects
Role: Co-Investigator (PI: Krista McCoy, East Carolina University)

NIH/NICEATM Contract 07/01/2018 – 06/30/2019
Integrated Data Analysis for Systematic Evaluation of the Application of Zebrafish in Toxicology
Role: PI

CalEPA Contract 09/01/2018 – 02/28/2019
Bioinformatic and cheminformatic modeling of perfluorinated compounds
Role: PI

Texas A&M Superfund Research Program, Pilot Project 10/31/2018 – 10/31/2019
Translation of multi-stream data into interactive visual profiles
Role: PI

EPA R83948101 01/01/2019 – 12/31/2022
System toxicological approaches to define and predict the toxicity of Per and Polyfluoroalkyl Substances
Role: PI of Sub-contract (PI: Robert Tanguay, Oregon State University)

NIH/NCI R01 CA-161608 04/01/2019 – 03/31/2022
Genetic Etiology of Cancer Drug Response
Role: PI

NIH/NIEHS R56 ES-0300007 06/15/2019 – 06/14/2020
Gene-environment interactions causing differential susceptibility to chemical stressors in high-throughput data
Role: PI

NIH/NIEHS P30 04/1/2015 – 03/31/2026
Center for Human Health and the Environment (CHHE)
Role: Co-Director of IHSFC & Co-I (PI: Robert Smart, NCSU)

NIH/EPA P42 04/1/2020 – 03/31/2024
Superfund Center for Environmental and Health Effects of PFAS
Role: Director of DMAC & Co-I (PI: Carolyn Mattingly, NCSU)

Completed Research Support

PECASE Grant 01/01/2012 – 12/31/2013
Presidential Early Career Award for Scientists and Engineers
Role: PI

Cooperative Research and Development Agreement (CRADA) 03/01/2012 – 12/31/2014
L'Oréal – U.S. Environmental Protection Agency
Role: PI

EPA Pathfinder Innovation Project 07/01/2012 – 06/30/2013
Using the *D. melanogaster* Genetics Reference Panel to identify toxicity pathways for airborne chemicals
Role: Co-Investigator (PI: Phil Bushnell, U.S. EPA)

NIH R01 ES-19604 10/01/2014 – 09/30/2015
Integrating Big Data and curated literature to advance discoveries about disease
Role: Co-Investigator (PI: Carolyn Mattingly, NCSU)

University Global Partnership Network (UPGN) 07/01/2016-06/30/2017
An international alliance for Population, Wellbeing and Environment Research
Role: Co-Investigator (PI: Jane Hoppin, North Carolina State University)

NIH P42 ES-005948 10/01/2014 – 09/30/2017
Elucidating Risks: From Exposure and Mechanism to Outcome
Role: Co-Investigator (PI: James Swenberg, University of North Carolina at Chapel Hill)

EPA EPA-G2014-STAR-E1 06/01/2015 – 06/30/2018
System toxicological approaches to define flame retardant adverse outcome pathways
Role: PI of Sub-contract (PI: Robert Tanguay, Oregon State University)

EPA G2013-STAR-L1 09/01/2014 – 08/31/2018
Cardiotoxicity Adverse Outcome Pathway: organotypic culture model and in vitro/in vivo extrapolation for high-throughput hazard, dose-response and variability assessments
Role: Co-Investigator (PIs: Ivan Rusyn and David Threadgill, Texas A&M University; Fred Wright, NCSU)

NIH R01 ES-023788 01/01/2015 – 12/31/2019
Advancing mechanism-based studies with cross-species chemical-phenotype data
Role: Co-Investigator (PI: Carolyn Mattingly, NCSU)

DISTRIBUTED SOFTWARE

*ToxPi*GIS*: Dashboard for ToxPi built atop geographic information system (GIS) layers (Public web application)
https://toxpi.org/covid-19/map/

ToxPi GUI: Graphical User Interface (GUI) implemented in Java for Toxicological Prioritization Index (ToxPi) analysis and model development
(Free download)
https://toxpi.org

MDR R: R implementation of Multifactor Dimensionality Reduction (MDR) modeling and internal validation

(Free download)
http://cran.r-project.org/web/packages/MDR/index.html

zfish GUI: Graphical User Interface (GUI) implementation of analysis and graphics pipeline for high-throughput, zebrafish experimental data
(Shiny package for collaborators)

zfish DB: Web-enabled browser interface for access to results and meta-analysis for high-throughput, zebrafish experimental data from multiple labs
(Password-limited to collaborators)

EXTENSION, SERVICE, COMMUNITY OUTREACH, AND MEDIA

2020	Panelist, "DR2 Work Group SARS-CoV-2/COVID-19 Environmental Health Research Needs Panel" (NIEHS)
2018-current	Faculty Workloads and Rewards Program, NC State University [committee member]
2017	Undergraduate Education Seminar Series, Society of Toxicology (SOT) [speaker]
2016	Biomedical Career Symposium, National Institutes of Environmental Health Sciences (NIEHS) [invited speaker]
2016	Bioinformatics short course (with Nadia Singh and Dahlia Nielsen), Fayetteville State University, Research Initiative for Scientific Enhancement (RISE) program
2014	NCSU Genetics Club student-invited speaker
2013-2015	Search Committee, "Bioinformatics Faculty Cluster Hire", North Carolina State University
2008-2012	Program Committee, "Bioinformatics, Computational, and Systems Biology", Genetic and Evolutionary Computation Conference (GECCO)
2011	Guest/Interviewee, *Radio In Vivo,* WCOM-FM, Carrboro, NC
2011	Guest/Interviewee, Federal News Radio, Washington, DC
2009-2011	Chair, NCCT Seminar Series, Research Triangle Park, NC, USA
2010	EPA Volunteer/Presenter, US Science & Engineering Festival on the National Mall, Washington, DC
2009	"Gene-Environment Interactions", *Science Café* presented by the North Carolina Museum of Science, Raleigh, NC, USA [public seminar]
2009	"Lessons on Modern Toxicology: How Darwin Saw It Coming", EPA *Greenversations* weblog

2008-2009 Career Panel, Durham Public Schools “Stay in School” program, Durham, NC, USA

2008 “Human Genetics”, EPA-Shaw University Research Associateship Program, Chapel Hill, NC, USA [public seminar]

2007 “Genotyping technology and analysis in cancer research”, Association for Biomedical Research, Chapel Hill, NC, USA [public seminar]

2006-2008 EPA Speaker’s Bureau, Multiple presentations in high schools on research and careers in science, Cary, NC; Chapel Hill, NC; Durham, NC; Raleigh, NC; Mishawaka, IN

PRESENTATIONS AND INVITED WORKSHOPS

2019 International Neurotoxicology Association, “Systems neurotoxicology: From in vivo towards predictive in vitro models”, Dusseldorf, GERMANY, [seminar]

2018 Texas A&M Superfund External Advisory Board Meeting, “ToxPi-GIS: Visual analytics for integrating hazard and geospatial data”, College Station, TX, USA [presentation]

2018 ToxCast Seminar, “Behavioral assessment using zebrafish”, Durham, NC, USA [invited seminar]

2018 Fish and Amphibian Embryo as Alternative Models in Toxicology and Teratology, “Leveraging high-throughput screening data to find evidence for susceptibility differences in genetically diverse zebrafish”, Paris, FRANCE [invited seminar]

2018 Biology Seminar Series, East Carolina University, “Searching for GxE in high-throughput data”, Greenville, NC, USA [invited seminar]

2018 Principles of Data Visualization Workshop, “Data Visualization: Effective Communication Across Disciplines”, Raleigh, NC, USA [invited seminar].

2017 OpenTox USA Meeting, “Implications of Population Genetic Diversity for Safety Assessment”, Durham, NC, USA [invited seminar]

2017 Environmental Mutagenesis and Genomics Society (EMGS), “Gene-Environment Interactions Associated with Differential Susceptibility to Chemical Exposure”, Raleigh, NC, USA [invited seminar]

2017 International Neurotoxicology Association, “Analytical methods to distill useful information from high-throughput screening of chemicals”, Florianopolis, BRAZIL [seminar]

2017 National Institutes of Health Workshop, “SEAZIT: Overview of zebrafish screening data”, Durham, NC, USA [invited seminar]

2017 University of Wollongong, “Bioinformatics for Linking Social and Environmental Determinants of Health”, Wollongong, AUSTRALIA [invited seminar]

2017 Tox Forum, “Integrating multiple sources of high-dimensional data to quantify effects of genetic variability in chemical risk assessment”, Washington, DC, USA [invited seminar]

2016 Division of Extramural Research and Training (DERT) Data Science Retreat, “Applied Data Science for the Basic Sciences”, NIEHS, RTP, NC, USA [keynote seminar]

2016 Aggregate Exposure Pathway: A conceptual framework to support exposure science research and complete the source-to-outcome continuum for risk assessment. U.S. EPA, Durham, North Carolina, USA [invited expert]

2016 New Approach Methodologies in Regulatory Science. European Chemicals Agency (ECHA), Helsinki, FINLAND [invited workshop]

2016 Society of Toxicology Annual Meeting, “Beyond Benchmark Dose: Advancing Probabilistic and Bayesian Approaches in Hazard Characterization”, New Orleans, LA, USA [seminar]

2015 North Carolina Department of Health and Human Services (NCDHHS), “Computational Toxicology Resources for Public Health Applications”, Raleigh, NC, USA [seminar]

2015 Data Science Seminar Series, “Big Data in Environmental Bioinformatics”, National Institute of Environmental Health Sciences (NIEHS), RTP, NC, USA [seminar]

2015 “Environmental Bioinformatics”, Oregon State University, Corvallis, OR, USA [seminar]

2015 PopMed Forum, “Big Data and High-Throughput Screening in Environmental Toxicology”, College of Veterinary Medicine, North Carolina State University, Raleigh, NC, USA [seminar]

2014 Workshop on fish and amphibian embryos as alternative models in toxicology and teratology, "Rapid identification and characterization of chemical bioactivity using an embryonic zebrafish system”, Paris, FRANCE [seminar]

2014 “Big Data in Environmental Toxicology”, University of Kentucky, Lexington, KY, USA [seminar]

2014 A Collaborative Workshop on Aquatic Models and 21st Century Toxicology, “Rapid identification and characterization of neuromodulator chemicals using an embryonic zebrafish system”, NIH/NCSU, Raleigh, NC, USA [seminar]

2014 Workshop on Big Data in Genetics and Toxicogenomics, “ToxPi and other visualization tools for toxicological data”, NC Biotechnology Center, Durham, NC, USA [seminar]

2013 Triangle Statistical Genetics Consortium, “High-throughput characterization of behavioral and developmental zebrafish phenotypes in response to chemical

exposure: Setting the stage for GxE studies", Duke University, Durham, NC, USA [seminar]

2013 Laboratory for Analytical Sciences (LAS), "Visualization for Interdisciplinary Communication", North Carolina State University, Raleigh, NC, USA [seminar]

2012 Application of Toxicity Testing in the 21st Century – Beyond Environmental Chemicals, Johns Hopkins Center for Alternatives to Animal Testing (CAAT), Ranco, ITALY [invited participant/presenter]

2012 Building for Better Decisions: Multi-Scale Integration of Human Health and Environmental Data, Society of Toxicology, Research Triangle Park, NC, USA [invited participant/presenter]

2011 International Chemical Regulation REACH Workshop Asia, Hangzhou, CHINA [seminar]

2011 Special Awards Seminar, U.S. EPA Office of Science Coordination and Policy, Washington, DC, USA [seminar]

2011 Chemical Prioritization Community of Practice, U.S. NIH & U.S. EPA, Research Triangle Park, NC, USA [seminar]

2011 NIH Workshop on the Role of Environmental Chemicals in the Development of Diabetes and Obesity, NIH/NIEHS, Durham, NC, USA [invited participant/presenter]

2010 Office of Chemical Safety and Pollution Prevention Seminar Series, U.S. EPA, Washinton, DC, USA [seminar]

2010 Advancing the Next Generation (NexGen) of Risk Assessment: The Prototypes, National Center for Environmental Assessment, Research Triangle Park, NC, USA [seminar]

2010 Center for Environmental Health Studies, Dartmouth College, Hanover, NH, USA [seminar]

2010 Biomolecular Screening Seminar Series, U.S. NIEHS/National Toxicology Program, Research Triangle Park, NC, USA [seminar]

2009 Chemical Prioritization Community of Practice, U.S. NIH & U.S. EPA, Research Triangle Park, NC, USA [seminar]

2009 ToxCast Data Analysis Summit, U.S. EPA, Research Triangle Park, NC, USA [seminar]

2008 Genetics Department Seminar Series, North Carolina State University, Raleigh, NC, USA [seminar]

2008 Visiting Pulmonary Scholar Seminar Series, University of North Carolina, Chapel Hill, NC, USA [seminar]

2008 International Society of Exposure Analysis-International Society of Environmental Epidemiology (ISEA-ISEE) Joint Annual Meeting, Pasadena, CA, USA [platform presentation]

2008 Human Studies Division Seminar Series, U.S. EPA, Chapel Hill, NC, USA [seminar]

2007 Therapeutic Applications of Computational Biology and Chemistry (TACBAC), Wellcome Trust Conference Centre, Cambridge, UK [seminar]

2007 Community Based Risk Assessment Workshop, "Statistical and Mathematical Modeling for Community-Based Risk Assessment", National Center for Environmental Research, Research Triangle Park, NC, USA [session chair]

2006 Vanderbilt University Genetics Interest Group, Center for Human Genetics Research, Nashville, TN, USA [seminar]

2005 Pacific Symposium on Biocomputing (PSB), Lihue, HI, USA [platform presentation]

2003 Genetic and Evolutionary Computation Conference (GECCO), Chicago, IL, USA [platform presentation]

PUBLICATIONS

Peer-Reviewed Publications

1. Bhandari S, Lewis PGT, Craft E, Marvel SW, Reif DM, Chiu WA. HGBEnviroScreen: Enabling Community Action through Data Integration in the Houston-Galveston-Brazoria Region. Int J Environ Res Public Health. 2020 Feb 11;17(4). pii: E1130. doi: 0.3390/ijerph17041130.
2. KKosnik MB, Strickland JD, Marvel SW, Wallis DJ, Wallace K, Richard AM, Reif DM, Shafer TJ. Concentration-response evaluation of ToxCast compounds for multivariate activity patterns of neural network function. Arch Toxicol. 2020 Feb;94(2):469-484. doi: 10.1007/s00204-019-02636-x. Epub 2019 Dec 10.
3. G Gillera SEA, Marinello WP, Horman BM, Phillips AL, Ruis MT, Stapleton HM, Reif DM, Patisaul HB. Sex-specific effects of perinatal FireMaster® 550 (FM 550) exposure on socioemotional behavior in prairie voles. Neurotoxicol Teratol. 2019 Nov 12:106840. doi: 10.1016/j.ntt.2019.106840.
4. To KT, Truong L, Edwards S, Tanguay RL, Reif DM. Multivariate modeling of engineered nanomaterial features associated with developmental toxicity. NanoImpact. 2019 (in press).
5. Roell K, Havener T, Reif DM, Jack J, McLeod H, Wiltshire T, Motsinger-Reif A. Synergistic chemotherapy drug response is a genetic trait in lymphoblastoid cell lines. Frontiers in Genetics. 2019; doi: 10.3389/fgene.2019.00829.
6. Burnett SD, Blanchette AD, Grimm FA, House JS, Reif DM, Wright FA, Chiu WA, Rusyn I. Population-based toxicity screening in human induced pluripotent stem cell-derived cardiomyocytes. Population-based toxicity screening in human induced pluripotent stem cell-derived cardiomyocytes. Toxicol Appl Pharmacol. 2019 Aug 16;381:114711. doi: 10.1016/j.taap.2019.114711.

7. Kosnik MB, Planchart A, Marvel SW, Reif DM, Mattingly CJ. Integration of curated and high-throughput screening data to elucidate environmental influences on disease pathways. Computational Toxicology. 2019 Jun 27; 100094.
8. Kosnik MB, Reif DM. Determination of chemical-disease risk values to prioritize connections between environmental factors, genetic variants, and human diseases. Toxicol Appl Pharmacol. 2019 Jul 16;379:114674.
9. Reif DM, Chanock SJ, Edwards KM, Crowe JE. Inappropriate Citation of Vaccine Article. J Infect Dis. 2019 Jun 3. doi: 10.1093/infdis/jiz287.
10. Truong L, Zaikova T, Baldock BL, Balik-Meisner M, To K, Reif DM, Kennedy ZC, Hutchison JE, Tanguay RL. Systematic determination of the relationship between nanoparticle core diameter and toxicity for a series of structurally analogous gold nanoparticles in zebrafish. Nanotoxicology. 2019 Apr 2:1-15.
11. Kosnik MB, Reif DM, Lobdell DT, Astell-Burt T, Feng X, Hader JD, Hoppin JA. Associations between access to healthcare, environmental quality, and end-stage renal disease survival time: Proportional-hazards models of over 1,000,000 people over 14 years. PLoS One. 2019 Mar 21;14(3):e0214094.
12. Baptissart M, Baptissart M, Lamb HE, To K, Bradish C, Tehrani J, Reif D, Cowley M. Neonatal mice exposed to a high-fat diet in utero influence the behaviour of their nursing dam. Proc Biol Sci. 2018 Nov 14;285(1891).
13. Balik-Meisner M, Truong L, Scholl EH, La Du JK, Tanguay RL, Reif DM. Elucidating Gene-by-Environment (GxE) Interactions Associated with Differential Susceptibility to Chemical Exposure. Environmental Health Perspectives. 2018 126(6): 067010.
** Awarded NIEHS Paper of the Month **
14. To KT, Fry RC, Reif DM. Characterizing the Effects of Missing Data and Evaluating Imputation Methods for Chemical Prioritization Applications Using ToxPi. BMC BioData Mining. 2018 June;11:10.
15. Mahapatra D, Franzosa JA, Roell K, Kuenemann MA, Houck KA, Reif DM, Fourches D, Kullman SW. Confirmation of high-throughput screening data and novel mechanistic insights into VDR-xenobiotic interactions by orthogonal assays. Sci Rep. 2018 Jun 11;8(1):8883.
16. Marvel SW, To K, Grimm FA, Wright FA, Rusyn I, Reif DM. ToxPi Graphical User Interface 2.0: Dynamic exploration, visualization, and sharing of integrated data models. BMC Bioinformatics. 2018 Mar 5;19(1):2.
17. Balik-Meisner M, Truong L, Scholl EH, Tanguay RL, Reif DM. Population genetic diversity in zebrafish lines. Mammalian genome : official journal of the International Mammalian Genome Society. 2018 Feb;29(1-2):90-100.
18. Chiu WA, Guyton KZ, Martin MT, Reif DM, Rusyn I. Use of high-throughput in vitro toxicity screening data in cancer hazard evaluations by IARC Monograph Working Groups. ALTEX. 2018;35(1):51-64.
19. Loomis D, Guyton KZ, Grosse Y, Ghissassi FE, Bouvard V, Benbrahim-Tallaa L, et al. Carcinogenicity of benzene. The Lancet. Oncology. 2017 December 01;18(12):1574-5.
20. Knecht AL, Truong L, Marvel SW, Reif DM, Garcia A, Lu C, et al. Transgenerational inheritance of neurobehavioral and physiological deficits from developmental exposure to benzo[a]pyrene in zebrafish. Toxicol Appl Pharmacol. 2017 Aug 15;329:148-57.
21. Roell KR, Reif DM, Motsinger-Reif AA. An Introduction to Terminology and Methodology of Chemical Synergy-Perspectives from Across Disciplines. Frontiers in pharmacology. 2017 Apr 20;8:158.
22. Tilley SK, Reif DM, Fry RC. Incorporating ToxCast and Tox21 datasets to rank biological activity of chemicals at Superfund sites in North Carolina. Environ Int. 2017 Apr;101:19-26.

23. Watson AT, Planchart A, Mattingly CJ, Winkler C, Reif DM, Kullman SW. From the Cover: Embryonic Exposure to TCDD Impacts Osteogenesis of the Axial Skeleton in Japanese medaka, Oryzias latipes. Toxicological sciences : an official journal of the Society of Toxicology. 2017 Feb;155(2):485-96.
24. Zhang G, Truong L, Tanguay RL, Reif DM. A New Statistical Approach to Characterize Chemical-Elicited Behavioral Effects in High-Throughput Studies Using Zebrafish. PloS one. 2017 Jan 18;12(1):e0169408.
25. Zhang G, Roell KR, Truong L, Tanguay RL, Reif DM. A data-driven weighting scheme for multivariate phenotypic endpoints recapitulates zebrafish developmental cascades. Toxicol Appl Pharmacol. 2017 Jan 1;314:109-17.
26. Kollitz EM, Zhang G, Hawkins MB, Whitfield GK, Reif DM, Kullman SW. Evolutionary and Functional Diversification of the Vitamin D Receptor-Lithocholic Acid Partnership. PloS one. 2016 Dec 12;11(12):e0168278.
27. Chialvo CHS, Che R, Reif D, Motsinger-Reif A, Reed LK. Eigenvector metabolite analysis reveals dietary effects on the association among metabolite correlation patterns, gene expression, and phenotypes. Metabolomics : Official journal of the Metabolomic Society. 2016 Nov;12(11):3. Epub 2016 Sep 20.
28. Grondin CJ, Davis AP, Wiegers TC, King BL, Wiegers JA, Reif DM, et al. Advancing Exposure Science through Chemical Data Curation and Integration in the Comparative Toxicogenomics Database. Environ Health Perspect. 2016 Oct;124(10):1592-9.
29. Grimm FA, Iwata Y, Sirenko O, Chappell GA, Wright FA, Reif DM, et al. A chemical-biological similarity-based grouping of complex substances as a prototype approach for evaluating chemical alternatives. Green chemistry : an international journal and green chemistry resource : GC. 2016 Aug 21;18(16):4407-19.
30. Auerbach S, Filer D, Reif D, Walker V, Holloway AC, Schlezinger J, et al. Prioritizing Environmental Chemicals for Obesity and Diabetes Outcomes Research: A Screening Approach Using ToxCast High-Throughput Data. Environ Health Perspect. 2016 Aug;124(8):1141-54.
31. Judson R, Houck K, Martin M, Richard AM, Knudsen TB, Shah I, et al. Editor's Highlight: Analysis of the Effects of Cell Stress and Cytotoxicity on In Vitro Assay Activity Across a Diverse Chemical and Assay Space. Toxicological sciences : an official journal of the Society of Toxicology. 2016 Aug;152(2):323-39.
32. Shah I, Setzer RW, Jack J, Houck KA, Judson RS, Knudsen TB, et al. Using ToxCast Data to Reconstruct Dynamic Cell State Trajectories and Estimate Toxicological Points of Departure. Environ Health Perspect. 2016 Jul;124(7):910-9.
33. Zhang G, Marvel S, Truong L, Tanguay RL, Reif DM. Aggregate entropy scoring for quantifying activity across endpoints with irregular correlation structure. Reprod Toxicol. 2016 Jul;62:92-9.
34. Reif DM, Truong L, Mandrell D, Marvel S, Zhang G, Tanguay RL. High-throughput characterization of chemical-associated embryonic behavioral changes predicts teratogenic outcomes. Arch Toxicol. 2016 Jun;90(6):1459-70.
35. Planchart A, Mattingly CJ, Allen D, Ceger P, Casey W, Hinton D, et al. Advancing toxicology research using in vivo high throughput toxicology with small fish models. ALTEX. 2016;33(4):435-52.
36. Rebuli ME, Camacho L, Adonay ME, Reif DM, Aylor DL, Patisaul HB. Impact of Low-Dose Oral Exposure to Bisphenol A (BPA) on Juvenile and Adult Rat Exploratory and Anxiety Behavior: A CLARITY-BPA Consortium Study. Toxicological sciences : an official journal of the Society of Toxicology. 2015 Dec;148(2):341-54.

37. Ducharme NA, Reif DM, Gustafsson JA, Bondesson M. Comparison of toxicity values across zebrafish early life stages and mammalian studies: Implications for chemical testing. Reprod Toxicol. 2015 Aug 1;55:3-10.
38. D. Loomis, K. Guyton, Y. Grosse, F. El Ghissasi, V. Bouvard, L. Benbrahim-Tallaa, et al. Carcinogenicity of lindane, DDT, and 2,4-dichlorophenoxyacetic acid. The Lancet.Oncology. 2015 Aug;16(8):891-2.
39. Kollitz EM, Zhang G, Hawkins MB, Whitfield GK, Reif DM, Kullman SW. Molecular cloning, functional characterization, and evolutionary analysis of vitamin D receptors isolated from basal vertebrates. PloS one. 2015 Apr 9;10(4):e0122853.
40. George BJ, Reif DM, Gallagher JE, Williams-DeVane CR, Heidenfelder BL, Hudgens EE, et al. Data-driven asthma endotypes defined from blood biomarker and gene expression data. PloS one. 2015 Feb 2;10(2):e0117445.
41. Radio NM, Breier JM, Reif DM, Judson RS, Martin M, Houck KA, et al. Use of neural models of proliferation and neurite outgrowth to screen environmental chemicals in the ToxCast phase I library; Toxicity testing in the 21st century beyond environmental chemicals. ALTEX. 2015;1; 32(2; 3):139; 181.
42. Filer D, Patisaul HB, Schug T, Reif D, Thayer K. Test driving ToxCast: endocrine profiling for 1858 chemicals included in phase II. Current opinion in pharmacology. 2014 Dec;19:145-52.
43. Huang R, Sakamuru S, Martin MT, Reif DM, Judson RS, Houck KA, et al. Profiling of the Tox21 10K compound library for agonists and antagonists of the estrogen receptor alpha signaling pathway. Scientific reports. 2014 Jul 11;4:5664.
44. Kleinstreuer NC, Yang J, Berg EL, Knudsen TB, Richard AM, Martin MT, et al. Phenotypic screening of the ToxCast chemical library to classify toxic and therapeutic mechanisms. Nat Biotechnol. 2014 Jun;32(6):583-91.
45. Wilson A, Reif DM, Reich BJ. Hierarchical dose-response modeling for high-throughput toxicity screening of environmental chemicals. Biometrics. 2014 Mar;70(1):237-46.
46. Truong L, Reif DM, Mary LS, Geier MC, Truong HD, Tanguay RL. Multidimensional in vivo hazard assessment using zebrafish. Toxicological sciences : an official journal of the Society of Toxicology. 2014 Jan;137(1):212-33.
47. Rotroff DM, Martin MT, Dix DJ, Filer DL, Houck KA, Knudsen TB, et al. Predictive endocrine testing in the 21st century using in vitro assays of estrogen receptor signaling responses. Environ Sci Technol. 2014;48(15):8706-16.
48. Wambaugh JF, Setzer RW, Pitruzzello AM, Liu J, Reif DM, Kleinstreuer NC, et al. Dosimetric anchoring of in vivo and in vitro studies for perfluorooctanoate and perfluorooctanesulfonate. Toxicological sciences : an official journal of the Society of Toxicology. 2013 Dec;136(2):308-27.
49. Williams-DeVane CR, Reif DM, Hubal EC, Bushel PR, Hudgens EE, Gallagher JE, et al. Decision tree-based method for integrating gene expression, demographic, and clinical data to determine disease endotypes. BMC systems biology. 2013 Nov 4;7:119.
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51. Wambaugh JF, Setzer RW, Reif DM, Gangwal S, Mitchell-Blackwood J, Arnot JA, et al. High-throughput models for exposure-based chemical prioritization in the ExpoCast project. Environ Sci Technol. 2013 Aug 6;47(15):8479-88.
52. Rotroff DM, Dix DJ, Houck KA, Kavlock RJ, Knudsen TB, Martin MT, et al. Real-time growth kinetics measuring hormone mimicry for ToxCast chemicals in T-47D human ductal carcinoma cells. Chem Res Toxicol. 2013 Jul 15;26(7):1097-107.

53. Motsinger-Reif AA, Zhu H, Kling MA, Matson W, Sharma S, Fiehn O, et al. Comparing metabolomic and pathologic biomarkers alone and in combination for discriminating Alzheimer's disease from normal cognitive aging. Acta neuropathologica communications. 2013 Jun 27;1:28.
54. Sipes NS, Martin MT, Kothiya P, Reif DM, Judson RS, Richard AM, et al. Profiling 976 ToxCast chemicals across 331 enzymatic and receptor signaling assays. Chem Res Toxicol. 2013 Jun 17;26(6):878-95.
55. Kleinstreuer N, Dix D, Rountree M, Baker N, Sipes N, Reif D, et al. A computational model predicting disruption of blood vessel development. PLoS computational biology. 2013 Apr;9(4):e1002996.
56. Reif DM, Sypa M, Lock EF, Wright FA, Wilson A, Cathey T, et al. ToxPi GUI: an interactive visualization tool for transparent integration of data from diverse sources of evidence. Bioinformatics. 2013 Feb 1;29(3):402-3.
57. Kleinstreuer NC, Dix DJ, Houck KA, Kavlock RJ, Knudsen TB, Martin MT, et al. In vitro perturbations of targets in cancer hallmark processes predict rodent chemical carcinogenesis. Toxicological sciences : an official journal of the Society of Toxicology. 2013 Jan;131(1):40-55.
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59. Judson R, Kavlock R, Martin M, Reif D, Houck K, Knudsen T, et al. Perspectives on validation of high-throughput assays supporting 21st century toxicity testing. ALTEX. 2013;30(1):51-6.
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61. Gory JJ, Sweeney HC, Reif DM, Motsinger-Reif AA. A comparison of internal model validation methods for multifactor dimensionality reduction in the case of genetic heterogeneity. BMC research notes. 2012 Nov 5;5:623.
62. Gangwal S, Reif DM, Mosher S, Egeghy PP, Wambaugh JF, Judson RS, et al. Incorporating exposure information into the toxicological prioritization index decision support framework. Sci Total Environ. 2012 Oct 1;435-436:316-25.
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91. Reif DM, Israel MA, Moore JH. Exploratory Visual Analysis of statistical results from microarray experiments comparing high and low grade glioma. Cancer Inform. 2007;5:19-24.
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93. McKinney BA, Reif DM, Rock MT, Edwards KM, Kingsmore SF, Moore JH, et al. Cytokine expression patterns associated with systemic adverse events following smallpox immunization. J Infect Dis. 2006 Aug 15;194(4):444-53.
94. Reif DM, Moore JH. Visual analysis of statistical results from microarray studies of human breast cancer. Oncol Rep. 2006;15 Spec no.:1043-7.
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96. Reif DM, Motsinger AA, McKinney BA, Crowe JE, Moore JH. Feature Selection using a Random Forests Classifier for the Integrated Analysis of Multiple Data Types. ; 2006.
97. Wilke RA, Reif DM, Moore JH. Combinatorial pharmacogenetics. Nat Rev Drug Discov. 2005 Nov;4(11):911-8.
98. Reif DM, Dudek SM, Shaffer CM, Wang J, Moore JH. Exploratory visual analysis of pharmacogenomic results. Pac Symp Biocomput. 2005:296-307.
99. Reif DM, White BC, Moore JH. Integrated analysis of genetic, genomic and proteomic data. Expert Rev Proteomics. 2004 Jun;1(1):67-75.
100. Reif DM, White BC, Olsen N, Aune T, Moore JH. Complex Function Sets Improve Symbolic Discriminant Analysis of Microarray Data. Lecture Notes in Computer Science. 2003;2724:2277-87.

Peer-Reviewed Books and Chapters

1. Committee on A Class Approach to Hazard Assessment of Organohalogen Flame Retardants. A Class Approach to Hazard Assessment of Organohalogen Flame Retardants. Washington (DC): by the National Academy of Sciences; 2019.

2. Zhang G, Truong L, Tanguay RL, Reif DM. Integrating Morphological and Behavioral Phenotypes in Developing Zebrafish. In: Kalueff AV, editor. The rights and wrongs of zebrafish: Behavioral phenotyping of zebrafish. Switzerland: Springer International; 2017. p. 259-72.
3. Committee on Predictive-Toxicology Approaches for Military Assessments of Acute Exposures. Application of Modern Toxicology Approaches for Predicting Acute Toxicity for Chemical Defense. Washington (DC): by the National Academy of Sciences; 2015.
4. Meisner M, Reif DM. Computational methods used in systems biology. In: Fry RC, editor. Waltham, MA: Elsevier; 2015. p. 121-47.
5. Motsinger-Reif AA, Reif DM. Embracing Complexity: Searching for Gene-Gene and Gene-Environment Interactions in Genetic Epidemiology. In: Genomics and Proteomics: Concepts, Technologies, and Applications. Tamil Nadu, India: Bioscience Publications; 2014. p. 43-62.
6. Judson RS, Reif DM, Houck KA. Computational Toxicology. In: Principles of Toxicology: Environmental and Industrial Applications. 3rd ed. Hoboken, NJ: John Wiley and Sons; 2014. p. 373-90.
7. Houck KA, Richard AM, Judson RS, Martin MT, Reif DM, Shah I. ToxCast: Predicting Toxicity Potential Through High-Throughput Bioactivity Profiling. In: High-Throughput Screening Methods in Toxicity Testing. Hoboken, NJ: John Wiley and Sons; 2013. p. 3-31.

From:	Laakso, Joseph
To:	Knott, Steven
Subject:	Nominations of candidates for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC)
Date:	Sunday, April 19, 2020 11:35:27 PM
Attachments:	ES Nomination for Heather Patisaul SACC 041920.pdf Patisaul biosketch general 2020.docx Patisaul CV April 2020.doc

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Dear Mr. Knott,

Please find attached to this e-mail the Endocrine Society's Nomination Package for Dr. Heather Patisaul for the Science Advisory Committee on Chemicals (SACC).

With best regards,

Joe Laakso

endo_logo.jpg

JOSEPH M. LAAKSO, PhD (he / him / his)
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Associate Dean of Research, College of Sciences
Professor, Department of Biological Sciences
North Carolina State University
127 David Clark Labs
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hbpatisa@ncsu.edu

EDUCATION

2001 Ph.D. Population Biology, Ecology and Evolution, Emory University, Atlanta, GA
Dissertation: Phytoestrogenic effects on neuroendocrine function and behavior.
Mentor: Patricia Whitten, Ph.D., Department of Anthropology
Co-Mentor: Larry Young, Ph.D., Center for Behavioral Neuroscience
1995 B.S. with Honors, Zoology, University of Florida, Gainesville, FL

EMPLOYMENT

Associate Dean for Research, College of Biological Sciences, North Carolina State University, 2019 - present
Professor, Department of Biological Sciences, North Carolina State University, 2015-present
2019 – Inducted into the NCSU Research Leadership Academy
Associate Professor, Department of Biological Sciences, North Carolina State University, May 2012 – 2015
2013 – Named a Chancellor's Faculty Excellence Scholar
Assistant Professor, Department of Biology, North Carolina State University, July 2006 – May 2012
Associate Member, Department of Toxicology, North Carolina State University
Member, W. M. Keck Center for Behavioral Biology, North Carolina State University
Research Investigator, CIIT Centers for Health Research at the Hamner Institute, Jan – July 2006
Post-Doctoral Fellow, CIIT Centers for Health Research at the Hamner Institute, 2004 – 2005
Mentor: Eva Polston, Ph.D.
Post-Doctoral Fellow, Yerkes National Primate Research Center, Emory University, 2001 – 2004
Mentor: Mark Wilson, Ph.D.

AWARDS AND HONORS

2019 NCSU Alumni Association Outstanding Research Award
2017 Outstanding Reviewer for *Endocrinology*
2016 Chair of the Gordon Research Conference on Environmental Endocrine Disruptors
2015 Senate Briefing hosted by Senator Feinstein on the lack of regulatory policy for personal care products.
2015 NCSU "Thank a Teacher" Award (student-selected)
2014 Senate Briefing hosted by Senator Feinstein on the health effects of BPA
2013 NCSU Faculty Excellence Scholar
2012 Chair-elect for the 2016 Gordon Conference on Endocrine Disruptors
2009 Science Communication Fellow for Environmental Health News
2007 NIEHS Outstanding New Environmental Scientist (ONES) Awardee
2005 Travel Award, Society for Behavioral Neuroendocrinology
2002 Young Investigator Award, Workshop on Steroid Hormones and Brain Function
2001 Poster Award, Second Annual Emory University Interdisciplinary Science Symposium
2001 Recognized by the Nutrition & Health Sciences Program at Emory University for outstanding research contributions of relevance to Nutrition
1999 Two-year ARCS Scholar
1999 Travel Award, Society for Behavioral Neuroendocrinology

GRANTS (External)

R01ES028110 (Patisaul) 08/01/2017 – 07/31/2022 3 calendar
The placenta: a novel target of sex specific neurotoxicity by fire retardants
NIH/NIEHS $2,210,410

These studies will establish the degree to which fire retardants sex-specifically bioaccumulate and disrupt placental activity, particularly in regards to impacts on the developing brain. Systems of interest include placental neurotransmitter production and thyroid hormone disruption.

R01ES028110-02S1 (Patisaul) 08/01/2018 – 07/31/2019
Supplement to: The placenta: a novel target of sex specific neurotoxicity by fire retardants 1 calendar
NIH/NIEHS $144,175
These supplemental studies will be conducted in collaboration with NC State chemist David Muddiman and use MALDESI technology to spatially determine where in the placenta flame retardants and their primary metabolites accumulate, and how they region-specifically impact placental function.

AR160055 (Patisaul) A Department of Defense Autism Research Program, Idea Development Award
Environmental Contaminants and Autism Risk 08/15/2017 - 08/14/2020 2 calendar
DoD $564,935
This project will use the prairie vole to explore how developmental exposure to fire retardants impact the development of the social brain and behaviors considered relevant to autism spectrum disorder.

U01ES026717 (Aylor) 06/01/2016 – 04/30/2020 1.5 calendar
Systems Toxicogenomics of Endocrine Disrupting Chemicals in Brain
NIH/NIEHS $2,452,533
Establishing how environmental chemical exposures may impact human health is extraordinarily difficult, particularly in inaccessible tissues like the bran. This project is part of the TARGET II Consortium which seeks to examine how epigenetic changes resulting from chemical exposures are consistent across different tissues, ages, and different strains of mice. My role is to oversee the dosing, tissue collection and neuroanatomy.

R01MH109471 (Meitzen) 05/19/2016 – 28/02/2021 0.5 calendar
Elucidating the Mechanisms by Which Estradiol Regulates Female Striatal Neuron Excitability
NIH/NIEHS $1,837,683
This project is exploring the mechanisms and extent to which estradiol organizes and then modulates the striatal neuron electrophysiological properties that ultimately enable sex specific changes in function and behavior. My role is to oversee the behavioral testing and help mentor the PI (a new investigator) and the postdoctoral fellow.

Multi-PI and Training Grants
P30ES025128 (Smart)
Center for Human Health and the Environment
NIH/NIEHS $6,125,298 1 summer
I am co-chair of the Molecular/Cellular-Based Systems and Model Organisms Team and I also lead specialty groups in environmental neuroscience and endocrine disrupting chemicals. This center was renewed in 2020.

T32ES007046 (Smart) $263,569 N/A
I am currently mentoring two students under this training grant in toxicology.

COMPLETED
External
F31 (Rock)
Effects of Prenatal Firemaster 550 Exposure on Placental Gene Expression and Serotonergic Innervation in the Developing Forebrain
NIH/NIEHS
This NRSA fellowship suppored my graduate student, Kylie Rock, through 2020.

U011ES020929-01 (Patisaul) 09/19/2011 – 09/09/2017
Neurobehavioral effects of Bisphenol A across age and sex
NIH/NIEHS $478,596
This consortium project included researchers at NIEHS and the NCTR/FDA. It used animals enrolled in the NCTR/FDA chronic BPA exposure study (collectively referred to as the CLARITY-BPA project) initiated in summer 2012 to test the hypothesis that perinatal exposure to BPA alters sex-specific brain development and behavior.

R56ES022957-01A1 (Patisaul) 09/10/2014 – 09/09/2017
Toxicokinetics and metabolic disrupting actions of the flame retardant mixture FM550
NIH/NIEHS $299,959
This project explored the sex specific impacts of FM550 on metabolic reprogramming. We also established the capacity for FM550 to accumulate in placenta, alter non-reproductive behaviors and gestationally and lactationally transfer from the dam to the fetus.

R21ES021233-01 (Patisaul) 01/01/2012 – 12/31/2015
Interaction of BPA and soy isoflavones on sociosexual behavior
NIH/NIEHS $220,048
This project tested the hypothesis that a soy-rich diet can mitigate the adverse sociosexual behavioral effects of perinatal BPA exposure using a rat model.

RO1ES016001-01 (Patisaul) 07/04/2007 – 05/31/2013
Endocrine Disruption of the Hypothalamic Signaling that Regulates Puberty
NIH/NIEHS $1,915,013
This was an NIEHS ONES award. The major goals of this project were to identify the hypothalamic pathways through which exposure to the endocrine disruptors genistein and BPA advance female puberty.

RC2 ES018736-01 (Swan) 11/01/2009 – 12/01/2012
Prenatal Bisphenol A and Sexually Dimorphic Neurodevelopment
NIH/NIEHS $169,433
The primary objective of this grant was to determine if early life exposure to low dose BPA alters hypothalamic sexual differentiation using a rat model.

IF31MH012763-01A1 (NRSA) 04/01/2001 – 10/01/2001
Effect of Phytoestrogens on Estrogen Dependent Processes
NIH/NIMH
Role: PI (training fellowship)
Direct Costs: N/A NRSA Pre-Doctoral Fellowship

Internal
07/01/2017 – 06/30/2018
Sex-Specific Placental Accumulation and Disruption by the Flame Retardant Firemaster 550
Source: NCSU Center for Human Health and the Environment
PI: Patisaul, H
Direct Costs: 25,000

07/01/2013 - 06/30/2014
Next Generation of High Performance Flame Retardants with Low Environmental/Toxicological Impact
Source: NCSU Research and Innovation Seed Funding Program
PIs: Pasquinelli, Melissa; Hinks, David; Tonelli, Alan E.; Barker, Roger L.; Patisaul, Heather B
Direct Costs: $20, 078

01/01/2014 -12/31/2014
Metabolic Disrupting Actions of the Flame Retardant Mixture Firemaster 550
Source: NCSU Center for Human Health and the Environment
PI: Patisaul, H
Direct Costs: $21,320

06/01/2000 – 06/01/2001
Neural Mechanisms of Phytoestrogen Action on Reproductive Behavior
Source: Center for Behavioral Neuroscience
Direct Costs: $30,000

01/01/2002 – 06/01/2003
Microarray Analysis of Estrogen-Like Compounds in the Brain
Source: Center for Behavioral Neuroscience
Direct Costs: $30,000

PUBLICATIONS

Books

Patisaul, HB & Belcher, SM. (2017) *Endocrine Disruptors, Brain, and Behaviors*. Oxford Series in Behavioral Neuroendocrinology. Oxford University Press. New York, New York. 272 pages

Peer Reviewed Publications (81 total); undergraduate co-authors in italics:

Krentzel, AA, Proano, S, **Patisaul, HP**, Meitzen, J. (2020) Temporal and bidirectional influences of estradiol on voluntary wheel running in adult female and male rats. Hormones and Behavior. Jan 27;120:104694. doi: 10.1016/j.yhbeh.2020.104694.

Miller, CK, Krentzel, AA, **Patisaul, HB**, Meitzen, J. (2020) Metabotropic glutamate receptor subtype 5 (mGlu5) is necessary for estradiol mitigation of light-induced anxiety behavior in female rats. Physiol Behav.Feb 1;214:112770. doi: 10.1016/j.physbeh.2019.112770.

Gillera SGA, Marinello WP, Horman B, Phillips AL, Ruis MT, Stapleton HM, Reif DM, **Patisaul HB**. (2019) Sex-specific effects of perinatal FireMaster® 550 (FM 550) exposure on socioemotional behavior in prairie voles. Neurotoxicology and Teratology. Nov 12:106840. doi: 10.1016/j.ntt.2019.106840 **[NIEHS Paper of the Month]**

La Merrill MA, Vandenberg LN, Smith MT, Goodson W, Browne P, **Patisaul HB**, Guyton KZ, Kortenkamp A, Cogliano VJ, Woodruff TJ, Rieswijk L, Sone H, Korach KS, Gore AC, Zeise L, Zoeller RT. (2019) Consensus on the key characteristics of endocrine-disrupting chemicals as a basis for hazard identification. Nat Rev Endocrinol. 16(1):45-57. doi: 10.1038/s41574-019-0273-8

Vandenberg, LN, Prins GS, **Patisaul HB**, Zoeller RT. (2019). The use and misuse of historical controls in regulatory toxicology: Lessons from the CLARITY-BPA study. Endocrinology. Nov 6. pii: bqz014. doi: 10.1210/endocr/bqz014. [Epub ahead of print]

Ruis M, Rock, KD, Hall, S, Horman, B, **Patisaul, HB**, Stapleton, HM. (2019) PBDEs concentrate in the fetal portion of the placenta: Implications for thyroid hormone dysregulation. Endocrinology. 160(11):2748-2758. doi: 10.1210/en.2019-00463

Witchey, SK, *Fuchs, J*, **Patisaul, HB**. (2019) Perinatal Bisphenol A (BPA) Exposure Alters Brain Oxytocin Receptor (OTR) Expression in a Sex- and Region- Specific Manner: a CLARITY-BPA Consortium Follow-up Study. Neurotoxicology. 74:139-148.

Rock, KD, Gillera, SE, *Devarasetty, P*, Horman, B, Birnbaum, LS, Fenton, SE, **Patisaul, HB.** (2019) Sex-specific Behavioral Effects of Developmental Exposure to Tetrabromobisphenol A (TBBPA) in Wistar Rats. Neurotoxicology. 75:136-147.

Patisaul, HB. (2019) Achieving CLARITY on Bisphenol A (BPA), Brain and Behavior. J. Neuroendo.

Stetzik LA, Sullivan AW, **Patisaul HB**, Cushing BS. (2018) Novel unconditioned prosocial behavior in prairie voles (Microtus ochrogaster) as a model for empathy. BMC Res Notes. Dec 4;11(1):852.

Bagley, MC, Ekelof, M, Rock, K, **Patisaul,** HB, Muddiman, DC. (2018) IR-MALDESI mass spectrometry imaging of underivatized neurotransmitters in brain tissue of rats exposed to tetrabromobisphenol A. Anal Bioanal Chem. Dec;410(30):7979-7986. **[Cover Article]**

Prins, GS, **Patisaul HB**, Belcher SM, Vandenberg, LN. (2019) CLARITY-BPA academic laboratory studies identify consistent low-dose Bisphenol A effects on multiple organ systems. Basic Clin Pharmacol Toxicol. Suppl. 3:14-31.

Rock KD, **Patisaul HB**. (2018). Environmental mechanisms of neurodevelopmental toxicity. Curr Environ Health Rep. 5(1):145-157.

Patisaul HB, Fenton SE, Aylor D. (2018) Animal models of endocrine disruption. Best Pract Res Clin Endocrinol Metab. 32(3):283-297.

Vogel AR, **Patisaul HB**, Arambula SE, Tiezzi F, McGraw LA (2018) Individual variation in social behaviours of male lab-reared prairie voles (Microtus ochrogaster) is non-heritable and weakly associated with V1aR density. Sci Rep. Jan 23;8(1):1396

Willett JA, Johnson AG, Vogel AR, **Patisaul HB**, McGraw LA, Meitzen J. (2018) Nucleus accumbens core medium spiny neuron electrophysiological properties and partner preference behavior in the adult male prairie vole, Microtus ochrogaster. J Neurophysiol. Apr 1;119(4):1576-1588 **[APS Select Award]**.

Baldwin, KR, Horman, B, Phillips, AL, McRitchie, SL, Watson, S, Deese-Spruill, J, Stapleton, HM, Jima, D, Sumner, S, **Patisaul, HB.** (2018) EDC Impact: Molecular effects of developmental FM 550 exposure in wistar rat placenta and

fetal forebrain. Endocr Connect. 2018 Feb;7(2):305-324 [**Invited Contribution; NIEHS extramural paper of the month**]

Webb E, Moon J, Dyrszka L, Rodriguez B, Cox C, **Patisaul HB**, Bushkin S, London E (2017) Neurodevelopmental and neurological effects of chemicals associated with unconventional oil and natural gas operations and their potential effects on infants and children. Rev Environ Health. Mar 28;33(1):3-29.

Arambula, SE, Jima, D, **Patisaul, HB.** (2017) Prenatal Bisphenol A (BPA) exposure alters the transcriptome of the neonate rat amygdala in a sex-specific manner: a CLARITY-BPA consortium study. Neurotoxicology. 65:207-220.

Arambula, SE, *Fuchs, J*, Cao, J, **Patisaul, HB** (2017). Effects of perinatal Bisphenol A exposure on the volume of sexually-dimorphic nuclei of juvenile rats: A CLARITY-BPA consortium study. Neurotoxiciology. 63:33-42.

Baldwin, KR, Phillips, AL, Horman, B, Arambula, SE, Rebuli, ME, Stapleton, HM, **Patisaul, HB.** (2017) Sex specific placental accumulation and behavioral effects of developmental Firemaster 550 exposure in wistar rats. Scientific Reports. 7(1):7118.

Patisaul, HB. (2017). Chemical contributions to neurodevelopmental disorders. Policy Insights from the Behavioral and Brain Sciences. **[Invited Contribution]**

Patisaul, HB. (2017). Endocrine disruption of vasopressin systems and related behaviors. Frontiers in Endocrinology. 8:134.

Smith, S, Lee, C, Dausch, M, Horman, B, **Patisaul, HB**, McCarty, G, Sombers, L. (2017). Simultaneous voltammetric measurements of glucose and dopamine demonstrate the coupling of glucose availability with increased metabolic demand in the rat striatum. ACS Chemical Neuroscience. Feb 15;8(2):272-280. **[Cover Article]**

Phillips, AL, Chen, A, Rock, KD, Horman, B, **Patisaul, HB**, Stapleton, HM. Transplacental and lactational transfer of Firemaster® 550 components in dosed Wistar rats. (2016) Toxicological Sciences. Oct;153(2):246-57. **[Editor's Highlight]**

Arambula, S, Belcher, SM, Planchart, A, Turner, SD, **Patisaul, HB**. (2016). Impact of low dose oral exposure to Bisphenol A (BPA) on the neonatal rat hypothalamic and hippocampal transcriptome: A CLARITY-BPA consortium study. Endocrinology. Oct;157(10):3856-3872.

Patisaul, HB (2016). Endocrine disruption by dietary phyto-oestrogens: impact on dimorphic sexual systems and behaviours. Proc Nutr Soc. Jul 8:1-15.

Hicks, KD, Sullivan, AW, Cao, J, Sluzas, E, Rebuli, ME, **Patisaul, HB**. (2016). Interaction of Bisphenol A (BPA) and soy phytoestrogens on sexually dimorphic sociosexual behaviors in male and female rats. Hormones and Behavior. Jun 30;84:121-126.

Rebuli, ME, *Gibson, P*, Rhodes, CL, Cushing, BS, **Patisaul, HB**. (2016). Sex differences in microglial colonization and vulnerabilities to endocrine disruption in the social brain. General and Comparative Endocrinology. Nov 1;238:39-46.

Rebuli, ME, **Patisaul, HB** (2015) Assessment of sex specific endocrine disrupting effects in the prenatal and pre-pubertal rodent brain. Steroid Biochemistry & Molecular Biology Jun;160:148-59.

Rebuli, ME, Camacho, L, Adonay, M, Reif, D, Aylor, D, **Patisaul, HB.** (2015) Impact of low dose oral exposure to Bisphenol A (BPA) on juvenile and adult rat exploratory and anxiety behavior: A CLARITY-BPA Consortium Study. Toxicological Sciences. 148(2):341-354.

Cao, J, Echelberger, R, Liu, M, Sluzas, E, McCaffrey, K, Buckley, B, **Patisaul, HB** (2015). Soy but not Bisphenol A (BPA) or the phytoestrogen genistin alters developmental weight gain and food intake in pregnant rats and their offspring. Reproductive Toxicology 58:282-294.

Veiga-Lopez, A, Pennathur, S, Kannan, K, **Patisaul, HB**, Dolinoy, DC, Zeng, L, and Padmanabhan, V. (2015). Impact of gestational bisphenol a on oxidative stress and free Fatty acids: human association and interspecies animal testing studies. Endocrinology 156(3), 911-22.

Filer, D, **Patisaul, HB,** Schug, T, Reif, D, Thayer, K. (2014). Test driving Toxcast: Endocrine profiling for 1858 chemicals included in Phase II. Current Opinion in Pharmacology. 19:145-152.

Patisaul, HB, *Mabrey,N*, Adewale, HB, Sullivan, AW. (2014). Soy but not Bisphenol A (BPA) induces hallmarks of polycystic ovary syndrome (PCOS) and related metabolic co-morbidities in rats. Reproductive Toxicology. 49C:209-218.

Sullivan, AW, Elsworth, CB, Stetzik, LA, Perry, A, *D'Addezio, AS*, Cushing, BS, **Patisaul, HB**. (2014). A novel model for neuroendocrine toxicology: Neurobehavioral effects of BPA. Endocrinology. 155(10):3867-3881. **[*cover article*]**

Belcher, SM, Cookman, CJ, **Patisaul, HB**, Stapleton, HM. (2014) In vitro assessment of human nuclear hormone receptor activity and cytotoxicity of the flame retardant mixture FM 550 and its triarylphosphate and brominated components. Toxicology Letters. 228(2):93-102.

Rebuli, ME, Cao, J, Sluzas, E, Delclos, KB, Camacho L, Lewis SM, Vanlandingham MM, **Patisaul HB**. (2014) Investigation of the effects of subchronic low dose oral exposure to Bisphenol A (BPA) and Ethinyl Estradiol (EE)

on estrogen receptor expression in the juvenile and Adult Female Rat Hypothalamus. Toxicological Sciences. 140(1):190-203.

Hoffman, K, Fang, M, Horman, B, **Patisaul, HB**, Garantziotis S, Birnbaum S, Stapleton HM. (2014) Urinary Tetrabromobenzoic Acid (TBBA) as a Biomarker of Exposure to the Flame Retardant Mixture Firemaster 550. Environmental Health Perspectives. 122(9):963-969.

Cao, J, Joyner, L, Mickens, JA, *Leyrer SM*, **Patisaul, HB**. (2014) Sex specific estrogen receptor beta (ERβ) mRNA expression in the rat hypothalamus and amygdala is altered by neonatal Bisphenol A (BPA) exposure. Reproduction. 147(4):537-554.

Yeo M, **Patisaul, HB**, Liedtke, W (2013) Decoding the language of epigenetics during neural development is key for understanding development as well as developmental neurotoxicity. Epigenetics. 8(11):1128-1132

Cao, J, Rebuli, ME, Rogers, J, Todd, KL, *Leyrer, SM*, Ferguson, SA, **Patisaul, HB** (2013) Prenatal Bisphenol A exposure alters sex specific estrogen receptor expression in the neonatal rat hypothalamus and amygdala. Toxicological Sciences. 133(1):157-173.

McCaffrey, KA, Jones, B, *Mabrey, N*, Weiss, B, Swan, SH, **Patisaul, HB** (2013) Sex specific impact of perinatal Bisphenol A (BPA) exposure over a range of orally administered doses on rat hypothalamic sexual differentiation. Neurotoxicology. 36:55-62.

Cao, J, **Patisaul, HB**. (2013) Sex specific expression of estrogen receptors α and β and kiss1 in the postnatal rat Amygdala. Journal of Comparative Neurology. 521(2):465-478.

Patisaul, HB, Roberts, SC, *Mabrey, N*, McCaffrey, KA, Gear, RB, Braun, J, Belcher, SM, Stapleton, HM. (2013) Accumulation and endocrine disrupting effects of the flame retardant mixture Firemaster 550 in rats: An exploratory assessment. Journal of Biochemistry and Molecular Toxicology. 27(2):124-136. **[NIEHS extramural paper of the month]**

Patisaul, HB, Sullivan, AW, Radford, ME, Walker, DM, Adewale, HB, Bozena, W, Coughlin, JL, Buckley, B, Gore, AC. (2012) Anxiogenic effects of low-dose developmental Bisphenol A (BPA) exposure are associated with gene expression changes in the adolescent amygdala and mitigated by soy diet in rats. PLoS One. 7(9):e43890

Losa-Ward, SM, Todd, KL, McCaffrey, KA, **Patisaul, HB**. (2012) Disrupted organization of RFamide pathways in the hypothalamus is associated with advanced puberty in female rats neonatally exposed to Bisphenol A (BPA). Biology of Reproduction. 87(2):28

Jefferson, WN, **Patisaul, HB**, Williams, C. (2012) Reproductive consequences of developmental phytoestrogen exposure. Reproduction. 143(3):247-260.

Patisaul, HB, Losa, SM, Todd, KL, McCaffrey, K, Mickens, JA. (2012) Influence of ERβ selective agonism during the neonatal period on the sexual differentiation of the rat hypothalamic-pituitary-gonadal (HPG) axis. Biology of Sex Differences. 3(1):2

Cao, J, Mickens, JA, McCaffrey, KA, *Leyrer, SM*, **Patisaul, HB.** (2011) Neonatal Bisphenol A exposure alters sexually dimorphic gene expression in the postnatal rat hypothalamus. Neurotoxicology. 33(1):23-36.

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Cao, J, **Patisaul, HB**. (2011). Sexually dimorphic expression of hypothalamic estrogen receptors α and β and Kiss1 in neonatal male and female rats. Journal of Comparative Neurology 519(15):2954-2977.

Sullivan, AW, *Hamilton, P*, **Patisaul, HB.** (2011). Neonatal agonism of ERβ impairs male reproductive behavior and attractiveness. Hormones and Behavior. 60(2):185-194.

Dickerson, SM, Cunningham, SL, **Patisaul, HB**, Woller, MJ, Gore, AC. (2011). Endocrine disruption of brain sexual differentiation by developmental PCB exposure. Endocrinology. 152(2):581-594.

Cao, J, **Patisaul, HB**, Petersen, SL. (2011). Aryl hydrocarbon receptor activation in lactotropes and gonadotropes interferes with estradiol-dependent and –independent preprolactin, glycoprotein alpha and luteinizing hormone beta gene expression. Molecular and Cellular Endocrinology. 333(2):151-159.

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Adewale, HB, **Patisaul, HB.** (2011). The impact of neonatal bisphenol-A exposure on sexually dimorphic hypothalamic nuclei in the female rat. Neurotoxicology. 32(1):38-49.

Patisaul, HB, Jefferson, WN. (2010). The pros and cons of phytoestrogens. Frontiers in Neuroendocrinology 31(4): 400-

419. [***Was one of the top 10 most frequently downloaded papers from this journal in 2010***]

Patisaul, HB, Adewale, HB. *(*2009). Long-term effects of environmental endocrine disruptors on reproductive physiology and behavior. Frontiers in Behavioral Neuroscience. 3:10

Adewale, HB, Jefferson, WN, Newbold, RR, **Patisaul, HB**. (2009). Neonatal bisphenol-A exposure alters rat reproductive development and ovarian morphology without impairing GnRH neuronal activation. Biology of Reproduction. 81(4):690-699.

Patisaul, HB, Todd, KL, Mickens, JA, Adewale, HB, (2009). Impact of neonatal exposure to the ERα agonist PPT, bisphenol-a or phytoestrogens on hypothalamic kisspeptin fiber density in male and female rats. Neurotoxicology. 30(3):350-357.

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Patisaul, HB, Burke, KT, *Hinkle, RE*, Adewale, HB, Shea, D (2009). Systemic administration of diarylpropionitrile (DPN) or phytoestrogens does not affect anxiety-related behaviors in gonadally intact male rats. Hormones and Behavior. 55:319-328.

Patisaul, HB, Adewale, HB, Mickens, JL (2009). Neonatal agonism of ERα masculinizes serotonergic (5-HT) projections to the female rat ventromedial nucleus of the hypothalamus (VMN) but does not impair lordosis. Behavioural Brain Research. 196(2):317-322.

Bateman, HL, **Patisaul, HB** (2008). Disrupted female reproductive physiology following neonatal exposure to phytoestrogens or estrogen specific ligands is associated with decreased GnRH activation and kisspeptin fiber density in the hypothalamus. Neurotoxicology. 29(6):988-997.

Patisaul, HB, Bateman, HL (2008). Neonatal exposure to endocrine disrupting compounds or an ERβ agonist increases adult anxiety and aggression in male rats. Hormones and Behavior. 53(4): 580-588.

Patisaul, HB, Fortino, AE, Polston, EK (2008). Sex differences in serotonergic (5-HT) but not GABAergic projections to the rat ventromedial nucleus of the hypothalamus (VMN). Endocrinology. 149(1):397-408.

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Patisaul, HB, Fortino, AE, Polston, EK (2007). Differential disruption of nuclear volume and neuronal phenotype in the preoptic area by neonatal exposure to genistein and Bisphenol-A. Neurotoxicology. 28(1):1-12.

Patisaul, HB, Fortino, AE, Polston, EK (2006). Neonatal genistein or bisphenol-A exposure alters sexual differentiation of the AVPV. Neurotoxicology and Teratology. 28(1):111-118.

Patisaul, HB, Blum, A, *Luskin, JR*, Wilson, ME (2005). Dietary soy supplements produce opposite effects on anxiety in intact male and female rats in the elevated plus maze. Behavioral Neuroscience. 119(2):587-594.

Patisaul, HB (2005). Phytoestrogen action in the adult and developing brain. Journal of Neuroendocrinology. 17(1):57-64.

Patisaul, HB and Whitten, PL (2004). Dietary Phytoestrogens. In: Endocrine Disruptors: Effects on Male and Female Reproductive Systems. Second Ed., Boca Raton, CRC Press.

Patisaul, HB, Luskin, JR, Wilson, ME (2004). A soy supplement and tamoxifen inhibit sexual behavior in female rats. Hormones and Behavior. 45(4):270-277.

Patisaul, HB, *Scordalakes, EM*, Young, LJ, Rissman, EF (2003). Oxytocin and arginine vasopressin but not oxytocin receptors are regulated by ERβ in the female mouse hypothalamus. Journal of Neuroendocrinology. 15:787-793.

Patisaul, HB, Aultman, EA, Bielsky, IF, Young, LJ, Wilson, ME (2003). Immediate and residual effects of tamoxifen and ethynylestradiol in the female rat hypothalamus. Brain Research. 978:185-193.

Patisaul, HB, *Melby, M*, Whitten, PL, Young, LJ (2002). Genistein affects ERβ- but not ERα-dependent gene expression in the hypothalamus. Endocrinology. 143:2189-2197.

Whitten, PL, **Patisaul, HB**, Young, LJ (2002). Neurobehavioral actions of coumestrol and related isoflavonoids in rodents. Neurotoxicology and Teratology. 24: 1-8.

Patisaul, HB, Dindo, M, Whitten, PL, Young, LJ (2001). Soy isoflavone supplements antagonize reproductive behavior and ERα- and ERβ- dependent gene expression in the brain. Endocrinology. 142:2946-2952.

Jacob, DA, Temple, JL, **Patisaul, HB**, Young, LJ, Rissman, EF (2001). Coumestrol antagonizes neuroendocrine actions of estrogen via the estrogen receptor α. Proceedings of the Society for Experimental Biology and Medicine. 226:301-306.

Whitten, PL, **Patisaul, HB** (2001). Cross-species and interassay comparisons of phytoestrogen action. Environmental Health Perspectives. 109(Suppl 1): 5-20.

Patisaul, HB, Whitten, PL and Young, LJ (1999). Regulation of estrogen receptor beta mRNA in the brain: Opposite effects of 17β-estradiol and the phytoestrogen, coumestrol. Molecular Brain Research. 67:165-171.

Commentaries and Special Publications:

Wang T, Pehrsson EC, Purushotham D, Li D, Zhuo X, Zhang B, Lawson HA, Province MA, Krapp C, Lan Y, Coarfa C, Katz TA, Tang WY, Wang Z, Biswal S, Rajagopalan S, Colacino JA, Tsai ZT, Sartor MA, Neier K, Dolinoy DC, Pinto J, Hamanaka RB, Mutlu GM, **Patisaul HB**, Aylor DL, Crawford GE, Wiltshire T, Chadwick LH, Duncan CG, Garton AE, McAllister KA; TaRGET II Consortium, Bartolomei MS, Walker CL, Tyson FL. The NIEHS TaRGET II Consortium and environmental epigenomics. Nat Biotechnol. 2018 Mar 6;36(3):225-227.

Barrett, ES, **Patisaul, HB** (2018). Introduction to the special issue on endocrine disrupting chemicals and behavior. Hormones and Behavior.101:1-2.

Barrett, ES, **Patisaul, HB** (2017). Endocrine disrupting chemicals and behavior: Re-evaluating the science at a critical turning point. Hormones and Behavior.96:A1-A6.

Project TENDR: Targeting Environmental Neuro-Developmental Risks. The TENDR Consensus Statement (2016)

Deborah Bennett, David C. Bellinger, Linda S. Birnbaum, Asa Bradman, Aimin Chen, Deborah A. Cory-Slechta, Stephanie M. Engel, M. Daniele Fallin, Alycia Halladay, Russ Hauser, Irva Hertz-Picciotto, Carol F. Kwiatkowski, Bruce P. Lanphear, Emily Marquez, Melanie Marty, Jennifer McPartland, Craig J. Newschaffer, Devon Payne-Sturges, **Heather B. Patisaul**, Frederica P. Perera, Beate Ritz, Jennifer Sass, Susan L. Schantz, Thomas F. Webster, Robin M. Whyatt, Tracey J. Woodruff, R. Thomas Zoeller, Laura Anderko, Carla Campbell, Jeanne A. Conry, Nathaniel DeNicola, Robert M. Gould, Deborah Hirtz, Katie Huffling, Philip J. Landrigan, Arthur Lavin, Mark Miller, Mark A. Mitchell, Leslie Rubin, Ted Schettler, Ho Luong Tran, Annie Acosta, Charlotte Brody, Elise Miller, Pamela Miller, Maureen Swanson, and Nsedu Obot Witherspoon. Environmental Health Perspectives. 124(7): DOI:10.1289/EHP358.

Andrea C. Gore, David Crews, Loretta Doan, Michele La Merrill, **Heather B Patisaul**, Ami Zota (2014) Introduction to Endocrine Disrupting Chemicals (EDCs) A Guide for Public Interest Organizations and Policy-Makers. International Pesticide Elimination Network (IPEN).

Patisaul, HB (2012). Infertility in the southern white rhino: is diet the source of the problem? Endocrinology. 153(4): 1568-1571.

Novack, PJ, Arnold, WA, Blazer, VS, Halden, U, Klaper, RD, Kolpin, DW, Kribel, D, Love, NG, Martinovic-Weigelt, D, **Patisaul, HB**, Snyder, SA, vom Saal, FS, Weisbrod, AV, Swackhamer DL. (2011). On the need for a national (US) research program to elucidate the potential risks to human and health and the environment posed by contaminants of emerging concern. Environmental Science and Technology. [*Commentary resulting from a 2010 Wingspread workshop on "contaminants of emerging concern"*]

Gore, AC, **Patisaul, HB** (2010). Neuroendocrine disruption: historical roots, current progress, questions for the future. Frontiers in Neuroendocrinology. 31(4):395-399.

Patisaul, HB (2010). Assessing risks from Bisphenol A. American Scientist. 98(1):30-39. [*Excerpts have been translated and reprinted for similar publications in Spain and France*]

Book Chapters:

Patisaul, HB, Gore, AC, Crews, D (2016). Environmental Endocrine Disruption of Brain and Behavior. In: Pfaff, D.W and Joëls, M. (editors-in-chief), Hormones, Brain, and Behavior 3rd edition, Vol 5. Oxford: Academic Press; 2017. pp. 63–88.

Patisaul, HB. (2012). Effects of Environmental Toxicants and Phytoestrogens on the Kisspeptin System In: Kisspeptin Signaling in Reproductive Biology. Adv Exp Med Biol. 2013;784:455-79

Patisaul, HB (2010). Reproductive System" In: A Textbook of Modern Toxicology (4th Ed.) by Earnest Hodgson, Wiley Interscience.

Patisaul HB (2008). Authored the "Instructor's Resources" for the textbook Brain and Behavior, and Introduction to Biological Psychology (2nd Ed.) by Bob Garrett, Sage Publications.

Patisaul, HB and Whitten, PL (2004). Dietary Phytoestrogens. In: Endocrine Disruptors: Effects on Male and Female Reproductive Systems. (1st and 2nd Editions), Boca Raton, CRC Press.

EXPERT PANELS and WORKING GROUPS

Invited presenter and expert on EDCs for the IPEN Global Meeting and Forum on Chemicals and Waste, Kuriftu Resort, Lake Bishoftu, Ethiopia, February, 6-10, 2020

Invited presenter and expert on developmental neurotoxicity for the Workshop on the Triggering of the Cohorts of the Extended One-Generation Reproductive Toxicity Study (EOGRTS) as published by OECD and hosted by ECHA in Helsinki, Finland October 8-9, 2019.

Invited participant for the Six Classes Toxics Reduction Retreat VII sponsored by the Green Science Policy Institute, Sequoia Retreat Center, Ben Lomand, California, April 28-May 1, 2019.

Representative for the Endocrine Society at the 2018 European Food Safety Authority (EFSA) Conference on Science, Food and Society, Parma, Italy, September 18-21, 2018.

Participant in the Joint Research Center of the European Commission Workshop “"Bridging across methods in Biosciences (BEAMS)," Ispra, Italy, June 19-20, 2018. [*Invitation Only; Was the only American participant*]

Organizer and co-host for the “Endocrine Disruption Strategies Workshop” held at NCSU December 2-3, 2017.

Organizing Committee member for the National Academy of Sciences workshop “Cultivating Confidence: Understanding Pathways to a Paradigm Shift in Toxicity Testing and Decision Making” held Nov. 20-21, 2017

Invited representative for the Endocrine Society at the June, 2016 meeting of the Extended Advisory Group on Molecular Screening and Toxicogenomics (EAGMST) of the OECD.

Member of the National Academy of Sciences committee on Incorporating 21st Century Science Into Risk-Based Evaluations, National Academy of Sciences, Washington DC, 2015-2016.

Advisors Meeting on “Scientific Engagement in New Federal Chemical Testing Efforts,” Environmental Defense Fund, Washington DC, December 11, 2013.

Member of the National Academy of Sciences committee to evaluate the EPA document, State of the Science Evaluation: Nonmonotonic Dose Responses as They Apply to Estrogen, Androgen, and Thyroid Pathways and EPA Testing and Assessment Procedures, National Academies of Sciences, Washington DC, 2013

“Chemical Testing in the 21st Century” a working group assembled by the Environmental Defense Fund, Washington DC, January 22-24, 2013

“Designing Endocrine Disruption Out of the Next Generation” a follow-up to the workshop held in 2011. This working group compiled by two NGOs, Advancing Green Chemistry and Environmental Health Sciences developed a strategy for developing products that do not leach endocrine disrupting compounds. The information was published on a website and as manuscript. October 15-17, 2012, Pontifico, NY, 2012

Low Dose Effects and Non-monotonic Dose Responses for Endocrine Active Chemicals: Science to Practice. Berlin, Germany, Sept 11-13, 2012

National Institute of Environmental Health Sciences Strategic Planning Stakeholder Community Workshop, Research Triangle Park, NC, July 12-14, 2011

“Designing Endocrine Disruption Out of the Next Generation” a working group compiled by two NGOs, Advancing Green Chemistry and Environmental Health Sciences – this three day workshop brought together biologists and chemists with the goal of ensuring green chemists had ready access to the best people, tools, and assays in environmental health science to help develop products that do not leach endocrine disrupting compounds. San Francisco, CA, March 21-23, 2011

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) Scientific Vision Workshop on Environment, Bethesda, MD, March 10-11, 2011.

Joint Food and Agriculture Organization of the United Nations (FAO) and World Health Organization (WHO) Expert meeting to review the toxicological and health aspects of Bisphenol A (BPA), Ottawa, Canada, November 1-5, 2010

Johnson Foundation at Wingspread workshop on Contaminants of Emerging Concern, Racine, WI, May 23-26, 2010

NC Biotechnology Center Environmental Health Summit exploring the research needs and possible health consequences of contaminants in our water supply from the use of pharmaceutical products, Research Triangle Park, NC, Feb 2008

SYMPOSIUM ORGANIZER

Planning Committee for the Annual EDC-NC Meeting, NIEHS, (2018, 2019)

Program Committee and Discussant for the 2017 Copenhagen Workshop on Endocrine Disruption, May 1-5, 2017, Copenhagen, Denmark.

Chair of the 2016 Gordon Research Conference on Environmental Endocrine Disruption, June 19-24, Sunday River Resort, Newbry, ME.

Vice-chair for the 2014 Gordon Research Conference on Environmental Endocrine Disruption, May 11-16, 2014, Renaissance Ciocco, Tuscany Italy

Session Chair for the symposium, “New Insights into the Reproductive and Developmental Toxicity of Bisphenol A.” Annual Meeting of the Society of Toxicology, March 11-15, 2012, San Francisco, CA.

Organizer and Chair for the symposium, “Environmental Endocrine Disruptors.” Annual Meeting of the Society for Behavioral Neuroendocrinology, June 24-27, 2009, East Lansing, MI.

Organizer and Chair for the symposium, "Dietary Influences on Aggression." Annual Meeting of the International Society for Research on Aggression, July 25-29, 2006, Minneapolis, MN.

Organizer and Chair for the workshop, "Soy on the Brain: Practical and theoretical aspects of phytoestrogen action on neuroendocrine systems and behavior." Annual Meeting of the Society for Behavioral Neuroendocrinology, June 21-26, 2005, Austin, TX.

INVITED PRESENTATIONS (73 total, only representative examples listed)

Prenatal Pollution: Endocrine Disruption of the Placenta and Neurodevelopment, University of California, Riverside, January 15, 2020.

EDCs and Placental Function, 2nd African Conference on Health Effects of Endocrine Disruptors, Pretoria, South Africa, Nov 4-7, 2019.

Endocrine Disruption and Developmental Neurotoxicity: Cognitive and Socioemotional Behaviors, Workshop on EOGRTS, European Chemicals Agency (ECHA), Helsinki, Finland, Oct 7, 2019.

The CLARITY-BPA Project: Reproducible Evidence of Low Dose Effects on the Developing Brain, 10th International Meeting on Steroids and the Nervous System, February 16-19, Torino Italy, 2019.

Plastics, Puberty and Brain Health – How Endocrine Disruptors Impact the Brain and Behavior, NIEHS, Workshop for Science Literacy (for middle and high school teachers in in NC), RTP, NC, January 7, 2019.

Plenary Lecture: Prenatal Pollution: Endocrine Disruption of the Placenta and Neurodevelopment, 3rd Annual Meeting of the US DOHaD Society, Chapel Hill, NC, October 1-2, 2018.

CLARITY on Brain and Behavior: Reproducible Evidence of Low Dose Effects, PPTOX IV, Faroe Islands, Denmark, May 25-31, 2018.

Endocrine Disruption of Neuroendocrine Pathways and Behaviors, Annual Meeting for the Triangle Society for Neuroscience, Cary, NC, May 24, 2018.

Plenary Mentoring Lecture: Life post-ONES Ten Years Out: Leveraging success and lessons learned. NIEHS ONES Award Grantee Meeting, RTP, NC, April 8-9, 2018.

Endocrine Disruption of Sexually Dimorphic Neuroendocrine Pathways and Behaviors. Annual Meeting of the Organization for the Study of Sex Differences (OSSD), Atlanta, GA, April 1-4, 2018.

Endocrine Disruption and Neurodevelopment: Emerging Ideas and Animal Models. University of North Carolina Greensboro (UNCG), February 28, 2018.

Sexually Dimorphic Effects of Endocrine Disruption on Neuroendocrine Systems, Brain and Behavior. 23rd Annual Environmental Health Sciences Research Symposium; "Environmental Exposures and Endocrine Disruption" School of Public Health, University of Michigan, Ann Arbor, MI, February 8, 2018.

Using 21st Century Science to Improve Risk-Related Evaluations. US EPA, RTP, NC, September 20, 2017.

Endocrine Disruptors, Brain and Behavior. NC Department of Health and Human Services, Raleigh, NC, September 12, 2017.

The Brain as a Reproductive Organ. International Congress of Andrology, Copenhagen, Denmark, May 6, 2017.

Sexually Dimorphic Outcomes of Endocrine Disrupting Chemical (EDC) Exposure on Neuroendocrine Systems Brain and Behavior, Duke University, Integrated Toxicology and Environmental Health Program (ITEHP) Spring Symposium, Durham, NC, March 24, 2017.

Endocrine Disruption in the Developing Brain: Emerging Ideas and Animal Models. University of Victoria, Victoria, British Columbia (Canada), January 20, 2017.

Building a Brain: Critical Windows Extend Well Beyond Birth. NIEHS Science Fest, RTP, NC, December 5-8, 2016.

Keynote Lecture: Endocrine Disruption and Sexual Differentiation of the Developing Brain: New Questions and New Tools. NIEHS Science Days, NIEHS, RTP, NC, November 3, 2016.

Neuroendocrine Disruption in the Developing Brain: Emerging ideas and animal models. University of Illinois at Champagne-Urbana, Urbana, IL, October 21, 2016.

Behaving Badly: Endocrine Disruptors, Brain and Behavior. University of Texas at El Paso, El Paso, Texas, April 14, 2016.

Endocrine Disruption by Dietary Phyto-Oestrogens: Impact on Dimorphic Sexual Systems and Behaviours. Nutrition Society Scottish Section, Royal College of Physicians, Edinburgh, Scotland, UK, March 21-22, 2016.

Genes, Environment, Brain and Behavior: Endocrine Disruption of the Developing Brain. National Toxicology Program, RTP, NC, October 14, 2015.

Brain Chemistry: Endocrine Disruption of Neuroendocrine Pathways and Behaviors, Seminar Series for the Reproductive Biology Group of the Kansas University Medical Center, Kansas City, KS, October 9, 2015.

Rewired: Endocrine disruption of sexually dimorphic neuroendocrine signaling pathways, 8th International Meeting of Steroids and the Nervous System, Torino, Italy, February 14-18, 2015.

Impacts of Early Life Exposure to Endocrine Disruptors on Neuroendocrine development, 30th Annual Perspectives in Biology Symposium, Wake Forest University, Winston Salem, NC, November 8, 2014.

Plenary/Popular Science Lecture: The Politics and Perils of Endocrine Disrupting Compounds, 30th Annual Perspectives in Biology Symposium, Wake Forest University, Winston Salem, NC, November 7, 2014.

Neuroendocrine and Behavioral Effects of Developmental Exposure to Endocrine Disruptors, Neuroscience and Behavior Seminar Series, University of Massachusetts, Amherst, Amherst, MA, November 5, 2014.

Disconnected: Endocrine Disruption of Brain and Behavior, Tulane University Fall 2014 Neuroscience Seminar Series, Tulane University, New Orleans, LA, October 9, 2014.

Plenary Lecture: Endocrine Disrupters and Mechanisms of Actions on Behavior and Neuroendocrine Systems, Annual Meeting of the German Society of Experimental and Clinical Pharmacology and Toxicology, Hanover, Germany, April 1-4, 2014.

Keynote Lecture: Endocrine Disruption of the Social Brain, 2013 International Conference on Pollinator Biology, Health and Policy, Penn State University, University Park, PA, August 14-17, 2013.

PROFESSIONAL MEMBERSHIPS	MEMBER SINCE
Society for Behavioral Neuroendocrinology	1999
Education Committee, 2007 - 2012	
Chair of SFN-Sponsored Social, 2011	
Membership Committee, 2013-2016	
Awards/Honors Committee, 2016-present	
Society for Neuroscience	1999
Triangle Consortium for Reproductive Biology	2003
Society of Toxicology	2010
The Endocrine Society	2012
Advocacy & Public Outreach Committee, 2016-present	
Chair, 2020 - 2023	
Chair, AOP Task Force, 2016 - 2019	
EDC Task Force, 2015-present	
Strategic Planning Group, 2016-present	

CONFERENCE POSTERS/ ABSTRACTS (last 5 years only; undergraduate authors in italics)

Fredenburg JD, Parker JP, Konneker TI, Allard NE, Hoarman B, Safi A, Crawford GE, **Patisaul HP**, Aylor DL. Early life exposre to TCDD alters the chromatin landscape across the life course. Genome Informatics, Nov 6-9, 2019. Cold Spring Harbor, MA,

Pace, CL, Ekelof, M, Horman, B, **Patisaul, HB**, Stapleton, H, Muddiman, DC. IR-MALDESI Mass Spectrometry Imaging of Rat Placental Tissue after Exposure to Flame Retardants. ASMS, June, 2019, Atlanta, GA.

Gillera S, Marinello, W, Horman, B, *Grinceviciute, R*, **Patisaul, HB**. Novel Approaches for Neurotoxicology: use of the Prairie Vole to Assess the Impact of Developmental Flame Retardant Exposure on Social Behaviors. Annual Meeting of the Society for Behavioral Neuroendocrinology, June 19-23, 2019, Bloomington, IN. **[Poster Award]**

Gillera, S, Horman, B, Marinello, W, *Grinceviciute, R*, **Patisaul, HB**. Social Behavioral Effects in Prairie Voles Prenatally Exposed to Firemaster 550. Triangle SFN, April 4, 2019. Cary, NC. **[Best Poster Award]**

Rock, K, Horman, B, Phillips, AL, Ruis, M, Stapleton, HM, **Patisaul, HB**. The Placenta as a Potential Target of Neuroendocrine Disruption: Effects of Brominated and Organophosphate Flame Retardants. PanAmerican Neuroendocrine Meeting, March 21-22, 2019, New Orleans, LA

Gillera, S, Horman, B, Marinello, W, *Grinceviciute, R*, **Patisaul, HB.** Social Behavioral Effects in Prairie Voles Perinatally Exposed to Firemaster 550. Annual Meeting, Society of Toxicology, March 10-14, 2019, Baltimore, MD.

Rock, KD, Horman, B, Phillips, AL, Ruis, M, Stapleton, HM, **Patisaul, HB.** The Placenta as A Potential Target of Neuroendocrine Disruption: A Comparison of Brominated and Organophosphate Flame Retardants. Annual Meeting, Society of Toxicology, March 10-14, 2019, Baltimore, MD. **[Best Poster Award – Reproductive Tox Section]**

Frantz, AM, Arambula, SE, *Idres, S*, Horman, B, **Patisaul, HB.** The effects of BPA (Bisphenol-A) as an estrogenic compound on sexually dimorphic brain regions in female rats. State of North Carolina Undergraduate Research and Creativity Symposium. NCSU, November, 10, 2018.

Gillera, SE, **Patisaul, HB.** Exploring the Impact of Developmental Exposure to the Flame Retardant Mixture Firemaster 550 (FM550) on Social Behavior Health Using a Prosocial Animal Model. 3rd Annual Meeting of the US DOHaD Society, Oct. 1-2, 2018, Chapel Hill, NC.

Rock, KR, **Patisaul, HB**. Sex-Specific Placental Accumulation of the Flame Retardant Mixture FM550 and Sex-Specific Disruption of the Placental and Fetal Forebrain Transcriptome in the Wistar Rat. 3rd Annual Meeting of the US DOHaD Society, Oct. 1-2, 2018, Chapel Hill, NC.

Rock, KR, **Patisaul, HB**. The Placenta: A Potential Target of Neuroendocrine Disruption by the Flame Retardant Mixture Firemaster® 550. Gordon Research Conference – Environmental Endocrine Disruptors, June, 3-8, 2018, Les Diablerets, Switzerland.

Baldwin, KR, Horman, B, Phillips, AL, McRitchie, SL, Watson, S, Deese-Spruill, J, Stapleton, HM, Jima, D, Sumner, S, **Patisaul, HB**. Neuroendocrine Disruption of Placental and Brain Function by the Flame Retardant Mixture Firemaster® 550. Triangle Society for Neuroscience Annual Meeting, May, 2018, Research Triangle Park, RTP, NC.

Rock, KR, Phillips, AL, Horman, B, Arambula, SE, Rebuli, ME, Stapleton, HM, **Patisaul, HB.** Sex Specific Accumulation, Neuroendocrine, and Behavioral Impacts Following Developmental Exposure to the Flame Retardant Mixture Firemaster® 550 in Wistar Rats. Inaugural EDC-NC Annual Meeting, National Institute of Environmental Health Sciences, February 2018, Research Triangle Park, NC. **[Poster Award]**

Rhodes, C, Rebuli, M, **Patisaul, HB.** Microglia colonization and endocrine disruption in the developing brain of a prosocial species. Molecular Biotechnology Training Program (MBTP) Symposium, North Carolina State University, November 2, 2017, Raleigh, NC. **[Poster Award]**

Fuchs, JE, Arambua, SE, *Idres, S*, Patisaul, HB. Perinatal BPA (Bisphenol A) has minimal effects on the volume of juvenile rat sexually dimorphic nuclei: Results from a CLARITY-BPA Consortium study. Society for Neuroscience Annual Meeting, November, 2017, Washington D.C. **[Selected for presentation at the Faculty for Undergraduate Neuroscience poster section]**

Rock, KR, Phillips, AL, Horman, B, Arambula, SE, Rebuli, ME, Stapleton, HM, **Patisaul, HB.** Sex Specific Accumulation, Neuroendocrine, and Behavioral Impacts Following Developmental Exposure to the Flame Retardant Mixture Firemaster® 550 in Wistar Rats. Society for Neuroscience Annual Meeting, November, 2017, Washington D.C.

Rock, KR, Phillips, AL, Horman, B, Arambula, SE, Rebuli, ME, Stapleton, HM, **Patisaul, HB.** Sex Specific Accumulation, Neuroendocrine, and Behavioral Impacts of Developmental Exposure to the Flame Retardant Mixture Firemaster® 550 in Wistar Rats. Society for Behvioral Neuroendocrinology Annual Meeting, June 12-16, 2017, Long Beach, CA.

Arambula SE, Belcher SM, Planchart AP, Turner S, **Patisaul HB**. Sex-specific impact of gestational bisphenol a exposure on hypothalamic and hippocampal gene expression. Triangle Chapter of the Society for Neuroscience 3rd Annual Research Symposium. May, 21, 2017. Cary, NC.

Fuchs JE, Arambula SE, **Patisaul HB**. Water bottle woes: BPA and the developing brain. Triangle Chapter of the Society for Neuroscience 3rd Annual Research Symposium. May, 21, 2017, Cary, NC.

Deverasetty, P, Rock, K, Horman, B, *Alday, S*, Birnbaum, L, Fenton, S, **Patisaul, HB.** TBBPA Behavioral Effects on Activity and Anxiety in Wistar Rats. NCSU Keck Center Student Symposium, April 21, 2017, Raleigh, NC.

Rhodes, C, Vogel, A, Horman, B, McGraw, L, **Patisaul, HB**. Kisspeptin and the Social Brain: Environmental Effects and Neuronal Distribution in a Socially Monogamous Species (Microtus ochrogaster). Kisspeptin 2017: Brain and Beyond, March 30-31, 2017, Orlando, FL.

Fuchs JE, Arambula SE, **Patisaul HB**. The effect of BPA on hormone sensitive regions of the developing brain. State of North Carolina Undergraduate Research Symposium. November 5, 2016, Durham, NC.

Fuchs JE, Arambula SE, **Patisaul HB**. Assessing the morphological effects of BPA on the sexually dimorphic nucleus of perinatally exposed Sprague-Dawley rats. Science Saturday. North Carolina Museum of Natural Sciences. October 1, 2016, Raleigh, NC.

Idries S, Patisaul, HB. Effects of prenatal exposure to endocrine-disrupting compounds on sex differences in rat nuclear volume. Science Saturday at the Natural Museum of Sciences, October 1, 2016, Raleigh, NC.

Arambula SE, Belcher SM, Planchart A, Turner SD, **Patisaul HB**. Effects of gestational BPA exposure on sex-specific gene expression in the neonate rat hypothalamus and hippocampus. 25 Years of Endocrine Disruption Research: Past Lessons and Future Directions. NIEHS. National Institutes of Health (NIH) Main Campus. September 18-20, 2016 Bethesda, MD.

Fuchs JE, Arambula SE, **Patisaul HB**. Assessing the morphological effects of BPA on the sexual dimorphic nucleus of perinatally exposed Sprague-Dawley rats. North Carolina State University Undergraduate Summer Research Symposium. August 10, 2016, Raleigh, NC.

Arambula SE, Belcher SM, Planchart A, Turner SD, **Patisaul HB**. Impact of prenatal BPA exposure on sex-specific neonatal rat hypothalamic and hippocampal Gene Expression. Gordon Research Conference – Environmental Endocrine Disruptors. June 18-24, 2016, Newry, ME.

Rock, K, Horman, B, Phillips, A, Arambula, S, Stapleton, H, **Patisaul, HB**. Sex Specific Neuroendocrine and Behavioral Effects of Developmental Exposure to the Flame Retardant Mixture Firemaster® 550 in Wistar Rats. Gordon Research Conference on Environmental Endocrine Disruptors, June 18-24, 2016, Newry, ME.

Arambula, S, Belcher, SM, Turner, SD, Gonzales, KL, **Patisaul, HB**. Prenatal Exposure to Bisphenol A Alters Hypothalamic and Hippocampal Gene Expression in Neonatal Rats of Both Sexes. Annual Meeting of the Endocrine Society, April 1-4, 2016, Boston, MA.

Gillera, SA, Tucker, DK, Filgo, AJ, Flawas, JA, Horman, B, **Patisaul, HB**, Fenton SE. Low dose tetrabromobisphenol A alters mammary and uterine development following prenatal exposure in Wistar rats. Annual Meeting of Society of Toxicology, March 13-17, 2016 New Orleans, LA.

Cao, J, Echelberger, R, Liu, M, Sluzas, E, McCaffrey, K, Buckley, B, **Patisaul, HB.** Soy but not Bisphenol A (BPA) or the phytoestrogen genistin alters developmental weight gain and food intake in pregnant rats and their offspring. The Endocrine Society's 97th Annual Meeting and Expo, March 5-8, 2015, San Diego, CA.

Phillips, A, Chen, A, Horman, B, **Patisaul, HB**, Stapleton, HM. Gestational vs. Lactational Transfer of Firemaster® 550 Components in Perinatally-Dosed Rats. SETAC, November 6-10, 2015, Orlando, FL.

ACADEMIC REVIEW

Editorial Work

Associate Editor:	2012 – 2017	Endocrine Disruptors
Guest Associate Editor:	2014	Endocrinology
Editorial Board:	2010 – 2019	Neurotoxicology
	2011 - present	Hormones and Behavior
	2012 – 2019	Endocrinology
	2020 – 2023	Journal of the Endocrine Society
	2020 – 2023	Frontiers in Toxicology

Ad Hoc Referee: Archives of Women's Mental Health, Behavioral Neuroendocrinology, Biological Psychiatry, Biology of Reproduction, Brain Research, Comparative Biochemistry and Physiology, Endocrine Reviews, Environmental Health Perspectives, Environmental and Molecular Mutagenesis, Frontiers in Behavioral Neuroscience, Frontiers in Neuroendocrinology, International Journal of Developmental Neuroscience, Journal of Steroid Biochemistry and Molecular Biology, Neurotoxicology and Teratology, PLOS One, PNAS, Reproductive Toxicology, Scientific Reports, Toxicological Sciences

Co-Editor for a Special Issue on Sex Differences in Neurotoxic Effects for Neurotoxicology and Teratology (*in progress*)
Co-Editor for a Special Issue on Endocrine Disruptors for Hormones and Behavior (May 2018)
Co-Editor for a Special Issue on the Neuroendocrine Effects of Endocrine Disruptors for Frontiers in Neuroendocrinology (October 2010)

Peer Review for Regulatory Bodies

2007 Peer Reviewer of the Environmental Protection Agency (EPA) Draft Integrated Summary Report for the Pubertal Female Endocrine Disruptor Screening Assay

Grant Review Panels

2015-2019 Standing member; ICER, NIH
ad hoc: National Institutes of Health (NIEHS), National Science Foundation, European Science Foundation

External Grant Reviewer

Illinois Waste Management and Research Center (WMRC) Research Grant Program, The US Environmental Protection Agency (EPA), University of Michigan, French National Research Agency, Carlton College, University of Rochester

TEACHING EXPERIENCE

North Carolina State University

Courses: Graduate Section of Neuroscience (ZO 588, 2016-2019)
Fetal Basis of Adult Disease (ZO 495, 2012-2017)
Primate Ecology and Brain Evolution (ZO 317, Spring 2009 - 2011)
Sexual Differentiation of the Brain and Behavior (ZO 592E, Fall, 2008)
Neurobiology of Addiction (ZO 495V/592V, Spring 2008)
Research Experience in Neurobehavior (BIO 499,)

Lectures: Neurobiology of Disease, for Fundamentals of Biomedical Sciences (CBS 565, Fall)
Reproductive Toxicology, for General Toxicology (Tox 701, Fall)
Reproductive and Developmental Toxicology, for Biochemical Toxicology (TOX 710, Spring)

Lectures in the RTP Area

I give at least one lecture a year for TOXC/ENVR 442 Biochemical and Molecular Toxicology at UNC Chapel Hill; ENV819 Mechanisms in Toxicology at Duke University; and the RTP Rodent Pathology Course (on the importance of controlling for stress in animal studies).

ADVISING AND MENTORING

Current Graduate Students (PhD)

Sagi Gillera, William Marinello

Former Graduate Students

Kylie Rock (PhD 2019)
Cassie Rhodes (MS 2018)
Sheryl Arambula (PhD 2017)
Meghan Radford Rebuli (PhD 2015)
Alana Sullivan (PhD 2014)
Sandra Losa (PhD 2013)
Heather Bateman Adewale (PhD 2011)

Thesis Committees in Progress (Other than my own students)

Elizabeth Cook (PhD Toxicology, NCSU), Stephanie Proano (PhD Biology, NCSU), Jackson Parker (MS Genetics, NCSU), Matthew Ruis (Duke University), Eugene Cheung (PhD Biology, NCSU), Drake Phelps (PhD Comparative Biomedical Sciences; immunology concentration, NCSU)

Former Thesis Committees

Allison Phillips (PhD, Duke University), Jamie Willett (PhD Comparative Biomedical Sciences; neuroscience concentration, NCSU), Caroline Leitschuh (PhD Biology, NCSU), Andrea Vogel (PhD Genetics, NCSU). Erin Quest (PhD CBM, NCSU), Debabrata Mahapartra (PhD Toxicology, NCSU), Melissa Slane (PhD Biology, NCSU), Nanshan Zhang (PhD Textiles, NCSU), Jessica Kendziorski (PhD, U Cincinnati), Ella Nguyen (MS Physiology, NCSU), Eugene Wong (PhD Biology, NCSU), Bryan Jones (PhD Psychology, Simon Frasier University, Canada) , Stephanie Bloom (MS Comparative Biomedical Sciences, NCSU), David Anack (MS Toxicology, NCSU), Christina Strom (PhD Zoology, NCSU), Carmel Martin-Fairey (PhD Zoology, NCSU), Candace Davis (PhD Zoology, NCSU), Minglang Fang (PhD, Duke University), Cassandra Kinch (PhD, University of Calgary), Heather Allardice (PhD Biology, NCSU)

Post-Doctoral Fellows

Jinyan Cao (2008 -2014)
Shannah Witchey (2018 – present)

Undergraduate Students

Current: Annabelle Frantz (Biology; Honors Program)

43 mentored to date
12 named as authors on peer reviewed publications (1 as first author)
16 named as authors on national/international conference abstracts

Undergraduate Mentorship

2018 – present Mentor for the Chancellor's Leadership Development Program
Mentees: Jai/Lynne Wilburn, Kalynn Turner, Manika Hemmerich, Anh Nguyen
2015 – present Mentor for the Initiative for Maximizing Student Diversity Program
Mentees: Shima Idres, Joelle Fuchs
2006 - present Park Scholar Mentor (ongoing)
Mentees: Gavin Harrison, Pratyush Devarasetty, Theresa Crowgey, Rebekah Jewell, Meghan Radford, Linwood Joyner, Stephanie Leyrer, Catherine Thriveni, Alyssa D'Addezio, Austin Bath, Loujain Al Samara

ACEDEMIC SERVICE (since 2010)
Research Oversight Committee (2019 – Present)
Research Leadership Academy (2019 – Present)
College of Sciences RPT Committee (2018 - 2019)
Biological Resources Advisory Board (2016 - 2019)
Search Committee (2015 – 2016) for two faculty positions in the Department of Biological Sciences, NCSU
NCSU Faculty Scholars Selection Committee (2015-2018)
Search Committee (2014) Preproposal Processor for the College of Sciences at NCSU
Poster and Oral Presentation Judge, NIEHS Science Day (2013, 2014)
Search Committee (2013) for the Chair of Biological Sciences in the College of Science at NCSU
Chair, Search Committee (2011-2012) for an assistant professor position in the Department of Biology, NCSU

SIGNIFICANT CONTRIBUTIONS TO SCIENTIFIC OUTREACH (past 3 years only)
My research has been summarized and featured in many popular press journals, radio programs and websites including: Business Week, The Chicago Tribune, Eureka!,eMaxHealth.com, Food Consumer, Fresh News, Frontline India, HealthJockey.com, Inform Magazine, Innovations Report, Medical News Today, More Magazine, Nature News, New Scientist, News-Medical.net, Newswise, The People's Pharmacy, Science Daily, Science Centric, Triangle Business News

Community Engagement (representative examples)
2018 SAS Lunch and Learn: Hidden Chemicals in Every Day Products
Annually since 2014 – Participant in Brain Awareness Week activities at the North Carolina Museum of Natural Sciences
2017 "Beer Reviewed Science" public lecture series
2016 North Carolina Museum of Natural Sciences "science after dark" series for adults (fall and spring).
2016 Cary High School Science Club presentation: The Perils of Plastics
2016 NCSU EcoVillage presentation: Hidden Chemicals in Every Day Products
2016 SAS Lunch and Learn: Hidden Chemicals in Every Day Products

Media Outreach (representative selection)
I have given interviews to and been featured in numerous articles published by the New York Times, The Chicago Tribune, More Magazine, Men's Health, Shape Magazine, Time Magazine and the Triangle Business Journal. I have also given multiple US Senate briefings and met with staffers on Capitol Hill on multiple occasions to discuss issues related to Environmental Health and participated in Rally for Medical Research Day on behalf of the Endocrine Society.

2019 Will be featured in the documentary **Pretty Ugly** which focuses on chemicals in personal care products.
2018 Feature article on my BPA work in the **Huffington Post** https://www.huffingtonpost.com/entry/bpa-fda-health-study_us_5b4e2e6ce4b0b15aba894217
2018 Quoted in multiple articles about the CLARITY-BPA project and a related FDA press release regarding the safety of BPA (ex: https://www.the-scientist.com/news-opinion/a-landmark-study-on-bpa-leaves-scientists-at-odds-65004)
2018 Quoted in **Men's Health** for an article about fragrance and other unregulated chemicals in personal care products
2017 Quoted in **Science** as part of a cover story on *Rules of evidence* by Warren Cornwall; http://science.sciencemag.org/content/355/6325/564.full
2016 Quoted in an online piece for **The Today Show** about chemicals in cosmetics.
2016 Featured in the online article "Are you eating too much soy" by **Life** (http://dailyburn.com/life/health/is-soy-bad-for-you)
2015 Featured by local TV station **WRAL** in a special story about chemicals in personal care products.
2015 Interviewed for and quoted in **Shape Magazine** about the health benefits and risks of soy foods.
2014 Featured in an article about the impact of phthalates on male reproductive development for the **New York Times.**
2013 Interviewed for a piece on "natural" hormone replacement for an article in **More Magazine**
2012 Toxic Roulette, **Chicago Tribune**. My collaborative research with a colleague at Duke was featured in an award winning investigative series about the flame retardant industry and the potential health effects associated with these chemicals.

From:	Fang, Mingzhu
To:	Knott, Steven
Cc:	Fang, Mingzhu
Subject:	Nominations of Gloria B Post for TSCA Science Advisory Committee on Chemicals (EPA-HQ-OPPT-2020-0135)
Date:	Wednesday, April 15, 2020 4:18:38 PM
Attachments:	pastedImagebase640.png Gloria B Post Curriculum Vitae 4-11-20.doc Gloria B Post Biosketch 4_11_20.doc Information requested for nomination.docx

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Dear Mr. Steven M. Knott,

I am writing this letter to nominate Dr. Gloria B. Post for TSCA Science Advisory Committee on Chemicals.

Here is detailed information about nominee, Gloria Post.

Name: Gloria B. Post, Ph.D., D.A.B.T.
Email: gloria.post@dep.nj.gov
Organization: New Jersey Department of Environmental Protection
Address: Mail Code 428-01, PO Box 420, Trenton, NJ 08625-0420
Office Telephone: (609) 940-4025
Areas of Expertise: Toxicology; human health risk assessment; specific expertise on PFAS (including both legacy compounds and newer replacements) including toxicology, epidemiology, sources of exposure, biomonitoring, toxicokinetics, exposures of potentially susceptible subpopulations such as women and children, risk assessment, and environmental occurrence.

Gloria Post has been a Research Scientist in the New Jersey Department of Environmental Protection (NJDEP) Division of Science and Research since 1986. As a Diplomate of the American Board of Toxicology (DABT) since 1990, Dr. Post has contributed to the development of drinking water standards for many well-known drinking water contaminants, including volatile organics, methyl tertiary butyl ether (MTBE), arsenic, radon, perchlorate, 1,2,3-trichloropropane, and per- and polyfluoroalkyl substances (PFAS). She was a major contributor to the development of the New Jersey's drinking water Maximum Contaminant Levels (MCLs) for perfluorononanoic acid (PFNA), perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). She is the lead writer for the Human Health section of the Interstate Technology & Regulatory Council (ITRC) Technical and Regulatory Document on PFAS, a major contributor to the recent Environmental Council of the States (ECOS) white paper on states' regulatory standards for PFAS. She has been invited to give numerous presentations on PFAS as emerging environmental contaminants including at national and international scientific meetings. Dr. Post has served on several EPA Science Advisory Board panels, represented state risk assessors at the 2012 EPA Integrated Risk Information System (IRIS) Public Stakeholders Meeting, and serves as a reviewer for NIEHS grant proposals and as a member of several other advisory boards and committees.

I support Gloria Post's nomination with great enthusiasm and no reservations.

As requested, Information requested for nomination, Gloria's Biosketch, and Gloria's CV are attached.

Should you have any questions or need any more information about Gloria Post, please feel free to contact me at mingzhu.fang@dep.nj.gov.

Sincerely,

Mingzhu Fang

Mingzhu Fang, M.D., Ph.D., DABT
Chief, Bureau of Risk Analysis
Division of Science and Research
NJ Dept. of Environmental Protection
Mail Code 428-01, PO Box 420
428 East State Street, Trenton, NJ 08625-0420
Telephone: (609) 940 4082
Mingzhu.Fang@dep.nj.gov
http://www.nj.gov/dep/dsr/

Curriculum Vitae

Gloria B. Post, Ph.D., D.A.B.T.

Contact information:

Division of Science and Research
New Jersey Department of Environmental Protection
Mail Code 428-01
PO Box 420
Trenton, NJ 08625-0420

Telephone: (609) 940-4025
Email: gloria.post@dep.nj.gov

Education:

Ph.D., Pharmacology. Thomas Jefferson University, Philadelphia, PA, 1982.
Doctoral thesis topic: Effects of enzyme induction on microsomal benzene metabolism.
Advisor: Dr. Robert Snyder

A.B. with Honors. Biochemical Sciences, Princeton University, Princeton, NJ, 1977.
Senior thesis topic: On the effect of multiple copies of the oligopeptide permease gene in *E. coli.*
Advisor: Dr. Charles Gilvarg

Certification:

Diplomate of the American Board of Toxicology (since 1990, with recertifications through 2025).

Professional Experience:

Research Scientist, Division of Science and Research, New Jersey Department of Environmental Protection, Trenton, NJ (1986-present).
Provide technical support and conduct research related to toxicology and human health risk assessment of environmental contaminants.

Adjunct Instructor. College of Pharmacy, Rutgers University, Piscataway, NJ (1986-1988).
Lecturer on endocrine pharmacology and non-steroidal anti-inflammatory drugs in General Pharmacology course.

Research Associate. Department of Biochemistry. Thomas Jefferson University, Philadelphia, PA (1983-1986).
Conducted research funded by NIH grant on mechanism of benzene toxicity.

Research Associate. Department of Pharmacology. Duke University, Durham, NC (1982-1983).
Conducted research funded by NIH grant on mechanism of toxic interactions of benzo(a)pyrene and sulfur dioxide. Supervised technician and graduate student.

General Responsibilities

Development of human health criteria, standards, and guidance for drinking water, ground water, surface water, soil, and fish consumption, including risk assessment approaches, toxicological basis, and exposure assumptions.

Member (since 2006) of the New Jersey Drinking Water Quality Institute (DWQI), a legislatively established advisory body that recommends drinking water standards to NJDEP.

Provide toxicology and risk assessment support for Health Effects Subcommittee of the DWQI (since 1986). Primary author or co-author of numerous DWQI Health-based Maximum Contaminant Level Support documents posted at http://www.nj.gov/dep/watersupply/g_boards_dwqi.html

Responsible for coordination of consistent human health risk assessment approaches among NJDEP programs. Member of NJDEP Standards Coordination Committee.

NJDEP Liaison with NJDEP Science Advisory Board Public Health Standing Committee. Responsible for developing charge questions and providing scientific support for SAB issues. Liaison for SAB work on Approaches for Addressing Unregulated Contaminant in Drinking Water; Identification and Prioritization of Emerging Contaminants; Considerations for Regulation of Additional Air Toxics; Approaches for Development of Acute Health-based Criteria; Review of Scientific Basis of Proposed USEPA Perchlorate MCL.

Chair of Risk Assessment Subcommittee of New Jersey Interagency Toxics in Biota Committee which is responsible for development of New Jersey's health-based fish advisories, including PFAS, PCBs, dioxins, chlordane, and others.

Member of NJ Interagency Harmful Algal Bloom Workgroup and its Health Effects Subcommittee. Responsible for development of toxicological and exposure basis for recreational advisories for cyanotoxins.

Assist with development of NJDEP regulatory proposals related to human health-based criteria and standards and in providing responses to public comments related to health effects and risk assessment on these proposals.

Responsible for initiating, developing, and managing research projects related to toxicology and risk assessment.

Provide general toxicology and risk assessment expertise and technical support to NJDEP.

Examples of Major Past and Current Projects:

Development of risk assessment approaches for perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS), perfluorononanoic acid (PFNA) and GenX in drinking water, ground water and air.

Development and update of documents providing the toxicological and human exposure basis for New Jersey's drinking water and/or ground water standards and guidance for PFOA, PFOS, PFNA, 1,4-dioxane, volatile organic chemicals, MTBE, arsenic, ethylene glycol, perchlorate, 1,2,3-trichloropropane, boron and many other contaminants.

Lead writer for Human Health Effects Section (exposure, biomonitoring, toxicokinetics, epidemiology, toxicology) of Interstate Technology & Regulatory Committee (ITRC, 2020) PFAS Technical and Regulatory Document.

Major contributor to Environmental Council of the States (ECOS, 2020) White Paper: Processes and Considerations for Setting State PFAS Standards

Development of substantive NJDEP comments to USEPA on human health effects and risk assessment of PFAS, perchlorate and 1,4-dioxane, and to NC SAB, NHDES, PADEP, and ATSDR on PFAS.

Development of process for prioritization and review of contaminants for development of new and updated New Jersey drinking water, ground water, surface water, and soil remediation standards.

Provided technical basis for publicly available Compendium of New Jersey Environmental Standards posted at http://www.nj.gov/dep/standards/ .

Co-Principal Investigator for research project funded by the Cancer Institute of New Jersey, Estimation of Lifetime Cancer Risk from Dioxin Contamination in Commonly Consumed Fish and Crabs from New Jersey Waters.

Member of Risk Assessment Subgroup of NJDEP Chromium Workgroup which developed an oral cancer slope factor for hexavalent chromium based on the recent National Toxicology Program chronic drinking water study of this chemical.

Chair of the NJDEP MTBE Work Group that produced a comprehensive report "MTBE in New Jersey's Environment."

Member of national Solubility/Bioavailability Research Consortium formed to develop and assess in vitro approaches for determining bioavailability of metals from contaminated soils.

Member of Interagency Work Group (coordinated by USEPA) on the Toxicity of Styrene-Acrylonitrile (SAN) Trimer, a drinking water contaminant of concern in Dover Township (Toms River), New Jersey. This group provided input to the National Toxicology Program as to the design of the ongoing perinatal carcinogenicity study for the SAN Trimer and will evaluate the results of the study when it is completed.

Advisory Boards, Expert Panels, and Reviews:

Rutgers School of Public Health (2019-present). Science Advisory Board for New Jersey component of ATSDR Multisite PFAS Health Study.

NIEHS (2017-present). Ongoing participation in numerous proposal review meetings.

Connecticut Academy of Sciences & Engineering (2018-present). Member of Technical Advisory Committee for post-doctoral fellow who is evaluating emerging contaminants/PFAS at CT Dept. of Energy and Environment.

Interstate Technology & Regulatory Council (ITRC) PFAS Team (2016-present). Lead writer for Health Effects section, and member of Surface Water Criteria, Risk Communication, Risk Assessment subgroups, for Technical & Regulatory Guidance Document. Member of Regulatory Summary and Manufacturing & Use Fact Sheet subgroups.

USEPA (2018). Peer reviewer for draft Human Health Drinking Water Benchmarks for Pharmaceuticals.

NIOSH (2010; 2015). Reviewer for Skin Notation Profiles.

USEPA (2014). Peer reviewer for draft report, "Assessment of Potential Toxicity of Chemicals Present in Hydraulic Fracturing Fluids, Flowback and Produced Waters."

United States Government Accountability Office (2014). Selected as expert for report on chemical toxicity assessments conducted by Federal agencies.

Delaware River Basin Commission Toxics Criteria Subcommittee (2014-2016). Served as NJDEP representative.

New Jersey Governor's Council on the Prevention of Developmental Disabilities (2013-present). Serve as NJDEP representative.

Maine Department of Health (2013). Reviewer for drinking water Draft Maximum Contaminant Level for PFOA.

Connecticut Department of Health (2013). Reviewer for drinking water Draft Maximum Contaminant Level for Trichloroethylene.

Agency for Toxics Substances and Disease Control (2013). Reviewer for Draft Toxicological Profile for Trichloroethylene.

United States Government Accountability Office (2013). Selected as expert for report on USEPA Unregulated Contaminant Monitoring Rule and emerging drinking water contaminants.

USEPA (2012). Invited to speak as the representative of state risk assessors at IRIS Public Stakeholder Meeting.

USEPA Science Advisory Board (2010). IRIS Trichloroethylene Review. Lead writer for non-cancer dose response charge questions.

USEPA (2009-present). Reviewer for Provisional Peer Reviewed Toxicology Values.

USEPA Science Advisory Board Exposure and Human Health Science Standing Committee (2009-2015).

USEPA Office of Water (2007). Reviewer for Draft Drinking Water Health Advisories.

New Jersey Drinking Water Quality Institute and its Health Effects Subcommittee. Member (2006-present). Serve as *ex officio* representative of NJDEP Division of Science, Research and Environmental Health. Technical Support (1986-2006). Primary author of many reports and risk assessment documents.

New Jersey Commission on Cancer Research – Epidemiology, Environmental, and Control Advisory Group (1987-1992).

Federal-State Toxicology and Risk Analysis Committee (FSTRAC) (1987-present). Planning Committee member (1990-present). FSTRAC is an organization of USEPA and state scientists with responsibility for human health risk assessment drinking water and ambient water contaminants. Responsible for planning and chairing 1999 and 2009 meetings in Princeton, NJ.

Publications:

Peer-reviewed book chapters:

Post, G.B. (2015). Book chapter: Principles and approaches for human health risk assessment of environmental contaminants. In: *Toxicology and Risk Assessment, Principles and Applications.* Editors: A.M. Fan, E.M. Khan, and G.V. Alexeeff. Pan Stanford Publishing.

Post, G.B., Cohn, P.D., and Atherholt, T.A. (2011). Book Chapter: Health and Aesthetic Aspects of Water Quality. In: *Water Quality and Treatment: A Handbook of Community Water Supplies, American Water Works Association, 6th edition.* J. Edzwald, editor. McGraw-Hill, New York. 2.1-2.100.

Murphy, E.A., Post, G.B., Buckley, B.T., Lippincott, R.L., and Robson, M.G. (2012). Future challenges to protecting public health from drinking water contaminants. Annu. Rev. Public Health 33: 209-224.

Buchanan, G.A., Stern, A.H, and Post, G.B. (2005). "Fish Consumption Advisories" in Water Encyclopedia. J. Lehr, J Keeley, J. Lehr, and T.B, Kingerey III eds., John Wiley & Sons, Hoboken, NJ.

Kalf, G.F., Post, G.B., and Snyder, R. (1987). Solvent toxicology: Recent advances in the toxicology of benzene, the glycol ethers, and carbon tetrachloride. Ann. Rev. Pharmacol. Toxicol. 27: 399-427.

Peer-reviewed journal articles:

Goodrow, S.M, Ruppel, B., Lippincott, R.L., Post, G.B., Procopio, N.A. (2020). Investigation of levels of perfluoroalkyl substances in surface water, sediment and fish tissue in New Jersey, USA. Science of the Total Environment (in press).

Cooper, K.R., Gleason, J.A., Post, G.B. (2019). Letter about "Dourson et al. (2019). Data derived extrapolation factors for developmental toxicity: A preliminary research case study with perfluorooctanoate (PFOA)" Regul. Toxicol. Pharmacol. 108: 104446." Reg. Toxicol. Pharmacol. In press.

Pachkowski, B., Post, G.B., Stern, A.H. (2019). The derivation of a Reference Dose (RfD) for perfluorooctane sulfonate (PFOS) based on immune suppression. Env. Research 171: 452-469.

Post, G.B., Gleason, J.A., Cooper, K.R. (2017). Key scientific issues in developing drinking water guidelines for perfluoroalkyl acids – contaminants of emerging concern.) PLoS Biol 15(12): e2002855.

Gleason, J.A., Post, G.B, and Fagliano, J.A. (2015). Associations of perfluorinated chemicals (PFCs) serum concentrations and select biomarkers of health in the US population (NHANES), 2007-2010 Env. Research 136: 8-14.

Post, G.B., Louis, J.B., Lippincott, R.L., and Procopio, N.A. (2013). Occurrence of perfluorinated chemicals in raw water from New Jersey public drinking water systems. Env. Sci. Technol. 47: 13266-75.

Post, G.B. (2013). Review of "Grandjean, P and Budtz-Jørgensen, E. Immunotoxicity of perfluorinated alkylates: calculation of benchmark doses based on serum concentrations in children. Environ. Health. 12: 35." (Review is publicly available on journal website).

Post, G.B., Cohn, P.D., and Cooper, K.R. (2012). Perfluorooctanoic acid (PFOA), an emerging drinking water contaminant: a critical review of recent literature. Env. Res. 116: 93-117.

Post, G.B., Cooper, K.R., Louis, J.B., and Lippincott, R.L. (2009). Response to comment on "Occurrence and potential significance of perfluorooctanoic acid (PFOA) detected in New Jersey public drinking water systems." Environ. Sci. Technol. 43: 8699-8700.

Post, G.B., Louis, J.B., Cooper, K.R., Boros-Russo, B.J., and Lippincott, R.L. (2009). Occurrence and potential significance of perfluorooctanoic acid (PFOA) detected in New Jersey public drinking water systems. Environ. Sci, Technol. 43: 4547–4554.

Post, G.B. and Stern, A.H. (2006). Comments on article "Toxicity and carcinogenicity of chromium compounds in humans" by Costa and Klein. Crit. Rev. Toxicol. 36: 777-778.

Ruby, M.V., Schoof, R., Brattin, W., Goldade, M., Post, G., Harnois, M., Mosby, D., Casteel, S., Berti, W., M. Carpenter, M., Edwards, D., Cragin, D., and Chappell, W. (1999). Advances in evaluating the oral bioavailability of inorganics in soil for use in human health risk assessment. Environ. Science and Technology 33: 3697-3705.

Post, G.B., Barattta, M., Wolfson, S., and McGeorge, L. (1993). Information resources used in health risk assessment by the New Jersey Department of Environmental Protection. Access/Use Info. Resources Assess. Health Risk Chem. Expos '93.

Butler, J.P., Post, G.B., Lioy, P.J., Waldman, J.M., and Greenberg, A. (1993). Assessment of carcinogenic risk from personal exposure to benzo(a)pyrene in the Total Human Environmental Exposure Study (THEES). Air and Waste 43: 970-977.

Nessel, C.S., Butler, J.P., Post, G.B., Held, J.L., Gochfeld, M., and Gallo, M.A. (1991). Evaluation of the relative contribution of exposure routes in a health risk assessment of dioxin emissions from a municipal waste incinerator. J. Exp. Anal. Environ. Epidemiol. 1, 283-307.

Post, G.B., Snyder, R., and Kalf, G.F. (1986). Metabolism of benzene and phenol in macrophages *in vitro* and the inhibition of RNA synthesis by benzene metabolites. Cell Biology and Toxicology 2: 231-246.

Post, G.B., Snyder, R., and Kalf, G.F. (1985). Inhibition of RNA synthesis and interleukin-2 production in lymphocytes *in vitro* by benzene and its metabolites, hydroquinone and p-benzoquinone. Toxicol. Letters 29: 161-167.

Leung, K-H, Post, G.B., and Menzel, D.B. (1985). Glutathione S-sulfonate, a sulfur dioxide metabolite, as a competitive inhibitor of glutathione S-transferase, and its reduction by glutathione reductase. Toxicol. Appl. Pharmacol. 77: 388-394.

Post, G.B., Snyder, R., and Kalf, G.F. (1984). Inhibition of mRNA synthesis in rabbit bone marrow nuclei *in vitro* by quinone metabolites of benzene. Chem-Biol. Interact. 50: 203-211.

Post, G.B. and Snyder, R. (1983). Effects of enzyme induction on microsomal benzene metabolism. J. Tox. Environ. Health 11: 811-825.

Post, G.B. and Snyder, R. (1983). Fluoride stimulation of microsomal benzene metabolism. J. Tox. Environ. Health 11: 799-810.

Post, G.B., Keller, D.A., Connor, K.A., and Menzel, D.B. (1983). Effects of culture conditions on glutathione content in A549 cells. Biophys. Res. Commun. 114: 737-742.

Major Reports (in addition to numerous NJDEP and DWQI chemical-specific risk assessment reports)

Goodrow, S.M, Ruppel, B., Lippincott, L., Post, G.B. (2018). Investigation of levels of perfluorinated compounds in New Jersey fish, surface water, and sediment. New Jersey Department of Environmental Protection. Division of Science, Research, and Environmental Health. SR15-010. June 18, 2018.

Stern, A.H., Post, G.B., Buchanan, G.A., Korn, L.R., and Ruppel, B. (2010). Estimated lifetime cancer risk from dioxin contamination in commonly consumed fish and crabs from New Jersey waters. Final report submitted to Cancer Institute of New Jersey.

Toccalino, P.L., Norman, J.E., Phillips, R.H., Kauffman, L.J., Stackelberg, P.E., Nowell, L.H., Krietzman, S.J., and Post. G.B. (2004). Application of Health-Based Screening Levels to Ground-Water Quality Data in a State-Scale Pilot Effort: U.S. Geological Survey Scientific Investigations Report SIR 2004-5174.

Toccalino, P.L., Stackelberg, P.E., Kauffman, L.J., Nowell, L.H., Krietzman, S.J., and Post, G.B., (2003). Application of Health-Based Screening Levels to Ground-Water Quality Data in a State-Scale Pilot Effort [abs.]: USGS Public Health Conference: Natural Science and Public Health - Prescription for a Better Environment, April 1-3, 2003, Reston, VA, U.S. Geological Survey Open-File Report 03-097, p. 27.

Toccalino, P.L., Nowell, L.H., Wilber, W.G., Zogorski, J.S., Donohue, J.M., Eiden, C.A., Krietzman, S.J., and Post, G.B., (2003). Development of Health-Based Screening Levels for Use in State- or Local-Scale Water-Quality Assessments: U.S. Geological Survey Water Resources Investigations Report WRIR 03-4054, 22 p.

Post, G.B. (2003). Dermal Absorption of Inorganic Arsenic from Water. White paper summary. New Jersey Department of Environmental Protection. Division of Science Research and Technology. January 2003.

Post, G. (2001). MTBE in New Jersey's Environment. Report of NJDEP MTBE Workgroup, G. Post, Chair. New Jersey Department of Environmental Protection.

Invited Presentations:

Northeast Conference on the Science of PFAS (postponed until December 2020). Basis of State Drinking Water Guidelines for PFAS. Framingham, MA (to be presented).

Basis of NJDEP MCLs for PFOA, PFOS, and PFNA (January 2019). Schuykill Action Network – 2020 Water Utility Forum. Albright College, Reading, PA.

Basis of PFAS Drinking Water Guidelines Developed by New Jersey, Other States, and USEPA (January 2020). Per- & Polyfluoroalkyl (PFAS) Substances and Emerging Contaminants in the

Environment Symposium. Air & Waste Management Association - Mid-Atlantic States Section. Rutgers EcoComplex, Bordentown, NJ.

16th International Symposium on Persistent Toxic Substances (October 2019). Keynote presentation - Health Effects Basis for New Jersey Drinking Water Standards (Maximum Contaminant Levels) for PFOA, PFOS, and PFNA (keynote talk). Stevens Institute of Technology, Hoboken, NJ.

Rutgers Environmental Health Summit - What's in Our Drinking Water? (October 2019). Drinking Water Contaminants and Standards: An Overview. Newark, NJ.

Rutgers Environmental and Occupational Health Sciences Insittute NIEHS Seminar (October 2019). PFAS in New Jersey's Environment. Piscataway, NJ.

New Jersey Section American Water Works Association Fall Meeting (October 2019). State Drinking Water Guidelines for PFAS. Neptune, NJ.

SETAC North America Focused Topic Meeting on Environmental Risk Assessment of PFAS (August 2019). Risk Characterization: State Perspectives. Durham, NC.

Northeastern University Per- and Polyfluoroalkyl Substances: Second National Conference (June 2019). PFAS in New Jersey's Environment - NJDEP Evaluation and Response. Boston, MA.

Northeastern University Per- and Polyfluoroalkyl Substances: Second National Conference (June 2019). Workshop on development of state drinking water guidelines for PFAS. Boston, MA.

Defense Environmental Restoration Program (DERP) Forum. (May 2019). NJDEP Maximum Contaminant Levels (MCLs) for PFOA, PFOS & PFNA: Regulatory and Scientific Basis. Saint Louis, MO.

Hudson-Delaware Regional Chapter of SETAC Spring Meeting (April 2019). PFAS in New Jersey's Environment - NJDEP Evaluation and Response. Princeton, NJ.

NJDEP (April 2019; February 2018 - two sessions). Overview of Risk Assessment and Human Health Standards for Non-Risk Assessors. Trenton, NJ.

Rutgers University School of Public Health (April 2019; April 2020). Lecture in graduate course on Environmental Risk Assessment – "Case Study: Risk assessment of PFAS and 1,4-Dioxane in Drinking Water". Piscataway, NJ.

Federal-State Toxicology and Risk Analysis Committee – Webinar (April 2019). NJDEP Maximum Contaminant Levels (MCLs) for PFOA, PFOS & PFNA: Regulatory and Scientific Basis (webinar).

New Jersey Department of Environmental Protection (March 2019). Human Health Effects and Risk Assessment of PFAS. Division of Science and Research. Contaminants of Emerging Concern Symposium. Trenton, NJ.

ECOS PFAS Caucus (March 2019). NJDEP Maximum Contaminant Levels (MCLs) for PFOA, PFOS & PFNA: Regulatory and Scientific Basis (webinar).

Columbia University Mailman School of Public Health (January 2018; January 2019; January 2020). Lecture in graduate course on Environmental Determinants of Health – "Drinking Water Contaminants and Standards: An Overview". Bronx, NY.

New Jersey Drinking Water Quality Institute (December 2018). 1,4-Dioxane: Overview & NJDEP Ground Water Quality Criterion. Lawrenceville, NJ.

USEPA Region 3 Contaminants of Emerging Concern Workgroup (December 2018). Occurrence and Human Health Risk Assessment of PFAS in New Jersey's Environment (webinar).

Hudson-Delaware Chapter of SETAC (October 2018). Recently Adopted NJDEP Maximum Contaminant Levels for Perfluorononanoic Acid and 1,2,3-Trichloropropane. Villanova University, Villanova, PA.

Duke University Symposium on Emerging Contaminants in the Ambient Environment: Perspectives to Guide North Carolina's Per- and Polyfluoroalkyl Substances (PFAS) Monitoring Network (October 2018). Occurrence and Human Health Risk Assessment of PFAS in New Jersey's Environment. Durham, NC.

USEPA Office of Research and Development Seminar (October 2018). Occurrence and Human Health Risk Assessment of PFAS in New Jersey's Environment. Research Triangle Park, NC.

NCNJ Air & Waste Management Association (March 2018). PFCs/PFAS: Emerging Environmental Contaminants & NJDEP Update (webinar).

State/USEPA Monitoring and Assessment Program Workgroup (February 2018). PFCs/PFAS: Emerging Environmental Contaminants (webinar).

University of California at San Francisco Program on Reproductive Health and the Environment Rapid Response Network call group (January 2018). Update on PFAS in drinking water issues. (webinar).

Mid-Atlantic Society of Toxicology Symposium on Drinking Water Contaminants (October 2017). Invited presentation - Drinking Water Contaminants and Drinking Water Standards: An Overview. Edison, NJ.

New Jersey Institute of Technology (September 2017). Department of Chemistry and Environmental Science Seminar. Perfluorinated Chemicals in New Jersey Drinking Water - Occurrence and Risk Assessment. Newark, NJ.

Rider University (February 2017). Health Sciences Seminar: Evaluation of Contaminants in New Jersey Drinking Water. Lawrenceville, NJ.

New Jersey Department of Environmental Protection (December 2016). Perfluorooctanoic acid: An emerging drinking water contaminant in New Jersey: Occurrence and Risk Assessment. Division of Science, Research and Environmental Health Science Symposium. Trenton, NJ.

Bennington College Seminar (October 2016). Perfluorooctanoic acid: An emerging drinking water contaminant. Bennington, VT.

Hudson-Delaware Regional Chapter SETAC Fall Meeting. (October 2016). Occurrence and significance of perfluoroalkyl substances (PFAS) in New Jersey public drinking water systems. Sandy Hook, NJ.

Federal-State Toxicology and Risk Analysis Committee – Webinar (October 2016). New Jersey Drinking Water Quality Institute draft reports to support an MCL recommendation for PFOA.

New Jersey Drinking Water Quality Institute. (September 2016). Health-based Maximum Contaminant Level Support Document: Perfluorooctanoic Acid (PFOA) - Health Effects Subcommittee Report. Posted at http://www.nj.gov/dep/watersupply/pdf/pfoa-hb-talk.pdf Lawrenceville, NJ.

The College of New Jersey. Environmental Chemistry Course. (March 2015; March 2016; March 2018; March 2020). Introduction to drinking water quality issues. Ewing Township, NJ.

New Jersey Drinking Water Quality Institute. (September 2015). 1,2,3-Trichloropropane (1,2,3-TCP): Health effects & risk assessment. Posted at http://www.nj.gov/dep/watersupply/gminutes/dwqi-trich.pdf. Lawrenceville, NJ.

Rutgers University Office of Continuing Professional Education-Safe Drinking Water Act Regulatory Update (February 2015). Perfluorinated chemicals: Emerging drinking water contaminants. New Brunswick, NJ.

New Jersey Section American Water Works Association Fall Meeting (October 2014). Perfluorinated chemicals: Emerging drinking water contaminants. Neptune, NJ.

League of Women Voters of Camden County, Cherry Hill, NJ (September 2014). Drinking water quality in New Jersey.

New Jersey Governor's Council for Prevention of Developmental Disabilities, Hamilton, NJ (September 2014). Perfluorinated compounds in New Jersey drinking water.

National Water Monitoring Conference, Cincinnati, OH (April 2014). Perfluorinated chemicals - emerging drinking water contaminants and occurrence in New Jersey public water supplies.

New Jersey Drinking Water Quality Institute, Lawrenceville, NJ (April 2014). DEP & DWQI work to date on perfluorinated chemicals (PFCs). Posted at

New Jersey Department of Environmental Protection Office of Science Research Seminar, Trenton, NJ (April 2014). Perfluorinated chemicals: emerging drinking water contaminants.

New Jersey Partners for Prevention Statewide Summit, New Brunswick, NJ (January 2014). Prevention of developmental effects from environmental contaminants.

Federal-State Toxicology and Risk Analysis Committee – Webinar (June 2013). Health effects of perfluorinated chemicals.

Delaware River Basin Commission Toxics Advisory Committee, West Trenton, NJ (June 2013). Perfluorinated chemicals: emerging drinking water contaminants.

Princeton Chapter of the American Chemical Society Seminar, Princeton, NJ (May 2013). Perfluorooctanoic acid, an emerging drinking water contaminant.

The College of New Jersey. Environmental Chemistry Course, Ewing Township, NJ (February 2013). Perfluorinated chemicals as emerging drinking water contaminants.

USEPA. IRIS Public Stakeholder Meeting/Webinar, Crystal City, VA (November 13, 2012). Invited to speak on "State Perspectives" as representative of state risk assessors on stakeholder panel.

New Jersey DEP Office of Science, Trenton, NJ. (September 2012). Brown Bag Seminar: PFOA, an emerging drinking water contaminant.

Robert Wood Johnson Medical School-University of Medicine and Dentistry of New Jersey, Medical Student Course on Clinical Prevention and Environmental Medicine, Piscataway, NJ. (February 2011). Current issues in regulation of drinking water contaminants.

New Jersey DEP Science Advisory Board Public Health Standing Committee, Trenton, NJ (October 2010). Development of New Jersey human health-based criteria and standards.

Federal-State Toxicology and Risk Analysis Committee, Arlington, VA (October 2010). Update on perfluorinated chemicals.

Federal-State Toxicology and Risk Analysis Committee, Princeton, NJ (October 2009). New and Revised New Jersey Health-based MCLs.

Federal-State Toxicology and Risk Analysis Committee, Princeton, NJ (October 2009). Co-presenter with H. Goeden). Derivation of health-based guidance for PFOA, PFBA, PFBS, and PFHxS.

American Water Works Association New Jersey Section Fall Meeting. PFOA: Health Effects. October 7, 2009. Columbus, NJ.

New Jersey Section American Water Works Association Fall Meeting, Lakewood, NJ. (October 2008). Krietzman, S. and Post, G. Perfluorooctanoic acid (PFOA) in drinking water.

Federal-State Toxicology and Risk Analysis Committee, Arlington, VA. (October 2008). Compilation of state drinking water standards and guidelines on HSDB/TOXNET**.**

Federal-State Toxicology and Risk Analysis Committee, Arlington, VA. (October 2008). New Jersey's health-based guidance in the absence of toxicity data.

Federal-State Toxicology and Risk Analysis Committee, Durham, NC. (October 2007). Update on chromium risk assessment in New Jersey.

Federal-State Toxicology and Risk Analysis Committee, Durham, NC (October 2007). New Jersey health-based drinking water guidance for PFOA.

Federal-State Toxicology and Risk Analysis Committee, Clearwater, FL (October 2006). Update on New Jersey's chromium risk assessment activities.

Federal-State Toxicology and Risk Analysis Committee, Clearwater, FL (October 2006). Occurrence of PFOA in public water supplies in New Jersey.

Federal-State Toxicology and Risk Analysis Committee, Washington, DC (October 2005). New Jersey proposed Health-based Maximum Contaminant Level for perchlorate.

New Jersey Science Education Leadership Association Meeting, New Brunswick, NJ (2004). Human health concerns and the environment.

Federal-State Toxicology and Risk Analysis Committee (October 2004). Approaches for development of a human health-based ground water quality criterion for PFOA in New Jersey.

UMDNJ School of Public Health, Graduate course in Environmental Risk Assessment (2004). Toxicology and risk assessment of dioxin.

Federal-State Toxicology and Risk Analysis Committee, Madison, WI (2003). Occurrence of unregulated contaminants in surface water, ground water, and public drinking water supplies in New Jersey.

Federal-State Toxicology and Risk Analysis Committee, Washington, DC. (2003). Understanding New Jersey Private Well Testing Act results.

New Jersey Water Environment Association (2003). Emerging environmental health and ecological issues in New Jersey.

NJDEP Division of Science, Research, and Technology Research Seminar, Trenton, NJ. (2003). Preliminary assessment of health information on unregulated synthetic organic contaminants detected in ground water samples.

Federal-State Toxicology and Risk Analysis Committee, Albany, NY (October 2002). Unified risk assessment approach for possible human carcinogens.

New Jersey American Water Works Association Annual Meeting, Atlantic City, NJ (2001). Drinking water research programs at New Jersey Department of Environmental Protection.

Federal-State Toxicology and Risk Analysis Committee, Durham, NC (November 2000). New Jersey human health and drinking water research.

Federal-State Toxicology and Risk Analysis Committee, Princeton, NJ (May 1999). Approaches for developing health-based ground water criteria in the absence of sufficient toxicological data, with styrene acrylonitrile trimer as the example discussed.

Federal-State Toxicology and Risk Analysis Committee, Arlington, VA. (December 1998). State approaches for MTBE risk assessment.

Federal-State Toxicology and Risk Analysis Committee, Albany, NY (December 1993). Exposure considerations for human health-based ambient water quality standards.

Federal-State Toxicology and Risk Analysis Committee, Albany, NY (Ma 1993). Development of New Jersey drinking water standard for MTBE.

Graduate Program in Environmental Sciences, New Jersey Institute of Technology (1990). Risk assessment and the development of health-based drinking water standards.

Hudson/Delaware SETAC Regional Meeting, New Brunswick, NJ (1989). Human health risk assessment for swimmers near the Ciba-Geigy ocean outfall.

Dept. of Environmental and Community Medicine, UMDNJ-Robert Wood Johnson Medical School, Human Exposure Assessment course (1988). Development and use of biological markers in exposure assessment.

Poster and platform presentations:

Post, G.B., Pachkowski, B., Gleason, J.A. (2020). Northeast Conference on the Science of PFAS. Basis of State Drinking Water Guidelines for PFAS. Framingham, MA (postponed until December 2020).

Post, G.B., Pachkowski, B., Gleason, J.A. (2019). New Jersey Maximum Contaminant Levels for PFOA, PFOS, and PFNA. SETAC North America Focused Topic Meeting – Environmental Risk Assessment of PFAS. August 12-15, 2019. Durham, NC.

Goodrow, S.M., Ruppel, B., Lippincott, L., Post, G.B. (2019). Statewide screening study of perfluorinated compounds in New Jersey fish, surface water, and sediment. SETAC North America Focused Topic Meeting – Environmental Risk Assessment of PFAS. August 12-15, 2019. Durham, NC.

Post, G.B. and Gleason, J.A. (2015). Risk assessment of chronic drinking water exposure to perfluorononanoic acid (PFNA). FLUOROS 2015 - An International Symposium on Fluorinated Organics in the Environment. July 12-14, 2015. Golden, Colorado.

Post, G.B. and Cohn, P.D. (2010). Risk assessment basis for new and updated New Jersey drinking water Health-based Maximum Contaminant Level recommendations. Annual Meeting of the Society of Toxicology, Salt Lake City, Utah. Abstract #2321 (Late Breaking Abstract).

Stern, A.H. and Post, G.B. (2010). Assessment of the oral cancer potency of hexavalent chromium (Cr+6). The Toxicologist 114(1): 413.

Post, G.B., Cooper, K.R., and Boros-Russo, B.J. (2009). PFOA in New Jersey drinking water: Occurrence, exposure significance, and health-based guidance. The Toxicologist 108 (1): 171.

Post, G.B. (2008). Development of health-based drinking water guidance for PFOA. PFAA Days II – Recent Advances in Perfluoroalkly Acid (PFAA) Research. June 3-4, 2008. USEPA – Research Triangle Park, NC.

Post, G. B, Boros-Russo, B., and Fell, K. (2007). PFOA in public water supplies may contribute to exposure of the general population. Society of Toxicology Contemporary Concepts in Toxicology: Perfluoroalkyl Acids and Related Chemistries – Toxicokinetics and Mode of Action. Feb. 14-16, 2007. Arlington, VA.

Post, G.B. and Cohn, P. (2006). Development of a human health-based Maximum Contaminant Level for perchlorate. The Toxicologist 90(1): 329.

Toccalino, P.L., Nowell, L.H., Ayers, M.A., Donohue, J.M., Krietzman, S.J., and Post, G.B. (2002). , Communicating U.S. Geological Survey Water-Quality Data Using Health-Based Screening Levels. National Water Quality Monitoring Council, National Monitoring Conference Proceedings, May 20-23, 2002, Madison, WI. Abstract No. 165.

Ledoux, T. and Post, G. (2000). Development of a human health-based groundwater criterion for tertiary-butyl alcohol. The Toxicologist 54(1): 420.

Nessel, C.S., Amoruso, M.A., Umbreit, T.R., Meeker, R.J., Post, G.B., and Gallo, M.A. (1991). Pulmonary absorption and bioavailability of TCDD following the intratracheal instillation of conaminated soil. The Toxicologist 11, 194.

Witmer, C., Cooper, K., Jowa, L., and Post, G. (1990). Oral toxicity of trans-1, 2-dichloroethylene and 1,1,1-trichloroethane given alone or in combination to rats. The Toxicologist 10. 51.

Nessel, C.S., Amoruso, M.A., Umbreit, T.H., Meeker, R.J., Post, G.B., and Gallo, M.A. (1990). Effect of contact time and matrix type on the transpulmonary absorption of TCDD from laboratory-contaminated fly ash and gallium oxide. The Toxicologist 10, 309.

Meyer, L.W., Russell, D., Louis, J.B., Jowa, L., Post, G., and Sanders, P. (1990). Assessment of a New Jersey lake contaminated with fenamiphos. Proceedings of the Third National Research Conference, Pesticides in the Next Decade: The Challenges Ahead. Nov. 8-9, 1990. Richmond, VA.

Louis, J.B., Post, G.B., Robson, M.G., Mattern, G.C., Liu, C-H, and Rosen, J.D. (1990). Pesticide residues measured in fruits and vegetables. Proceedings of the Third National Research Conference, Pesticides in the Next Decade: The Challenges Ahead. Nov. 8-9, 1990. Richmond, VA.

Louis, J.B., Meyer, R.W., Post, G.B., Robson, M.G., Mattern, G.C., Liu, C-H, and Rosen, J.D. (1990). Pesticide residues measured in fruits and vegetables. American Chemical Society Special Conference IV. Pesticide Residues and Food Safety, Point Clear, Alabama, January 1990.

Jowa, L., Post, G., Sun, T-J, Ledoux, T., and McGeorge, L. (1990). Development of short term action levels (STALS) for drinking water contaminants in New Jersey. The Toxicologist 10, 226.

McGeorge, L., Jowa, L., Post, G., and Oxenford, J. (1989). New Jersey's approach to the development of Maximum Contaminant Levels in potable water. Proceedings of the 1990 Annual Meeting of the American Water Works Association.

Post, G., Butler, J., Santella, R., Lioy, P., Waldman, J., Gochfeld, M., and Greenberg, A. (1989). Evaluation of blood DNA adduct levels in a study of total human exposure to benzo(a)pyrene. Environmental Mutagen Society Symposium on Human Population Monitoring, Galveston, Texas. July 1989.

Post, G., Butler, J., Santella, R., Lioy, P., Waldman, J., Gochfeld, M., and Greenberg, A. (1988). Integration of biological monitoring into a study of total exposure of benzo(a)pyrene. SETAC 9th Annual Meeting.

Louis, J., Robson, M., Post, G., Rosen, J., Mattern, G., and Liu, C-H (1988). Dietary exposure to pesticide residues in food. SETAC 9th Annual Meeting.

Jowa, L., Post, G., Berger, D., and McGeorge, L. (1987). Development of health-based drinking water standards for the state of New Jersey. SETAC 8th Annual Meeting.

Jowa, L., Post, G.B., and McGeorge, L.J. (1987). Risk assessment approaches to drinking water contaminants in New Jersey: Applicability to standards for air toxics. Air Pollution Control Assoc. Proceedings 80.

Kalf, G., Post, G., and Snyder, R. (1985). Inhibition of RNA synthesis in macrophages *in vitro* by benzene. Federation Proceedings 44, 1704.

Post, G.B., Snyder, R., and Kalf, G.F. (1984). Benzene metabolites inhibit mRNA synthesis in rabbit bone marrow nuclei. Federation Proceedings 43, 762.

Leung, K-H, Post, G.B., and Menzel, D.B. (1984). Effects of glutathione S-sulfonate on the hepatic and pulmonary glutathione S-transferases and glutathione reductases in the rat. The Toxicologist 4, 59.

Snyder, R., Post, G., Gilmour, S., and Griffiths, J. (1983). Recent studies on microsomal benzene metabolism. Collegium Ramazini International Conference on Benzene, New York.

Post, G.B., Keller, D.A., and Menzel, D.B. (1983). Effects of growth time and serum concentration on glutathione concentration in A549 cells. Federation Proceedings 42, 370.

Post, G.B. and Snyder, R. (1982). Characteristics of microsomal benzene metabolism. Federation Proceedings 411, 1637.

Post, G.B. and Snyder, R. (1982). Effects of fluoride on microsomal benzene metabolism. The Toxicologist 2, 66.

Post, G.B. and Snyder, R. (1981). Effects of fluoride on benzene metabolism *in vitro*. Mid-Atlantic Society of Toxicology Spring Symposium. Abstract 5.

Professional Affiliations and Activities:

Society of Toxicology (1984-present).
- Full Member (1989-present).
- Member of Risk Assessment Specialty Section, Occupational and Public Health Specialty Section, and Women in Toxicology Special Interest Group.

Mid-Atlantic Society of Toxicology (from its founding in 1981-present).
- Secretary (2010-2013.)
- Program Committee (1988-1992; 2002-2016).
- Education and Outreach Committee (2009-present; Co-chair: 2017-present).

Hudson-Delaware Chapter Society of Environmental Toxicology and Chemistry (2016-present).

International Society of Exposure Science (2020-present).

Sigma Xi, Thomas Jefferson University Chapter (1981-present).

Awards:

Gail P. Carter Memorial Science Award (2010 and 2014).
First (2010) and 2014 recipient of annual award which recognizes a NJDEP Office of Science scientist who has made major contribution to environmental science and/or has used their scientific expertise to significantly improve New Jersey's environment or guide NJDEP policy.

New Jersey American Water Works Association Research & Technology Transfer Committee
Drinking Water Research Award (2014).
Presented annually to an individual who has made important contributions to drinking water research and /or technology transfer for an extended period of time.

Journal Peer Reviewer:

Environmental Health
Environment International
Environmental Pollution
Environmental Research
Environmental Science & Technology
Environmental Science & Technology Letters
Food and Chemical Toxicology
Human and Ecological Risk Assessment
International Journal of Hygiene and Environmental Health
Journal of Environmental Chemical Engineering
Journal of Environmental Monitoring
Journal of Exposure Science and Environmental Epidemiology
Molecular and Cellular Endocrinology
Regulatory Toxicology and Pharmacology
Science of the Total Environment
Soil and Sediment Contamination
Toxicology and Applied Pharmacology

Doctoral Thesis Committee Member:

James Karaszkiewicz, Biochemistry, Thomas Jefferson University
Craig Nessel, UMDNJ School of Public Health
Diann Blansett, UMDNJ School of Public Health

Masters in Public Health Fieldwork Supervisor

Dawn Marling, Rutgers University

Expert Witness:

Toxicology, Grand Jury for Passaic County, NJ Prosecutor's Office in criminal case involving environmental contamination (1997).

Biosketch – Gloria B. Post, Ph.D., D.A.B.T.

Gloria Post has been a Research Scientist in the New Jersey Department of Environmental Protection (NJDEP) Division of Science and Research since 1986. Her responsibilities include development of standards and guidelines for contaminants in environmental media (drinking water, groundwater, surface water, fish, soil and air) and toxicology support for NJDEP programs. Since 2006, she has been a member of the New Jersey Drinking Water Quality Institute, an advisory body established by New Jersey law to recommend drinking water standards to NJDEP. Dr. Post has contributed to the human health basis of drinking water standards for many well-known drinking water contaminants including volatile organics, methyl tertiary butyl ether (MTBE), arsenic, radon, perchlorate, 1,2,3-trichloropropane, and per- and polyfluoroalkyl substances (PFAS). She is the first author of the chapter on "Health and Aesthetic Effects of Drinking Water Contaminants" in the current edition of the American Water Works Association *Handbook of Water Quality & Treatment* used by drinking water treatment plant personnel.

Dr. Post and her colleagues have focused on the evaluation of PFAS in drinking water for over 15 years, and she is the first author of four, and co-author of three, publications on this topic. She was a major contributor to the human health risk assessments used as the basis for New Jersey's drinking water Maximum Contaminant Levels (MCLs) for perfluorononanoic acid (PFNA), perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). She is the lead writer for the Human Health section of the Interstate Technology & Regulatory Council (ITRC) Technical and Regulatory Document on PFAS, a major contributor to the recent Environmental Council of the States (ECOS) white paper on states' regulatory standards for PFAS, and has been invited to give numerous presentations on PFAS as emerging environmental contaminants including at national and international scientific meetings.

Dr. Post has served on several EPA Science Advisory Board panels, represented state risk assessors at the 2012 EPA Integrated Risk Information System (IRIS) Public Stakeholders Meeting, and serves as a reviewer for NIEHS grant proposals and as a member of several other advisory boards and committees. She also represents NJDEP on the New Jersey Governor's Council for Prevention of Developmental Disabilities. She has been a Diplomate of the American Board of Toxicology since 1990 and a Society of Toxicology (SOT) member since 1984. She is a founding member of the SOT Mid-Atlantic Regional Chapter and has served it as an officer and on various committees.

Dr. Post holds an A.B. with honors in Biochemical Sciences from Princeton University, a Ph.D. in Pharmacology from Thomas Jefferson University, and she did post-doctoral research at Duke University.

In 2010, she was the first recipient of the NJDEP Gail P. Carter Memorial Award for a major contribution to environmental science and/or use of scientific expertise to improve New Jersey's environment. In 2014, she received the New Jersey Section of the American Water Works Association annual award for ongoing contributions to drinking water research.

Information requested for nomination:

From Federal Register Notice: To be considered, all nominations should include the following information:

- Current contact information for the nominee (including the nominee's name, organization, current business address, email address, and daytime telephone number); the disciplinary and specific areas of expertise of the nominee (BELOW)

- The nominee's curriculum vitae (ATTACHED)

- Biographical sketch of the nominee indicating current position, educational background, research activities, and recent service on other federal advisory committees and national or international professional organizations (ATTACHED)

Name: Gloria B. Post, Ph.D., D.A.B.T.

Email: gloria.post@dep.nj.gov

Organization: New Jersey Department of Environmental Protection

Address: Mail Code 428-01, PO Box 420, Trenton, NJ 08625-0420

Office Telephone: (609) 940-4025

Areas of Expertise: Toxicology; human health risk assessment; specific expertise on PFAS (including both legacy compounds and newer replacements) including toxicology, epidemiology, sources of exposure, biomonitoring, toxicokinetics, exposures of potentially susceptible subpopulations such as women and children, risk assessment, and environmental occurrence.

University of Pittsburgh

Aaron Barchowsky, Ph.D.
Professor
Department of Environmental and Occupational Health
Graduate School of Public Health

Public Health 4133
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Phone: 412 624-8864
Fax: 412 624-9361
Email: aab20@pitt.edu

April 15, 2020

Dr. Ronald N. Hines
President
Society of Toxicology
11190 Sunrise Valley Drive, Suite 300
Reston VA 20191

RE: Nomination for the Toxic Substances Control Act Scientific Advisory Committee on Chemicals

Dear Dr. Hines,

I am honored that the Society of Toxicology would like to nominate me to serve on the Toxic Substances Control Act (TSCA) Scientific Advisory Committee on Chemicals (SACC). I believe that I have relevant expertise in chemical toxicology, pathology, epidemiology, and risk assessment, as well as in chemical exposures to susceptible populations that will be required to serve effectively. I have provided a brief biosketch of my background, past and current research activities, and service to federal, national, and international advisory committees relevant to the SACC, as well as a full academic CV. Please let me know if I need to provide any additional information.

Again thank you and SOT for this nomination.

Best Regards,

Aaron Barchowsky, Ph.D.

Attachments:
Biosketch
Full Academic CV

Name: Aaron Barchowsky

Organization Affiliation: University of Pittsburgh School of Public Health

Business Address: Department of Environmental and Occupational Health
University of Pittsburgh
Public Health 4133
Pittsburgh, PA 15261

Email: aab20@pitt.edu

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Aaron Barchowsky, Ph.D. Biosketch:

Dr. Barchowsky is currently a tenured Professor in the Department of Environmental and Occupational Health in the University of Pittsburgh Graduate School of Public Health with a secondary appointment in the Department of Pharmacology and Chemical Biology. He received his Ph.D. in Pharmacology from Duke University in 1985 and postdoctoral training in the Duke University Toxicology Training program from 1985-1988. He served on the faculty in the Division of Clinical Pharmacology at Thomas Jefferson University (1988-1991) where he directed the Laboratory of Investigative Medicine and conducted Phase 1 trials of novel pharmaceutical agents. He then joined the faculty of the Department of Pharmacology and Toxicology at Dartmouth Medical School (1991-2003) where he sustained an NIH-supported research program investigating mechanisms of cardiovascular and pulmonary toxicity from environmental and occupational metals exposures. He was a lead investigator in the Dartmouth Superfund Research Program investigating mechanisms of cardiovascular disease caused by arsenic in drinking water. In 2003, he joined the faculty at the University of Pittsburgh where has directed courses in environmental health and disease, as well as lectured in toxicology and pharmacology courses. He has continued his NIH-funded research in mechanisms of arsenic-promoted diseases. He served on numerous NIH, NSF, NRC, and EPA scientific review panels and advisory boards. This includes the EPA Scientific Advisory Board Arsenic Special Emphasis Panel (2005-2009) and the National Academies of Science, NRC Committee on the framework for evaluating the safety of dietary supplements (2002). He served on (2013-2019) and chaired (2016-2019) the NRC Committee on Inorganic Arsenic that oversees the EPA revision of the arsenic IRIS. He also served on the WHO Chemicals and Toxins Task Force of FERG (2012-2015) and published risk assessment for FERG on the global burden of cancers and cardiovascular disease from arsenic in food. He has served in a number of leadership roles in the Society of Toxicology, including Councilor (2014-2017) and Council Liaison to the SOT TSCA Task Force.

Last Revised: 4/10/2020

CURRICULUM VITAE

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EDUCATION AND TRAINING

Undergraduate

1974-1978	North Carolina State University, Raleigh, NC	BS, 1978	Zoology

Graduate

1980-1985	Duke University, Durham, NC	Ph.D., 1985	Pharmacology

Post-Graduate

1985-1988	Duke University, Durham, NC	Fellowship	Toxicology Training Program, Richard Whorton, Ph.D.

APPOINTMENTS AND POSITIONS

ACADEMIC:

2010-	Professor	Department of Environmental and Occupational Health, Graduate School of Public Health, University of Pittsburgh
2010-	Professor (secondary)	Department of Pharmacology and Chemical Biology, School of Medicine, University of Pittsburgh
2011-	Faculty	Vascular Medicine Institute, University of Pittsburgh
2003-2010	Associate Professor	Department of Environmental and Occupational Health, Graduate School of Public Health, University of Pittsburgh
2005-	Associate Professor (secondary)	Department of Pharmacology and Chemical Biology, School of Medicine, University of Pittsburgh
1998-2003	Associate Professor	Department of Pharmacology and Toxicology, Dartmouth Medical School, Hanover, NH

1991-1998	Assistant Professor	Department of Pharmacology and Toxicology, Dartmouth Medical School, Hanover, NH
1988-1991	Research Assistant Professor	Division of Clinical Pharmacology, Thomas Jefferson Medical School, Philadelphia, PA
1988-1991	Assistant Professor (secondary)	Department of Pharmacology, Thomas Jefferson Medical School, Philadelphia, PA
1988	Medical Research Associate	Department of Medicine, Duke University, Durham, NC

NON-ACADEMIC

2014-2017	Councilor	Society of Toxicology
2012-2015	Member, External Advisory Committee	Superfund Research Program, University of Arizona
2002-2008	Member, External Advisory Committee	Center for Environmental Sciences, University of Montana-Missoula
2005-2008	Chair, External Advisory Committee	Center for Environmental Sciences, University of Montana-Missoula
2000-2002	Chair	Radiation Safety Committee, Dartmouth College.
2000-2003	Head, Molecular Biology Core	Center for Environmental Health Sciences, Dartmouth College, Hanover, NH.
1991-2003	Member, Molecular Therapeutics Program	Norris Cotton Cancer Center, Dartmouth Medical School, Hanover, NH.
1991-1994	Clinical Trial Design Consultant	Hoechst Marion Roussel (Marion Merrell Dow), Kansas City, MO.
1988-1991	Head, Laboratory for Investigative Medicine	Division of Clinical Pharmacology, Thomas Jefferson University, Philadelphia, PA
1988-1991	Clinical Trial Design Consultant	Merck Sharp and Dohme Research Laboratories, West Point, PA.

MEMBERSHIP IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

1995- present	North American Vascular Biology Organization (American Society for Investigative Pathology)
2001-present	American Physiological Society
1994-present	Society for Redox Biology and Medicine
2001-present	Society of Toxicology (member, Education Committee 2008-2011, Metals Specialty Section President 2010-2011, member, Communications Committee 2013-2014, Councilor 2014-2017, and Allegheny-Erie Chapter, Society of Toxicology (Vice President 2005-2015, Presidential chain 2017-2020)

Honors

2005	Best Paper of the Year in Toxicological Sciences, Society of Toxicology
2016	National Institute of Environmental Health Science top publication from research funded grants.
2018	James L. Craig Award for Teaching Excellence, Graduate School of Public Health.

PROFESSIONAL ACTIVITIES

1. Teaching
a. Courses Taught

University of Pittsburgh:

Years	Course Number: Title	Hours of lecture, credits, average enrollment	Primary Instructor
2019-	NUR 1227 Community Health Nursing	2, 3, 15	Kregg-Byers
2018-	PUBHLT 2025 Concepts and Methods in Global Health	1, 2, 30	Russell
2018	MED 5222 MS-2 Digestion and Nutrition	1,?, 100	Landau
2019-	EOH 2013 Environmental Health and Disease	12, 2, 100	Barchowsky
2007-2019	EOH 2013 Environmental Health and Disease	12, 3, 115	Barchowsky
2009-2013	MED 5224 MS-2 Medical Pharmacology	6,?, 100	Defranco
2013-2016	MED 5115 Cellular and Pathologic Basis of Disease	3, 3, 100	Defranco
2009-2015	MED 5217 Cardiology	2, ?, 12	Defranco
2007-2014	MED 5222 MS-2 Digestion and Nutrition	2,?, 100	Duker
2009-	EOH 2180 Introduction to risk assessment	1.5, 3, 15	Fabisiak
2008-	EOH 2022 Pathophysiology	3, 3, 8	Delouches
2008-	EOH 2310 Molecular Fundamentals of Environmental Health	3, 3, 8	Opresko
2008	EOH 2304 Biomarkers and Molecular Epidemiology.	3,2,6	Ragin
2007-2015	MS-2 Medical School Pharmacology Course: Neuropharmacology Workshop	3,?, 10	Defranco
2007-2017	EOH 2504 Principles of Environmental Exposure	1.5, 3, 13	Clougherty
2008-2016	EPI 2220 Environmental Epidemiology	1.0, 3, 10	Talbott
2006-	EOH 2175 Principles of Toxicology (dermal toxicology)	1,3, 12	Fabiziak
2006-	MSCMP 3750 Angiogenesis: Molecular Pathways and Physiological Functions	6, 3, 7	Mars
2004- 2007	EOH 2012: Health, Disease, and Environment II	6,1, 110	Barchowsky

2004- 2005	EOH 2309 Bioorganic Toxicology	2, 2, 6	Pitt
2005	EOH 2308 Model Systems	6, 2, 6	Stripp
2004, 2006	EPI 2220: Environmental Epidemiology	1,2,10	Talbott
2004	PA-0101: Introduction to Public Health	2,2,30 undergraduate	Bradford Campus:

c. Graduate Student Essays, Theses, and Dissertations

University of Pittsburgh

Adam C. Straub, 2008, Ph.D. Environmental Health Sciences. Thesis Research: Mechanisms for arsenic-stimulated sinusoidal cell capillarization. Present position: Assistant Professor, Department of Pharmacology and Chemical Biology, University of Pittsburgh.

Antonia A. Nemec, 2009, Ph.D. Environmental Health Sciences. Thesis Research: Signaling mechanisms of chromium regulation of protective pulmonary gene inducibility. Present position: Assistant Professor, Florida State University.

Diana Yesica Garciafigueroa, 2013, Ph.D. Environmental Health Sciences. Thesis Research: Receptor cross talk in arsenic-impaired fat metabolism. Present position: Research Associate, Allegheny Health System.

Shilpi Oberoi: 2014, Ph.D. Environmental Health Sciences. Thesis Research: Estimating the Global Burden of Disease caused by Arsenic in Food.

Amin Cheikhi: 2017, Ph.D. Environmental Health Sciences. Thesis Research: Power laws govern mitochondrial optimization of inheritable cellular memory and fate decisions. Present Position: Postdoctoral Fellow, McGowan Institute, University of Pittsburgh.

Teresa Anguiano, 2013-2020, Predoctoral Fellow, Environmental Health Sciences. Thesis Research: Mechanisms of arsenic-impaired stem cell function.

Amrita Sahu, 2016-2019, Environmental Health Sciences. Thesis Research: Klotho: A Paracrine Mediator of Skeletal Muscle Regeneration. Postdoctoral Fellow, University of Pittsburgh.

Dartmouth Medical School

Melinda. D. Treadwell, 1996, Ph.D. Pharmacology. Thesis Research: Activation of vascular endothelial cells in response to mineral fibers. Present Position: President, Keene State College, NH.

Jennifer A. Shumilla, 1999, Ph.D. Chemistry. Thesis Research: Mechanisms for inhibition of cytokine-induced lung epithelial cell gene expression by chromium. Senior Manager, Development Sciences, Genentech, San Francisco, CA

MJR Robert R. Roussel, 2000, Ph.D. Pharmacology. Thesis Research: Dose dependent effects of sodium arsenite on NF-κB and interleukin-8 in bronchial epithelial cells. Present Position: Deputy Commander, US Army Research Institute of Environmental Medicine.

Angeline S. Andrew, 2001, Ph.D. Pharmacology and Toxicology. Thesis Research: Mechanisms for regulation of lung epithelial cell fibrinolysis and cytokine expression by nickel. Present Position: Assistant Professor, Dartmouth Medical School, Dept of Epidemiology.

Nicole V. Soucy, 2003, Ph.D. Pharmacology and Toxicology. Thesis Research: Mechanisms of arsenite-induced vascular disease. Present Position: Advanced Toxicology Specialist, 3M Corporation, St. Paul, MN

Kimberly A. O'Hara, 2004, Ph.D. Pharmacology and Toxicology. Thesis Research: Signaling mechanisms for chromium-induced gene activation in pulmonary epithelial cells. Present Position: Lecturer, University of Manitoba, Winnipeg, Canada

d. Student Awards and Honors.

1995	Melinda D. Treadwell	Young Investigator Award, Oxygen Society
1999	Angeline S. Andrew	First Prize, Best Graduate Student Poster Award, Northeast Society of Toxicology
2000	Angeline S. Andrew	Third Annual Karen Wetterhahn Award, Superfund Basic Research Program, National Institute of Environmental Health Sciences.
2000	Angeline S. Andrew	Outstanding Scientific Presentation Award, Oxygen Society
2000	Angeline S. Andrew	Environmental Carcinogenesis Conference Poster Award, Vermont Cancer Center
2000	Angeline S. Andrew	Travel Award - 2000 Conference on Hazardous Waste Research, National Institute of Environmental Health Sciences
2001	Nicole V. Soucy	Young Investigator Award, Oxygen Society
2002	Nicole V. Soucy	Third Place, Metals Specialty Section
2005	Nicole V. Soucy	Best Paper of the Year (2004) in *Toxicological Sciences*, Society of Toxicology
2002	Kimberley A. O'Hara	Travel Award, Society of Toxicology
2002	Kimberley A. O'Hara	Honorable Mention, Carl C. Smith Graduate Student Award, Mechanisms Specialty Section, Society of Toxicology
2002	Kimberley A. O'Hara	Young Investigator Award, Oxygen Society
2003	Kimberley A. O'Hara	Third Place, Student Abstract Award, New England Pharmacologists
2003	Kimberley A. O'Hara	Taylor & Francis Graduate Student Award, Metals Specialty Section, Society of Toxicology
2004	Kimberley A. O'Hara	Young Investigator Award, Society for Free Radical Biology and Medicine
2005 - 2008	Adam C. Straub	STAR Fellowship award, Environmental Protection Agency
2006	Antonia A Nemec	Allegheny-Erie Society of Toxicology Travel Award
2006	Adam C. Straub	Keleti Prize for Excellence in Environmental Health
2006	Adam C. Straub	Best Poster, Allegheny-Erie Regional Chapter of the Society of Toxicology annual meeting.
2006	Adam C. Straub	Outstanding student in the field of environmental public health. National Center for Environmental Health and the Agency for Toxic Substances and Disease Registry (NCEH/ATSDR).
2006	Harina Vin	MaryAnne Stock Student Research Award, Allegheny-Erie Regional Chapter of the Society of Toxicology
2008	Adam C. Straub	First Place, Doctoral Student Award, Dean's Day, Graduate School of Public Health. University of Pittsburgh.
2008	Adam C. Straub	Rosenkranz Award for Public Health Significance of Research, Dean's Day, Graduate School of Public Health. University of Pittsburgh.

2008	Antonia A. Nemec	Keleti Award for Excellence in Environmental Health. Dean's Day, Graduate School of Public Health. University of Pittsburgh.
2008	Adam C. Straub	First Place, Society of Toxicology Metals Specialty Section Student Award.
2008	Antonia A. Nemec	Third Place, Society of Toxicology Metals Specialty Section Student Research Award.
2009	Antonia A. Nemec	Third Place, Society of Toxicology Metals Specialty Section Student Research Award.
2009	Antonia A. Nemec	Best Research Presentation, Allegheny & Eric Regional Chapter of the Society of Toxicology.
2012	Yesica Garciafigueroa	Mary Anne Stock Student Research Award, Allegheny-Erie Regional Chapter of the Society of Toxicology
2013	Yesica Garciafigueroa	Second Place, Society of Toxicology Metals Specialty Section Student Research Award.
2013	Shilpi Oberoi	Second Place, Dean's Day Poster Award
2015	Amin Cheikhi	First Place, Society of Toxicology Metals Specialty Section Student Award.
2017	Teresa Anguiano	Mary Anne Stock Student Research Award, Allegheny-Erie Regional Chapter of the Society of Toxicology
2018	Teresa Anguiano	Society of Toxicology, Hispanic Organization of Toxicology Graduate Student Research award.

e. Service on Comprehensive Examination Committees

Dates Served	Student Population	Type of Exam/ Number of Questions
2004	1 student Infectious Diseases and Microbiology	Ph.D. Preliminary examination
2006	2 students, 1 Molecular Toxicology, 1 Pharmacology	Ph.D. Preliminary examination, Comprehensive Exams, Dissertation Defense
2007	2 students, Environmental and Occupational Health	Ph.D. Preliminary examinations
2008-2009	2 students: Environmental and Occupational Health	Dissertation Defense
2011-2012	3 students: 2 Environmental and Occupational Health, 1 Pharmacology and Chemical Biology	Ph.D. Preliminary examination, Comprehensive examination
2013-2014	5 students: 2 Environmental and Occupational Health, 3 School of Engineering	Ph.D. Preliminary and Comprehensive Exams

Dates Served	Student Population	Type of Exam/ Number of Questions
2014-2015	7 students: 2 Environmental and Occupational Health, 4 School of Engineering, 1 Pharmacology and Chemical Biology	Thesis research committees, Comprehensive examinations, Dissertation Defense.
2014-2015	4 students: 2 Environmental and Occupational Health, 2 Infectious Disease and Microbiology	Ph.D preliminary and comprehensive examinations, MPH thesis examination
2015-2016	7 students: 3 Environmental and Occupational Health, 4 School of Engineering	Ph.D. preliminary examination, Dissertation Defense
2016-2017	6 students: 4 Environmental and Occupational Health, 2 School of Engineering.	Ph.D. preliminary examination, Dissertation Defense
2017-2018	5 students: 3 Environmental and Occupational Health, 2 Epidemiology	Dissertation Defense, MPH thesis reader.
2018-2019	5 Students: 5 Environmental and Occupational Health, 1 Epidemiology	Preliminary exam, Comprehensive exam, MPH Reader
2019-2020	6 Students: 5 Environmental and Occupational Health, 1 Bioengineering	Preliminary exam, Comprehensive Exam, PhD Defense, MPH Reader

f. Supervision of Post-Doctoral Students, Residents, and Fellows

1997-2000 Karol R. Smith, Ph.D., Mechanisms of arsenite-induced signaling in endothelial cells. Present position: Clinical Nutritionist.

2001-2003 Jeffrey S. Shenberger. M.D. K08-HL-071905 Research Fellowship. Present position: Department of Pediatrics, Pennsylvania State University College of Medicine, Hershey, PA

2003- 2004 Rasilaben J. Vaghjiani, visiting Pre-doctoral Fellow. Present position: Senior Program Manager at Excerpta Medica BV-Adelphi Group.

2005-2006 Partha Basu, F33 ES014152 sabbatical fellowship: Proteomic determination of arsenical action. Present Position: Professor and Chair, Department of Chemistry and Chemical Biology, Indiana University-Purdue University, Indianapolis, IA.

2011-2015 Kevin Beezhold, Ph.D. MicroRNA in arsenic regulation of cell differentiation. Research Fellow, Childrens Hospital, Pittsburgh, PA.

g. Other Teaching and Training

University of Pittsburgh Undergraduate/High School Training

Harina Vin, 2006, Summer research intern, “Arsenic regulation of liver stellate cell activation.” Present position, undergraduate Rice University.

Sarabeth A. Sandel, Summer undergraduate research intern 2007, “Chromium regulation of nickel-induced metallothionein in lung epithelial cells.” Present position, undergraduate, Grove City University.

Lindsey Zubritsky 2008-2009 Environmental Health Sciences summer internship. Role of dicysteine containing motif in chromium VI activation of tyrosine kinase activity. Present Position: Medical Student, Penn State, Hershey.

Anastasia Stolz, 2009 RMB-ERC summer internship, Cytotoxicity of magnesium alloys. Present Position: undergraduate student at Dayton, University.

Amy Goodfriend, 2010 Environmental Health Sciences summer internship. Arsenic effects on lipid metabolism. Present position: Graduate student, University of Texas.

Vania Brister, 2012, Doris Duke Fellowship, Arsenic impact on osteogenic stem cell differentiation.

Hannah Klei 2012, Summer High School Intern, Arsenic effects on chrondrogenesis.

Stephanie Akaki 2015, CEBIG Summer High School Intern, Long term epigenetic change from childhood arsenic anticancer therapy.

Molly Schreiner, 2108 -2019 Summer Intern, Slippery Rock University. EGFR in arsenic-induced loss of muscle quality and regeneration.

Makenzie Procter, 2020 Spring intern, Slippery Rock University. Characterization of muscle progenitor cell niche in arsenic-exposed mice.

2. Research and Training

a. Grants and Contracts Received

Active

Years	Grant number and title	Source	Annual direct costs	Effort
02/16-01/21	R01ES025529-01 Dysfunctional Muscle Remodeling and Regeneration in Environmental Disease	NIEHS	$375,000	30%
11/17-12/21	1R01AG052978-01 The Anti-Aging Role of Klotho in Skeletal Muscle Regeneration (PI: Ambrosio) role co-investigator	NIA	$336,500	5%
9/14-6/19	1R01ES024233-01 Epigenetic and phenotypic effects of arsenic: impacts on cognition and Alzheimer’s Disease (PI: Lefterov) role: co-investigator	NIEHS	$350,000	5%

Past

12/13-11/18	1R01ES023696-01 Mechanisms of arsenic-induced muscle morbidity and reduced regenerative capacity	NIEHS	$300,000	33%
9/08-8/18	NSF ERC: Revolutionizing Metallic Biomaterials (Borovitz) Project ES1.8 High content analysis of metal toxicity and effects.	NSF	$25,000	5%
05/15-04/17	3R01ES023696-02S1 Mechanisms of arsenic-induced muscle morbidity and	NIEHS	$58,792	0%

	reduced regenerative capacity. Research Supplement to Promote Diversity in Health-Related Research			
9/12-8/14	1R21ES021243-01 Epigenomic impact of diet and toxicant exposure in Alzheimer's disease etiology MPI: A Barchowsky, I Lefterov	NIEHS	$135.000	5%
12/07-12/12	R01 ES013781-01 Mechanisms for arsenic induced vascular disease.	NIEHS	$225,000	40%
9/11	R13 ES021130-01 Toxicology Education Summit	NIEHS	$4000	0%
7/08-6/09	R01ES013781-01S1 Mechanisms for arsenic induced vascular disease: minority supplement.	NIEHS	$45,000	0%
8/01-7/07	R01 ES10638-01 Regulation of transcriptional competence by chromium.	NIEHS	$200,000	40%
4/95-3/05	P42 ES07373-07 Toxic Metals in the Northeast Project 1: Mechanisms for arsenic-induced vascular disease.	NIEHS	$157,000	40%
8/96 -7/99	R01 HL52738-01: Molecular mechanisms for endothelial cell activation in response to asbestos.	NHLBI	$100,000	60%
7/92 - 6/95	Council for Tobacco Research: Mechanism for oxidant-induced cell-cell interactions.	CTR	$45,000	10%
1/91-12/94	R01 HL44454: Endothelial cell biology following oxidative stress	NHLBI	$71, 000	50%
1992-1995	Investigations of the effects of anticholinesterase agents in relief of Alzheimer's disease	Marion Merrell Dow, Inc	$33,000	5%
1989-1991	Endothelial cell biology following oxidative stress	PhMAF	$50,000	5%

B. Invited Lectures and Major Seminars Related to Research (past 5 years):

January 2014: University of Oregon, Mechanisms for pathogenic, arsenic-induced metabolic tissue remodeling. Corvallis, OR.

August 2014: 6th Symposium on Biodegradable Metals, Keynote address: Metals: Elemental Physiology and Pathogenesis. Matatea, Italy.

October 2014: Civil and Environmental Engineering, Carnegie Melon University, Arsenic in Food and Water: A Global Public Health Risk, Pittsburgh, PA.

April 2015: Vascular Medicine Institute, University of Pittsburgh, Arsenic and stem cell regeneration: novel mitochondrial mechanism for an ancient poison. Pittsburgh, PA

June 2015: 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer: Toxin-Related Endothelial Cell and Vascular Injury. Arlington, VA.

October 2015: Society of Toxicology Central State Regional Chapter 2015 Annual Meeting: Arsenic and stem cell regeneration: novel mitochondrial mechanisms for an ancient poison. Kansas City, KS.

February 2016: Society of Toxicology ToxScholar visit to Washington College: Development of a Maryland Toxicologist: Farm to Pharmacology to Environmental Health. Chestertown, MD

March 2017: University of Rochester, Environmental impact on skeletal muscle maintenance and regeneration: stem cell nature or niche, Rochester, NY.

April 2017: Columbia University, Mailman School of Public Health, Arsenic and mitochondria in epigenetic regulation of skeletal muscle stem cells and regeneration. New York, NY

September 2017: North Carolina State University, Arsenic impact on mitochondria corrupts epigenetic memory, stem cell fate, and muscle regenerative capacity. Raleigh, NC.

October 2017: University of Pittsburgh, Pitt Public Health, Epidemiology, Plausible pathways for hidden poison promoting cardiovascular and metabolic disease risk: markers for environmentally-derived disease. Pittsburgh, PA.

December 2017: University of Pittsburgh, Bioinformatics, Why does an environmental health scientist need bioinformatics to improve public health? Pittsburgh, PA.

March 2018: Society of Toxicology symposium on The Role of the Epigenome in the Etiology of Metal-Induced Disease. Mitochondria direct arsenic-induced epigenetic regulation of stem cell fate. San Antonio, TX.

March 2019: Department of Environmental and Occupational Health, PittPublicHealth, Memories of arsenic promote “idiopathic” disease. Pittsburgh, PA.

March 2019: Co-Chair Society of Toxicology symposium: Stem cells and metals toxicity: from tissue regeneration and repair to carcinogenesis. Co-author: Arsenic-induced alterations in muscle extracellular matrix drive stem cell dysfunction and impaired regeneration. Baltimore, MD.

Februry 2020: Lady Davis Institute for Medical Research, McGill University: Memories of arsenic promote “idiopathic” environmental disease. Montreal, Canada.

PUBLICATIONS

1. Refereed Articles

1. Cheiki A, T Angiano, J Lasak, B Qian, A Sahu, H Mimiya, C Cohen, P Wipf, F Ambrosio, A Barchowsky. Arsenic stimulates myoblast mitochondrial EGFR to impair myogenesis. *Toxicol Sci.* 2020. doi: 10.1093/toxsci/kfaa031, PMID: 32159786.
2. Cheikhi A, **A Barchowsky**, A Sahu, SN Shinde, A Pius, ZJ Clemens, H Li, CA Kennedy, JD Hoeck, M Franti, F Ambrosio. Klotho: An elephant in aging research. *J Gerontol A Biol Sci Med Sci*. 74:1031-1042, 2019. doi: 10.1093/gerona/glz061 PMID: 30843026.

3. Gibb HJ, **A Barchowsky**, D Bellinger, PM Bolger, C Carrington, AH Havelaar, S Oberoi, Y Zang, K O'Leary, B Devleesschauwer. Estimates of the 2015 global and regional disease burden from four foodborne metals - arsenic, cadmium, lead and methylmercury. *Environ Res*. 174: 188-194, 2019. doi:10.1016/j.envres.2018.12.062. PMID: 30981404.
4. Oberoi S, B Devleesschauwer, HJ Gibb, **A Barchowsky.** Global burden of cancer and coronary heart disease resulting from dietary exposure to arsenic, 2015. *Environ Res* 171:185-192, 2019. PMID: 30665120.
5. Cheiki A, C Wallace, C St Croix, C Cohen, WY Tang, P Wipf, PV Benos, F Ambrosio, **A Barchowsky**. Mitochondria are a substrate of cellular memory. *Free Radic Biol Med*. 130:528-541, 2019 PMID: 30472365.
6. Sahu A, H Mamiya, S Shinde, A Cheikhi, L Winter, N Vo, D Stolz, V Roginskayya, WY Tang, C St. Croix, M Franti, L Sanders, B Van Houten, T Rando, **A Barchowsky** and Ambrosio F. Age-related declines in a-Klotho drive progenitor cell mitochondrial dysfunction and impaired muscle regeneration*. Nat Commun.* 9:4859, 2018. PMID: 30451844.
7. Moon KA, S Oberoi, **A Barchowsky**, Y Chen, E Guallar, KE Nachman, M Rahman, N Sohel, D D'Ippoliti, TJ Wade, KA James, SF Farzan, MR Karagas, H Ahsan, A Navas-Acien. A dose-response meta-analysis of chronic arsenic exposure and incident cardiovascular disease*. Int J Epidemiol* 46:1924-1939, 2017 PMID: 29040626
8. Stearns-Reider K; D'Amore A; Beezhold K; Rothrauff BB; Cavalli L; Wagner W; Vorp DA; Tsamis A; Shinde, S; Zhang C; **Barchowsky A**; Rando TA; Tuan RS; Ambrosio F. Aging of the skeletal muscle extracellular matrix drives a stem cell fibrogenic conversion*. Aging Cell* 16:518-528*,* 2017. PMID: 28371268
9. Beezhold K, LR Klei, **A Barchowsky**. Regulation of cyclin D1 by arsenic and microRNA inhibits adipogenesis. *Tox Lett* 265:147-155, 2017. PMID: 27932253
10. Zhang C*, R Ferrari*, K Beezhold, K Stearns-Reider, A D'Amore, M Haschak, DB Stolz, PD. Robbins, **A Barchowsky**, F Ambrosio. Arsenic promotes NF-κB-mediated fibroblast dysfunction and matrix remodeling to impair muscle stem cell function. *Stem Cells 3*4:732-42, 2016. PMID: 26537186
11. Dheer R, J Patterson, M Dudash, EN Stachler, KJ Bibby, DB Stolz, S Shiva, Z Wang, SL Hazen, **A Barchowsky**, JF Stolz. Arsenic induces structural and compositional colonic microbiome change and promotes host nitrogen and amino acid metabolism. *Toxicol Appl Pharmacol.* 289:397-408, 2015. PMID: 26529668
12. Malek AM, **A Barchowsky**, R Bowser, T Heiman-Patterson, D Lacomis, S Rana, A Youk, EO Talbott. Exposure to hazardous air pollutants and the risk of amyotrophic lateral sclerosis. *Environ Pollution* 197: 181-186, 2015. PMID: 25544309
13. Yoshizawa S, A Brown, **A Barchowsky**, C Sfeir. Role of magnesium ions on osteogenic response in bone marrow stromal cells. *Connect Tissue Res*. 55(S1):155-159, 2014 PMID: 25158202.
14. Ambrosio,F, E Brown, DB Stolz, RJ Ferrari, B Goodpaster, BM Deasy, G Distefano, A Roperti; A Cheikhi; Y Garciafigueroa; **A Barchowsky**. Arsenic induces sustained impairment of skeletal muscle and muscle progenitor cell ultrastructure and bioenergetics. *Free Rad Biol Med* 74C:64-73, 2014. PMID: 24960579
15. Oberoi, S., **A Barchowsky**, F Wu. The global burden of disease for skin, lung and bladder cancer caused by arsenic in food. *Cancer Epidemiol Biomarkers Prev*. 23:1187–94, 2014. PMID: 24793955.
16. Yoshizawa, S., A Brown, **A Barchowsky**, C Sfeir, Magnesium ion stimulation of bone marrow stromal cells enhances osteogenic activity simulating the effect of magnesium alloy degradation. *Acta Biomaterialia* 10:2834-42, 2014. PMID: 24512978
17. Malek AM, **A Barchowsky**, R Bowser, T Heiman-Patterson, D Lacomis, S Rana, A Youk, D Stickler, DT Lackland, EO Talbott. Environmental and Occupational Risk Factors for

Amyotrophic Lateral Sclerosis: A Case-Control Study. Neurodegener Dis. *In Press* 2013. PMID: 24246552

18. Garciafigueroa DY, LR Klei, F Ambrosio, **A Barchowsky**. Arsenic-stimulated lipolysis and adipose remodeling is mediated by G-protein coupled receptors. *Toxicol Sci.*134:335-344*,* 2013 PMID: 23650128.
19. Cronican AA, NF Fitz, A Carter, M Saleem, S Shiva, **A Barchowsky**, R Koldamova, J Schug, and I Lefterov. Genome-wide alteration of histone H3K9 acetylation pattern in mouse offspring prenatally exposed to arsenic. *PLOS ONE* 8(2):e53478, 2013 PMID: 23405071.
20. Klei LR, DY Garciafigueroa, and **A Barchowsky**. Arsenic activates endothelin-1 Gi protein-coupled receptor signaling to inhibit stem cell differentiation in adipogenesis. *Toxicol Sci.* 131:512-20, 2013 PMID: 23152186.
21. Malek AM, **A Barchowsky**, R Bowser, A Youk, EO Talbott. Pesticide exposure as a risk factor for amyotrophic lateral sclerosis: A meta-analysis of epidemiological studies. *Environ. Res.* 117:112-119, 2012 PMID: 22819005.
22. Jang AS, VJ Concel, K Bein, KA Brant, S Liu, H Pope-Varsalona, RA Dopico Jr, YP Di, DL Knoell, **A Barchowsky**, and GD Leikauf. Endothelial Dysfunction and Claudin 5 Regulation during Acrolein-induced Lung Injury. *Am J Respir Cell Mol Biol*. 44:483-90, 2011 PMID: 20525806.
23. Gao F, B KA Brant, RM Ward, RT Cattley, **A Barchowsky**, JP Fabisiak. Multiple protein kinase pathways mediate amplified IL-6 release by human lung fibroblasts co-exposed to nickel and TLR-2 agonist, MALP-2. *Toxicol Appl Pharmacol.* 247:146-57, 2010 PMID: 20600219
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3. Reviews/Proceedings

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3. States, JC, **A Barchowsky**, IL Cartwright, JF Reichard, BW. Futscher, RC Lantz. Arsenic Toxicology: Translating between Experimental Models and Human Pathology. Environ Health Perspect. 119:1356-63, 2011. PMID:21684831
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8. Book Chapters

1. **Barchowsky A** Metals and Cardiovascular Disease. In: Comprehensive Toxicology 2nd edition. CA McQueen, ed. volume 6, pp. 447–463 Oxford: Elsevier. 2010
2. **Barchowsky A** Metals in Environmental Cardiovascular Disease. In: Issues in Toxicology 8: Environmental Cardiology, Pollution and Heart Disease. A Bhatnagar ed. pp 272-300 The Royal Society of Chemistry Cambridge, UK 2011.
3. **Barchowsky A** and JC States. Arsenic-induced cardiovascular disease. In: Arsenic, Exposure Sources, Health Risks, and Mechanisms of Toxicity. JC States ed. pp 453-468 John Wiley & Sons, Inc, Hoboken, USA. 2015.
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6. **Barchowsky A**. Arsenic. In: Environmental Toxicants: Human Exposures and Their Health Effects, Fourth Edition. M Lippmann and GD Leikauf ed. Chapter 10 pp 367-388. John Wiley & Sons, Inc, 2020.
7. **Barchowsky A.** Systemic and Immune Toxicity of Implanted Materials. In: Biomaterials Science. Wagner W ed. Chapter 2.2.5: Elsevier Ltd, Oxford, UK 2020.

5. Published Abstracts (past 5 years)

1. Zhang C, R Ferrari, E Brown, K Stearns, **A Barchowsky** and F. Ambrosio. Arsenic Exposure Affects Muscle Extracellular Matrix Composition and Inhibits Muscle Regeneration after Injury. Abstract 919 *The Toxicologist* 144: 194-195, 2015.
2. Beezhold, K and **A Barchowsky** Regulation of Cyclin D1 by Arsenic and miRNA Inhibits Adipogenesis. Abstract 1105 *The Toxicologist* 144: 235, 2015.
3. Cheikhi A, F Ambrosio and **A Barchowsky**. Remodeling of Mitochondrial Network Topology Defines Myogenesis Progression: Insights from Low-Dose Arsenite Exposure. Abstract 1976 *The Toxicologist* 144: 423, 2015.
4. Cheikhi A, F Ambrosio and **A Barchowsky**. Low Level Arsenic Exposure Reveals Mitochondrial Dynamics Regulation of Self-Renewal. Abstract 1250 *The Toxicologist* 150: 58, 2016.
5. Anguiano T, A Sahu, F Ambrosio, and **A Barchowsky**. Arsenic Disrupts Muscle Stem Cell Determination through Fibroblast Mitochondrial Maladaptation that Directs a Dysfunctional Extracellular Matrix Memory. Abstract 2172 *The Toxicologist* 162: 285, 2018.
6. **Barchowsky, A**. Mitochondria Direct Arsenic-Induced Epigenetic Regulation of Stem Cell Fate. Abstract 3243 *The Toxicologist* 162: 542, 2018.
7. Ambrosio F and **A Barchowsky**. Arsenic-Induced Alterations in the Muscle Extracellular Matrix Drive Stem Cell Dysfunction and Impaired Regeneration. Abstract 1677 *The Toxicologist* 168: 160, 2019.
8. Cao S, K. Bein, **A. Barchowsky**, and G. Leikauf. Arsenic Induces Surfactant Protein B Dysregulation through Hypermethylation. Abstract 2970 *The Toxicologist* 168: 441, 2019.
9. McCormick M, S. Shinde, T. Anguiano, W. Tang, F. Ambrosio, and **A. Barchowsky**. Arsenic Alters ECM to Impair Skeletal Muscle Regeneration. Abstract 2630 *The Toxicologist* 174: 385, 2020.

3. Service (Professionally Related)

a. University/Institute of Higher Learning

University of Pittsburgh

Years	Committee	Position
2020	GSPH Dean Search Committee	appointed
2018-2020	EOH Faculty Search Committee	appointed
2018	IDM Search Committee for Professor	appointed
2017	EPIDEM Search Committee for Assistant Professor (OTS)	appointed
2016-2017	EOH Search Committee for Department Chair	appointed

Years	Committee	Position
2016-2019	GSPH Faculty Appointments, Promotions and Tenure Committee, Chair	appointed
2016	IDM Search Committee for Assistant Professor (OTS)	appointed
2016-2019	GSPH Faculty Appointments, Promotions and Tenure Committee	appointed
2015-	GSPH MPH/Core Curriculum Committee	appointed
2015	EOH Search Committee for Research Assistant Professor	appointed
2014	HUGEN Search Committee for Open Rank Professor, outside of tenure stream	appointed
2014	IDM Search Committee for Assistant Professor	appointed
2016-	Chair, GSPH Faculty Appointments, Promotions and Tenure Committee	appointed
2013-	GSPH Faculty Appointments, Promotions and Tenure Committee	appointed
2012	EOH Search Committee for Research Instructor	appointed
2009	EOH Search Committee for tenure stream Assistant/Associate Professors.	appointed
2007-	Director, Environmental Health Sciences Training Program	appointed
2004-2014	GSPH Core Curriculum Committee	appointed
2003-	EOH Promotions and Appointments Committee	appointed
2004-2006	GSPH Reaccreditation Committee	appointed
2005-	EOH Search Committee for Research Faculty	appointed
2004	GSPH Molecular Biology Retreat Planning Group	Appointed

Other

Years	Committee	Position
2002-2008	External Advisory Committee, University of Montana Center for Environmental Health	appointed
2005-2008	Chair, External Advisory Committee, University of Montana Center for Environmental Health	elected
2012-2018	Scientific Advisory Board, University of Arizona Superfund Basic Research program.	appointed

b. Editorial Boards, Editorships

Date	Position	Organization
2014-2019	Section Editor	Current Environmental Health Reports
2013-	Editorial Board	Environmental Health Perspectives
2007-	Associate Managing Editor	Toxicological Sciences
2003-2010	Associate Editor	Cardiovascular Toxicology
2003-	Associate Editor	Journal of Cellular Physiology

c. Manuscript and Other Document/Publication Review

Dates	Journal Title
Continual since 1988	American Journal of Physiology, Lung Cellular and Molecular Physiology
	American Journal of Pathology
	Arteriosclerosis, Thrombosis and Vascular Biology
	Cancer Research
	Cardiovascular Toxicology
	Chemical Research in Toxicology
	Environmental Health Perspectives (Editorial Board)
	Environmental Science and Technology
	Free Radical Biology and Medicine
	Molecular and Cellular Biochemistry
	Journal of Cellular Physiology (Associate Editor)
	Journal of Experimental Pharmacology and Therapeutics
	PlosOne
	Toxicology and Applied Pharmacology.
	Toxicological Sciences (Associate Editor)

d. Study Sections, Review Panels, and Related Advisory Boards (selected and past 10 years)

Date	Position	Organization and Nature of Activity
2019	Ad-hoc	NIH Xenobiotic Nutrient Disposition and Action Study Section
2019	Chair	NIH Member Conflict: Topics in Toxicology and Pharmacology Study Section. ZRG1 DKUS-T 06 M.
2019	member	NIEHS R13 Support for Conferences and Scientific Meetings Study Section. ZES1 VSM-S (R3) 1.
2018-2020	Ad-hoc	NIH Systemic Injury from Environmental Exposures Study Section
2016-2019	Member	Department of Veterans Affairs Joint Biomedical Laboratory Research and Development and Clinical Science Research and Development Services Scientific Review Board: Subcommittee on Gulf War Veterans' Illnesses.
2016	Member	NIH CSR Special Emphasis Panel ZRG1 DKUS-L 04 M
2013	Ad-hoc	NIEHS Board of Scientific Councilors review of the Laboratory of Toxicology and Pharmacology.
2011-2015	Member	NIH Xenobiotic and Nutrient Disposition and Action Study Section
2010-	Member	College of CSR Reviewers
2009	member	NIEHS Superfund Basic Research Program review panel
2009	member	Nanosafety Review special emphasis panel, NIEHS
2009	member	Outstanding New Environmental Scientists special emphasis panel, NIEHS
2009-2010	member	NIEHS Outstanding New Environmental Scientists special emphasis panel

e. Leadership in Professional Organizations and Honorary Societies.

Date	Position	Organization
2019-2020	Past President	Allegheny-Erie Chapter Society of Toxicology (elected)
2018-2019	President	Allegheny-Erie Chapter Society of Toxicology (elected)
2017-2018	President-elect	Allegheny-Erie Chapter Society of Toxicology (elected)
2014-2017	Member	Council of the Society of Toxicology (elected)
2013-2014	Member	Society of Toxicology Communications Committee
2011	Chair	Educational Summit Organizing Team, Society of Toxicology.
2010-2011	President	Metals Specialty Section, Society of Toxicology
2009-2011	Chair	Society of Toxicology Education Committee
2009-2010	Vice President	Metals Specialty Section, Society of Toxicology
2008-2009	Vice President (elect)	Metals Specialty Section, Society of Toxicology
2007-2011	Member	Society of Toxicology Education Committee
2005-2015	Vice President	Allegheny-Erie Chapter Society of Toxicology

f. Service to Governmental and Other Public Organizations

Date	Position	Organization and Nature of Activity
2013-2019	Member and Chair	National Research Council, Committee on Inorganic Arsenic.
2012-2015	Member	World Health Organization, Chemicals and Toxins Task Force of FERG
2006-2011	Member	Advisory Board, University of Pittsburgh Academic Consortium for Excellence in Environmental Public Health Tracking (UPACE-EHPT)
2005-2009	Member	US Environmental Protection Agency Scientific Advisory Board Arsenic Special Emphasis Panel
2002	Member	National Academies of Science, Committee on the framework for evaluating the safety of dietary supplements; Chromium Picolinate I Working Group.
1996-2003	Member	American Heart Association, Northeast Affiliate, Research Committee

g. Consultantships

Date	Name of Consultantship
2017-2018	External Advisory Board, Michigan State University toxicology training program.
2005-2010	EPA special government employee, Arsenic Advisory Panel
1991-1994	Clinical Trial Design Consultant, Hoechst Marion Roussel (Marion Merrell Dow), Kansas City, MO

Date	Name of Consultantship
1988-1991	Clinical Trial Design Consultant, Merck Sharp and Dohme Research Laboratories, West Point, PA.

4. Service (Community Related)

Service to Community-Based Organizations

Year	Position and Organization	Type of Service
2011	Riverquest	Scientific program review
2005	Environmental Integrity Project	Consultant
2005	Clean Water Action	Consultant
2005	Clean Air Task Force	Consultant
2002	Montshire Museum of Science, Environmental Detectives Summer Teacher Institute	Consultant and lecturer in a course designed to educate middle school teachers

Other Related Service and Volunteer Activities.

Year	Position and Organization	Type of Service
2007	Pittsburgh Environmental Health Sciences Program	Created community outreach core to support a NIEHS Superfund Basic Research Program grant. Target communities surrounding the abandoned American Zinc and Chemical Company smelter, northern Washington County, PA.
2005	Informed resource for Forward Township residents coping with fly ash slide.	Attended town meetings to answer health concerns and connect residents to government agencies. Phone and email resource.
2001- 2003	Upper Valley Lightning Soccer Association	Youth soccer coach, board member
1996 - 2001	Hanover, NH Recreation Department,	Youth soccer coach,

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Discipline and specific areas of expertise:

I am a toxicologist with a focus on environmental health (humans) and ecosystem health (wildlife). My specific areas of expertise are neurobehavioral toxicology, developmental toxicology, and reproductive toxicology. The zebrafish is the primary experimental system currently in the laboratory, which allows the use of multiple -omic approaches (genomics, transcriptomics, epigenomics) to test hypotheses related to behavioral, reproductive, and developmental phenotypes.

Biographical Sketch:

Michael J. Carvan III is a Shaw Professor at the University of Wisconsin-Milwaukee School of Freshwater Sciences where he conducts research that is focused on gene-environment interactions and identifying genes that influence sensitivity and resistance to environmental chemicals, especially those that cause birth defects or neurodevelopmental problems. Dr. Carvan received his BS in Marine Biology from the University of North Carolina-Wilmington, MS from the University of Miami Rosensteil School of Marine and Atmospheric Sciences in Biological Oceanography. Dr. Carvan received his PhD in Toxicology from The Texas A&M University, received postdoctoral training in the Center for Environmental Genetics at the University of Cincinnati Medical Center, and was on the faculty in the University of Cincinnati Medical Center Department of Environmental Health prior to moving to UW-Milwaukee. Dr. Carvan has served on the editorial board for six scientific journals. He routinely reviews grant applications for the National Institutes of Health, National Research Council and National Science Foundation—and similar organizations in Canada, France, and other countries. He has served on several professional committees including the Council (Executive Board) of the Society of Toxicology, and the Institute of Medicine Committee for Review of the Health Effects in Vietnam Veterans of Exposure to Herbicides. Current work focuses on the effects of developmental exposure to low levels of repro- and neurotoxic chemicals during development and later into adulthood, including transgenerational phenotypes which are likely the result in heritable epimutations.

April 16, 2020

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Place of Birth: (b) (6)

Present Position:
Shaw Professor, Executive Chair, School of Freshwater Sciences, University of Wisconsin-Milwaukee

Education:

1993	Ph.D. Veterinary Anatomy and Public Health, College of Veterinary Medicine, Texas A&M University, College Station, Texas. Major advisor: Dr. David L. Busbee
1988	M.S. Biological Oceanography, University of Miami Rosenstiel School of Marine and Atmospheric Science (RSMAS), Coral Gables, Florida. Major advisor: Dr. Daniel K. Odell
1985	Cum Laude B.S. Marine Biology University of North Carolina Wilmington.

Research Activities and Professional Experience:

2018-	Executive Chair, School of Freshwater Sciences, University of Wisconsin-Milwaukee.
2015-	Shaw Professor, School of Freshwater Sciences, University of Wisconsin-Milwaukee.
2015-	Member, Clinical and Translational Science Institute, Medical College of Wisconsin.
2011-	Graduate Faculty, Zilber School of Public Health, University of Wisconsin-Milwaukee.
2000-	Graduate Faculty, University of Wisconsin-Milwaukee.
2000-	Affiliate Faculty, Department of Biological Sciences, College of Letters and Science, University of Wisconsin-Milwaukee.
2000-	Clinical Faculty, Department of Health Sciences, College of Health Sciences, University of Wisconsin-Milwaukee.
2011-2015	Shaw Associate Professor, School of Freshwater Sciences, University of Wisconsin-Milwaukee.
2010-2012	Program Director, School of Freshwater Sciences Professional Master of Science Program, University of Wisconsin-Milwaukee.
2006-2011	Shaw Associate Scientist, Great Lakes WATER Institute, University of Wisconsin-Milwaukee.
2002-2006	Shaw Assistant Scientist, Great Lakes WATER Institute, University of Wisconsin-Milwaukee.
2000-2002	Assistant Scientist, Great Lakes WATER Institute, University of Wisconsin-Milwaukee.
1997-99	Assistant Professor, Department of Environmental Health, University of Cincinnati Medical Center.
1996-97	Research Associate, Department of Environmental Health, University of Cincinnati Medical Center.
1993-96	Postdoctoral Fellow in Molecular Toxicology for Dr. Daniel W. Nebert, Department of Environmental Health and the Center for Environmental Genetics, University of Cincinnati Medical Center.

Journal Editorial Boards:

2016-	Member of Editorial Board, *Reproductive Toxicology*, Elsevier.
2014-	Review Editor, Member of Editorial Board, *Frontiers in Toxicogenomics*, Frontiers Publishing.
2003-	Member of Editorial Board, *Zebrafish*, Mary Ann Liebert, Inc. Publishers.
2011-2019	Member of Editorial Board, *Toxicological Sciences*, Oxford University Press Publishers.

Society Memberships:
American Association for the Advancement of Science
Society of Environmental Toxicology and Chemistry, and Midwest Regional Chapter
Society of Toxicology, and Midwest Regional Chapter
Environmental Mutagenesis and Genomics Society

Honors and Awards:

2019	Keynote Address, International Conference on Innovative Biological and Public Health Research, Lahore, Pakistan
2017-2020	Elected, Society of Toxicology Council (Board of Directors) Member.
2017-2018	The National Academies of Sciences, Engineering, and Medicine Committee for Review of the Health Effects in Vietnam Veterans of Exposure to Herbicides 11th Biennial Update.
2016-2019	Environmental Health Sciences Review Committee, National Institute of Environmental Health Sciences, National Institutes of Health—Chair for 2018-2019.
2010-2015	National Research Council Associateship Programs Life Sciences Panel, The National Academy of Sciences.
2014-2015	Institute of Medicine Committee for Review of the Health Effects in Vietnam Veterans of Exposure to Herbicides 10th Biennial Update.
2014	Student Success Award, University of Wisconsin-Milwaukee.
2013	University of Wisconsin Research Fellow, University of Wisconsin-Madison.
2012-2013	Institute of Medicine Committee for Review of the Health Effects in Vietnam Veterans of Exposure to Herbicides 9th Biennial Update.
2011	Special recognition for contributions to the American Chemical Society Journals.
2010	Special Recognition for Exemplary Service to the Molecular Biology Specialty Section of the Society of Toxicology.
2010	Top Reviewer in 2009, *Neurotoxicology and Teratology*.
2007	Special Recognition for Contributions to the Society for Environmental Toxicology and Chemistry.
2002	Shaw Scientist Award, James D. Shaw and Dorothy Shaw Fund.

Ad hoc Reviews:
Addiction Biology
Alcoholism: Clinical and Experimental Research
The Anatomical Record
Aquatic Toxicology
Archives of Environmental Contamination and Toxicology
Archives of Toxicology
Biochemical Pharmacology
Biochimica et Biophysica Acta
Birth Defects Research
BMC Genomics
BMC Pharmacology and Toxicology
Bulletin of Environmental Contamination and Toxicology
Cell Biology and Toxicology
Cellular and Molecular Life Sciences
Chemical Research in Toxicology
Chemico-Biological Interactions
Chemosphere
Comparative Biochemistry and Physiology
Developmental Biology
Developmental Dynamics
DNA and Cell Biology
Drug and Chemical Toxicology
Ecologia Balkanica
Ecotoxicology
Ecotoxicology and Environmental Safety
Environmental Epigenetics
Environmental Health Perspectives
Environmental Biology of Fishes
Environmental Science
Environmental Science & Technology
Environmental Toxicology and Chemistry
Epigenetics and Chromatin
Faculty of 1000
FASEB Journal
Fish Physiology and Biochemistry
Free Radical Biology and Medicine
Frontiers in Genetics
Gene
Genomics
International Journal of Andrology
International Journal of Toxicology
Journal of Applied Ichthyology
Journal of Fish Biology
Journal of Hazardous Materials
Journal of the Institute for Laboratory Animal Research
Journal of Nutritional Biochemistry
Life Sciences
Marine Environmental Research
Marine Mammal Science
Marine Pollution Bulletin
Metallomics
Molecular Biology Reports
Molecular and Cellular Endocrinology
Neuropharmacology
NeuroToxicology
Neurotoxicology and Teratology
Pharmacogenetics
Pharmacology and Therapeutics
Physiological Genomics
PLoS ONE

Proteome Science
Reproductive Biology and Endocrinology
Reproductive Toxicology
Redox Biology
Science of the Total Environment
Scientific Reports (Nature)
Toxicological Sciences (prior to joining Editorial Board)
Toxicology and Applied Pharmacology
Toxicological & Environmental Chemistry
Toxicology Letters

Grant Support:
Pending:

Active:
Battelle Memorial Institute, Michael Carvan (PI), "Battelle Research Service Contract for National Toxicology Program Interlaboratory Study of Zebrafish Toxicity", 08/16/2019-12/31/2020.
EPA STAR, Cheryl Murphy (Lead PI), Michael Carvan (Co-PI), "Development of a larval fish neurobehavior adverse outcome pathway to predict effects of contaminants at the ecosystem level and across multiple ecologically relevant taxa", EPA-STAR 83579801, 5/1/2015-4/30/2020 (extension requested).
National Institutes of Health Science-Education Partnership Award, David Petering (PI), Michael Carvan (Senior Investigator), "Empowering Pre-service Teachers with Env. Health Research", 5R25OD021871, 5/1/2016-4/30/2021.
University of Wisconsin System Freshwater Collaborative, "Zebrafish Knockout; Methylmecury Metabolism", Michael Carvan and Brad Carter (Co-PIs), 7/1/20-6/30/21.
University of Wisconsin System Freshwater Collaborative, "Investigating gene-environment interactions of methylmercury using zebrafish", Michael Carvan and Brad Carter (Co-PIs), 7/1/19-6/30/20.

Previous (last 10 years):
UWM Team Science Development Award, Michael carvan (PI), "Epigenetic Transgenerational Impacts of Great Lakes Chemicals of Concern", 7/1/2017-6/30/2018.
UWM Research Growth Initiative, Michael Carvan (PI), "Epigenetic Transgenerational Impacts of Great Lakes Chemicals of Concern", 7/1/2015-12/31/2017.
National Institutes of Health, Michael J. Carvan (PI), "Identifying the Mechanisms of MeHg-Induced Neurodevelopmental Toxicity using Transgenic Zebrafish", 1 R21 ES024879-01, 12/1/2014-11/30/2017.
National Institutes of Health & National Science Foundation, Todd Miller (PI), Michael Carvan (Senior Co-Investigator), "Linking Limnology to Cyanotoxins in Drinking Water Using Buoy Sensors and Auto-Sampling", 9/1/2012-8/31/2017.
National Science Foundation, Istvan Lauko (UWM Mathematical Sciences, lead PI), Michael J. Carvan and others (PI), "UBM-Institutional: Integrated Undergraduate Research Experiences in Biological and Mathematical Sciences", DUE-1129056, 10/01/2011-9/30/2017.
National Institutes of Health, David Petering (PI), Michael Carvan (Co-I with two others), "Bioinformatics evolutionary pipeline for identification of exposure biomarkers", P30 ES004184-26S1, 9/16/2013-3/31/2016.
National Institutes of Health Fogarty International Center, Paula North (Medical College of Wisconsin, PI), Michael Carvan (Investigator) "Exploratory Planning for a Proposed GEOHealth Hub in the Alto Mayo Region: -USA", 9/22/2012-10/31/2015.
National Institutes of Environmental Health Sciences, National Institutes of Health, Michael Carvan (PI), "Administrative Supplement - R21 - Identifying the Mechanisms of MeHg-Induced Neurodevelopmental Toxicity using Transgenic Zebrafish", R21ES019104, 5/18/2015-8/17/2015.
National Institute of Environmental Health Sciences, National Institutes of Health, David Petering (PI) Michael J. Carvan and others (Co-PIs), "Children's Environmental Health Sciences Core Center", 2P30ES004184, 4/1/2009-3/31/2015.
USEPA Great Lakes Restoration Initiative, Cheryl Murphy (Michigan State University, PI), Michael Carvan (Investigator, PI of UWM subaward), "Scaling the subtle effects of MeHg to perch population dynamics", GL00E00496-1, 8/1/2010-10/31/2014.
National Institutes of Health, David Petering (PI), Michael Carvan (Senior Investigator), "SEPA (Science Education Partnership Award) precollege education grant", 1R25RR026299-01, 8/1/2009-7/31/2014.

Previous Grant Support (continued):

National Institutes of Health, Michael Carvan (PI), Kurt Svoboda (Co-PI), "Support for 2013 Aquatic Animal Models for Human Disease/ Midwest Zebrafish", 1R13ES023277-01, 7/1/2013-6/30/2014.

NOAA Center of Excellence for Great Lakes and Human Health, Frederick Goetz and Sandra Mclellan (PIs), Michael J. Carvan (Investigator), "Great Lakes Consortium for Oceans and Human Health Training" 9/1/2010-8/31/13.

National Institutes of Health, Michael J. Carvan (PI), "Influence of human gene variants on the effects of developmental MeHg exposure", 1R21ES019104-01, 9/30/2009-3/31/2013.

Intercampus Research Incentive Grants Program, University of Wisconsin-Madison/University of Wisconsin-Milwaukee, Susan Smith and Michael Carvan (Co-PIs), "Zebrafish Neurotoxicity Model for Fetal Alcohol Syndrome", 7/1/2011-6/30/2012.

NIEHS Marine & Freshwater Biomedical Sciences Center, Pilot Project Program, University of Wisconsin-Milwaukee, Michael J. Carvan (PI), "High throughput screening of zebrafish mutants: identification of genes with environmental health relevance",06/01/2010-08/31/2011.

National Science Foundation, Istvan Lauko (UWM Mathematical Sciences, lead PI), Michael J. Carvan and others (PI), "UBM-Group: Integrated Undergraduate Research Experiences in Aquatic Biology and Mathematical Sciences at the University of Wisconsin Milwaukee", DUE-0827217, 10/01/2008-9/30/2011..

National Institutes of Health, Michael J. Carvan (PI), "ARRA Supplement to 1R21ES019104-01", 1R21ES019104-01S1, 6/01/2010-9/10/2010.

Wisconsin College Sea Grant Program, Michael J. Carvan and Matthew L. Rise (co-PIs), "Parallel toxicogenomic resources for zebrafish and rainbow trout: Identifying conserved molecular biomarkers of toxicant exposure", 03/01/2006-02/28/2011.

Bibliography:

Journal Publications:

Rubio, J.F., J. Niestroy, M. Switzer, J. McNeill, A. Nihongi, M.J. Carvan, J.R Strickler. Hydrostatic Pressure Increases Linearly Chemical Toxicity in Daphnia magna. Submitted to *Environmental Science & Technology*.

Mora-Zamorano, F., R. Klingler, A. DeBofsky, M. Walz, J. Larson, Jeremy, D. Anderson III, F. Binkowski, F. Goetz, N. Basu, J. Head, P. Tonellato, C. Murphy, M.J. Carvan III. Gene expression alteration associated with early embryonic methylmercury exposure in zebrafish (*Danio rerio*) and yellow perch (*Perca flavescens*). Submitted to *Environmental Science & Technology*.

Gajeski, K.M., J.B. Hewitt, R.J. Hutz, M.J. Carvan III. Risk:Benefit Analysis of Fish Consumption among Subsistence Fishers Utilizing Milwaukee Waterways. Submitted to *Environmental Research*.

Armstrong, B.M., F.X. Mora, M.J. Carvan III, S. McNaught, N. Basu, J. head, R.H. Klingler, L. Ivan, C.A. Murphy. Yellow perch recruitment in Lake Michigan: Exploring the impacts of methylmercury induced behavioral alterations. Submitted to *Canadian Journal of Fisheries and Aquatic Sciences*.

Li, D., L. Xie, M. Carvan, L. Guo. 2019. Mitigative effects of different natural organic matter on the toxicity of water-borne MeHg in embryonic Zebrafish. 2019. *Environmental Pollution,* 252(Pt A):616-626.

DeBofsky, A.R., R.H. Klingler, F.X. Mora, M. Walz, B. Shepherd, J.K. Larson, D. Anderson III, L. Yang, F. Goetz, N. Basu, J. Head, P. Tonellato, C. Murphy, M.J. Carvan III. 2018. Female reproductive impacts of dietary methylmercury in yellow perch (*Perca flavescens*) and zebrafish (*Danio rerio*). *Chemosphere* 195, 301-11.

Mora-Zamorano, F.X., R. Klingler, N. Basu, J. Head, C.A. Murphy, F.P. Binkowski, J.K. Larson, M.J. Carvan III. 2017. Developmental methylmercury exposure affects swimming behavior and foraging efficiency of yellow perch (*Perca flavescens*) larvae. *ACS Omega*. 2:4870-4877.

Carvan, M.J. III, T.A. Kalluvila, R.H. Klingler, J.K. Larson, M. Pickens, F.X. Mora-Zamorano, V.P. Connaughton, I. Sadler-Riggleman, D. Beck, M.K. Skinner. Mercury- 2017. Mercury-induced epigenetic transgenerational inheritance of abnormal neurobehavior is correlated with sperm epimutations in zebrafish. PLOS ONE, 12: e0176155.

Liu, Q., R.H. Klingler, B. Wimpee, M. Dellinger, T. King-Heiden, J. Grzybowski, S.L. Gerstenberger, D.N. Weber, M.J. Carvan III. 2016. Maternal methylmercury from a wild-caught walleye diet induces developmental abnormalities in zebrafish. *Reproductive Toxicology*. 65:272-282.

Mora-Zamorano, F., R. Klingler, C. Murphy, N. Basu, J. Head, M.J. Carvan III. 2016. Parental whole life cycle exposure to dietary methylmercury in zebrafish (Danio rerio) affects the behavior of offspring. *Environmental Science and Technology* 50,4808-16.

Journal Publications (continued):

Arini, A., J.A. Head, C. Murphy, M.J. Carvan, R. Goetz, R.H. Klingler, D.-H. Nam, N. Basu. 2016. Neuroendocrine biochemical effects in methylmercury-exposed yellow perch. *Comparative Biochemistry and Physiology- Part C*. 187:10-18.

Butler, M.R., M.J. Carvan III, T.S. Johnson. 2016. Understanding genetics and pediatric cardiac health. *Journal of Pediatric Nursing* 31:3-10.

Mora-Zamorano, F., K. Svoboda, M.J. Carvan III. 2016. The nicotine-evoked locomotor response: A behavioral paradigm for toxicity screening in zebrafish (Danio rerio) embryos and eleutheroembryos exposed to methylmercury. *PLOS ONE* 11: e0154570.

Hutz, R.J., M.J. Carvan III, J.K. Larson, Q. Liu, R.V. Stelzer, T.C. King-Heiden, M.G. Baldridge, N. Shahnoor, K. Julien. 2015. Familiar and novel reproductive endocrine disruptors: xenoestrogens, dioxins and nanoparticles. *Current Trends in Endocrinology* 7:111-122.

Wilson, C.A., S.K. High, B.M. McCluskey, A. Amores, Y.L. Yan, T.A. Titus, J.L. Anderson, P. Batzel, M.J. Carvan III, M. Schartl , J.H. Postlethwait. 2014. Wild sex in zebrafish. Genetics 198:1291-1308.

Tomasiewicz, H., R. Hesselbach, M.J. Carvan III, B. Goldberg, C. Berg, D. Petering. 2014. Zebrafish as a model system for environmental health studies in the grade 9-12 classroom. *Zebrafish* 11:384-95.

Liu, Q., J.M. Spitsbergen, R. Cariou, C.-Y. Huang, N. Jiang, G. Goetz, R.J. Hutz, P.J. Tonellato, M.J. Carvan III. 2014. Histopathologic alterations associated with global gene expression due to chronic dietary TCDD exposure in juvenile zebrafish. *PLoS ONE* 9:e100910.

Larson, J., M. J. Carvan III, R. Hutz. 2014. Engineered Nanomaterials: An Emerging Class of Novel Endocrine Disruptors. *Biology of Reproduction* 91:1-8.

Flentke, G.R., R.H. Klingler, R.L. Tanguay, M.J. Carvan III, S.M. Smith. 2014. An Evolutionarily-Conserved Mechanism of Calcium-Dependent Neurotoxicity in a Zebrafish Model of FASD. *Alcoholism: Clinical and Experimental Research* 38:1255-65.

Dellinger, M., M. Carvan, R. Klingler, T. Ehlinger, J.E. McGraw. 2014. An exploratory analysis of stream teratogenicity and human health using zebrafish sediment contact assay. *Challenges* 5:75-97.

Larson, J., M. J. Carvan III, J. Teeguarden, G. Watanabe, K. Taya, E. Krystofiak, R. Hutz. 2014. Low-Dose gold nanoparticles exert subtle endocrine-modulating effects on the ovarian steroidogenic pathway *ex vivo* independent of oxidative stress. *Nanotoxicology* 8:856-66.

Liu, Q., M.L. Rise, J.M. Spitsbergen, T.S. Hori, M. Mieritz, S. Geis, J.E. McGraw, G. Goetz, J. Larson, R.J. Hutz, M.J. Carvan III. 2013. Gene expression and pathologic alterations in juvenile rainbow trout due to chronic dietary TCDD exposure. *Aquatic Toxicology* 140-141C:356-68.

Liu, Q., N Basu, G. Goetz, N. Jiang, R.J. Hutz, P.J. Tonellato, M.J. Carvan III. 2013. Differential gene expression associated with dietary methylmercury (MeHg) exposure in rainbow trout (Oncorhynchus mykiss) and zebrafish (Danio rerio). *Ecotoxicology* 22:740-51.

Basu, N., J. Head, D.-H. Nam, J.R. Pilsner, M.J. Carvan, H.M. Chan, F.W. Goetz, C.A. Murphy, K. Rouvinen-Watt, A.M. Scheuhammer. 2013. Effects of methylmercury on epigenetic markers in three model species: mink, chicken and yellow perch. *Comp Biochem Physiol Pt C (Toxicol)* 157:322–327.

Xu X., D. Weber, M.J. Carvan III, R. Coppens, C. Lamb, S. Goetz, L.A. Schaefer. 2012. Comparison of neurobehavioral effects of methylmercury exposure in older and younger adult zebrafish (*Danio rerio*). *Neurotoxicology* 33,1212-8.

Xu, X., C. Lamb, M. Smith, L. Schaefer, M.J. Carvan III, D. Weber. 2012. Developmental methylmercury exposure affects avoidance learning outcomes in adult zebrafish. *Journal of Toxicology and Environmental Health Sciences* 4:85-91.

Kwon, S.Y., J.D. Blum, M.J. Carvan, N. Basu, J.A. Head, C.P. Madenjian, S.R. David. 2012. Absence of fractionation of mercury isotopes during trophic transfer of methylmercury to freshwater fish in captivity. *Environmental Science and Technology* 46:7527-34.

Watanabe, K., M. Andersen, N. Basu, M. Carvan III, K. Crofton, K. King, C. Suñol, E. Tiffany-Castiglioni, I. Schultz. 2011. Defining and Modeling Known Adverse Outcome Pathways: Domoic Acid and Neuronal Signaling as a Case Study. *Environmental Toxicology and Chemistry* 30:9-21.

Smith, L.E., M.J. Carvan III, D.C. White, F.E. Williams, D.N. Weber. 2010. Developmental selenomethionine and methylmercury exposures affect zebrafish learning. *Neurotoxicology and Teratology* 32:246-55.

Kusik, B.W., M.J. Carvan III, A.J. Udvadia. 2008. Detection of Mercury in Aquatic Environments using EPRE Reporter Zebrafish. *Marine Biotechnology* 10:750-757.

Carvan, M.J. III, J.P. Incardona, M.L. Rise. 2008. Meeting the challenges of aquatic vertebrate ecotoxicology. *BioScience* 58:1015-1025.

Journal Publications (continued):

Aleström, P., G. Begemann, M.J. Carvan III, K.C. Cheng, K. Crosier, P. Crosier, S. Ekker, A. Huttenlocher, K. Kawakami, G. Kelly, V. Korzh, G. Lieschke, M. Mione, M.N. Neely, S. Neuhauss, N.S. Trede. 2008. Views on four key questions about zebrafish research. Zebrafish. 5(1):9-24.

Hutz, R.J., M.J. Carvan III, M.G. Baldridge, L.K. Conley, T. King Heiden. 2008. Environmental toxicants and effects on female reproductive function. *Trends in Reproductive Biology* 2:1-11.

Weber, D.N., V.C. Connaughton, J.A. Dellinger, D. Klemer, A.. Udvadia, M.J. Carvan III. 2008. Selenomethionine reduces visual deficits due to developmental methylmercury exposures. *Physiology & Behavior* 93:250-260.

King Heiden, T.C. C.A. Struble, M.L. Rise, M.J. Hessner, R.J. Hutz and M.J. Carvan III. 2008. Molecular targets of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) within the zebrafish ovary: Insights into TCDD-induced endocrine disruption and reproductive toxicity. R*eproductive Toxicology* 25:47-57.

Carvan, M.J., III, E.P. Gallagher, A. Goksøyr, M.E. Hahn, D.G.J. Larsson. 2007. Fish models in toxicology. *Zebrafish* 4:9-20.

Klaper R., C.B. Rees, P. Drevnick, D. Weber, M. Sandheinrich, M.J. Carvan. 2006. Gene Expression Changes Related to Endocrine Function and Decline in Reproduction in Fathead Minnow (*Pimephales promelas*) after Dietary Methylmercury Exposure. *Environmental Health Perspectives* 114:1317-1343.

Arenzana, F.J., M.J. Carvan III, J. Aijón, R. Arévalo, A. Porteros. 2006. Teratogenic effects of ethanol exposure on zebrafish visual system development. *Neurotoxicology and Teratology* 28:342-348.

Pullela, P.K., T.Chiku, M.J. Carvan, III, D.S. Sem. 2006. Fluorescence-based detection of thiols in vitro and in vivo using dithiol probes. *Analytical Biochemistry* 352:265-273.

King Heiden, T., M.J. Carvan III, R.J. Hutz. 2006. Inhibition of follicular development, vitellogenesis, and serum 17ß estradiol concentrations in zebrafish following chronic, sublethal dietary exposure to 2,3,7,8,-tetrachlorodibenzo-p-dioxin. *Toxicological Sciences* 90:490-499.

King Heiden, T., R.J. Hutz, M.J. Carvan III. 2005. Accumulation, tissue distribution, and maternal transfer of dietary 2,3,7,8-dibenzo-*p*-dioxin: impacts on reproductive success of zebrafish. *Toxicological Sciences* 87:497-507.

Carvan, M.J., III, E. Loucks, D.N. Weber, and F.E. Williams. 2004. Ethanol effects on the developing zebrafish: neurobehavior and skeletal morphogenesis. *Neurotoxicology and Teratology* 26:757-768.

Loucks, E. and M.J. Carvan III. 2004. Strain-dependent effects of developmental ethanol exposure in zebrafish. *Neurotoxicology and Teratology* 26:745-55.

Nebert, D.W., G.W. Stuart, W.A. Solis, and M.J. Carvan III. 2002. Use of reporter genes and vertebrate DNA motifs in transgenic zebrafish as sentinels for assessing aquatic pollution. *Environmental Health Perspectives* 110:A15 (correspondence).

Dasmahapatra, A.K., H.L. Doucet, C. Bhattacharyya, and M.J. Carvan III. 2001. Developmental expression of alcohol dehydrogenase (ADH3) in zebrafish (*Danio rerio*). *Biochemical and Biophysical Research Communications* 286:1082-1086.

Carvan, M.J., III, D.M. Sonntag, C.B. Cmar, R.S. Cook, M.A. Curran, and G.L. Miller. 2001. Oxidative stress in zebrafish cells: Potential utility of transgenic zebrafish as a deployable sentinel for site hazard ranking. *The Science of the Total Environment* 274:183-196.

Carvan, M.J., III, T.P. Dalton, G.W. Stuart, and D.W. Nebert. 2000. Transgenic zebrafish as sentinels for aquatic pollution. *Annals of the New York Academy of Science*, 919:133-147.

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Technical Publications:

Dellinger M, Ehlinger T, Carvan M. 2011. Human Health Effects Review on Chemicals of Emerging Concern, Appendix J of IJC Chemicals of Emerging Concern Workgroup Report. Ottowa, ON, CA: International Joint Commission.

Theses:

Carvan, M.J.,III. 1993. *In vitro* toxicity of polycyclic aromatic hydrocarbons and halogenated aromatic hydrocarbons to cetacean cells and tissues. Ph.D. Thesis, Texas A&M University, College Station, Texas.

Carvan, M.J.,III. 1987. The descriptive anatomy of sound production and propagation tissues in *Kogia spp.* using magnetic resonance and computed tomography imaging. M.S. Thesis, University of Miami, Coral Gables, Florida.

Educational Publications:

Carvan, M.J., H. Tomasiewicz. 2004. *Chromosomes, Genes, and Traits in Zebrafish*. University of Wisconsin-Milwaukee Science Education Partnership Award Program, Milwaukee, Wisconsin.

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Invited Newsletter Contributions:

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Hulse-Kemp, A.M., M. Arick II, W. Li, M.J. Carvan, F.W. Goetz, R. Klaper, K.Mockaitis, A.A. Mohaimani, R. Podicheti, N. Garcia-Reyero, A. L. Schmoldt, O.J. Sepulveda-Villet, B.S. Shepherd, M.C. Smith, and A.R. Spear. Tidbits learned from development of a reference genome for yellow perch (*Perca flavescens*). Annual Meeting of American Fisheries Society, Reno, NV. October 2019.

Carvan, M.J. Methylmercury-Induced Epigenetic Transgenerational Inheritance of Abnormal Neurobehavior is Correlated with Sperm Epimutations in Zebrafish. International Congress of Toxicology, Honolulu, Hawaii, July 2019.

Carvan, M.J. Molecular Mechanisms for Persistence of the Effects of Developmental Toxicants: Using Zebrafish to Explore the Barker Hypothesis on the Fetal Basis of Adult Disease/Dysfunction and Their Potential for Transgenerational Inheritance. Society of Toxicology Annual Meeting, San Antonio, Texas, March 2018.

Clark, B., R. Klingler, K.L. Buckman, A. Bertrand, I. Kirby, J. Bishop, D. Champlin, C. Chen, M.J. Carvan, D. Nacci. Exploring the Effects of Temperature and Resource Limitation on Mercury Bioaccumulation, Growth and Energetics, and Behavior in *Fundulus heteroclitus*. Society of Toxicology Annual Meeting, San Antonio, Texas, March 2018.

Armstrong, B., S. McNaught, F.X. Mora, R. Klingler, M.J. Carvan III, N. Basu, J. Head, C.A. Murphy. Linking behavioral effects of methylmercury to adverse population outcomes in yellow perch using an individual based model. Society for Environmental Toxicology and Chemistry, Minneapolis, Minnesota, November 2017.

Carvan, M.J., R. Klingler, J.K. Larson, L. Ivan, N. Vinas, M. Jones, C.A. Murphy. Using quantitative neurobehavioral assays to develop a multispecies larval fish AOP. Society for Environmental Toxicology and Chemistry, Minneapolis, Minnesota, November 2017.

Abstracts (continued):

Ivan, L., C.A. Murphy, M.J. Carvan, R. Klingler, J.K. Larson, M. Jones, N. Garcia-Reyero, Examining how contaminant effects on fathead minnow behavior impact cohort growth and survival using an individual-based model. Society for Environmental Toxicology and Chemistry, Minneapolis, Minnesota, November 2017.

Carvan, M.J. III, T.A. Kalluvila, R.H. Klingler, J.K. Larson, M. Pickens, F.X. Mora-Zamorano, V.P. Connaughton, I. Sadler-Riggleman, D. Beck, M.K. Skinner. Mercury-Induced Epigenetic Transgenerational Inheritance of Abnormal Neurobehavior is Correlated with Sperm Epimutations in Zebrafish. 13th International Conference on Mercury as a Global Pollutant Providence, Rhode Island, July 2017.

Larson, J.K., J. Schuld, K.R. Svoboda, M. Liaosa, R.H. Klingler, M.J. Carvan III. Cell type-specific effects of developmental MeHg-induced neurotoxicity in zebrafish. Society of Toxicology Annual Meeting, Baltimore, Maryland, March 2017.

Carvan III, M.J., T.A. Kalluvila, R.H. Kilinger, J.K. Larson. Developmental methylmercury exposure leads to transgenerational adult neurobehavioral defects—using zebrafish to understand mechanism. Aquatic Animal Models of Human Disease Conference, Birmingham, Alabama, January 2017.

Carvan III, M.J., T.A. Kalluvila, R.H. Kilinger, J.K. Larson. Developmental methylmercury exposure leads to transgenerational adult neurobehavioral defects—using zebrafish to understand mechanism. International Conference on Emerging Health Care Materials & Advancements in Toxicology, Toledo, Ohio, September 2016.

Murphy, C., M. Carvan, N. Garcia-Reyero, M. Jones. Development of an adverse outcome pathway for neurobehavior in several different species of larval fish to predict ecological impacts from molecular responses. 43rd Annual Canadian Ecotoxicity Workshop, Edmonton, Alberta, Canada, September 2016.

Strickler, J.R. J. Rubio, A. Nihongi, M.J. Carvan III. Experiments to Test Whether Toxicity is Different at Hydrostatic Pressure. 2016 Gulf of Mexico Oil Spill and Ecosystem Science Conference, Tampa, Florida, February 2016.

Klingler, R.H., F.X. Mora, M.J. Carvan III. Applications of neurobehavioral analysis in AOP models and risk assessment. Society for Environmental Toxicology and Chemistry, Salt Lake City, Utah, November 2015.

Murphy, C.A., M. J. Carvan III, N. Basu, J. Head, F.W. Goetz. Scaling the sublethal effects of methylmercury to yellow perch population dynamics using adverse outcome pathway framework. Society for Environmental Toxicology and Chemistry, Salt Lake City, Utah, November 2015.

DeBofsky, A.R., R.H. Klingler, F.X. Mora, M. Waltz, B. Shepherd, J.K. Larson, D.A. III, L. Yang, F. Goetz, N. Basu, J. Head, P. Tonellato, C. Murphy, M.J. Carvan III. Female reproductive impacts of dietary methylmercury in yellow perch (*Perca flavescens*) and zebrafish (*Danio rerio*). Society for Environmental Toxicology and Chemistry, Salt Lake City, Utah, November 2015.

Afolayan, G.O., O.O. Afolayan, O. Awodele, E.O. Agbaje, S. Kumar, J. Larson, R. H. Klingler, K. R. Svoboda, M. J. Carvan III. Effects of Enantia chlorantha Extract on the Development of the Cardiovascular System in Zebrafish. Society of Toxicology Annual Meeting, San Diego, California, March 2015.

M.J. Carvan III, T. Kalluvila, R. Klingler. Ancestral exposure to methylmercury induces transgenerational inheritance of neurobehavioral defects. 7th Aquatic Animal Models of Human Disease Conference, Austin, Texas, December 2014.

Mora-Zamorano, F.X., C.A. Murphy, N. Basu, J. Head, R. Goetz, M.J. Carvan. Effects of methylmercury on behavior and gene expression of larval yellow perch (Perca flavescens) and zebrafish (Danio rerio): a comparative study. Society for Environmental Toxicology and Chemistry, Vancouver, British Columbia, Canada, November 2014.

Carvan, M.J., F.X. Mora-Zamorano, R. Klingler, N. Basu, J. Head, J. Janssen, D. Anderson,mP. Tonellato, C.A. Murphy. Linking physiological and behavioral changes to alterations in gene expression toward modeling the impact of aquatic environmental contaminants. Society for Environmental Toxicology and Chemistry, Vancouver, British Columbia, Canada, November 2014.

Murphy, C.A., B.M. Armstrong, B. Schmitt, F.X. Mora-Zamorano, N. Basu, J. Head, M.J. Carvan. Devolopment of an AOP to scale effects of contaminants from molecular to population level effects: behavior of larval fish. Society for Environmental Toxicology and Chemistry, Vancouver, British Columbia, Canada, November 2014.

Abstracts (continued):

Armstrong, B.M., C.A. Murphy, N. Basu, M.J. Carvan, J. Head, F.W. Goetz, R. Klingler, A. Arini, K. Mittal. Linking sublethal neuroendocrine effects of contaminants on the hypothalamic-gonadal-pituitary axis to adverse outcomes in fish. Society for Environmental Toxicology and Chemistry, Vancouver, British Columbia, Canada, November 2014.

Arini, A., J. Head, C.A. Murphy, M. Carvan, R. Goetz, R. Klingler, D. Nam, N. Basu. Characterization of methylmercury-associated neurochemical disruption in yellow perch. Society for Environmental Toxicology and Chemistry, Vancouver, British Columbia, Canada, November 2014.

Carvan III, M.J. Assessing the subtle neurological effects of environmentally-relevant methylmercury exposures in zebrafish. Collaborative Workshop on Aquatic Models and 21st Century Toxicology, North Carolina State University. Raleigh, NC, May 2014.

Afolayan, G.O., O.O. Afolayan, O. Awodele, E.O. Agbaje, S. Kumar, K. Svoboda, M.J. Carvan III. Cardiovascular developmental defects from *Enantia chlorantha*: a plant commonly used by pregnant women. 17th World Congress of Basic and Clinical Pharmacology, Cape Town, South Africa, July 2014.

F.X Mora-Zamorano, C.A. Murphy, N. Basu, J.A. Head, F.W. Goetz, M. Carvan. Effects of methylmercury on the swimming kinematics and foraging of larval yellow perch (*Perca flavescens*) and zebrafish (*Danio rerio*). Midwest Society for Environmental Toxicology and Chemistry, Chicago, Illinois, March 2014.

Klump, V, J. Janssen, M. Carvan. A State of Lake Michigan Address, Ninth Annual Great Lakes Restoration Conference, Milwaukee, Wisconsin, September 2013.

Flentke, G. R., R.H. Klingler, R.L. Tanguay, M.J. Carvan III, S. M. Smith. An evolutionarily conserved mechanism of calcium-dependent neurotoxicity in an early zebrafish model of FASD. 36th Annual Scientific Meeting of the Research Society on Alcoholism, Orlands, FL, June 2013.

Hutz, R., M. Carvan III, T. Heiden, R. Selzer, J. Larson, Q. Liu. Environmental Endocrine Disruptors of the Ovary, Familiar and Novel: Xenoestrogens, Dioxins, and Gold Nanoparticles. Society for the Study Reproduction Annual Meeting, Montreal, Canada, July 2013.

Tonellato, P.J., M.J. Carvan, C.Y. Huang, A.A. Mohaimani, C. Murphy. Bioinformatics in Aquatic Animal Model Whole Genome Analysis. Sixth Aquatic Animal Models for Human Disease and Midwest Zebrafish conferences, Milwaukee, Wisconsin, June 2013.

Klingler, R.H., D. Eischen Jr., A. Marcangeli, M.J. Carvan III. Optimized Methods for DNA Isolation and Zygosity Determination of Transgenic Zebrafish. Sixth Aquatic Animal Models for Human Disease and Midwest Zebrafish conferences, Milwaukee, Wisconsin, June 2013.

Mora-Zamorano, F.X., M.J. Carvan, K. Svoboda. Novel, low-cost setup allows simultaneous tracking of multiple groups of zebrafish eleutheroembryos. Sixth Aquatic Animal Models for Human Disease and Midwest Zebrafish conferences, Milwaukee, Wisconsin, June 2013.

Kalluvila, T., M. Pickens, R. Klingler, M. Carvan. Transgenerational inheritance of visual deficits in zebrafish due to developmental exposure to methylmercury. Sixth Aquatic Animal Models for Human Disease and Midwest Zebrafish conferences, Milwaukee, Wisconsin, June 2013.

Pickens, M., T. Kalluvila, R. Klingler, M.J. Carvan III. Effect of Global DNA Methylation Changes on Larval Zebrafish Neurobehavior. Sixth Aquatic Animal Models for Human Disease and Midwest Zebrafish conferences, Milwaukee, Wisconsin, June 2013.

Mora-Zamorano, FX, CA Murphy, N Basu , J Head, R Goetz, MJ Carvan III. Assessing the neurobehavioral effects of methylmercury on yellow perch (*Perca flavescens*) and zebrafish (*Danio rerio*), SETAC Midwest chapter meeting, La Crosse, Wisconsin, March 19, 2013.

Berg, C., D. Weber, H. Tomasiewicz, R. Hesselbach, D. Petering, M. Carvan. Effectively Using Inquiry-based Modules to Study the Effects of Environmental Agents on Human Health with Zebrafish, Fathead Minnows and Earthworms, Wisconsin Society of Science Teachers (WSST) Annual Conference Wausau, WI, March 2013.

Carvan, M.J., R. Klingler. The effects of developmental MeHg exposure at environmentally-relevant levels. First International Conference on Environmental Bioinorganic and Toxicology Research. Universidade Federal de São Paulo, Sao Paulo, Brazil, December 2012.

Carvan, M.J., H.G. Tomasiewicz, R. Hesselbach, C. Berg, D.H. Petering. Zebrafish as a model system for environmental health studies in the classroom. First International Conference on Environmental Bioinorganic and Toxicology Research. Universidade Federal de São Paulo, Brazil, December 2012.

F.X Mora-Zamorano, C.A. Murphy, A.D. Deardorff, N. Basu, J.A. Head, F.W. Goetz, M. Carvan. Effect of methylmercury on foraging behavior of larval yellow perch (*Perca flavescens*) and zebrafish (*Danio rerio*): implications for recruitment. Society for Environmental Toxicology and Chemistry, Long Beach, California, November 2012.

Abstracts (continued):

C.A Murphy, B. Armstrong, M. Carvan, R. Goetz, N. Basu, J. Head. Linking the sublethal effects of mercury on the hypothalamic-pituitary-gonadal axis of yellow perch in Lake Michigan to ecological effects. Society for Environmental Toxicology and Chemistry, Long Beach, California, November 2012.

Achankunju, T., M. Carvan III. Role of Mercury in the Alteration of Global DNA Methylation. The Contribution of Epigenetics in Pediatric Environmental Health, San Francisco, California, May 2012.

Larson, J., M. Carvan, R. Klaper, J. Teeguarden, E. Krystofiak, R. Hutz. Gold Nanoparticles exert Endocrine-disrupting Effects on Ovarian Steroidogenesis *ex vivo*: Estimation of Target-tissue dose using the *in-vitro* Sedimentation Diffusion Dosimetry Model. 45th Society for the Study of Reproduction Annual Meeting, State College, Pennsylvania, August 2012.

Petering, D.H., Berg, C., Carvan, M., Weber, D., Tomasiewicz, H., R. Hesselbach. Zebrafish as Models: Studying the effects of environmental agents on human health. 10th International Conference on Zebrafish Genetics and Development, Madison, WI, June 2012.

Larson, J., M.J. Carvan III, R. Klaper, R.J. Hutz. Rat ovarian steroidogenesis *ex vivo* is stimulated differentially upon exposure to low concentrations of gold nanoparticles. Society of Toxicology 2011 Annual Meeting, San Francisco, California, March 2012.

Liu, Q., M.L. Rise, G. Goetz, J.M. Spitsbergen, R. Cariou, R.J. Hutz, P.J. Tonellato, M.J. Carvan. Chronic toxic effects of dietary TCDD in zebrafish Society of Toxicology 2011 Annual Meeting, San Francisco, California, March 2012.

Petering, D., C. Berg, M. Carvan, R. Hesselbach, H. Tomasiewicz, D. Weber. Using Zebrafish, Earthworm and Fathead Minnows to Study Effects of Environmental Agents on Human Health. National Science Teachers Association National Conference, Indianapolis, Indiana, March 2012.

Carvan III, M.J. The Zebrafish as a Research Model for Human Development and Disease. The American College of Veterinary Pathologists Annual Meeting, Nashville, Tennessee, December 2011.

Carvan, M.J., C.A. Murphy, D. Weber, F. Goetz, J. Head, N. Nasu. Methylmercury Effects of Larval Fish in the Lab: Modeling to the Population Level. Society for Environmental Toxicology and Chemistry, Boston, Massachusetts, November 2011.

Nam, D., D. Adams, D. Evers, J. Head, M.J. Carvan, N. Basu. A Study of Mercury and Neurochemical Biomarkers Across Several Fish Species. Society for Environmental Toxicology and Chemistry, Boston, Massachusetts, November 2011.

Murphy, C.A., J. Head, N. Basu, F. Goetz, S. Sitar, M. Carvan. What is a Model Species? Linking Sublethal Stress Responses to Population Impacts via Computational Modeling in Great Lakes Fish. Society for Environmental Toxicology and Chemistry, Boston, Massachusetts, November 2011.

Hesselbach, R., M. Carvan, L. Petering, H. Tomasiewicz, Do Weber, D. Petering. Biology-Environmental Health Science Nexus: Inquiry, Content and Communication. Society for Environmental Toxicology and Chemistry, Boston, Massachusetts, November 2011.

Nam, DH., C. Murphy, M Carvan, R Goetz, J. Head, N. Basu. Mercury-Associated Neurochemical Effects in Fish – Integrating In Vitro, Whole Animal, and Population Studies. Midwest Regional Chapter of the Society of Toxicology Fall Scientific Meeting, Champaign, Illinois, November 2011.

Liu, Q, M.L. Rise, G. Goetz, N. Basu, R.J. Hutz, P.J. Tonellato, M.J. Carvan. Toxicogenomic Comparison of Effects of Dietary Methylmercury in Rainbow Trout and Zebrafish. 2011 Toxicogenomics Integrated with Environmental Sciences Conference, Chapel Hill, North Carolina, September 2011.

Hesselbach, R, C. Berg, M. Carvan, L. Petering, H.G. Tomasiewicz, D. Weber, D.H. Petering. Biology-Environmental Health Science Nexus: Inquiry, Content and Communication. Midwest Zebrafish Conference and Education Summit, Rochester, MN, August, 2011

Carvan III, M.J., Q. Liu. Chronic dietary TCDD exposure causes alteration of gene expression in the zebrafish ovary. 16th Pollutant Responses In Marine Organisms, Long Beach, California, May 2011.

C. Murphy, S. Smith, R. Goetz, M. Carvan, N. Basu, S. Sitar, J. Head. Linking sublethal stressors to population impacts via computational modeling. North American Society for Comparative Endocrinology, Ann Arbor, Michigan, July 2011.

Nam, D.H., D.H. Adams, D.C. Evers, J. Head, M. Carvan, N. Basu. Neuroendocrine effects of mercury in several fish species. North American Society for Comparative Endocrinology, Ann Arbor, Michigan, July 2011.

Larson, J., M.J.Carvan III, R.Klaper, R.J.Hutz. Gold nanoparticle effects on rat ovarian gene expression. Society of Toxicology 2011 Annual Meeting, Washington, DC, March 2011.

Abstracts (continued):

Liu, Q, M.L.Rise, C.A.Struble, J.M.Spitsbergen, G.Goetz, R.J.Hutz, M.J.Carvan. Toxicogenomic comparison of the toxic effects of dietary tcdd in rainbow trout and zebrafish. Society of Toxicology 2011 Annual Meeting, Washington, DC, March 2011.

Carvan, M.J., R. Klingler, J. Topczewski. Influence of human gene variants on the effects of developmental MeHg exposure. Society of Toxicology 2011 Annual Meeting, Washington, DC, March 2011.

Klingler, R.H., M.J. Carvan. Determining the effects of glutathione on developmental methylmercury exposure. Society of Toxicology 2011 Annual Meeting, Washington, DC, March 2011.

Oberdörster, G., R. Strickler, M. Carvan. Multiwalled carbon nanotubes (MWCNT)—Concern for environment and health? Pacifichem 2010—The International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, December 2010.

Head, J.A., M. Pickens, E. Williams, A. Maiuri, J.A. Banda, M.J. Carvan, N. Basu. Interactive effects of methylmercury and hypoxia in yellow perch, Society for Environmental Toxicology and Chemistry, Portland, Oregon 2010.

Carvan, M.J., K. Gajeski, J.B. Hewitt, R. Hutz, D.H. Petering. Assessing and Communicating Benefits and Risks of Eating Fish with Subsistence-Fishing Ethnic Communities, 138th American Public Health Association Annual Meeting, Denver, Colorado, November 2010.

Gajeski, K., M. Carvan, R. Hutz, J.B. Hewitt. A novel method of risk-benefit estimation and communication with subsistence fishers, 138th American Public Health Association Annual Meeting, Denver, Colorado, November 2010.

Carvan III, M.J. Development and use of biomarkers in environmental monitoring, Chinese Academy of Fisheries Science Forum 2010, Wuxi, China, October 2010.

Carvan III, M.J., Liu, Q., Weber, D.N. Effects of developmental MeHg exposure on adult phenotypes, Aquatic Animal Models of Human Disease, Corvallis, Oregon, September 2010.

Liu, Q., M.L. Rise, C.A. Struble, J.M. Spitsbergen, R.J. Hutz, M.J. Carvan. Toxicogenomics comparison of toxic effects of dietary tcdd in zebrafish and rainbow trout, Aquatic Animal Models of Human Disease, Corvallis, Oregon, September 2010.

Carvan III, M.J., Liu, Q., Weber, D.N. The effects of persistent pollutants on zebrafish: linking physiology, genomics, and behavior, International Congress on the Biology of Fishes, Barceona, Spain, June 2010.

Larson, J., M.J. Carvan III, R. Klaper, R. Hutz. Gold nanoparticles alter progesterone and estradiol-17 beta accumulation *in vitro* in a rat ovary culture model. Endocrine Society 92nd Annual Meeting (ENDO 2010), San Diego, California, June 2010.

Hewitt, J.B., T.R. Shank, D.P. James, M.B. Driscoll, R. Klaper, M.J. Carvan III, L. Delgado, G. Pasha, R.M. Jadhav. Making Milwaukee's 30th Street Corridor a Healthy, Sustainable Place. Partnerships in Environmental Public Health Conference, Durham, North Carolina, April 2010.

Jonhera, T., P.K. Pullela, B. Wakim, M. Carvan, D.S. Sem. Dabcyl /Fluorescein-based Probe for Detection of Thiols and Disulfides: Proteomic Application to Discovery of Reactive Disulfides in Live Cells. American Society for Biochemistry and Molecular Biology Annual Meeting, Anaheim, California, April 2010.

Weber, D., L. Smith, M.J. Carvan III. A zebrafish model for what ails, and possibly cures, us: A behavioral perspective of developmental lead and mercury toxicity. Society of Toxicology 2010 Annual Meeting, Salt Lake City, UT, March 2010.

Invited Presentations and Lectures (last 10 years):

International Conference on Innovative Biological and Public Health Research, Lahore, Pakistan, November 2019. Keynote Address, "Environment-epigenome interactions and the potential for transgenerational inheritance of disease and dysfunction".

Department of Biology, University of Wisconsin Eau Claire, Eau Claire, Wisconsin, April 2019, "Transgenerational effects of environmental contaminants"

Department of Psychology, University of Toronto at Mississauga, Mississauga, ON Canada, August 2018. "Developmental Methylmercury Exposure Leads to Adult Neurobehavioral Defects and Effects in Future Generations".

Oregon Institute of Occupational Health Sciences, Oregon Health & Science University, Portland, Oregon, April 2018. "Developmental Methylmercury Exposure Leads to Adult Neurobehavioral Defects and Effects in Future Generations".

Invited Presentations and Lectures: *(continued)*

Defining Domains of Applicability for Zebrafish within Toxicology: A Retrospective and Prospective Workshop, Society of Toxicology Annual Meeting, March 2018. "Molecular Mechanisms for Persistence of the Effects of Developmental Toxicants: Using Zebrafish to Explore the Barker Hypothesis on the Fetal Basis of Adult Disease/Dysfunction and Their Potential for Transgenerational Inheritance".

Office of Research, University of Wisconsin-Milwaukee, February 2018, Panel member for "Lessons Learned: Panel Discussion of Process and Products by the First Cohort of the Collaborative Research Team Development Grants"

Environmentally-relevant behavior assessment to support modeling, AOPs, and improved risk decision-making—Platform Session, Society for Environmental Toxicology and Chemistry, Minneapolis, Minnesota, November 2017. "Using quantitative neurobehavioral assays to develop a multispecies larval fish AOP".

Office of Research, University of Wisconsin-Milwaukee, October 2017. Panel Member for "Writing collaborative proposals: Learning from experience".

Tenth Talk: Lead Contamination in Milwaukee's Water, hosted by State Representative David Bowen, Grace Fellowship Church of Milwaukee, Milwaukee, Wisconsin, April 2017. "Effects of Pb poisoning and progress toward its elimination in Milwaukee".

Aquatic Animal Models of Human Disease Conference, January 2017. **"**Developmental methylmercury exposure leads to transgenerational adult neurobehavioral defects—using zebrafish to understand mechanism".

League of Women Voters of Milwaukee County Public Meeting on Emerging Water Quantity and Quality Issues in Wisconsin, Shorewood, Wisconsin, November 2016. "Legacy and emerging water quality issues in Wisconsin and the Great Lakes".

Southeast Gateway Group, Sierra Club, Racine, Wisconsin, November 2016. "Legacy and emerging water quality issues in the Great Lakes".

International Joint Commission Scientific Roundtable and Public Meeting: Great Lakes Successes and Challenges: What is a Healthy Lake Michigan to You? Milwaukee, Wisconsin, October 2016. "Long-term Transgenerational Impacts of Mercury Exposure".

International Conference on Emerging Health Care Materials & Advancements in Toxicology, Toledo, Ohio, September 2016. "Developmental methylmercury exposure leads to transgenerational adult neurobehavioral defects—using zebrafish to understand mechanism".

University of Massachusetts, Department of Environmental Health Sciences, August 2016. "Developmental Methylmercury Exposure Leads to Transgenerational Adult Neurobehavioral Defects—Using Zebrafish to Understand Mechanism".

Public Forum on Environmental Health, University of West Indies—Mona, Kingston, Jamaica, July 2016. "Protecting our waters: the impact of globalization on mineral extraction, water pollution, and public health".

Agent Orange Town Hall, Vietnam Veterans of America Chapter 528, Schoolcraft College, Livonia, Michigan, May 2016. "Genetics, Epigenetics, and the Potential for Transgenerational Health Effects".

Water-Centric Cities Conference, Center for International Education, University of Wisconsin-Milwaukee, April 2016. "Protecting our waters: the impact of globalization on mineral extraction, water pollution, and public health".

Sport and Recreation Management Program, Marian University, Fond du Lac, Wisconsin, April 2016. "America's water crisis: Potential consequences for sports and recreation".

Department of Biological Sciences, Idaho State University, Pocatello, Idaho, November 2015, "Developmental methylmercury exposure leads to transgenerational adult neurobehavioral defects—using zebrafish to understand mechanism".

Symposium on Systems Biology Approaches for Advancing Adverse Outcome Pathways for Risk Assessment, Society for Environmental Toxicology and Chemistry, Salt Lake City, Utah, November 2015, "Applications of neurobehavioral analysis in AOP models and risk assessment".

Superfund Research Program and Center for Ecogenetics and Environmental Health, University of Washington, Seattle, Washington, October 2015, "Developmental Methylmercury Exposure Leads to Transgenerational Adult Neurobehavioral Defects—Using Zebrafish to Understand Mechanism".

Molecular and Environmental Toxicology Center, University of Wisconsin-Madison, Madison, Wisconsin, February 2015, "The Effects of dietary dioxin in fishes: from molecular changes to pathology".

7th Aquatic Animal Models of Human Disease Conference, Austin, TX, December 2014. "Ancestral exposure to methylmercury induces transgenerational inheritance of neurobehavioral defects".

Invited Presentations and Lectures: *(continued)*

Symposium on Ecological models for assessing the risks of chemicals and other stressors, Society for Environmental Toxicology and Chemistry, Vancouver, British Columbia, Canada, November 2014. "Linking physiological and behavioral changes to alterations in gene expression toward modeling the impact of aquatic environmental contaminants".

University of Mississippi College of Pharmacy. Oxford, MS, October 2014, "Developmental Methylmercury Exposures and Adult Neurobehavioral Defects—Using Zebrafish to Understand Mechanism".

Collaborative Workshop on Aquatic Models and 21st Century Toxicology, North Carolina State University. Raleigh, NC, May 2014, "Assessing the subtle neurological effects of environmentally-relevant methylmercury exposures in zebrafish".

American Indian Sovereignty and Natural Resource Management Conference, University of Wisconsin-Milwaukee. Milwaukee, WI, April 2014, "Molecular Mechanisms of Toxicology for Mercury and PCB in the Great Lakes Region".

Ninth Annual Great Lakes Restoration Conference, Milwaukee, Wisconsin, September 2013. "A State of Lake Michigan Address".

First International Conference on Environmental Bioinorganic and Toxicology Research, Universidade Federal de São Paulo. Sao Paulo, Brazil, December 2012. "The effects of developmental MeHg exposure at environmentally-relevant levels".

Universidade Federal de São Paulo, First International Conference on Environmental Bioinorganic and Toxicology Research. Sao Paulo, Brazil, December 2012, "Zebrafish as a model system for environmental health studies in the classroom".

School of Freshwater Sciences, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, May 2012. "Mercury is everywhere—Should we care?" in Oceans and Human Health Seminar Series.

Roche Nimblegen, Madison, Wisconsin, April 2012, "Methods and Progress of Zebrafish, Model of Human Public Health."

The American College of Veterinary Pathologists Annual Meeting, Nashville, Tennessee, December 2011 "The Zebrafish as a Research Model for Human Development and Disease."

Symposium: Gene-Environment-Disease Interactions in Fish Models of Human Disease, Society of Toxicology 2011 Annual Meeting, Washington, DC, March 2011, "Influence of Human Gene Variants on the Effects of Developmental MeHg Exposure."

Midwest Chapter of the Society for Environmental Toxicology and Chemistry and Chicago Chapter of the Society for Risk Analysis, Lake Geneva, Wisconsin, Keynote Address, March 2011, "Methylmercury: Linked environmental and human health risks".

Department of Biological Sciences, University of Wisconsin-Whitewater, February 2011, "Seafood and methylmercury: the risks and benefits of fish consumption" in Seminar on Environmental Pollutants.

School of Public Health, University of Wisconsin-Milwaukee, February 2011, "Laboratory models for gene-environment-disease interactions" in EOH 939 Environmental and Occupational Health Research Seminar.

138th American Public Health Association Annual Meeting, Denver, Colorado, November 2010, "Assessing and Communicating Benefits and Risks of Eating Fish with Subsistence-Fishing Ethnic Communities".

Chinese Academy of Fisheries Science Forum 2010, Wuxi, China, October 2010, Keynote Address, "Development and use of biomarkers in environmental monitoring".

Department of Biological Sciences, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, September 2010, "Marine Mammals: Communication in a Three Dimensional World" in BIO SCI 430 Animal Behavior-Ethology.

Aquatic Animal Models of Human Disease, Corvallis, Oregon, September 2010, "Effects of developmental MeHg exposure on adult phenotypes".

International Congress on the Biology of Fishes, Barceona, Spain, June 2010, "The effects of persistent pollutants on zebrafish: linking physiology, genomics, and behavior".

Environmental and Occupational Health Seminar Series, School of Public Health, University of Wisconsin-Milwaukee, May 2010, "Molecular determinants of sensitivity and resistance to environmental chemicals".

Selected University Service Activities (last 10 years):

2019- Smart City Milwaukee Initiative, University of Wisconsin-Milwaukee.
2018- Chair of the Faculty and of the Executive Committee, School of Freshwater Sciences, University of Wisconsin-Milwaukee.
2018- Faculty Senate, University of Wisconsin-Milwaukee.
2017- Academic Planning & Budget Committee, University of Wisconsin-Milwaukee.
2018 Faculty Rights & Responsibilities Committee, University of Wisconsin-Milwaukee, June 2018.
2018 Faculty Rights & Responsibilities Committee, University of Wisconsin-Milwaukee, March 2018.
2018 Interview for WTMJ television on City of Racine water diversion for Foxconn, February 2018.
2013-2016 Professional Science Master's Advisory Board, School of Freshwater Sciences, University of Wisconsin-Milwaukee.
2011-2016 International Council, University of Wisconsin-Milwaukee.
2012-2014 Faculty Senate, University of Wisconsin-Milwaukee.
2013-2014 Faculty Senate Rules Committee, University of Wisconsin-Milwaukee.
2009-2010 School of Freshwater Sciences Planning Working Group, University of Wisconsin-Milwaukee.
2005-2010 Southeast Wisconsin High Performance Computing Organizing Committee, University of Wisconsin-Milwaukee Representative, Milwaukee, Wisconsin.

Selected Professional Service Activities (last 10 years):

2017- Member, Council (Board of Directors) of the Society of Toxicology.
2016- Environmental Health Sciences Review Committee, National Institute of Environmental Health Sciences, National Institutes of Health.
2014- Member of Editorial Board, *Frontiers in Toxicogenomics*, Frontiers Publishing.
2011- Member of Editorial Board, *ISRN Toxicology*, Hindawi Publishing Corporation.
2010- Participant, Milwaukee Lead to Succeed Program for Milwaukee Water Council Workforce Development.
2003- Member of Editorial Board, *Zebrafish*, Mary Ann Liebert, Inc. Publishers.
2020 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2020/05 ZMD1 MLS (M1) R - Specialized Centers of Excellence on Environmental Health Disparities Research, March 2020.
2020 Tenure and promotion file review for the Medical College of Wisconsin, Department of Pathology, February 2020.
2011-2019 Member of Editorial Board, *Toxicological Sciences*, Oxford University Press Publishers.
2019 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2020/01 EHS (T) Environmental Health Sciences T32 Training Centers, October 2019.
2019 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2020/01 ZRG1 MDCN-R (86) A, Neuroscience AREA Grant Applications, October 2019.
2019 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2020/01 EHS (P) 2 Environmental Health Sciences P30 Core Centers, August 2019.
2019 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2020/01 ZES1 VSM-K (P2) 2 Environmental Health Sciences P30 Core Center, August 2019.
2019 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2019/05 ZES1 VSM-S R3 1, R13 "Support for Conferences and Scientific Meetings", April 2019.
2019 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2019/05 ZRG1 MDCN-R (86) Academic Research Enhancement Award (AREA)", March 2019.
2012-2018 Member, Institute of Medicine Committee for Review of the Health Effects in Vietnam Veterans of Exposure to Herbicides — 9th, 10th and 11th Biennial Updates, National Academy of Sciences.

***Other Professional Service Activities** (continued):*

2018 Tenure and promotion file review for the University of Alberta, Department of Biological Sciences, September 2018.

2018 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2018/08 ZES1 RAM-K (LP) 1 "Extramural Loan Repayment Program for Clinical Researchers", April 2018.

2018 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2018/05 ZES1 LAT-D-(K2) 1 "Career Development in Environmental Research", March 2018.

2018 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2018/05 ZRG1 MDCN-R (86) A "Review of Neuroscience AREA Grant Applications", February 2018.

2018 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2018/05 SIEE "Systemic Injury by Environmental Exposure", February 2018.

2018 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health 2018/01 ZES1 LAT-K (TS) 1 "Time-Sensitive R21 Hurricane Applications", January 2018.

2018 Tenure and promotion file review for University of Massachusetts School of Public Health and Health Sciences, January 2018.

2017 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, 2018/01 ZES1 RAM-K (R) 2 "NIH Support for Conferences and Scientific Meetings (Parent R13)", December 2017.

2017 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, 2017/10 ZES1 LAT-D (K2) 1 "SEP for K01, K02, K08, K23 Applications", July 2017.

2017 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, 2017/10 ZES1 JAB-D (V) 1 "Limited Competition: NIH Competing Revision Awards for Creating Virtual Consortium for Translational/Transdisciplinary Environmental Research (ViCTER)", June 2017.

2017 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, 2017/05 ZRG1 SBIB-G (11) B "Small Business: Biomedical Sensing, Measurement and Instrument", March 2017.

2017 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, 2017/05 ZRG1 SBIB-G (83) A "Academic Research Enhancement Award", February 2017.

2016 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, 2017/01 ZRG1 MDCN-R (86) A "Review of Neuroscience AREA Grant Applications", November 2016.

2016 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, 2017/01 EHS (T) "Environmental Health Sciences Review Committee T32 Applications", November 2016.

2016 Tenure and promotion file review for National University of Singapore, Department of Biological Sciences, September 2016.

2016 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, ZES1 JAB-D (R1) 1 "Outstanding New Environmental Scientist Review Meeting", June 2016.

2016 Peer Reviewer for National Toxicology Program, National Institute of Environmental Health Sciences, National Institutes of Health, "Peer Review of Studies of Chemicals Spilled into the West Virginia Elk River", June 2016.

2016 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, ZRG1 SBIB-G (11) "Small Business: Biomedical Sensing, Measurement and Instrumentation", June 2016.

2016 Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, ZRG1 SBIB-G (83) "Review of Neuroscience AREA Grant Applications", June 2016.

***Other Professional Service Activities** (continued):*

2004-16	United States Army Medical Research Institute of Chemical Defense Steering Committee for Environmental Health Risk Assessment Methods, USACEHR, Ft. Detrick, Maryland.
2015	Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, ZRG1 MDCN-R (86) "Review of Neuroscience AREA Grant Applications", November 2015.
2015	Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, ZES1 JAB-D (R3) 1 "Review of R13 Conference Grants Application", April 2015.
2015	Proposal Review for Woods Hole SeaGrant Program, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts, June 2015.
2015	Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, ZES1 LWJ-J (SF) "Review of Superfund Hazardous Research and Training Programs (P42)", February 2015.
2012-2015	Member of Editorial Board, *European Journal of Toxicological Sciences*, Science & Knowledge Publishing Corporation Limited.
2011-2015	Member, Scientific Program Committee, Society of Toxicology.
2010-2015	Member, National Research Council Associateship Programs Life Sciences Panel, The National Academy of Sciences.
2014	Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, ZES1 JAB-J (CG) "Support for Conferences and Scientific Meetings (R13)", November 2014.
2014	Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, ZRG1 MDCN-A (86) "Academic Research Enhancement Awards (R15)", October 2014.
2014	Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, ZES1 JAB-D (1R) 1 "Outstanding New Environmental Scientist (ONES) Award (R01)", July 2014.
2014	Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, ZRG1 CB-G (55) R "Age-Related Diseases and Inflammation", June 2014.
2013	Proposal review for Mississippi NSF EPSCoR, Mississippi State University, August 2013.
2013	Proposal review for Collaborative Research and Development Grant Program, Natural Sciences and Engineering Research Council of Canada, May 2013.
2013	Promotion file review for University of California-Davis, Department of Anatomy, Physiology, and Cell Biology, January 2013.
2012	Special Emphasis Panel, Core Reviewer, Center for Scientific Review, National Institutes of Health/Environmental Protection Agency, Research Triangle Park, North Carolina, November 2012, ZES1 LWJ-D (SF) "Superfund P42 Basic Research and Training Program".
2012	Promotion to Full Professor file review for Idaho State University, Department of Biological Sciences, October 2012.
2012	Proposal review National Research Foundation of Singapore, Environment and Water Industry Programme Office, February 2012.
2012	Proposal review for Vanderbilt University Center in Molecular Toxicology, March 2012.
2012	Proposal review for the University of Washington Center for Ecogenetics and Environmental Health, February 2012.
2011	Proposal Review for Killam Research Fellowship, Killam Fund, Canada Council for the Arts, September 2011.
2011	Scientist aboard the *Odyssey*, research cruise for dart biopsy collection of sperm whale skin samples, supported by the Ocean Alliance, 14 days at sea in the Gulf of Mexico, summer 2011.
2011	Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, ZES1 SET - D (SF) "Innovative Bioavailability Assays to Assess the Effectiveness of Contaminated Sediment Remediation", May 2011.
2011	Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, May 2011, 2011/08 ZES1 RAM-D (LR) S "NIEHS Special Emphasis Panel: (Loan Repayment)".

***Other Professional Service Activities** (continued):*

2011	Proposal review for Discovery Grant Program, Natural Sciences and Engineering Research Council of Canada, January 2011.
2009-2011	Member, Society for Environmental Toxicology and Chemistry North America Meetings Committee.
2010	Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, October 2010, 2011/01 ICER "Integrative and Clinical Endocrinology and Reproduction Study Section".
2010	Special Emphasis Panel/Scientific Review Group, Center for Scientific Review, National Institutes of Health, March 2010, ZES1 JAB-J (R3) 1 "Review of Conference Grants for the National Institute of Environmental Health Sciences".
2009-2010	President for the Society of Toxicology Molecular Biology Specialty Section.

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601 Keystone Park Drive, Suite 200
Morrisville, NC 27560

Areas of expertise:
in vitro assay development, computational toxicology, high-throughput screening in toxicology, and toxicogenomics

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contr butors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Karmaus, Agnes (nee Forgacs)

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Senior Toxicologist

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
University of Guelph, Guelph, Ontario	BS	2008	Biochemistry
Michigan State University, East Lansing, Michigan	PhD	2013	Biochemistry & Toxicology

A. Personal Statement

Completing a dual PhD degree in both biochemistry and molecular biology as well as integrative toxicology, the research focus of these two dissertation projects were the development of an *in vitro* screening assay to identify steroidogenesis disruptors and the species-comparative evaluation of the hepatotoxic effects of dioxin including toxicogenomics and lipidomics assessment, respectively. My postdoctoral fellowship at the National Center for Computational Toxicology, US EPA, focused on developing computational algorithms and novel analysis approaches to leverage high-throughput screening data and cheminformatics to characterize chemical-mediated effects. With this diversity in training, I have sought to develop a career that leverages all of the *in vivo*, *in vitro*, and *in silico* expertise I have gained, specifically with the goal of helping establish next generation toxicological approaches.

My current position at ILS includes primarily serving as a Study Director for clients requesting certain *in vitro* assays as well as toxicogenomics studies and computational toxicology studies involving ToxCast and Tox21 data. I am also responsible for the implementation of *in vitro* cell-based endocrine disruption screening assay (H295R steroidogenesis) in the lab. Within the computational toxicology group, I apply informatics approaches to extract data from many sources; create, maintain, and utilize databases and analysis approaches integrating results from various toxicological assays; and develop, write, and review scientific and technical documents. I also serve as a contractor to support the NTP Interagency Center for the Evaluation of Alternative Methods (NICEATM) to evaluate *in silico*, *in vitro*, and *in vivo* test methods and assess their utility for regulatory purposes as well as liaising with federal partners. Finally, I oversee the implementation of statistical analyses applied to *in vivo* study data generated at ILS. Overall, my responsibilities are diverse and leverage my training well to help achieve my goal of contributing to next generation toxicology as well as continue to challenge and grow my abilities.

Contributions to the toxicology community are also a great priority for me. I have been actively involved with the Society of Toxicology serving on several appointed, elected, and volunteer committees as well as successfully developing session proposals for workshops, symposia, and continuing education courses for several years. I have also coordinated and participated as an expert in multiple workshops, to promote engagement and collaboration in emerging toxicology topics. I strongly believe in sharing the outcomes of workshops beyond the participants involved, and have written workshop proceedings and reports to promote the dissemination of cutting edge scientific discussion across the field.

B. Positions and Honors

2008-2013 Graduate Researcher, Michigan State University, Department of Biochemistry and Molecular Biology, Integrative Environmental Toxicology Program, East Lansing, Michigan

2013-2016 Postdoctoral Research Fellow, US EPA National Center for Computational Toxicology, Research Triangle Park, NC

2016-2019 Staff Toxicologist, Integrated Laboratory Systems, Inc., Research Triangle Park, NC

2019-present Senior Toxicologist, Integrated Laboratory Systems, Inc., Research Triangle Park, NC

Professional Memberships

2009-present Member, Society of Toxicology
2014-present Member, Society for Environmental Toxicology and Chemistry
2015-present Member, American Society for Cellular and Computational Toxicology

Honors

2019 SOT Risk Assessment Specialty Section "Top Ten in Risk Assessment"
2012 Barnett Rosenberg Endowed Research Assistantship, Michigan State University
2012 Colgate-Palmolive Award for Student Research Training in Alternative Methods, Society of Toxicology
2012 Summer fellowship for the evaluation of Tox21 approaches, ILSI North America Technical Committee on Food and Chemical Safety

C. Contributions to Science

1. Next Generation Evaluation of Food-Relevant Chemicals

To gain a comprehensive understanding of food-use chemical assessment using alternative data, I participated in multiple workshops to understand stakeholder needs. Subsequently, targeted analyses integrating *in vitro* high-throughput screening data utilizing novel computational methods was developed. Through this work, I have built an in-depth understanding of food-use chemical diversity, risk assessment frameworks, and opportunities as well as challenges facing the utilization of alternative data for chemical safety assessment. The challenges with this work include developing appropriate analysis approaches and then properly communicating outcomes as well as contextualizing uncertainty and limits of data applicability. This work continues to grow and develop as further feedback and new resources become available.

Turley AE, Isaacs KK, Wetmore BA, **Karmaus AL**, Embry MR, and Krishan M. 2019. Incorporating new approach methodologies in toxicity testing and exposure assessment for tiered risk assessment using the RISK21 approach: Case studies on food contact chemicals. *Food Chem Toxicol*, 134: 110819.

Karmaus AL, Bialk H, Fitzpatrick S, and Krishan M. 2019. State of the science on alternatives to animal testing and integration of testing strategies for food safety assessments: workshop proceedings. *Regul Toxicol Pharmacol,* 110: 104515.

Karmaus AL, Osborn R, and Krishan M. 2018. Scientific advances and challenges in safety evaluation of food packaging materials: workshop proceedings. *Regul Toxicol Pharmacol*, 98: 80-87.

Karmaus AL, Trautman TD, Krishan M, Filer DL, and Fix LA. 2017. Curation of food-relevant chemicals in ToxCast. *Food Chem Toxicol*, 103: 174-182.

Karmaus AL, Filer DL, Martin MT, and Houck KA. 2016. Evaluation of food-relevant chemicals in the ToxCast high-throughput screening program. *Food Chem Toxicol*, 92:188-96.

2. Predictive Toxicology

Developing computational toxicology approaches for predicting chemical effects is an important tool to bridge the gap for helping characterize untested compounds. Through collaboration across sectors and clearly

defining reference data as well as scope of utility for novel approaches, successful outcomes have been achieved. My roles in these projects have included project coordination, stakeholder outreach, developing reference datasets (including sourcing data, data cleanup/standardization, and establishing/maintaining databases), developing computational approaches for analyses, and contextualizing/defining model outputs to facilitate data interpretation. By working with a large compendium of collaborators and learning about regulatory needs as well as method limitations, work in this area is growing rapidly. Focus to-date has been on prediction of acute oral toxicity as well as utility and optimization of read-across approaches.

Gadaleta D, Vuković K, Toma C, Lavado GJ, **Karmaus AL**, Mansouri K, Kleinstreuer NC, Benfenati E, and Roncaglioni A. 2019. SAR and QSAR modeling of a large collection of LD50 rate acute oral toxicity data. *J Cheminform,* 11:58.

Patlewicz G, Lizarraga LE, Rua D, Allen DG, Daniel AB, Fitzpatrick SC, Garcia-Reyero N, Gordon J, Hakkinen P, Howard AS, **Karmaus AL**, Matheson J, Mumtaz M, Richarz AN, Ruiz P, Scarano L, Yamada T, and Kleinstreuer N. 2019. Exploring current read-across applications and needs among selected US federal agencies. *Regul Toxicol Pharmacol*, 106: 197-209.

Russo DP, Strickland J, **Karmaus AL**, Wang W, Shende S, Hartung T, Aleksunes LM, and Zhu H. 2019. Non-animal models for acute toxicity evaluations: applying data-driven profiling and read-across. *Accepted Environ Health Perspect,* 127(4):47001.

Karmaus AL, Patlewicz G, Mansouri K, Fitzpatrick J, Allen DG, Casey WM, and Kleinstreuer NC. 2019. Developing predictive models for acute oral systemic toxicity: lessons learned from a global collaboration. *CICSJ Bulletin,* 37(1), 23. *Invited contribution* to a special issue for The Chemical Society of Japan.

Kleinstreuer NC, **Karmaus AL**, Mansouri K, Allen DG, Fitzpatrick JM, and Patlewicz G. 2018. Predictive models for acute oral systemic toxicity: a workshop to bridge the gap from research to regulation. Comput toxicol, 8(11): 21-24.

3. *In vitro* evaluation of steroidogenesis

The identification of putative endocrine disrupting chemicals using high-throughput approaches is critical, as there are thousands of chemicals to which humans are exposed that have not yet undergone toxicological testing. With current reproductive and developmental toxicant *in vivo* studies being costly, time-consuming, and generally evaluating apical endpoints at maternally toxic doses, alternative short-term assays that can support the prioritization of chemicals is needed. My research sought to establish novel *in vitro* steroidogenesis assay systems. This work included establishing a novel cell line, BLTK1 for use in steroidogenesis screening as well as the optimization of the OECD-validated H295R adrenal steroidogenesis assay into a high-throughput format. Furthermore, these studies included developing analysis approaches for resulting unique datasets, including being the first to evaluate all major hormone metabolites in the steroidogenesis pathway across over two thousand chemicals to identify chemical-mediated effects on steroidogenesis in concentration-response.

Haggard D, **Karmaus AL**, Martin MT, Judson RS, Setzer RW, Paul-Friedman K. 2018. High-throughput H295R steroidogenesis assay: utility as an alternative and a statistical approach to characterize effects on steroidogenesis. *Toxicol Sci*, 162(2): 509-534.

Karmaus AL, Toole CM, Filer DL, Lewis KC, and Martin MT. 2016. High-throughput screening of chemical effects on steroidogenesis using human adrenocortical carcinoma cells. *Toxicol Sci,* 150(2):323-32.

Karmaus AL and Zacharewski TR. 2015. Atrazine-mediated disruption of steroidogenesis in BLTK1 murine Leydig cells. *Toxicol Sci,* 148(2):544-54.

Forgacs AL, D'Souza ML, Huhtaniemi IT, Rahman NA, and Zacharewski TR. 2013. Triazine herbicides and their chlorometabolites alter steroidogenesis in BLTK1 murine Leydig cells. *Toxicol Sci,* 134(1):155-67.

Forgacs AL, Ding Q, Jaremba RG, Huhtaniemi IT, Rahman NA, and Zacharewski TR. 2012. BLTK1 murine Leydig cells: A novel steroidogenic model for evaluating the effects of reproductive and developmental toxicants. *Toxicol Sci*, 127(2): 391-402.

4. Comparative Toxicogenomics

2,3,7,8-tetrachlorodibenzo-p-dioxin (dioxin) elicits a broad spectrum of species-specific effects including hepatotoxicity, which is mostly mediated by the aryl hydrocarbon receptor. With the exception of polymorphic differences in select strains, the structure, binding affinity, and complex stability of the aryl hydrocarbon receptor are comparable across species. Yet, significant differences in dioxin sensitivity and hepatic responses exist across species and in response to various ligands. My research integrated *in silico*, *in vitro*, and *in vivo* evaluation of whole-genome temporal and dose-dependent effects of dioxin across human, mouse and rat to identify gene expression signatures contributing to the species-specific or ligand-specific effects. More recent work has included serving in a collaboration to identify sentinel genes which can inform on genome-wide responses, developing the S1500 list.

Mav D, Shah RR, Howard BE, Auerbach SS, Bushel PR, Collins JB, Gerhold DL, Judson RS, **Karmaus AL**, Maull EA, Mendrick DL, Merrick A, Sipes NS, Svoboda D, and Paules RS. 2018. A hybrid gene selection approach to create the S1500+ targeted gene sets for use in high-throughput transcriptomics. *PLoS One*, 13(2): e0191105.

Forgacs AL, Dere E, Angrish MM, and Zacharewski TR. 2013. Comparative analysis of temporal and dose-dependent TCDD-elicited gene expression in human, mouse and rat primary hepatocytes. *Toxicol Sci*, 133(1): 54-66.

Nault R, **Forgacs AL**, Dere E, and Zacharewski TR. 2013. Comparisons of differential gene expression elicited by TCDD, PCB126, beta NF, or ICZ in mouse hepatoma Hepa1c1c7 cells and C57BL/6 mouse liver. *Toxicol Lett*, 223(1): 52-59.

Forgacs AL, Kent MN, Makley MK, Mets B, DelRaso N, Jahns GL, Burgoon LD, Reo NV, and Zacharewski TR. 2012. Comparative metabolomic and genomic analyses of TCDD-elicited metabolic disruption in mouse and rat liver. *Toxicol Sci,* 125(1): 41-55.

Lo R, Celius T, **Forgacs AL**, Dere E, MacPherson L, Harper P, Zacharewski TR, and Matthews J. 2011. Identification of aryl hydrocarbon receptor binding targets in mouse hepatic tissue treated with 2,3,7,8-tetrachlorodibenzo-p-dioxin. *Toxicol Appl Pharmacol*, 257(1): 38-47.

Dere E, **Forgacs AL**, Zacharewski TR, and Burgoon LD. 2011. Genome-wide computational analysis of dioxin response element location and distribution in the human, mouse and rat genomes. *Chem Res Toxicol*, 24(4): 494-504.

Forgacs AL, Burgoon LD, Lynn SG, LaPres JJ, and Zacharewski TR. 2010. Effects of TCDD on the expression of nuclear encoded mitochondrial genes. *Toxicol Appl Pharmacol*, 246(1-2): 58-65.

D. Additional Information: Research Support and/or Scholastic Performance

Contract Number: HHSN273201500010C
Title: Support Contract for the National Toxicology Program (NTP) Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM)
Agency: NIEHS
Period of Performance: 05/05/15-05/04/25
Brief Description: The major objective of this contract is to carry out scientific and operational support activities for NICEATM, which in turn supports ICCVAM, as well as computational toxicology and bioinformatics support for the NTP and NIEHS. The goal of ICCVAM is to promote the development, validation, acceptance, and use of alternative and revised testing methods and strategies that shall be more predictive of human health and ecological effects than currently available methods and strategies, while replacing, reducing, and refining animal use. In support of NICEATM, ILS provides coordination and technical support for the ICCVAM and its working groups; prescreens methods submitted for consideration by ICCVAM; coordinates the scientific peer review and interagency consideration of new test methods of multi-agency interest; convenes expert workshops to evaluate the validation status of new methods and to identify research and validation studies needed to fill critical knowledge gaps; coordinates external validation studies; and disseminates information on the current status of alternative test method development, validation, acceptance, and use. This work also includes the creation and maintenance of a Website, development of ListServes, and other outreach activities. Report preparation and

production are also critical activities on this contract. ILS also assists NICEATM in providing bioinformatics and computational toxicology support to NTP and NIEHS projects, especially those related to Tox21.
Role: Senior Toxicologist

AGNES KARMAUS, PhD

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Current Position

Integrated Laboratory Systems, Inc. **RTP, NC**

Senior Staff Toxicologist..... 2019 - present

Staff Toxicologist.....2016 - 2019

Primarily serving as a Study Director for clients requesting certain *in vitro* assays as well as toxicogenomics studies and computational toxicology studies involving ToxCast and Tox21 data. Responsible for the implementation of *in vitro* cell-based endocrine disruption screening assay (H295R steroidogenesis) in the lab. Serving as a contractor to support the NTP Interagency Center for the Evaluation of Alternative Methods (NICEATM) to evaluate *in silico*, *in vitro*, and *in vivo* test methods and establish their utility for regulatory purposes as well as liaising with federal partners. Within the computational toxicology group, I apply informatics approaches to extract data from many sources; create, maintain, and utilize databases and analysis approaches integrating results from various toxicological assays; and develop, write, and review scientific and technical documents. Finally, I oversee the implementation of statistical analyses applied to all *in vivo* study data generated at ILS.

Education

Michigan State University **East Lansing, MI** **2008 – 2013**

Doctor of Philosophy, conferred August 2013

Biochemistry and Molecular Biology & Environmental and Integrative Toxicology

University of Guelph **Guelph, ON** **2003 – 2008**

Bachelor of Science, Honours, conferred June 2008

Biochemistry Co-op Major, Molecular Biology and Genetics Minor

Personal Information

Nee: (b) (6)
Place of Birth: (b) (6)
Status in USA: (b) (6)
Citizenship: Canadian

Research Interests

Toxicology, Endocrine Disruption, Steroidogenesis, High-Throughput Screening, *In Vitro* Assay Development, Computational Toxicology, Tox21/ToxCast, Toxicogenomics

Research Positions

Postdoctoral Research Fellow **US EPA (ORD/NCCT)** **08/2013 – 04/2016**

US EPA National Center for Computational Toxicology, Dr. Matthew Martin

Evaluation of ToxCast high-throughput screening H295R steroidogenesis assay and whole-genome high-throughput toxicogenomics datasets.

- R programming language, MySQL database management
- Steroidogenesis modeling and high-throughput toxicogenomics

Graduate Dissertation ***Michigan State University*** **08/2008 – 08/2013**

Department of Biochemistry & Molecular Biology, Dr. Timothy R. Zacharewski

Established a novel *in vitro* Leydig cell model for the evaluation of steroidogenesis. This BLTK1 cell line was used to evaluate Atrazine's mode of action for disruption of testosterone biosynthesis.

- *In vitro* assay development and validation
- ELISA, western blotting, QRT-PCR, microarray

Summer Research Fellow ***ILSI North America*** **2012**

ILSI North America (Technical Committee on Food and Chemical Safety; Washington DC)

Analysis of the high-throughput screening (HTS) data generated in the Tox21 and ToxCast programs to evaluate the activity of chemicals pertinent to the food industry.

- Database development (MySQL) & analysis in R
- Investigate avenues for Tox21 next generation food safety assessments

Co-op Student Researcher ***University of Toronto*** **2007**

Department of Pharmacology, Dr. Jason Matthews

Evaluate interaction between the aryl hydrocarbon receptor and estrogen receptor.

- Cell culture, animal husbandry and tissue necropsy
- Chromatin immunoprecipitation, PCR, RT-PCR, and QRT-PCR

Co-op Student Researcher ***Michigan State University*** **08/2005 – 04/2006**

Department of Biochemistry & Molecular Biology, Dr. Timothy R. Zacharewski

Gene expression profiling of aryl hydrocarbon receptor and estrogen receptor ligands to identify commonly regulated genes.

- Animal husbandry and necropsy, morphometric analysis of uterine tissues
- RNA and DNA extraction, cDNA microarray

Co-op Student Researcher ***Kraft Canada*** **2005**

Product Development Department (Toronto, ON)

Researching trans fatty acid composition and their replacement in baking systems to make trans fat free products.

- Developed new formulations for cookie & biscuit products in a lab and participated in trials run in the factory
- Conducted shelf-life testing: designed and conducted sampling trials

Co-op Student Assistant ***University of Toronto*** **10/2002 – 06/2003**

Department of Nutritional Sciences, Dr. Lilian U. Thompson

Investigating the metabolism and bioavailability of phytoestrogens and their role on the development of breast cancer.

- Obtained animal husbandry certificate
- Histological preparations: embedding tissues into paraffin wax blocks, section preparation with microtome, and haematoxylin/eosin staining

Awards

2019 SOT Risk Assessment Specialty Section "Top Ten in Risk Assessment" at SOT Annual Meeting
2018 ILS Excellence Award
2015 SOT Reproductive & Developmental Tox. Specialty Section Postdoc Poster Contest
2013 SOT Reproductive & Developmental Tox. Specialty Section Grad Poster Contest
2013 MSU Center for Integrative Toxicology Travel Award
2012 Barnett Rosenberg Endowed Research Assistantship
2012 ILSI North America 2012 Summer Fellowship
2012 MSU College of Natural Sciences Dissertation Continuation Fellowship
2012 SOT Colgate-Palmolive Award Student Research Training in Alternative Methods
2012 SOT Reproductive & Developmental Tox. Specialty Section Grad Poster Contest
2012 SOT Student Travel Award
2012 MSU Center for Integrative Toxicology Travel Award
2011 TIES Conference Travel Award
2011 MSU Research Enhancement Award
2011 MSU College of Natural Science Travel Award
2011 MSU Center for Integrative Toxicology Travel Award
2011 MSU College of Natural Science Travel Award
2011 MSU Center for Integrative Toxicology Travel Award
2011 MSU Travel Award
2010 MSU Center for Integrative Toxicology Travel Award
2010 SOT Michigan Chapter Poster Contest
2010 MSU Center for Integrative Toxicology Travel Award
2010 MSU BMB Travel Award

Peer-Reviewed Publications

1. Turley AE, Isaacs KK, Wetmore BA, **Karmaus AL**, Embry MR, and Krishan M. 2019. Incorporating new approach methodologies in toxicity testing and exposure assessment for tiered risk assessment using the RISK21 approach: Case studies on food contact chemicals. *Food Chem Toxicol*, 134: 110819.

2. Gadaleta D, Vuković K, Toma C, Lavado GJ, **Karmaus AL**, Mansouri K, Kleinstreuer NC, Benfenati E, and Roncaglioni A. 2019. SAR and QSAR modeling of a large collection of LD50 rate acute oral toxicity data. *J Cheminform,* 11:58.

3. Patlewicz G, Lizarraga LE, Rua D, Allen DG, Daniel AB, Fitzpatrick SC, Garcia-Reyero N, Gordon J, Hakkinen P, Howard AS, **Karmaus AL**, Matheson J, Mumtaz M, Richarz AN, Ruiz P, Scarano L,

Yamada T, and Kleinstreuer N. 2019. Exploring current read-across applications and needs among selected US federal agencies. *Regul Toxicol Pharmacol*, 106: 197-209.

4. Russo DP, Strickland J, **Karmaus AL**, Wang W, Shende S, Hartung T, Aleksunes LM, and Zhu H. 2019. Non-animal models for acute toxicity evaluations: applying data-driven profiling and read-across. *Accepted Environ Health Perspect,* 127(4):47001.
5. Haggard D, **Karmaus AL**, Martin MT, Judson RS, Setzer RW, Paul-Friedman K. 2018. High-throughput H295R steroidogenesis assay: utility as an alternative and a statistical approach to characterize effects on steroidogenesis. *Toxicol Sci*, 162(2): 509-534.
6. Mav D, Shah RR, Howard BE, Auerbach SS, Bushel PR, Collins JB, Gerhold DL, Judson RS, **Karmaus AL**, Maull EA, Mendrick DL, Merrick A, Sipes NS, Svoboda D, and Paules RS. 2018. A hybrid gene selection approach to create the S1500+ targeted gene sets for use in high-throughput transcriptomics. *PLoS One*, 13(2): e0191105.
7. **Karmaus AL**, Trautman TD, Krishan M, Filer DL, and Fix LA. 2017. Curation of food-relevant chemicals in ToxCast. *Food Chem Toxicol*, 103: 174-182.
8. **Karmaus AL**, Filer DL, Martin MT, and Houck KA. 2016. Evaluation of food-relevant chemicals in the ToxCast high-throughput screening program. *Food Chem Toxicol*, 92:188-96.
9. **Karmaus AL**, Toole CM, Filer DL, Lewis KC, and Martin MT. 2016. High-throughput screening of chemical effects on steroidogenesis using human adrenocortical carcinoma cells. *Toxicol Sci,* 150(2):323-32.
10. **Karmaus AL** and Zacharewski TR. 2015. Atrazine-mediated disruption of steroidogenesis in BLTK1 murine Leydig cells. *Toxicol Sci,* 148(2):544-54.
11. Kwekel JC, **Forgacs AL**, Williams KJ, and Zacharewski TR. 2013. o-p'-DDT-Mediated uterotrophy and gene expression in immature C57BL/6 mice and Sprague-Dawley rats. *Toxicol Appl Pharmacol*, 273(3): 532-41.
12. Nault R, **Forgacs AL**, Dere E, and Zacharewski TR. 2013. Comparisons of differential gene expression elicited by TCDD, PCB126, beta NF, or ICZ in mouse hepatoma Hepa1c1c7 cells and C57BL/6 mouse liver. *Toxicol Lett*, 223(1): 52-59.
13. **Forgacs AL**, D'Souza ML, Huhtaniemi IT, Rahman NA, and Zacharewski TR. 2013. Triazine herbicides and their chlorometabolites alter steroidogenesis in BLTK1 murine Leydig cells. *Toxicol Sci,* 134(1):155-67.
14. **Forgacs AL**, Dere E, Angrish MM, and Zacharewski TR. 2013. Comparative analysis of temporal and dose-dependent TCDD-elicited gene expression in human, mouse and rat primary hepatocytes. *Toxicol Sci*, 133(1): 54-66.
15. Kopec AK, Thompson CM, Kim S, **Forgacs AL**, and Zacharewski TR. 2012. Comparative toxicogenomic analysis of oral Cr(VI) exposure effects in rat and mouse small intestinal epithelia. *Toxicol Appl Pharmacol*, 262(2): 124-138.
16. **Forgacs AL**, Ding Q, Jaremba RG, Huhtaniemi IT, Rahman NA, and Zacharewski TR. 2012. BLTK1 murine Leydig cells: A novel steroidogenic model for evaluating the effects of reproductive and developmental toxicants. *Toxicol Sci*, 127(2): 391-402.

17. **Forgacs AL**, Kent MN, Makley MK, Mets B, DelRaso N, Jahns GL, Burgoon LD, Reo NV, and Zacharewski TR. 2012. Comparative metabolomic and genomic analyses of TCDD-elicited metabolic disruption in mouse and rat liver. *Toxicol Sci,* 125(1): 41-55.
18. Kopec AK, Kim S, **Forgacs AL**, Zacharewski TR, Proctor DM, Harris MA, Haws LC, and Thompson CM. 2012. Genome-wide gene expression effects in B6C3F1 mouse intestinal epithelia following 7 and 90 days of exposure to hexavalent chromium in drinking water. *Toxicol Appl Pharmacol,* 259(1): 13-26.
19. Lo R, Celius T, **Forgacs AL**, Dere E, MacPherson L, Harper P, Zacharewski TR, and Matthews J. 2011. Identification of aryl hydrocarbon receptor binding targets in mouse hepatic tissue treated with 2,3,7,8-tetrachlorodibenzo-p-dioxin. *Toxicol Appl Pharmacol*, 257(1): 38-47.
20. Dere E, **Forgacs AL**, Zacharewski TR, and Burgoon LD. 2011. Genome-wide computational analysis of dioxin response element location and distribution in the human, mouse and rat genomes. *Chem Res Toxicol*, 24(4): 494-504.
21. Fong CJ, Burgoon LD, Williams KJ, Jones AD, **Forgacs AL**, and Zacharewski TR. 2010. Effects of tamoxifen and ethynylestradiol cotreatment on uterine gene expression in immature ovariectomized mice. *J Mol Endocrinol*, 45(3): 161-73.
22. **Forgacs AL**, Burgoon LD, Lynn SG, LaPres JJ, and Zacharewski TR. 2010. Effects of TCDD on the expression of nuclear encoded mitochondrial genes. *Toxicol Appl Pharmacol*, 246(1-2): 58-65.
23. Kwekel JC, **Forgacs AL**, Burgoon LD, Williams KJ, and Zacharewski TR. 2009. Tamoxifen-elicited uterotrophy: cross-species and cross-ligand analysis of the gene expression program. *BMC MED Genomics*, 2: 19.
24. Fong CJ, Burgoon LD, Williams KJ, **Forgacs AL**, and Zacharewski TR. 2007. Comparative temporal and dose-dependent morphological and transcriptional uterine effects elicited by tamoxifen and ethynylestradiol in immature, ovariectomized mice. *BMC Genomics*, 8: 151.

Book Chapters, Workshop Proceedings, and Other Invited Contributions

1. **Karmaus AL** and Jones W. 2020. Future foods symposium on alternative proteins: workshop proceedings. [*submitted to Trends in Food Science and Technology; under review*]
2. **Karmaus AL**, Bialk H, Fitzpatrick S, and Krishan M. 2019. State of the science on alternatives to animal testing and integration of testing strategies for food safety assessments: workshop proceedings. *Regul Toxicol Pharmacol,* 110: 104515.
3. **Karmaus AL**, Patlewicz G, Mansouri K, Fitzpatrick J, Allen DG, Casey WM, and Kleinstreuer NC. 2019. Developing predictive models for acute oral systemic toxicity: lessons learned from a global collaboration. *CICSJ Bulletin,* 37(1), 23. *Invited contribution* to a special issue for The Chemical Society of Japan.
4. Kleinstreuer NC, **Karmaus AL**, Mansouri K, Allen DG, Fitzpatrick JM, and Patlewicz G. 2018. Predictive models for acute oral systemic toxicity: a workshop to bridge the gap from research to regulation. *Comput toxicol*, 8(11): 21-24.

5. **Karmaus AL**, Osborn R, and Krishan M. 2018. Scientific advances and challenges in safety evaluation of food packaging materials: workshop proceedings. *Regul Toxicol Pharmacol*, 98: 80-87.
6. Karmaus PWF and **Karmaus AL**. 2018. Challenges for integrating immunotoxicology into the twenty-first-century toxicology testing paradigm. In Immunotoxicity testing: methods and protocols (JC DeWitt, CE Rockwell, CC Bowman, Eds.), 2nd ed., pp. 385-396. Springer Nature, city, state. *Invited book chapter* contribution.
7. Baghdikian C and **Karmaus AL**. 2015. High-throughput toxicity testing: new strategies for assessing chemical safety. *Invited contribution* for the December 2015 issue of Food Safety Magazine.

Oral Presentations

1. **Karmaus AL** and Kleinstreuer NC. Introduction to open-access computational toxicology tools. *Developed, chaired, and presented introduction* for this Continuing Education Course virtually for the 59th Society of Toxicology Conference, April 3, 2020.
2. **Karmaus AL**. Benefits and challenges of preforming an internship for graduate students. *Presented platform* in Education Symposium Session, "Stepping Out of the Lab: Maximizing Access and Experience for Internships in Toxicology" at the 58th Society of Toxicology Conference, Baltimore, MD, March 10-14, 2019.
3. **Karmaus AL** and Kleinstreuer NC. Establishing Effective Alternatives for Acute Oral and Inhalation Systemic Toxicity Testing. *Developed, chaired, presented introduction, and moderated panel discussion* for this Symposium Session at the 58th Society of Toxicology Conference, Baltimore, MD, March 10-14, 2019.
4. **Karmaus AL**, Mansouri K, Fitzpatrick J, Patlewicz G, Allen D, Casey W, and Kleinstreuer N. Collaboration to develop predictive models for acute oral systemic toxicity. *Abstract selected for platform [presented by K. Mansouri]* at the 7th Annual American Society for Cellular and Computational Toxicology Meeting. Bethesda, MD, September 11, 2018.
5. **Karmaus AL.** Rat oral acute toxicity database and variability. *Invited speaker*. Predictive Models for Acute Oral Systemic Toxicity Workshop. Bethesda, MD, April 11, 2018.
6. **Karmaus AL** and Burgoon LD. Big data in toxicology: How to achieve transparency and reproducibility. *Chaired, presented introduction, and moderated panel discussion* for this Workshop at the 57th Society of Toxicology Conference, San Antonio, TX, March 11-15, 2018.
7. **Karmaus AL.** Rat oral acute toxicity database, and derivation of a dataset for predictive modeling. *Invited speaker.* ICCVAM US Strategic Roadmap Implementation: New Approach Methodologies for Acute Systemic Toxicity Testing. Bethesda, MD, November 3, 2017.
8. **Karmaus AL**, Using ToxCast high-throughput in vitro screening to evaluate food-use chemicals. *Invited speaker.* Society for Hungarian Toxicologists Annual Meeting. Bukfurdo, Hungary, October 12, 2017.

9. **Karmaus AL**, High-throughput in vitro assay-based models for the evaluation of endocrine disruption. *Invited speaker.* Society for Hungarian Toxicologists Annual Meeting. Bukfurdo, Hungary, October 12, 2017.
10. **Karmaus AL**, Allen DG, Kleinstreuer NC, and Casey WM. Characterizing variability across rat oral acute toxicity studies: implications for alternative method evaluation. *Abstract selected for platform* at the 6th Annual American Society for Cellular and Computational Toxicology Meeting. Gaithersburg, MD, September 21, 2017.
11. **Karmaus AL**, Allen D, Kleinstreuer NC, and Casey W. Characterizing the variability of LD50 values in acute toxicity studies: implications for alternative method development. *Abstract selected for platform* at the 10th World Congress on Alternatives and Animal Use in the Life Sciences. Seattle, WA, August 22, 2017.
12. **Karmaus AL** and Martin MT. Application of ToxCast high-throughput screening and modeling approaches to identify steroidogenesis disruptors. *Invited speaker*. Society for Environmental Toxicology and Chemistry 37th Annual Meeting/7th SETAC World Congress. Orlando, FL, November 10, 2016.
13. **Karmaus AL.** Food-use chemicals in ToxCast: Identification, curation and evaluation. *Invited speaker (webinar)*. EPA's Computational Toxicology Communities of Practice. Sept. 22, 2016.
14. **Karmaus AL.** Identification of a comprehensive inventory of food-relevant chemicals and their effects in the ToxCast high-throughput screening program. *Invited speaker (webinar)*. SOT Food Safety Specialty Section sponsored webinar series entitled "Food-relevant chemicals in ToxCast and potential integration of high-throughput toxicity testing in assessing chemical safety". July 28, 2016.
15. **Karmaus AL**. Evaluation of food-relevant chemicals in ToxCast. *Invited speaker (webinar)*. Flavor and Extract Manufacturer's Association SECC Committee Meeting, Washington, DC, Mar 31, 2015.
16. **Karmaus AL**. ToxCast and Tox21: Overview and food-relevant chemical summary. *Invited speaker (webinar)*. ILSI Europe New Approaches to Chemical Risk Assessment Task Force Meeting. Brussels, Belgium, Oct. 22, 2014.
17. **Forgacs AL.** Evaluation of food-relevant chemicals in ToxCast. *Invited speaker*. 17th World Congress meeting of Food Science and Technology, Montreal, Canada, Aug 17-20, 2014.
18. **Forgacs AL**. Applying for SOT awards, funding, and fellowships. *Invited speaker (webinar)*. SOT Graduate Student Leadership Committee (GSLC) Webinar Series. September 2014.
19. **Forgacs AL.** Tox21: Impact of data on food safety assessments. *Invited speaker*. International Association for Food Protection, Indianapolis, IN, Aug. 6, 2014.
20. **Forgacs AL.** Evaluation of food-relevant chemicals in Tox21. *Invited speaker*. U.S. Food and Drug Administration: Center for Food Safety and Applied Nutrition, College Park, MD, April 3, 2013.
21. **Forgacs AL**. Toxicology in the 21st century: high-throughput toxicity testing and its relevance to the food industry. *Invited speaker*. Michigan State University Department of Food Science &

Human Nutrition Spring Semester Seminar Series: Advances in Food and Health, East Lansing, MI, Feb. 6, 2013.

22. **Forgacs AL**. Evaluation of food-relevant chemicals in Tox21. *Invited speaker*. ILSI North America Technical Committee on Food and Chemical Safety: Weight of Evidence Workshop, Miami, FL, Jan. 23, 2013.
23. **Forgacs AL**. BLTK1 murine Leydig cells: a novel model for evaluating the steroidogenic effects of reproductive and developmental toxicants. *Invited speaker*. CeeTox, Kalamazoo, MI, May 4, 2012.
24. **Forgacs AL**, Dere E, and Zacharewski TR. Comparative evaluation of TCDD-elicited gene expression profiles from human, mouse, and rat primary hepatocytes. *Abstract selected for platform* at the TIES Conference, UNC Chapel Hill, NC, Sept. 16, 2011.
25. **Forgacs AL** and Zacharewski TR. BLTK1 murine Leydig tumor cells: a novel model for evaluating the steroidogenic effects of reproductive and developmental toxicants. *Invited speaker*. U.S. Environmental Protection Agency ToxCast Meeting, Research Triangle Park, NC, Sept. 14, 2011.
26. **Forgacs AL**, Ding Q, Huhtaniemi IT, Rahman NA, and Zacharewski TR. BLTK1 murine Leydig tumor cells: a novel model for evaluating the steroidogenic effects of reproductive and developmental toxicants. *Abstract selected for platform* at the 8th World Congress meeting on Alternatives to Animal Use in the Life Sciences, Montreal, Canada, Aug. 23, 2011.
27. **Forgacs AL**, Burgoon LD, Lynn SG, LaPres JJ, and Zacharewski TR. TCDD-mediated gene expression profiling of nuclear encoded mitochondrial genes involved in oxidative phosphorylation. *Abstract selected for platform* at the 49th Society of Toxicology Conference. Salt Lake City, UT. Mar. 8, 2010.

Abstracts and Poster Presentations

1. Lea I, Abedini J, Bell S, Ceger P, **Karmaus A**, Mansouri K, Phillips J, Rooney J, Allen D, and Kleinstreuer N. Providing insight into chemical activity through data curation, assay annotation, and visualization. Biocuration 2020; *never presented due to meeting cancellation.*
2. Mansouri K, **Karmaus A**, Fitzpatrick J, Patlewicz G, Pradeep P, Allen D, Casey W, and Kleinstreuer N. Collaborative modeling project for predicting acute oral toxicity (CATMos). QSAR 2020; *never presented due to meeting cancellation.*
3. Abedini J, Bell S, Ceger P, **Karmaus A**, Lea I, Mansouri K, Phillips J, Rooney J, Allen DG, and Kleinstreuer N. Assay annotation using structured vocabularies allows activity visualization and provides insight on toxicity. QSAR 2020; *never presented due to meeting cancellation.*
4. Rooney J, Lizarraga L, Yamada T, Allen D, Babich M, Daniel A, Fitzpatrick S, Flannery B, Garcia-Reyero N, Gordon J, Hakkinen P, **Karmaus A**, Kleinstreuer N, Matheson J, Mumtaz M, Rui D, Ruiz P, Scarano L, Volarath P, and Patlewicz G. Interagency coordinating committee on the validation of alternative methods (ICCVAM) read-across workgroup: towards guiding principles for read-across applications. QSAR 2020; *never presented due to meeting cancellation.*

5. Mansouri K, **Karmaus AL**, Fitzpatrick J, Patlewicz G, Pradeep P, Allen D, Casey W, and Kleinstreuer N. Collaborative modeling project for predicting acute oral toxicity. Accepted for poster to 59th Society of Toxicology Conference; *never presented due to meeting cancellation*.
6. Bell S, Mansouri K, Phillips J, Chang X, Abedini J, **Karmaus AL**, Lea I, Rai R, Allen D, Casey W, and Kleinstreuer N. NICEATM computational tools and resources supporting alternative test method development and evaluation. Accepted for poster to 59th Society of Toxicology Conference; *never presented due to meeting cancellation*.
7. Mansouri K, **Karmaus AL**, Fitzpatrick J, Patlewicz G, Allen DG, Casey W, and Kleinstreuer N. Collaborative modeling project for predicting acute oral toxicity. Poster 6th Annual American Society for Cellular and Computational Toxicology Meeting. Gaithersburg, MD, September 25-26, 2019.
8. Bell S, Phillips J, Chang X, Rai R, **Karmaus AL**, Hermes F, Mansouri K, Allen DG, Casey W, and Kleinstreuer N. Facilitating chemical evaluation and data exploration with the integrated chemical environment. Poster 6th Annual American Society for Cellular and Computational Toxicology Meeting. Gaithersburg, MD, September 25-26, 2019.
9. Bell S, Choksi NY, Ceger P, Daniel A, **Karmaus AL**, Abedini JA, Allen DG, Casey W, and Kleinstreuer NC. Good decisions require good data: creating curated and structured resources for toxicology. Oral presentation by S. Bell, 6th Annual American Society for Cellular and Computational Toxicology Meeting. Gaithersburg, MD, September 25-26, 2019.
10. **Karmaus AL**, Bell SM, Allen DG, Casey WM, Kleinstreuer NC. Adding Context to Tox21/ToxCast Data: Linking In Vitro Assays to Toxicity Outcomes. Presented poster 58th Society of Toxicology Conference, Baltimore, MD, March 10-14, 2019.
11. Swartz C, Howard AS, Choksi N, Rauer A, Allen DG, Recio L, and **Karmaus AL**. An Integrated Approach for Animal-Free Genotoxicity Testing: In Vitro and In Silico Evaluation and Mode-of-Action Classification. Presented poster 58th Society of Toxicology Conference, Baltimore, MD, March 10-14, 2019.
12. Bell S, Phillips J, Carielly N, Ceger P, Chang X, Hermes F, **Karmaus AL**, Mansouri K, McAfee E, Rai R, Allen D, Casey W, and Kleinsteruer N. The Integrated Chemical Environment: Tools and Data to Support Toxicity Assessments. Poster 58th Society of Toxicology Conference, Baltimore, MD, March 10-14, 2019.
13. Mumtaz M, Lizarraga L, Rua D, Allen DG, Daniel A, Fitzpatrick SC, Garcia-Reyero N, Gordon J, Hakkinen P, Howard AS, **Karmaus AL**, Matheson J, Ruiz P, Scarano L, Kleinstreuer N, and Patlewicz G. Exploring Current Read-Across Applications and Needs Among U.S. Federal Agencies. Poster 58th Society of Toxicology Conference, Baltimore, MD, March 10-14, 2019.
14. **Karmaus AL**, Fitzpatrick J, Allen D, Patlewicz G, Kleinstreuer N, and Casey W. Variability of LD50 Values from Rat Oral Acute Toxicity Studies: Implications for Alternative Model Development. Presented poster 57th Society of Toxicology Conference, San Antonio, TX, March 11-15, 2018.
15. Fitzpatrick J, Pradeep P, **Karmaus AL,** and Patlewicz G. Using Chemical and Biological Descriptors to Develop Predictive Models for Rat Acute Oral Toxicity. Poster 57th Society of Toxicology Conference, San Antonio, TX, March 11-15, 2018.

16. Haggard DE, **Karmaus AL**, Martin MT, Judson RS, Setzer RW, and Paul-Friedman K. Evaluating Perturbation of In Vitro Steroidogenesis Using a High-Throughput H295R Assay. Poster 57th Society of Toxicology Conference, San Antonio, TX, March 11-15, 2018.
17. Shah I, Harrill J, Setzer RW, Haggard DE, **Karmaus AL**, Martin MT, and Thomas RS. Predicting Chemical Mechanisms-of-Action Using High-Throughput Transcriptomic Data. Poster 57th Society of Toxicology Conference, San Antonio, TX, March 11-15, 2018.
18. Bell SM, Burgoon LD, Phillips I, Ceger P, **Karmaus AL**, Allen D, Casey W, and Kleinstreuer N. ICE Tools for Aligning Assay Endpoints to Adverse Outcome Pathways. Poster 57th Society of Toxicology Conference, San Antonio, TX, March 11-15, 2018.
19. **Karmaus AL** and Krishan M. Identification, categorization, and evaluation of food-use chemicals in ToxCast. 53rd Congress of the European Societies of Toxicology: EuroTox 2017 - Connecting for a safer future. Bratislava, Slovakia, September 10-13, 2017.
20. **Karmaus AL** and Burgoon LD. Using artificial intelligence and high-throughput hormone measurements to predict chemical effects on steroidogenesis. Presented poster 6th Annual American Society for Cellular and Computational Toxicology Meeting. Gaithersburg, MD, September 21-22, 2017.
21. Strickland J, **Karmaus AL**, Chang X, Paris M, Allen D, Kleinstreuer N, and Casey W. Correlation of in vitro assays with acute toxicity. 6th Annual American Society for Cellular and Computational Toxicology Meeting. Gaithersburg, MD, September 21-22, 2017.
22. Fitzpatrick J, **Karmaus AL**, Pradeep P, and Patlewicz G. Development of an acute oral toxicity dataset to facilitate assessment of existing QSARs and development of new models. 6th Annual American Society for Cellular and Computational Toxicology Meeting. Gaithersburg, MD, September 21-22, 2017.
23. Wynder JL, **Karmaus AL**, Ovesen J, Maier A, Judson R, and Krishan M. Evaluating alternative toxicity testing approaches for food relevant chemicals. 6th Annual American Society for Cellular and Computational Toxicology Meeting. Gaithersburg, MD, September 21-22, 2017.
24. **Karmaus AL** and Burgoon LD. Using artificial intelligence and high-throughput hormone measurements to predict chemical effects on steroidogenesis. Presented poster 10th World Congress on Alternatives and Animal Use in the Life Sciences. Seattle, WA, August 21-24, 2017.
25. Strickland J, **Karmaus AL**, Chang X, Paris M, Allen D, and Casey W. Correlation of *in vitro* cytotoxicity and acute toxicity. 10th World Congress on Alternatives and Animal Use in the Life Sciences. Seattle, WA, August 21-24, 2017.
26. Turley AE, Isaacs K, Wetmore B, **Karmaus AL**, Embry M, and Krishan M. Analysis of ToxCast data for food-relevant compounds by comparison with *in vivo* data using the RISK21 approach. 10th World Congress on Alternatives and Animal Use in the Life Sciences. Seattle, WA, August 21-24, 2017.
27. Fitzpatrick J, **Karmaus AL**, and Patlewicz G. Development of an acute oral toxicity dataset to facilitate assessment of existing QSARs and development of new models. 10th World Congress on Alternatives and Animal Use in the Life Sciences. Seattle, WA, August 21-24, 2017.

28. **Karmaus AL**, Kothiya P, Watford S, Thomas RS, Martin MT. Customizing the connectivity map approach for functional evaluation in toxicogenomics studies. Presented poster 56th Society of Toxicology Conference, Baltimore, MD, March 12-16, 2017.
29. Krishan M, Trautman TD, Kapraun DF, Fix LA, and **Karmaus AL**. Identification, curation, and prioritization of food-use chemicals in ToxCast. Presented poster 56th Society of Toxicology Conference, Baltimore, MD, March 12-16, 2017.
30. Turley AE, Isaacs K, Wetmore B, **Karmaus AL**, Embry M, and Krishan M. Comparison and analysis of ToxCast data with in vivo data for food-relevant compounds using the RISK21 approach. 56th Society of Toxicology Conference, Baltimore, MD, March 12-16, 2017.
31. Setzer RW, **Karmaus AL**, Paul-Friedman K, Martin MT, and Judson R. Significance of hormone perturbation patterns in a high-throughput steroidogenesis model. 56th Society of Toxicology Conference, Baltimore, MD, March 12-16, 2017.
32. Lowit A, Schlossenger C, Myska A, Patlewicz G, Paris M, **Karmaus AL**, Strickland J, Allen D, Kleinstreuer N, and Casey W. Replacing animals for acute systemic toxicity testing: a U.S. strategy and roadmap. 56th Society of Toxicology Conference, Baltimore, MD, March 12-16, 2017.
33. Martin MT, Harrill J, **Karmaus AL**, and Thomas RS. Evaluation of sequencing approaches for high-throughput transcriptomics. EPA CSS BoSC Meeting, November 2016.
34. **Karmaus AL**, Trautman T, Kapraun DF, and Fix LA. Compilation, curation, and prioritization of food-use chemicals. Presented poster, 5th Annual American Society for Cellular and Computational Toxicology Meeting, Research Triangle Park, NC, September 29-30, 2016.
35. Bell SM, **Karmaus AL**, Cariello N, Allen D, Casey W, and Burgoon LD. Leveraging computationally-predicted adverse outcome pathways for optimizing alternatives to animal testing. Annual Society for Industrial and Applied Mathematics Meeting, Boston, MA, July 11-16, 2016.
36. **Karmaus AL** and Martin MT. Modeling steroidogenesis disruption using high-throughput in vitro screening data. Presented poster 55th Society of Toxicology Conference, New Orleans, LA, March 13-17, 2016.
37. Thomas RS, **Karmaus AL**, Kothiya P, and Martin MT. Evaluation of sequencing approaches for high-throughput toxicogenomics. Presented poster 55th Society of Toxicology Conference, New Orleans, LA, March 13-17, 2016.
38. Mav D, Shah R, Svoboda D, **Karmaus AL**, Sipes N, Bushel P, Collins J, Maull E, Gerhold D, Yeakley J, Seligmann B, McComb J, Merrick BA, and Paules R. High-throughput transcriptomics via select sentinel genes. Poster 55th Society of Toxicology Conference, New Orleans, LA, March 13-17, 2016.
39. Houck KA, **Karmaus AL**, Richard A, and Franzosa J. Heavy metals in ToxCast: relevance to food safety. Invited session 55th Society of Toxicology Conference, New Orleans, LA, March 13-17, 2016.
40. **Karmaus AL** and Martin MT. *In vitro* profiling of chemical effects on steroidogenesis. Presented poster 4th Annual American Society for Cellular and Computational Toxicology (Integrated

Approaches to Testing and Assessment: Promises and Challenges of a More Flexible Approach to Toxicology Testing), Durham, NC, October 1-2, 2015.

41. VanDuyn NM, Chorley BN, **Karmaus AL**, Judson RS, Tice RR, and Corton JC. Identification of estrogen receptor α modulators in a human gene expression compendium. NIEHS Genomics Day, Research Triangle Park, NC, May 7, 2015.
42. **Karmaus AL**, Filer DL, Toole CM, Lewis KC, and Martin MT. Screening chemical effects on steroidogenesis in H295R human adrenocortical carcinoma cells. Presented poster 54th Society of Toxicology Conference, San Diego, CA, March 22-26, 2015.
43. Martin MT, **Karmaus AL**, Black MB, Naciff JM, Daston GP, Carney E, Andersen ME, Thomas RS, and Wetmore BA. Comparison of L1000 and Affymetrix microarray for *in vitro* concentration-response gene expression profiling. Presented poster 54th Society of Toxicology Conference, San Diego, CA, March 22-26, 2015.
44. Black MB, **Karmaus AL**, Martin MT, Naciff JM, Daston GP, Russel TS, Andersen ME, and Wetmore BA. Dose-response from high-throughput gene expression studies and the influence of time and cell line on inferred mode of action by ontologic enrichment. 54th Society of Toxicology Conference, San Diego, CA, March 22-26, 2015.
45. Shah R, Mav D, Judson R, Auerbach SS, Svoboda DL, **Karmaus AL**, Gerhold D, Sipes NS, Collins J, Maull EA, Bushel PR, Merrick BA, Mendrick DL, Thomas RS, and Paules RS. Gene Selection for Tox21 high-throughput Transcriptomics. 54th Society of Toxicology Conference, San Diego, CA, March 22-26, 2015.
46. **Karmaus AL**, Filer DL, Toole CM, and Martin MT. Screening chemical effects on steroidogenesis in H295R human adrenocortical carcinoma cells. Presented poster 35th Society of Environmental Toxicology and Chemistry Meeting, Vancouver, Canada, Nov. 9-13, 2014.
47. **Karmaus AL** and Houck KA. Bioactivity of food-relevant chemicals in ToxCast. Presented poster ToxCast Data Summit, Research Triangle Park, NC, September 29-30, 2014.
48. **Forgacs AL**, Hsieh J, and Houck KA. Evaluation of food-relevant chemicals in ToxCast. Presented poster 53rd Society of Toxicology Conference, Phoenix, AZ, March 23-27, 2014.
49. Martin MT, **Forgacs AL**, Filer DL, Lewis KC, and Toole CM. Effects of ToxCast phase I chemicals on steroidogenesis in H295R human adrenocortical carcinoma cells. Presented poster 53rd Society of Toxicology Conference, Phoenix, AZ, March 23-27 ,2014.
50. **Forgacs AL**, Filer DL, Toole CM, Lewis KC, and Martin MT. H295R human adrenocortical carcinoma cells as a screening platform for steroidogenesis. Presented poster North Carolina Regional Chapter of the Society of Toxicology Meeting, Research Triangle Park, NC, March 11, 2014.
51. **Forgacs AL** and Zacharewski TR. Atrazine-elicited differential gene expression in BLTK1 Leydig cells. Presented poster 52nd Society of Toxicology Conference, San Antonio, TX, March 10-14, 2013.
52. **Forgacs AL**, Jaremba RG, Huhtaniemi IT, Rahman NA, and Zacharewski TR. Atrazine-mediated disruption of steroidogenesis in BLTK1 murine Leydig cells. Presented poster at the 51st Society of Toxicology Conference, San Francisco, CA, March 11-15, 2012.

53. Jaremba RG, **Forgacs AL**, Huhtaniemi IT, Rahman NA, and Zacharewski TR. BLTK1 murine Leydig cells as a novel model for evaluating the steroidogenic effects of reproductive and developmental toxicants. Presented poster at the 51st Society of Toxicology Conference, San Francisco, CA, March 11-15, 2012.

54. Kopec AK, **Forgacs AL**, Kim S, Thompson CM, and Zacharewski TR. Comparative toxicogenomic analysis of Cr(VI) effects in rat and mouse intestinal epithelium. 51st Society of Toxicology Conference, San Francisco, CA, March 11-15, 2012.

55. Zacharewski TR, Kopec AK, **Forgacs AL**, and Burgoon LD. Characterization of *in vitro* and *in vivo* hepatic functional responses using automated dose-response modeling. 51st Society of Toxicology Conference, San Francisco, CA, March 11-15, 2012.

56. **Forgacs AL**, Jaremba RG, Huhtaniemi IT, Rahman NA, and Zacharewski TR. Atrazine-mediated disruption of steroidogenesis in BLTK1 murine Leydig cells. Presented poster at the Michigan Regional Chapter of the Society of Toxicology Meeting, East Lansing, MI, Nov. 4, 2011.

57. Jaremba RG, **Forgacs AL**, Ding Q, Huhtaniemi IT, Rahman NA, and Zacharewski TR. BLTK1 murine Leydig cells: a novel model for evaluating the effects of reproductive and developmental toxicants on steroidogenesis. Michigan Regional Chapter of the Society of Toxicology Meeting, East Lansing, MI, MI, November 4, 2011.

58. Kopec AK, Thompson CM, Kim S, **Forgacs AL**, and Zacharewski TR. Toxicogenomic analysis of Cr(VI) effects on intestinal epithelium in mice. Michigan Regional Chapter of the Society of Toxicology Meeting, East Lansing, MI, MI, November 4, 2011.

59. Kopec AK, Thompson CM, Kim S, **Forgacs AL**, and Zacharewski TR. Toxicogenomic analysis of Cr(VI) effects on intestinal epithelium in mice. TIES Conference, UNC Chapel Hill, NC, Sept. 16, 2011.

60. **Forgacs AL**, Ding Q, Huhtaniemi IT, Rahman NA, and Zacharewski TR. Effect of triazines on testosterone biosynthesis in BLTK1 murine Leydig tumor cells. Presented poster at the 50th Annual Society of Toxicology Conference, Washington D.C., March 6-10, 2011.

61. Dere E, **Forgacs AL**, and Zacharewski TR. Comparative analysis of TCDD-elicited gene expression profiles in human, mouse and rat primary hepatocytes. Presented poster at the 50th Society of Toxicology Conference, Washington D.C., March 6-10, 2011.

62. Zacharewski TR, Kopec AK, **Forgacs AL**, Kim S, Grimes SD, and Hebert CD. Toxicogenomic analysis of Cr(VI) effects on intestinal and oral epithelium. 50th Society of Toxicology Conference, Washington D.C., March 6-10, 2011.

63. **Forgacs AL**, Dere E, and Zacharewski TR. Comparative analysis of TCDD-elicited gene expression profiles in human, mouse and rat primary hepatocytes. Presented poster at the Superfund Basic Research Program Annual Meeting. Portland, OR, December 7-9, 2010.

64. **Forgacs AL**, Dere E, and Zacharewski TR. Comparing TCDD-elicited gene expression profiles in human, mouse and rat primary hepatocytes. Presented poster at the Michigan Regional Chapter of the Society of Toxicology Meeting, East Lansing, MI, October 29, 2010.

65. **Forgacs AL**, Wright DM, Ding Q, Huhtaniemi IT, Rahman NA, and Zacharewski TR. Induction of testosterone production in BLTK1 murine Leydig cells by triazines and their primary

metabolites. Presented poster at the Graduate Academic Conference, East Lansing, MI, March 26, 2010.

66. Matthews MJ, Lo R, **Forgacs AL**, Celius T, MacPherson L, Harper P, Zacharewski TR. Dioxin-dependent recruitment of AHR to promoter regions in mouse liver. 12th International Congress of Toxicology, Barcelona, Spain, July 19-23, 2010.
67. Wright DM, **Forgacs AL**, Ding Q, Huhtaniemi IT, Rahman NA, and Zacharewski TR. Induction of testosterone production in BLTK1 murine Leydig cells by triazines and their primary metabolites. Presented poster at the 49th Annual Society of Toxicology Conference, Salt Lake City, UT, March 7-11, 2010.
68. Lo R, **Forgacs AL**, Celius T, MacPherson L, Harper P, Zacahrewski TR, and Matthews J. Genomic Analysis of dioxin-dependent recreuitment of AhR to promoter regions in mouse liver. 49th Annual Society of Toxicology Conference, Salt Lake City, UT, March 7-11, 2010.
69. Dere E, **Forgacs AL**, Matthews J, and Zacharewski TR. Global ChIP-chip analysis of AhR enrichment in C57BL/6 mouse livers. 49th Annual Society of Toxicology Conference, Salt Lake City, UT, March 7-11, 2010.
70. Lo R, **Forgacs AL**, Celius T, MacPherson L, Harper P, Zacharewski TR, and Matthews J. Genome-wide Analysis of Aryl Hydrocarbon Receptor Binding Targets in Dioxin-Treated Mouse Hepatic Tissue. Society of Toxicology Canada, Toronto, ON, Canada, 2009.
71. **Forgacs AL**, Lynn SG, Burgoon LD, LaPres JJ, and Zacharewski TR. Transcriptomic Evaluation of TCDD-Mediated Effects on Nuclear Encoded Mitochondrial Genes. Presented poster at the Michigan Chapter Society of Toxicology Meeting, Kalamazoo, MI, Nov. 6, 2009 and at the Graduate Academic Conference, East Lansing, MI, Mar. 20, 2009 and at the Michigan Regional Chapter of the Society of Toxicology Meeting, Ann Arbor, MI, May 8, 2009.
72. **Forgacs AL**, MacPherson L, Ahmed S, Pansoy A, and Matthews J. Effect of environmental endocrine disruptors on 3-methylcholanthrene-dependent induction of aryl hydrocarbon receptor activity and recruitment of estrogen receptor alpha to AHR target genes. Presented poster at the 47th Annual Society of Toxicology Conference, Seattle, WA, March 16-20, 2008.
73. Ahmed D, **Forgacs AL**, MacPherson L, Pansoy A, and Matthews J. ChIP-on-Chip analysis of TCDD-dependent aryl hydrocarbon receptor binding to human promoter tiling arrays reveals AHR recruitment to estrogen receptor alpha promoter and enhancer regions. Presented poster at the 47th Annual Society of Toxicology Conference, Seattle, WA, March 16-20, 2008.
74. **Forgacs AL**, Kwekel JC, Burgoon LD, Williams KJ, and Zacharewski TR. Comparative Analysis of Temporal Gene Expression, Morphometry and Uterotrophy in o,p'-DDT and Ethynylestradiol Treated Rats. 46th Annual Society of Toxicology Conference, Charlotte, NC, Mar. 25-29, 2007.
75. Fong CJ, Burgoon LD, Williams KJ, **Forgacs AL**, and Zacharewski TR. Comprehensive Analysis of Temporal and Dose-Dependent Uterine Responses Elicited by Tamoxifen in C57BL/6 Mice. Society of Toxicology Conference. San Diego, CA, March 5-9, 2006.
76. Fong CJ, Burgoon LD, Williams KJ, **Forgacs AL**, and Zacharewski TR. Tamoxifen and Ethynylestradiol Comparison and Co-treatment in C57BL/6 Mouse Uterus: Gross, Morphometric and cDNA Microarray Gene Expression Analysis. Michigan Regional Chapter of the Society of Toxicology Meeting, East Lansing, MI, May 19, 2006.

77. Kwekel JC, Fong CJ, **Forgacs AL**, Burgoon LD, and Zacharewski TR. Cross-Species Comparison of Tamoxifen and Estrogen Induced Uterotrophy in Rodents. Michigan Regional Chapter of the Society of Toxicology Meeting, East Lansing, MI, May 19, 2006.

Associate Editor Appointments

Frontiers in Toxicology – Computational Toxicology and Informatics
(www.frontiersin.org/journals/toxicology/sections/computational-toxicology-and-informatics)

Invited Ad Hoc Reviewer

Environmental Health Perspectives (ehp.niehs.nih.gov)

Toxicological Sciences (mc.manuscriptcentral.com/toxsci)

Computational Toxicology (www.journals.elsevier.com/computational-toxicology)

Food and Chemical Toxicology (ees.elsevier.com/fct)

International Journal of Toxicology (ijt.sagepub.com)

Reproductive Toxicology (www.journals.elsevier.com/reproductive-toxicology)

Chemosphere (www.journals.elsevier.com/chemosphere)

Science of the Total Environment (ees.elsevier.com/stoten)

Frontiers in Big Data – Medicine and Public Health (www.frontiersin.org/journals/big-data/sections/medicine-and-public-health.org)

Professional Society Memberships

American Society for Cellular and Computational Toxicology Member since 2015. (ascctox.org)

Society of Environmental Toxicology and Chemistry Member since 2014. (setac.org)

Society of Toxicology Member since 2009. (toxicology.org)

The Endocrine Society Associate Member since 2012 - 2018. (endo-society.org)

Sigma Xi Scientific Research Society Graduate Student Member, 2009 – 2013. (sigmaxi.org)

Service

2020-2023 **SOT Membership Committee, Member.** Responsible for reviewing qualifications of candidates seeking membership with SOT, committee members are nominated by SOT Leadership and elected by vote of the Society membership.

2020 **SOT Continuing Education Course, Chair.** Composed a continuing education course proposal that was accepted for the 59th Annual SOT Meeting, Anaheim, CA. "Introduction to Open-Access Computational Toxicology Tools". Created proposal, organized content/course development, and chaired the session.

2019-2020 **SOT Education and Career Development Committee, Chair.** A newly formed committee after the sunsetting of the SOT Education Committee and Career Resource and Development Committee. Members are appointed by SOT council, and I was selected as the first chair to help establish this new committee.

2019 **SOT Symposium Session, Chair.** Composed a symposium session proposal that was accepted for the 58th Annual SOT Meeting, Baltimore, MD. "Establishing Effective Alternatives for Acute Oral and Inhalation Systemic Toxicity Testing". Chaired the session, presented introduction, and moderated panel discussion.

2017-2019 **SOT Education Committee.** A standing committee, whose members are appointed by the SOT President, to provide strategic oversight concerning ways in which the Society can advance and promulgate education in toxicology.

> **2018-2019**: **Co-chair**. Continued to serve on the *In Vitro* Lecture and Luncheon Organization Committee, chaired the GSSEP Committee, co-chair of the Domestic ToxScholar Committee, and reviewer for SOT Undergraduate Awards.
>
> **2017-2018**: **Member**. Served on several sub-committees: Global Senior Scholar Exchange Program (GSSEP), *In Vitro* Toxicology Lecture and Luncheon, Domestic ToxScholar; served as a reviewer for SOT Education Committee Undergraduate Awards.

2017-2019 **SOT *In Vitro* and Alternative Methods Specialty Section, Councilor.** Leadership role for a two-year term as an elected councillor, roles included serving on the Executive Committee, contributing to the review and disbursement of awards, program proposals, and annual meeting business/networking events.

2018 **SOT Poster Session, Chair.** Invited to chair a poster session, "Computational Approaches in Safety Assessment", at the 57th Annual Society of Toxicology meeting in San Antonio, TX.

2018 **SOT Workshop Session, Chair.** Composed a workshop session proposal that was accepted for the 57th Annual SOT Meeting, San Antonio, TX. "Big data in toxicology: How to achieve transparency and reproducibility". Chaired the session, presented introduction, and moderated panel discussion.

2016 **ASCCT Annual Meeting Organization Committee.** Served to help plan the annual meeting including establishing the meeting agenda and selecting abstracts for oral presentations and awards, organizing the reception and catering for the

meeting, and helping circulate meeting announcements and recruiting participation. Participated as a mentor on a panel for high school students.

2016 **SOT Specialty Section Program Committees.** Participated in the review and selection of proposals submitted for consideration as scientific sessions for the 2017 Annual Society of Toxicology meeting for the Reproductive and Developmental Toxicology Specialty Section and the In Vitro and Alternative Methods Specialty Section.

2015 **NIEHS Summer Internship Program.** Participated as judge in the summer poster session for the National Institutes of Environmental and Health Sciences summer internship program; helped to review, mentor, and evaluate high school and college student research.

2015 **Society of Toxicology Chat with an Expert Program**. Served as a postdoctoral peer mentor meeting with graduate students and fellow postdocs to share insight on transitioning into computational research and on opportunities for government postdoctoral research fellowships.

2013 **University Undergraduate Research and Arts Forum (UURAF) Judge.** Served as a volunteer judge representing both the MSU Biochemistry & Molecular Biology Department and the Society of Toxicology Michigan Chapter to evaluate undergraduate research poster and oral presentations.

2012 – 2013 **MSU Peer Mentor.** Served as senior graduate student volunteer to mentor four incoming students to the BioMolecular Science graduate program at MSU.

2012-2013 **SPAN Leadership Committee.** The student/postdoc/alumni network (SPAN) is a small group of NIEHS Superfund Research Program trainees that convene via teleconferences to promote networking, interactions and collaboration.

2011 – 2013 **MSU Biochemistry & Molecular Biology Student Council Co-Chair**. Serving as a liaison between the student body and the faculty committees as well as organizing the student committee representatives.

2011 – 2013 **MSU Biochemistry & Molecular Biology Judiciary Committee.** Representing the student body in the event of a judiciary hearing.

2009 – 2013 **MSU Biochemistry & Molecular Biology Graduate Programs & Curriculum Committee**. Advise the department on changes made to the curriculum required for the doctoral degree.

2012 **MSU Graduate Academic Conference (GAC) Judge**. Participated as a judge at GAC conferences to evaluate posters and oral presentations.

2010 – 2011 **MSU Dean's Student Advisory Committee (DSAC) Graduate Student Representative for the Biochemistry & Molecular Biology Department**. Advised the Dean of the College of Natural Sciences on issues concerning students.

2010 – 2011 **MSU DSAC Awards and Scholarship Committee Graduate Student Representative**. Invited to represent the College of Natural Sciences to review

undergraduate fellowship, scholarship and award applications and to assist in the distribution of the awards.

Mentoring and Teaching Experience

2011 – 2012 **Mentored Undergraduate:** Michelle D'Souza. Currently pursuing graduate studies.

2010 – 2012 **Mentored Undergraduate:** Rosemary Jaremba Bolton. Currently Research Technologist II in the lab of Dr. Whalon, Michigan State University.

2011 **Private Tutor** for BMB401 Comprehensive Biochemistry at MSU, met one-on-one with two students for ~3 hrs/week each.

2010 **Teaching Assistant** for BMB401 Comprehensive Biochemistry at MSU, a lecture course, meeting 5 hours a week for pre-medical and science undergraduates.

Grover P. Miller, Ph.D.

Affiliation: University of Arkansas for Medical Sciences, Little Rock, AR

Expertise: Chemical reactivity, metabolism, bioactivation, kinetics, metabolic flux, in vitro-in vivo extrapolations, analytical chemistry

Education: Ph.D., Chemistry, Pennsylvania State University, State College, PA; B.S., Chemistry, Louisiana State University, Baton Rouge, LA; B.S., Biochemistry, Louisiana State University, Baton Rouge, LA

Experience Summary: Dr. Grover P. Miller is a Full Professor of Biochemistry and Molecular Biology with a joint appointment in Biomedical Informatics at the University of Arkansas for Medical Sciences. Based on twenty-eight years of experience, he is an expert in small molecule analyses and enzymology to elucidate the biological relevance of metabolism and bioactivations in pharmacological and toxicological mechanisms. In practice, his group develops and leverages powerful analytical and biochemical tools to identify and quantitate small molecules including drugs, dietary molecules, and environmental pollutants during metabolism and correlate findings to biological activity and in vivo toxicological outcomes. Individual projects aim to (1) determine metabolic mechanisms, efficiencies, and fluxes for activation and elimination of toxic molecules, (2) identify metabolite biomarkers in humans and animal models for correlating in vitro findings to in vivo outcomes and leveraging their diagnostic, theragnostic, and prognostic potential, and (3) develop computational models for bioactivation and clearance of small molecules contributing to adverse outcome pathways. Over time, his research expanded from detailed in vitro metabolic studies to metabolite profiling for translational studies and development of models of metabolism, structure, and reactivity that were made possible through strong, interdisciplinary collaborations.

Panel Experience: Dr. Miller's service to the research community includes roles on journal editorial boards (3) and research review panels as Chair (4) and Reviewer (25). He has served or is serving as a member of Editorial Boards for World Journal of Methodology (2013-2016), Drug Metabolism and Disposition (2014-present) and Drug Metabolism Reviews (2016-present) that cover the metabolism and toxicity of drugs, dietary molecules and environmental pollutants. For the American Heart Association, Dr. Miller was a reviewer (2014-2016) and Chair (2015-2016) for the Clinical Thrombosis Study Section. Moreover, he reviewed proposed research as a member of a variety of private, public and governmental panels including U.S. Civilian Research and Development Foundation, Cooperative Grants Program (2006), Sam Houston State University Enhancement Grant for Research (2008/10), Universidad de Puerto Rico-Río Piedras Campus Institutional Research Fund (2010), Louisiana Experimental Program to Stimulate Competitive Research (EPSCoR) (2010), Austrian Science Fund (FWF) (2012), and Czech Science Foundation (2009/12/14/18). In particular, Dr. Miller served on the NIH Study Section on Adverse Drugs Events (ZRG1 IDM-C (50), 2019) and has been a member of NIH Study Section on Xenobiotic and Nutrient Disposition and Action that oversees review of proposed research on metabolism, bioactivations and toxicity (2018-present).

CURRICULUM VITAE

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PERSONAL STATEMENT

Based on twenty-eight years of experience, Dr. Miller is an expert in small molecule analyses and enzymology to elucidate the biological relevance of metabolism and bioactivations in pharmacological and toxicological mechanisms. In practice, his group develops and leverages powerful analytical and biochemical tools to identify and quantitate small molecules including drugs, dietary molecules, and environmental pollutants during metabolism and correlate findings to biological activity and in vivo toxicological outcomes. Individual projects aim to (1) determine metabolic mechanisms, efficiencies, and fluxes for activation and elimination of toxic molecules, (2) identify metabolite biomarkers in humans and animal models for correlating in vitro findings to in vivo outcomes and leveraging their diagnostic, theragnostic, and prognostic potential, and (3) develop computational models for metabolism, bioactivation and clearance of small molecules contributing to adverse outcome pathways. His efforts have been recognized through 52 peer-reviewed manuscripts and nine reviews along with roles as Chair (4) and Reviewer (21) on research study sections, membership on journal editorial boards (3), and session chair (8) and organizer (9) for research meetings. Over time, his research expanded from detailed in vitro metabolic studies to metabolite profiling for translational studies and development of models of metabolism, structure, and reactivity made possible through strong, interdisciplinary collaborations.

EDUCATION

Postdoctoral fellow in Biochemistry, mentored by Prof. F. Peter Guengerich, Director of the Center for Molecular Toxicology, Vanderbilt University, Nashville, TN	1998-2001
Ph.D. in Chemistry, mentored by Prof. Stephen J Benkovic, Pennsylvania State University, State College, PA	1992-1997
B.S. in Biochemistry (minor in French), Louisiana State University, Baton Rouge, LA	1988-1992
B.S. in Chemistry (minor in English), Louisiana State University, Baton Rouge, LA	1988-1992

PROFESSIONAL EXPERIENCE

Full Professor with tenure, Department of Biochemistry and Molecular Biology, University of Arkansas for Medical Sciences	2017-present
Associate Professor with Tenure, Department of Biochemistry and Molecular Biology, University of Arkansas for Medical Sciences	2007-2017
Associate Professor, Department of Biomedical Informatics, University of Arkansas for Medical Sciences	2016-present
Assistant Professor, Department of Biochemistry and Molecular Biology, University of Arkansas for Medical Sciences	2001-2007
Member, Center for Protein Structure and Function, University of Arkansas – Fayetteville	2001-present

Member, University of Arkansas for Medical Sciences CardioVascular Center	2011-present
Member of the Board, HemaNotics, business venture project as part of the MBA program at UA-Fayetteville	2013-2014
Undergraduate researcher, mentored by Prof. William A. Pryor, Director of the Biodynamics Institute, Louisiana State University, Baton Rouge, LA	1990-1992
Co-op research assistant, LaRoche Chemicals, supervised by Dr. Craig Fox	1990-1992

PROFESSIONAL MEMBERSHIPS AND ACTIVIITIES

American Chemical Society

• Member, Divisions of Chemical Toxicology and Biological Chemistry	1992-present
• Member, Program Development Committee, Divisions of Chemical Toxicology	2017-2019
• Alternate Councilor, Division of Chemical Toxicology	2017-2019
• Chair, Professional Development Committee, Division of Chem Toxicology	2015-2016
• Chair, Central Arkansas Local Section (L541) (two terms)	2014-5
• Chair-Elect, Central Arkansas Local Section	2013
• Chair, Catalysts 4 Change Recruitment Com, Central Arkansas Local Section	2013-2016
• Chair, Program Committee, Central Arkansas Local Section	2013
• Chair, Public Relations Committee, Central Arkansas Local Section	2016-2017
• Chair, Committee to Revise Section Bylaws, Central Arkansas Local Section	2010-2011
• Secretary, Central Arkansas Local Section	2011-2012
Member, International Society for the Study of Xenobiotics	1998-present
Member, American Heart Association	2001-2017
Member, Society of Toxicology	2014-present
Member, American Society of Pharmacology and Experimental Therapeutics	2016-present

The Society for the Study of Cytochromes P450

• Secretary	2006-2011
• Member	2005-2011
Member, Phi Lambda Upsilon Honors Chemistry Society	1990-present
Member, Phi Beta Kappa Honors Society	1988-present

HONORS AND AWARDS

Finalist, Sternfels Prize in Drug Safety Discoveries	2020
Outstanding Service to the Local Section of the American Chemical Society	2012
Dean's Educational Excellence Award	2012
Outstanding Service to the Local Section of the American Chemical Society	2011
NIH Individual National Research Service Award	1999-2001
Homer F. Braddock College of Science Memorial Scholarship	1995-1997
Louisiana State University Alumni Association Scholarship	1988-1992
Louisiana State University Dean's List	1988-1992
College of Basic Sciences Outstanding Senior (Louisiana State University)	1992
CODOFIL Scholarship to Univ. Catholique de L'Ouest in Angers, France	1991
Soph. Honors Distinction, College of Basic Sci. (Louisiana State University)	1990
Sternberg Award Finalist, Louisiana State Univ. Honors Division	1990

NATIONAL SERVICE

Member, Editorial boards

- *Drug Metabolism Reviews* 2014-present
- *Drug Metabolism and Disposition* 2016-present
- *World Journal of Methodology* 2013-2016

Reviewer, ad hoc, 2001-present

- For the following journals: *Alcohol Clin Exp Res, Anatol J Cardiol, Arch Biochem Biophys, Biochem (ACS)*, *Bioch Biophy Acta*, *Biochem Pharmacol, Chem Res Toxicol*, *Chem Biol Interact, Curr Drug Metab*, *Drug Metab Dispos*, *Drug Metab Rev*, *Environ Res*, *Exp Opin Drug Metab and Toxicol, J Anal Toxicol*, *J Amer Chem Soc*, *J Chromatogr A*, *J Endocrin Metab*, *J Steroid Biochem Mol Biol*, *J Thromb Haemost*, *Pharmacoepidemiol Drug Saf*, *Pharmacogenomics J*, *Poultry Sci*, *Rapid Commun Mass Spectrom*, *World J Meth*, *Xenobiotica*
- Records begin in 2011 with total reviews in parentheses: 2011 (14), 2012 (10), 2013 (11), 2014 (14), 2015 (19), 2016 (23), 2017 (14), 2018 (13), 2019 (17)

Study Section, American Heart Association, Clinical-Thrombosis

- Chair, Spring and Fall sessions 2015-16
- Reviewer, Spring and Fall sessions 2014-16

Reviewer, Study Section

- Xenobiotic and Nutrient Disposition and Action (XNDA) (Feb), NIH 2020
- ZRG1 IDM-C (50), Adverse Drug Events, (Dec), NIH 2019
- Xenobiotic and Nutrient Disposition and Action (XNDA) (Jun), NIH 2019
- Xenobiotic and Nutrient Disposition and Action (XNDA) (Feb), NIH 2019
- Xenobiotic and Nutrient Disposition and Action (XNDA) (Oct), NIH 2018
- Czech Science Foundation 2009/12
  2014/18
- Pilot Research Program, AR INBRE, NIH 2017
- Developmental Research Project Program, AR INBRE, NIH 2017
- Research Scholar Pilot Grant Award in Child Health, COBRE, NIH 2017
- Graduate Research Fellowship Program, National Science Foundation (NSF) 2016
- Center for Clinical and Translational Science (Univ of Alabama-Birmingham) 2015
- Austrian Science Fund (FWF) 2012
- Louisiana Experimental Pgm to Stimulate Competitive Research (EPSCoR) 2011
- Universidad de Puerto Rico-Río Piedras Campus Institutional Research Fund 2010
- Sam Houston State University Enhancement Grant for Research 2008/10
- U.S. Civilian Research and Development Fdn, Cooperative Grants Program 2006

Reviewer (external), Promotion and Tenure Committee

- University of North Carolina – Greensboro 2014
- Louisiana State University – Health Sciences Center at New Orleans 2013

Organizer, *Annual Central Arkansas Undergraduate Summer Research Symposium* (July, University of Arkansas for Medical Sciences, Little Rock, AR) 2012-2019

Co-Chair, Organizing Committee, *74th Annual Southwest Regional Meeting of the American Chemical Society* (November 7-10, Little Rock, AR) 2014-2018

Co-Chair, Program Committee, *74th Annual Southwest Regional Meeting of the American Chemical Society* (November 7-10, Little Rock, AR) 2014-2018

Co-Chair, Public Relations Committee, *74th Annual Southwest Regional Meeting of the American Chemical Society* (November 7-10, Little Rock, AR) 2014-2018

Member, Organizing Committee, *100th Annual Meeting of the Arkansas Academy of Sciences* (April 1-2, University of Arkansas, Fayetteville, AR) 2016

Member, Abstract Review Committee, *17th Annual North American Regional ISSX Meeting* (Oct 16-20, Atlanta, GA) 2011

Member, Program Committee, *64th Annual Southwest Regional Meeting of the American Chemical Society* (October 1-4, Little Rock, AR) 2007

Chair, "Naturally Toxic" Session, Division of Chemical Toxicology, *74th Annual Southwest Regional Meeting of the American Chemical Society* (November 7-10, Little Rock, AR) 2018

Chair, Biochemistry Session, *74th Annual Southwest Regional Meeting of the American Chemical Society* (November 7-10, Little Rock, AR) 2018

Chair, Young Investigators Symposium, *248th National Meeting of the American Chemical Society* (August 10-14, San Francisco, CA) 2014

Chair, Biological Chemistry Session, *64th Annual Southwest Regional Meeting of the American Chemical Society* (October 1-4, Little Rock, AR) 2008

Chair, *Annual Meeting of Arkansas Academy of Sciences*

- Medicine & Microbiology Session, April 1-2, Univ of Ark, Fayetteville, AR 2016
- Cell and Molecular Biology Session, April 4-5, Harding University, Searcy, AR 2014
- Medical Sciences Session, April 8 – 9, Univ of Arkansas – Monticello, AR 2011
- General Biology III Session, April 7-8, Lyon College, Batesville, AR 2006

Judge, posters

- *16th Annual Meeting of the Mid-South Computational and Bioinformatics Society*, (March 28-30, Birmingham, AL) 2019
- *14th Annual Meeting of the Mid-South Computational and Bioinformatics Society*, (March 23-25, Little Rock, AR) 2017
- Chiral Chemistry, *24th Annual Symposium on Chiral Discrimination* (June 10-13, 2012, Fort Worth, TX) 2012

Judge, oral presentations

- *12th Annual Meeting of the Mid-South Computational and Bioinformatics Society*, (March 12-14, Statehouse Convention, Little Rock, AR) 2015
- *Annual Meeting of the Arkansas Academy of Sciences* 2003/6-8 2010/12

UNIVERSITY SERVICE

Member, Educators Academy, UAMS 2018-present

Member, Patent and Copyright Committee, UAMS 2018-present

Member, Faculty Retention Committee (ad hoc), UAMS 2018-present

Member, Appeals Board for the College of Medicine, UAMS 2015-2018

Member, Conflict of Interest Retrospective Review Committee, UAMS 2018

Member, Internal Communications Committee, UAMS 2015-2017

Mentor, Postdoctoral Mentoring Program, UAMS 2013-2016

Academic Senate, University of Arkansas for Medical Sciences

- Parliamentarian 2018-present
- Chair, Communications Committee 2014-2017
- Member, Communications Committee 2010-2017

Reviewer, Study Section

- Marion B. Lyon New Scientist Development Award, ACHRI 2020
- Mock Study Section 2018
- Translational Research Institute Pilot Fund 2012
- Medical Research Endowment program 2011

Reviewer, Graduate Student Association Research Symposium Abstract Committee 2015/17

Reviewer, NIH INBRE Summer Student Selection Committee 2018-2019

Faculty Interviewer, Medical School applicants 2002-2019

Faculty Interviewer, Graduate School applicants 2002-2020

Judge, UAMS Student Research Day, posters, Linda Williams, coordinator 2002/10/12-14/17-18/20

Judge, UAMS Graduate Student Association (GSA) Symposium, posters, GSA President, coordinator 2016-2019

Judge, UAMS Student Research Day, Inter-professional Education, Triple Aim Project, oral presentations, Kathryn Neill, coordinator 2017

Member, Biomedical Research Center Recycling Committee, UAMS 2008-2013

Organizer, Departmental program, "Career Day for Basic Biomedical Sciences" on University of Arkansas for Medical Sciences campus 2002-2013

DEPARTMENTAL SERVICE

Committees and Appointments

Member, Graduate Education Committee 2002-present

Chair, Committee on Undergraduate Education, Graduate Education Committee 2016-present

Director, Summer Undergraduate Research Fellowship (SURF) Program, Graduate Education Committee 2003-present

Chair, Student Affairs Subcommittee, Graduate Education Committee, 2002-2009

Advisor, First Year Graduate Students 2002-2009

Recruitment Seminars

American Chemical Society Chapter, University of Central Arkansas, Predicting Metabolic Pathways of Drugs through Artificial Intelligence Algorithms" Nov 2013

Biochemistry and Molecular Biology Club, Hendrix College, Predicting Metabolic Pathways for Xenobiotic Compounds through Artificial Intelligence Algorithms" Oct 2013

Departments of Chemistry and Biology, Arkansas State University, "Anticoagulant therapy: Can metabolomics improve warfarin treatment strategies?" Feb 2009

Department of Biology, University of Central Arkansas, "Metabolic Networks: Challenges to eliminating foreign molecules" Feb 2008

Department of Chemistry, Millsaps College, "Drug Metabolism: How complex is it?" Nov 2006

Department of Chemistry, Austin Peay State University, "Drug Metabolism: How complex is it?" Mar 2006

Department of Chemistry, Rhodes College, "Drug Metabolism: How complex is it?" Nov 2005

Department of Chemistry, Computer, and Physical Science, Southeastern Oklahoma State University, "Drug Metabolism: How complex is it?" Nov 2005

Department of Chemistry, University of Louisiana-Lafayette, "Drug Metabolism: How complex is it?" Oct 2005

Department of Chemistry and Physics, Arkansas State University, "Drug Metabolism: The body's response to a 'foreign' molecule" Oct 2003

INVITED RESEARCH SEMINARS

Biochemistry-Molecular Biology Program, Hendrix College, "Mobic and the Magic Methyl Group" Sep 2019

16th Annual MidSouth Computational Biology and Bioinformatics Society Meeting (March 28-30, Birmingham, AL), "A Multi-disciplinary Approach to Assess Lamisil Bioactivation and Its Potential Role in Hepatotoxicity" Mar 2019

Department of Biochemistry and Molecular Biology, University of Arkansas for Medical Sciences, "A Multi-disciplinary Approach to Assess Lamisil Bioactivation and Its Potential Role in Hepatotoxicity" Feb 2019

74th Annual Southwest Regional Meeting of the American Chemical Society (November 7-10, Little Rock, AR), "Lamisil (terbinafine): Finding the pathway to bioactivation through experimental and computational approaches" Nov 2018

Department of Pathology and Immunology, Washington University – St Louis, "Why is Predicting Toxicity So Hard?" May 2018

15th Annual MidSouth Computational Biology and Bioinformatics Society Meeting (March 29-31, Starkville, MS), "Chasing the Ghost of Lamisil (terbinafine) Toxicity" Mar 2018

Department of Chemistry, University of Arkansas-Little Rock, "Chasing the Ghost of Lamisil (terbinafine) Toxicity" Feb 2018

Annual Spring Banquet Lecture Series, Sigma Xi, honors research society, "Lamisil (terbinafine): When the fungus among us is the least of our worries" Apr 2017

14th Annual MidSouth Computational Biology and Bioinformatics Society Meeting (March 23-25, Little Rock, AR), "Terbinafine Idiosyncractic Adverse Reactions: Pathways to a reactive aldehyde predicted by modeling and assessed experimentally" Mar 2017

BK Seminar Series, School of Biological Sciences and Technology, Chonnam National University, Republic of Korea, "Cheminformatics in Drug Discovery and Development: A Bridge between Experimental and Computational Research" Jun 2016

Biochemistry-Molecular Biology Program, Hendrix College, "A Handy Tool for Understanding the Molecular Basis for Chiral Protein Interactions" Oct 2015

UAMS Cardiovascular Center, Featured Speaker, "Warfarin Metabolite Profiling of Patients: Making personalized anticoagulant therapy more personal" Apr 2015

UAMS Cardiovascular Center, Research Updates, "Warfarin Metabolomics: Making personalized anticoagulant therapy more personal" Apr 2014

24th Annual Symposium on Chiral Discrimination (June 10-13, 2012, Fort Worth, TX), "Predicting Catalytic Parameters for Enantioselective Oxidations by CYP2C19 Using Artificial Neural Networks"	Jun 2012
Hendrix University, Local American Chemical Society Chapter meeting, "Warfarin metabolite profiling: From mapping metabolic pathways to improving outcomes during anticoagulant therapy"	Nov 2010
Department of Applied Science, University of Arkansas – Little Rock, "Cytochrome P450s: From enzymes to pathways to biological end points	Oct 2010
8th Southwest Cytochrome P450 Meeting, "Anticoagulant Therapy: Can metabolomics improve warfarin treatment strategies?"	May 2009
Department of Biochemistry and Molecular Biology, University of Arkansas for Medical Sciences, "Anticoagulant Therapy: Can metabolomics improve warfarin treatment strategies?"	Oct 2008
Gordon Research Conference on Drug Metabolism, "Marriage in the Cytochrome P450 System: How liberal are the protein-protein interactions?"	Jul 2007
6th Southwest Cytochrome P450 Meeting, "Global Analysis of Protein-protein Interactions Reveals Multiple P450 2E1-Reductase Complexes"	May 2007
5th Southwest Cytochrome P450 Meeting, "Formation of Multiple CYP2E1 Complexes Affects Activity"	May 2006
Department of Biochemistry and Molecular Biology, University of Arkansas for Medical Sciences, "Cytochrome P450 Reductase: Are two faces better than one?"	Mar 2005
Hendrix College, Student Affiliates of the American Chemical Society, "A Tale of Basic Principles of Chemistry in Cytochrome P450 2D6 Catalysis,"	Oct 2004
Department of Chemistry, University of Arkansas – Little Rock, "A Tale of Basic Principles of Chemistry in Cytochrome P450 2D6 Catalysis"	Oct 2003
Arkansas Academy of Sciences, 87th Annual Meeting, "Protein Chimeras as a Tool to Elucidate the Role of Cytochrome P450 Reductase in the P450-Reductase Complex"	Apr 2003
Department of Physiology and Biophysics, University of Arkansas for Medical Sciences, "Cytochrome P450 Reductase: Are two faces better than one?"	Feb 2003
Department of Pharmaceutical Sciences, University of Arkansas for Medical Sciences, "The Cytochrome P450 Pharmacophore: How important are electrostatic interactions in binding?"	Nov 2002
Center for Protein Structure and Function, University of Arkansas – Fayetteville, "Cytochrome P450 Catalysis: Beginning at the end"	May 2002
Department of Biology, David Lipscomb University, "Cytochrome P450 Catalysis: Looking beyond a first impression"	Jan 2002
National Center for Toxicological Research, "Cytochrome P450 Catalysis: The difficulties in establishing a paradigm"	Jan 2002
Department of Pharmacology and Toxicology, University of Arkansas for Medical Sciences, "Binding of Phenethylamine Derivatives by Cytochrome P450 2D6: The issue of substrate protonation"	Nov 2001
222nd Am. Chem. Soc. Natl. Mtg., "Oxidation of Phenethylamine Derivatives by Cytochrome P450 2D6 Reveals Complex Steady-state Kinetics"	Aug 2001

Department of Biochemistry and Molecular Biology, University of Arkansas for Medical Sciences, "Binding and Oxidation of Alkyl 4-Nitrophenyl Ethers by Rabbit Cytochrome P450 1A2: Evidence for two binding sites" May, 2001

PEER-REVIEWED PUBLICATIONS

1. Liotta, LJ, Benkovic, PA, **Miller, GP**, and Benkovic, SJ (1993) A Catalytic Antibody for Imide Hydrolysis Featuring a Bifunctional Transition-state Mimic. *J Am Chem Soc. 115*, 350-351.
2. **Miller, GP**, Posner, BA, and Benkovic, SJ (1997) Expanding the 43C9 Class of Catalytic Antibodies Using a Chain-shuffling Approach. *Bioorg Med Chem 5*, 581-590.
3. **Miller, GP** and Benkovic, SJ (1998) Deletion of a Highly Motional Residue Affects the Formation of the Michaelis Complex for *Escherichia coli* Dihydrofolate Reductase. *Biochemistry 37*, 6327-6335.
4. **Miller, GP** and Benkovic, SJ (1998) Strength of an Interloop Hydrogen Bond Determines the Kinetic Pathway in Catalysis by *Escherichia coli* Dihydrofolate Reductase. *Biochemistry 37*, 6336-6342.
5. Hosea, NA, **Miller, GP**, and Guengerich, FP (2000) Elucidation of Distinct Binding Sites for Cytochrome P450 3A4. *Biochemistry 39*, 5929-5939.
6. Yun, C-H, **Miller, GP**, and Guengerich, FP (2000) Rate-determining Steps in Phenacetin Oxidations by Human Cytochrome P450 1A2 and Selected Mutants. *Biochemistry 39*, 11319-11329.
7. **Miller, GP**, Wahnon, DC, and Benkovic, SJ (2001) Investigating the Importance of Interloop Contacts during Catalysis by *Escherichia coli* Dihydrofolate Reductase. *Biochemistry 40*, 867-875.
8. Yun, C-H, **Miller, GP**, and Guengerich, FP (2001) Oxidation of *p*-alkyoxyacylanilides Catalyzed by Human Cytochrome P450 1A2. *Biochemistry 40*, 4521-4530.
9. **Miller, GP** and Guengerich, FP (2001) Binding and Oxidation of Alkyl 4-nitrophenyl Ethers by Rabbit Cytochrome P450 1A2: Evidence for two binding sites. *Biochemistry 40*, 4762-4772.
10. **Miller, GP**, Hanna, IH, Nishimura, Y, and Guengerich, FP (2001) Oxidation of Phenethylamine Derivatives by Cytochrome P450 2D6: The issue of substrate protonation in binding and catalysis. *Biochemistry 40*, 14215-14223.
11. Guengerich, FP, **Miller, GP**, Hanna, IH, Léger, S, Black, C, Chauret, N, Silva, JM, Trimble, L, Yergey, JA, and Nicoll-Griffith, D (2002) Diversity in the Oxidation of Substrates by Cytochrome P450 2D6: Lack of a role of aspartate 301-substrate electrostatic bonding. *Biochemistry 41*, 11025-11034.
12. Guengerich, FP **Miller, GP**, Hanna, IH. Sato, H, and Martin, MV (2002) Oxidation of Methoxyphenethylamines by Cytochrome P450 2D6: Analysis of rate-limiting steps. *J Biol Chem 277*, 33711-33719.
13. Jamakhandi, AP, Jeffus, BC, Dass, VR, and **Miller, GP** (2005) Thermal Inactivation of the Reductase Domain of Cytochrome P450 BM3. *Arch Biochem Biophys 439,* 165-74. PMC3664205
14. Collom, SL, Jamakhandi, AP, Tackett, AJ, Radominska-Pandya, A and **Miller, GP** (2007) CYP2E1 Active Site Residues in Substrate Recognition Sequence 5 Identified by Photoaffinity Labeling and Homology Modeling. *Arch Biochem Biophys 459*, 59-69. PMC1994253
15. Jamakhandi, AP, Kuzmic, P, Sanders, DA, **Miller, GP** (2007) Global Analysis of Protein-Protein Interactions Reveals Multiple CYP2E1–Reductase Complexes. *Biochemistry 46*, 10192-201. PMC2592557
16. Zielinska, A, Lichti, CF, Bratton, S, Mitchell, NC, Gallus-Zawada, A, Le, V-H, Finel, M, **Miller, GP**, Radominska-Pandya, A, Moran, JH (2008) Glucuronidation of Monohydroxylated Warfarin Metabolites by Human Liver Microsomes and Human Recombinant UDP-Glucuronosyltransferases. *J Pharmacol Exp Ther 324*, 139-48. PMC2275122

17. Xiong, Y, Patana, A-S, Miley, M, Zielinska, AK, Bratton, SM, **Miller, GP**, Goldman, A, Finel, M, Redinbo, M, Radominska-Pandya, A (2008) The First Aspartic Acid of the DQxD Motif for Human UDP-Glucuronosyltransferase 1A10 Interacts with UDP-Glucuronic Acid during Catalysis. *Drug Metab Dispo 36*, 517-22. PMC2275115
18. Collom, SL, Laddusaw, RM, Kuzmic, P, Burch, AM, Perry, Jr, MD, **Miller, GP** (2008) CYP2E1 Substrate Inhibition: Mechanistic interpretation through an effector site for monocyclic compounds. *J Biol Chem 283,* 3487-96. PMC3933162
19. **Miller, GP**, Lichti, CF, Zielinska, AK, Mazur, A, Bratton, SM, Gallus-Zawada, A, Finel, M, Moran, JH, Radominska-Pandya, A (2008) Identification of Hydroxywarfarin Binding Site in Human UGT1A10: Phenylalanine90 is crucial for the glucuronidation of 6- and 7-hydroxy- but not 8-hydroxywarfarin. *Drug Metab Dispo 36*, 2211-8. PMC2812427
20. Mazur, A, Lichti, CF, Prather, P, Zielinska, AK, Bratton, SM, Gallus-Zawada, A, Finel, M, **Miller, GP**, Radominska-Pandya, A, Moran, JH (2009) Characterization of Human Hepatic and Extrahepatic UDP-glucuronosyltransferase (UGTs) Enzymes Involved in the Metabolism of Classical Cannabinoids. *Drug Metab Dispo 37*, 1496-504. PMC2698943
21. **Miller, GP**, Jones, DR, Sullivan, SZ, Mazur, A, Owen, SN, Mitchell, N, Radominska-Pandya, A, Moran, JH (2009) Assessing Cytochrome P450 and UDP-Glucuronosyltransferase Contributions to Warfarin Metabolism in Humans. *Chem Res Tox 22*, 1239-45. PMC2819755
    - *Manuscript highlighted for the "In This Issue" section of the journal based on a consensus of the editors and recommendation by reviewers.*
22. Jang, HH, Jamakhandi, AP, Sullivan, SZ, Yun, CH, Hollenberg, PF, **Miller, GP** (2010) Beta Sheet 2 - Alpha Helix C Loop of Cytochrome P450 Reductase Serves as a Docking Site for Redox Partners, *Biochem Biophys Acta – Proteins and Proteomics*, *1804*, 1285-1293. PMC2847005
23. Jones, DR, Kim, SY, Guderyon, M, Yun, CH, Moran, J, **Miller, GP** (2010) Hydroxywarfarin Metabolites Potently Inhibit CYP2C9 Metabolism of S-Warfarin, *Chem Res Tox 23*, 939-45. PMID20429590
24. Jones, DR, Kim, SY, Boysen, G, Yun, CH, **Miller, GP** (2010) Contribution of Three CYP3A Isoforms to Metabolism of R- and S-Warfarin, *Drug Metab Lett 4*, 213-9. PMID20615193
25. Jones, DR, Boysen, G, **Miller, GP** (2011) Novel Dual-Phase Ultra Performance Liquid Chromatography–Tandem Mass Spectrometry Assay for Profiling Enantiomeric Hydroxywarfarins and Warfarin in Human Plasma, *J Chromatogr B 879*, 1056-62. PMID21470921
26. Freyaldenhoven, S, Li, Y, Kocabas, AM, Ziu, E, Ucer, S, Ramanagoudr-Bhojappa, R, **Miller, GP**, Kilic, F (2012) The Role of ERp44 on Maturation of Serotonin Transporter Proteins, *J Biol Chem 287*, 17801-11. PMC3366855
    - *Manuscript highlighted in the journal as the cover feature*
27. Kim, SY, Kang, JY, Hartman, JH, Jones, DR, Yun, CH, Boysen, G, **Miller, GP** (2012) Metabolism of R- and S-Warfarin by CYP2C19 into Four Hydroxywarfarins, *Drug Metab Lett 6*, 157-64. PMC3713490
28. Hartman, JH, Gunnar Boysen, G, **Miller, GP**, (2012) CYP2E1 Metabolism of Styrene Involves Allostery, *Drug Metab Dispos 40*, 1976-83. PMC3463823
29. Hartman, JH, Cothren, SD, Park, SH, Yun, CH, Darsey, JA, **Miller, GP** (2013) Predicting CYP2C19 Catalytic Parameters for Enantioselective Oxidations Using Artificial Neural Networks and a Chirality Code, *Bioorg Med Chem 21*, 3749-59. PMC3674096
30. Hartman, JH, Boysen, G, **Miller, GP**, (2013) Cooperative Effects for CYP2E1 Differ Between Styrene and its Metabolites, *Xenobiotica 43*, 755-64*.* PMC3713490

31. Hartman, JH, Bradley, AM, Laddusaw, RM, Perry Jr, MD, **Miller, GP** (2013) Structure of Pyrazole Derivatives Impact their Affinity, Stoichiometry, and Cooperative Interactions for CYP2E1 Complexes, *Arch Biochem Biophys 537*, 12-20. PMC3781954
32. Pianalto, KM, Hartman, JH, Boysen, G, **Miller, GP** (2013) Differences in Butadiene Adduct Formation between Rats and Mice Not Due to Selective Inhibition of CYP2E1 by Butadiene Metabolites, *Toxicol Lett 223*, 221-227. PMC3831829
33. Hartman, JH, Knott, AK, **Miller GP** (2014) CYP2E1 Hydroxylation of Aniline Involves Negative Cooperativity, *Biochem Pharmacol 87*, 523-33. PMID24345333
34. Hartman, JH, **Miller, GP**, Boysen, G (2014) Inhibitory Potency of 4-Carbon Alkanes and Alkenes toward CYP2E1 Activity, *Toxicol 318*, 51-8. PMID24561005
35. Pugh, CP, Pouncey, DL, Hartman, JH, Nshimiyimana, R, Desrochers, LP, Goodwin, TE, Boysen, G, **Miller, GP** (2014) Multiple UDP- Glucuronosyltransferases in Human Liver Microsomes Glucuronidate Both R- and S-7-Hydroxywarfarin into Two Metabolites, *Arch Biochem BIophys 564*, 244-53. PMC4258421
36. Levy, JW, Hartman, JH, Perry Jr, MD, **Miller, GP** (2015) Structural Basis for Cooperative Binding of Azoles to CYP2E1 as Interpreted through Guided Molecular Dynamics Simulations, *J Mol Graph Model 56*, 43-52. PMID25544389
37. Hughes, TB, **Miller, GP**, Swamidass, SJ (2015) Site of Reactivity Models Predict Molecular Reactivity of Diverse Chemicals with Glutathione, *Chem Res Tox 28*, 797-809. PMID: 25742281
38. Hughes, TB, **Miller, GP**, Swamidass, SJ (2015) Modeling Epoxidation of Drug-Like Molecules with a Deep Machine Learning Network, *ACS Central Sci 1*, 168–180.
    - *Significance recognized in accompanying editorial by Dr. Kalgutkar, a leading expert in reactive metabolites.* Kalgutkar, A. S. Tracking where the O's go. (2015) *ACS Central Science 1*, 163–165.
39. Hartman, JH, Martin, HC, Caro, AA, Pearce, AR, **Miller, GP** (2015) Subcellular Localization of Rat CYP2E1 Impacts Metabolic Efficiency toward Common Substrates, *Toxicol* 338, 47-58. PMID26463279
40. Hartman, JH, Letzig, LG, Roberts, DW, James, LP, Fifer, EK, **Miller, GP** (2015) Cooperativity in CYP2E1 Metabolism of Acetaminophen and Styrene Mixtures, *Biochem Pharmacol 97*, 341-9. PMID26225832
41. Hughes, TB, Dang, Le Na, **Miller, GP**, Swamidass, SJ (2015) Modeling Reactivity to Biological Macromolecules with a Deep Multitasking Network, *ACS Central Sci 2*, 529-37.
42. Bostian, ACL, Maddukuri, L, Reed, MR, Savenka, T, Hartman, JH, Davis, L, Pouncey, DL, **Miller, GP**, Eoff, RL (2016) Kynurenine Signaling Increases Polymerase Kappa Expression and Promotes Genomic Instability in Glioblastoma Cells, *Chem Res Toxicol* 29, 101-8.
43. Hartman, JH, **Miller, GP**, Caro, AA, Byrum, SD, Orr, LM, Mackintosh, SG, Tackett, AJ, Macmillon-Crow, LA, Hallberg, LA, Ameredes, BT, Boysen, G (2016) 1,3-Butadiene-Induced Mitochondrial Dysfunction is Correlated with Mitochondrial CYP2E1 Activity in Collaborative Cross Mice, *Toxicol 378*, 114-124.
    - *Both Miller, GP and Boysen, G are corresponding authors on this manuscript*
44. Dang, NL, Hughes. TB, **Miller, GP**, Swamidass, SJ (2017) Computational Approach to Structural Alerts: Furans, Phenols, Nitroaromatics, and Thiophenes, *Chem Res Toxicol 30*, 1046-1059.
    - *Contribution to the System Toxicology II Special Issue*
45. Barnette, DA, Johnson, B, Pouncey, DL, Nshimiyimana, R, Desrochers, LP, Goodwin, TE, **Miller, GP** (2018) Stereospecific Metabolism of R- and S-Warfarin by Human Hepatic Cytosolic Reductases, *Drug Metab Dispos 45*, 1000-1007

46. Dang, NL, Hughes, TB, **Miller, GP**, Swamidass, SJ (2018) Computationally Assessing the Bioactivation of Drugs by N-Dealkylation, *Chem Res Toxicol 31*, 68-80.
47. Kim, SY, Jones, DR, Kang, JY, Yun, CH, **Miller, GP** (2018) Regioselectivity Significantly Impacts Microsomal Glucuronidation Efficiency of R/S-6, 7-, and 8-Hydroxywarfarin, *Xenobiotica 49*, 397-403. PMID29543105
48. Pouncey, DL, Hartman, JH, Moore, PC, Dillinger, DJ, Dickerson, KW, Sappington, DR, Smith 3rd, ES, Kodell, RL, Boysen, G, **Miller, GP** (2018) Novel Isomeric Metabolite Profiles Correlate with Warfarin Metabolism Phenotype during Maintenance Dosing in a Pilot Study of 29 Patients, *Blood Coagul Fibrinolysis 29*, 602-612.
49. Barnette, DA, Davis, MA, Dang, NL, Pidugu, AS, Hughes, T, Swamidass, SH, Boysen, G, **Miller, GP** (2018) Lamisil (terbinafine) Toxicity: Determining pathways to bioactivation through computational and experimental approaches, *Biochem Pharmacol 156*, 10-21.
50. Davis, MA, Barnette, DA, Flynn NR, Pidugu, AS, Swamidass, SH, Boysen, G, **Miller, GP** (2019) CYP2C19 and 3A4 dominate metabolic clearance and bioactivation of terbinafine based on computational and experimental approaches, *Chem Res Toxicol 32*, 1151-1164
51. Matlock, M, Tambe, A, Elliott-Higgins, J, Hines, R, **Miller, GP,** Swamidass, SJ. (2019) A Time-Embedding Network Models the Ontogeny of 23 Hepatic Drug Metabolizing Enzymes, *Chem Res Toxicol, in press*
52. Barnette, DA, Davis, MA, Flynn, N, Pidugu, AS, Swamidass, SH, Boysen, G, **Miller, GP** (2019) Comprehensive Kinetic and Modeling Analyses Revealed CYP2C9 and 3A4 Determine Terbinafine Metabolic Clearance and Bioactivation, *Biochem Pharmacol, in press*

BOOK CHAPTERS AND REVIEW ARTICLES

1. **Miller, GP**, Zhong, W, Smiley, JA, Benkovic, SJ (1997) Combinatorial Libraries of Peptides, Proteins, and Antibodies using Biological Systems, IN: *Combinatorial Approaches to Drug Discovery*, (Eds. A. W. Czarnik and S. Wilson). John Wiley and Sons, New York.
2. **Miller, GP** and Benkovic, SJ (1998) Stretching Exercises--Flexibility in dihydrofolate reductase catalysis, *Chemistry and Biology 5*, R105-113.
3. **Miller, GP** (2008) Advances in the Interpretation and Prediction of CYP2E1 Metabolism from a Biochemical Perspective, *Expert Opin Drug Metab Toxicol 4*, 1053-64.
   - *Review solicited by invitation based on recent advances in my research exploring the role of CYP2E1 structure in xenobiotic metabolism*
4. Jones, DR, Moran, JH, **Miller, GP** (2010) Warfarin and UDP-glucuronosyltransferases: writing a new chapter of metabolism, *Drug Metab Rev 42*, 55-61. PMID19788348
5. **Miller, GP** (2010) Warfarin Therapy: How the less interesting half just got interesting, *J Thromb Haemost 8*, 2705-7. PMID: 21138521.
   - *Commentary solicited by the editor for a recent publication on CYP2C9 and CYP3A4 regulation by warfarin and the hydroxywarfarin metabolites.*
6. Jones, DR, **Miller, GP** (2011) Assays and applications in warfarin metabolism: what we know, how we know it, and what we need to know, *Expert Opin Drug Metab Toxicol 7*, 857-74. PMID21480820
7. Hartman, JH, **Miller, GP**, Meyer, JN (2017) Toxicological Implications of Mitochondrial Localization of CYP2E1, *Toxicol Res (Camb) 6*, 273-289. PMID: 28989700; PMCID: PMC5627779.
8. Khojasteh, SC, Rietjens, IMCM, Dalvie, D, **Miller, GP** (2017) Biotransformation and Bioactivation Reactions – 2016 Literature Highlights, *Drug Metab Rev 49*, 285-317.
   - *All authors contributed equally to this manuscript*

9. Khojasteh, SC, **Miller, GP**, Mitra, K, Rietjens, IMCM (2018) Biotransformation and Bioactivation Reactions – 2017 Literature Highlights, *Drug Metab Rev 50*, 221-255. PMID: 29954222.
   - *All authors contributed equally to this manuscript*
10. Khojasteh, SC, Bumpus, NN, Discoll, JP, **Miller, GP**, Mitra, K, Rietjens, IMCM, Zhang, D (2019) Biotransformation and Bioactivation Reactions – 2018 Literature Highlights, *Drug Metab Rev, in press*.
    - *All authors contributed equally to this manuscript*

BOOKS

1. Williams, L. (2010) Chemistry Demystified, **Miller, GP** (Science Ed.), 2nd Edition, Columbus, OH: McGraw-Hill Companies, Inc.

PATENTS

US Patent 8,410,064, Issued 4/2/2013, "Classical Cannabinoid Metabolites and Methods of Use Thereof" by Anna Radominska-Pandya, Grover Miller, and Jeffery Moran. UAMS No: 2009-23

US Patent 8,608,967, Issued 12/17/2013, "Multiple Stationary Phase Matrix and Uses Thereof," by Grover Miller, Drew Jones, and Gunnar Boysen. UAMS No.: 2011-20

ACTIVE RESEARCH SUPPORT

Extramural

Computationally Modeling the Impact of Ontogeny on Drug Metabolic Fate (Impact: 20, Percentile: 6)
National Library of Medicine (R01) LM012482
10/01/16 – 09/30/20
Miller, GP (PI), Swamidass, SJ (PI)

Data and Tools for Modeling Metabolism and Reactivity (Impact: 21, Percentile: 5)
National Library of Medicine (R01 LM012222
05/01/16 – 04/30/20
Miller, GP (PI), Swamidass, SJ (PI)

Synthetic Cannabinoid Toxicity: Role of Biotransformation
National Institute on Drug Abuse (R01) DA039143-A1
05/01/16 – 04/30/21
Prather, PL (PI), **Miller, GP (Co-I)**

Intramural

Novel, Robust Strategy to Assess Tyrosine Kinase Inhibitor Risks for Liver Toxicity
Winthrop P Rockefeller Cancer Institute No number
04/01/20 – 03/31/21
Miller, GP (PI)/McGill M (Co-PI)

COMPLETED RESEARCH SUPPORT

Extramural

Effects of Genetic Diversity on Carcinogen Metabolism
National Institutes of Health (R21) ES023046
05/07/14 – 04/30/16 (09/31/16, no cost extension)
Boysen, G (PI), **Miller, GP (Co-I)**

Improving Pediatric Anticoagulant Therapy through Metabolic Profiling of Patients
American Heart Association, Heartland Affiliate (Grant-In-Aid) 13GRNT1690043
07/01/13 – 06/30/15
Miller, GP (PI)

Impact of Chronic Oral Nicotine Exposure on its Metabolism by CYP2B1 in Female Rats
Ark Biosci Inst Pilot Grant Pgm (Arkansas State University) unnumbered
01/01/14 – 12/31/14 (no cost extension)
Pearce, A (PI), **Miller, GP (contract collaborator)**

The Toxicological Significance of Alkylbenzene Metabolism
National Institutes of Health (R01) ES004344
03/01/09 – 02/28/12
Backes, WL (PI), **Miller, GP (Co-I)**

Second Stage BK21 Project: Internatl graduate student training fellowship
Chonnam National University (Korea) unnumbered
01/01/08 – 06/30/12
Yun, CH (PI), **Miller, GP (mentor)**

Creating Opportunities for the Next Generation of Scientists in Rwanda
American Chemical Society, Internatl Yr in Chemistry IAC/LSAC grant unnumbered
09/07/11 – 12/15/11
Miller, GP (PI)

Supporting Chemical Terrorism Preparedness through Chemoenzymatic Reactions
Arkansas Public Health Laboratory unnumbered
07/01/07 – 03/31/10
Miller, GP (Co-PI), Radominska-Pandya, A (Co-PI)

Structure-function of UDP-Glucuronosyltransferases
Arkansas Public Health Laboratory GM075893
06/01/06 – 05/31/10
Radominska-Pandya, A (PI), **Miller, GP (Co-I)**

Investigating Protein-protein Interactions in Fatty Acid Oxidation by Cytochrome P450 4A11
American Heart Association, Heartland Affiliate (Grant-In-Aid) 0265258Z
07/01/02 – 06/30/04
Miller, GP (PI)

Intramural

Identifying Volatile Metabolic Signatures Corresponding to Thyroid Cancer Presence
Winthrop P Rockefeller Cancer Institute unnumbered
07/01/17 – 06/30/18
Miller, GP (PI)

Warfarin Pharmacokinetics for Pediatric Patients with Single Ventricle Physiology
CUMG Grant Pgm (Arkansas Children's Hospital Research Institute) unnumbered
01/01/16 – 12/31/16
Padiyath, A (PI), **Miller, GP (mentor)**

Improving Anticoagulant Therapy through Metabolic Profiling of Patients
NIH UL, Translational Research Institute (UAMS) pilot study 1RR029884
10/01/11 – 09/30/12 (03/31/14, no cost extension)
Miller, GP (PI)

Cytochrome P450 Reductase: Assessing protein structure in P450-catalyzed ROS production
American Cancer Society IRG unnumbered
07/01/03 – 06/30/04
Miller, GP (PI)

Computational Docking Studies of Nitroanisoles with CYP2E1
NIH/NCRR INBRE, summer grant P20 RR-16460
05/15/08 – 08/15/08
Perry Jr, MD (PI), **Miller, GP (mentor)**

TEACHING

Molecules to Cells (previously Medical Biochemistry), lecturer, 1 Team-Based Learning (TBL) session and 5 lectures (8 hr)	2002-2019
BIOC5101 (formerly BIOC5103): Biochemistry, lecturer, 2 Active Learning Sessions (ALS) and 4 lecs (6 hr)	2003-2019
BIOC5106 (formerly BIOC5203): Current Trends in Biomedical Sciences, lecturer, 3 lectures (3 hr)	2004-2017 2019
BIOC5109 (formerly BIOC5043): Biochemical Methods, lecturer, 1 Active Learning Session, 2 lecs (4.5 hr)	2007/9/11-20
SURF: Oral and Written Scientific Communication, lecturer, 2 lectures (2 hr)	2007-2019
BIOC6102 Enzymes and Molecular Machines. Lecturer, 1 lecture (1 hr)	2017
BIOC6042: Proteins and Enzymes, lecturer, 3 lectures (3 hr)	2002/4/7/8, 2011/13
INTX5082: Introduction to Oncology, lecturer, 1 lecture (2 hr)	2007/9/10/13
INTX604V: Xenobiotic Metabolism, lecturer, 1 lecture (2 hr)	2003-2007
BIOC5111: Ethics & Issues, lecturer, 1 lecture (1 hr)	2002-2005
PCOL6203: System Therapeutics, lecturer, 1 lecture (1.5 hr)	2019
PCOL6663: Molecular Pharmacology and Toxicology, lecturer, 1 lecture (2 hr)	2002-2004

TRAINING/MENTORING

Clinical Fellows

Asif Padiyath, MD, **Pediatric Cardiology,** Arkansas Children's Hospital 2015-2017
- *Recipient of a CUMG pilot grant from ACHRI*

Postdoctoral mentoring through UAMS team-based program

Nirmala Parajuli, PhD**, Interdisciplinary Toxicology,** UAMS 2013-2015

Graduate education

Primary advisor, Permanent Student Advisory Committee

Mary (Allie) Davis, Doctorate in Biochemistry and Molecular Biology, UAMS 2017-present
- *Recipient of a Systems Pharmacology and Toxicology Fellowship supported by a T32 awarded to UAMS*

Dustyne Barnette, Doctorate in Biochemistry and Molecular Biology, UAMS 2015-present

Jessica H. Hartman, Doctorate in Interdisciplinary Biological Sciences, UAMS 2013–2016
- *Recipient of an NSF Graduate Research Fellowship*
- *Recipient of an NIH F32 Ruth L. Kirschstein Individual National Research Service Award (NRSA) Postdoctoral Fellowship (as a graduate student)*
- *Currently, postdoctoral fellow in Joel Meyer's group, Duke University, Nicholas School of the Environment*

Drew R. Jones, Doctorate in Biochemistry and Molecular Biology, UAMS 2008–2011

- *Currently, Assistant Professor in the Department of Biochemistry and Molecular Pharmacology and Director of the Metabolomics Core, New York University, School of Medicine*

Arvind P. Jamakhandi, Doctorate in Biochemistry and Molecular Biology, UAMS 2002–2007

Member, Permanent Student Advisory Committee

Naga (Rajiv) Lakkaniga, Doctorate in Pharmaceutical Sciences, UAMS	2017-present
Sarah Eddy, Doctorate in Interdisciplinary Biological Sciences, UAMS	2012-2016
Anisha Rathi, Doctorate in Biochemistry and Molecular Biology, UAMS	2012-2016
Nathan Avaritt, Doctorate in Biochemistry and Molecular Biology, UAMS	2010–2014
Ramanagoud Ramanagoudr-Bhojappa, Doctorate in Biochemistry and Molecular Biology, UAMS	2008–2013
Kimberly Reynolds, Doctorate in Biochemistry and Molecular Biology, UAMS	2008–2012
Suja Aarattuthodiyil, Doctorate in Biochemistry and Molecular Biology, UAMS	2008–2012
Lindsay Pack, Masters in Pharmacology and Toxicology, UAMS	2007-2009
Lauren Blair, Doctorate in Biochemistry and Molecular Biology, UAMS	2005–2009
Yan Xiong, Doctorate in Biochemistry and Molecular Biology, UAMS	2003–2007
Yuan (Ben) Lu, Doctorate in Biochemistry and Molecular Biology, UAMS	2002–2006
Yingfeng (Cindy) Chen, Doctorate in Biochemistry and Molecular Biology, UAMS	2001–2006
Robert Eoff, Doctorate in Biochemistry and Molecular Biology, UAMS	2001–2005

Mentor, on site training of graduate students involved in collaborative projects

Swapnali Halder	Amy Pearce, *doctoral advisor*	Arkansas State University	2014

Mentor, International doctoral student training fellowship support by Chonnam National University Second Stage BK21 Project (South Korea)

Sun-Ha Park*	Chonnam National University	2011
Ji-Yeon Kang*	Chonnam National University	2010
So-Young Kim*	Chonnam National University	2009
Hyun-Hee Jang*	Chonnam National University	2008

**Efforts by these students led to authorship or co-authorship on research publications*

Medical students

Dakota Pouncey*	University of Arkansas for Medical Sciences	2018-2019
Charles (Preston) Pugh*	University of Arkansas for Medical Sciences	2013-2014
• *Recipient of Honors in Research*		
Joseph Levy*	University of Arkansas for Medical Sciences	2014
• *Recipient of Honors in Research*		
Chris E. Schmitt	University of Arkansas for Medical Sciences	2010

Undergraduates

Laura Osborn	Ave Maria University (FL)	2019
Sasin (Copter) Payakachat	Hendrix College (AR)	2019
Anna Pinson	Harding University (AR)	2019
Riley Sinnott	Tulane University (LA)	2018
Anirudh Pidugu*	Emory University (GA)	2017-8
Camelia Cardenas	Columbus State University (GA)	2017
Bryce Johnson*	University of Central Arkansas	2016

Hannah Hart	Ouachita Baptist University (AR)	2016
Karli Lipinski	University of Arkansas – Fayetteville	2016
Lauren Morehead	University of Arkansas – Pine Bluff	2016
Jasmine Burrell	Jackson State University	2015
Nathan Hall	Ouachita Baptist University (AR)	2015
Dakota Pouncey*	Hendrix College (AR)	2013-2015

- *Recipient of an NIH Postbaccalaureate Intramural Training Award*

Cass Martin*	University of Central Arkansas	2014-2015
Lisa Headley	Hendrix College (AR)	2014
Jacob Haddock	Lyon College (AR)	2014
Anthony Rusher	Arkansas State University	2014
Eugene Nyamugenda	Hendrix College (AR)	2013-2014
Charles (Preston) Pugh*	Harding University (AR)	2012-2013
Allyson (Katie) Knott*	University of Central Arkansas	2013
Kaila Pianalto*	University of Arkansas – Fayetteville	2012
Jessica H. Hartman*	University of Arkansas – Little Rock	2010-2011
Michael J. Guderyon*	Louisiana State University – Eunice	2009
Matthew R. Kovak	Lyon College (AR)	2009
Hanh K. Pham	Arkansas Tech University	2009
Shane Z. Sullivan*	University of Arkansas – Little Rock	2007-2009
Danielle N. Atwood	University of Central Arkansas	2008
Ashley Brown	University of Central Arkansas	2007
Amber (Bradley) Burch*	Lipscomb University (TN)	2007
Ryan M. Laddusaw*	Ouachita Baptist University (AR)	2006-2007
Samuel L. Collom*	University of Arkansas – Little Rock	2006-2007
Daniel E. Sanders*	Southern Arkansas University	2005
Ryan Thurman	University of Central Arkansas	2004
Charity Washam	University of Central Arkansas	2003
Agnes Kowalska	Warsaw Univ. of Technology-Warsaw, Poland	2003
Sandra J. Popilowska (Eliasz)*	Jagielonian University – Cracow, Poland	2002

**Efforts by these students led to authorship or co-authorship on research publications*

High school students mentoring

Katelyn Watson	Arkansas School of Math, Science and the Arts	2014-2015
Alexander Shell	Arkansas School of Math, Science and the Arts	2012-2013
Nicole R. Maddox	Cheshire Academy (CT)	2002

OTHER EDUCATIONAL ACTIVITIES

Lecturer, "Mad about Oxygen," Math and Literacy Night, Mad Science Lab Demonstration, Meadowcliff Elementary, Keysha Griffith, organizer — 2017-2018

Lecturer, "Chemistry Rocks," National Chemistry Week Outreach Event, Central Arkansas Section of the American Chemical Society, piezoelectric effect demonstration, Forest Heights Stem School, Sara Hubbard, organizer — 2017

Lecturer, "Ecosystems of Arkansas," interactive lesson on food webs and responses to natural and manmade perturbations, Don R. Roberts Elementary

- Fourth grade (Ms. McMichael, 27 students) and fifth grade (Ms. Leavitt, 27 students) — 2017

- Second grade (Ms. Reed, 22 students) and third grade (Ms. Freiermuth, 22 students) 2016

Reader, Volunteer in Public Schools Reading Day, Meadowcliff Elementary, Kindergarten classes, Tamara Blaylock, coordinator 2016

Shadow Partner in Research

- Joyce Park, Little Rock Christian Academy, Brandon Jeffus, coordinator for Biotechnology course 2015
- Gabriel Miller, Don R Roberts Elementary 2015
- Ian Holloway, Bryant Elementary 2014

Judge, High School Science Fairs

- Little Rock Central High School Science Fair, Melissa Donham, coordinator 2009-2017, 2019
- West Central Regional Science Fair 2002
- West Central Regional Junior Academy 2002

Judge, Middle School Science Fairs

- LISA Academy Science Fair, Vence Johnson, coordinator 2017
- LISA Academy Science Fair, Mehmet Uguz, coordinator 2008

Judge, Grade School Science Fairs

- Meadowcliff Elementary (kindergarten through fifth grades), Ms Allen, coordinator 2017
- Little Rock School District Science Fair (third through fifth grades), Joel Spencer, coordinator 2015
- Don R. Roberts Elementary Science Fair (third through fifth grades), Joel Spencer, coordinator 2012-2014
- Don R. Roberts Elementary Scientist Fair by the Gifted and Talented student program (third grade), Gwendolynn Millen Combs, coordinator 2014
- Regional Elementary Science Fair (fourth and fifth grades), Jennifer Webb, coordinator 2013

Biomedical Researcher for Career Day

- Don R. Roberts Elementary, Robin D. Johnson and Pamela L. Lewis, coordinators 2011-2013, 2016-7
- Central High School, Dawn Terry, coordinator 2005

Lecturer, "Chemistry Demonstrations: It's a gas!," as part of "Chemistry Labs – New ideas on solutions and experiments," a professional development day for Little Rock School District chemistry teachers, which was organized by the Central Arkansas American Chemical Society 2011

Host, high school students (18 total) from Mamou High School (Mamou, LA), including tour of UAMS and a seminar entitled "Careers in Science" – Kenneth Kidder, coordinator 2002

COMMUNITY SERVICE

Donor, American Red Cross (113 pints)/Arkansas Blood Institute (9 pints), 122 total pints of whole blood (>15 gal) 1998-present

Volunteer, Watch D.O.G.S. (Dads of Great Students) program to promote inclusion of dads in school functions, Don R. Roberts Elem, Robin D. Johnson, coordinator 2010-2017

Boy Scouts of America

- Assistant Scoutmaster, Boy Scouts, Troop 24, Quapaw Area Council 2019-present
- Instructor, Sustainability Merit Badge workshop, Boy Scouts, Troop 24, Quapaw Area Council 2019
- Instructor, Introduction to Leadership Skills for Troops, Boy Scouts, Troop 24, Quapaw Area Council 2019
- Assistant Cubmaster, Cub Scouts, Pack 24, Quapaw Area Council 2013-present
- Walking Den Leader, Cub Scout Day Camp, Quapaw Area Council, Che Dolan, coordinator 2017-2018
- Den leader, Webelos 2 (Arrow of Light), Cub Scouts, Pack 24, Quapaw Area Council 2018
- Den leader, Webelos 1, Cub Scouts, Pack 24, Quapaw Area Council 2017
- Den leader, Bears, Cub Scouts, Pack 24, Quapaw Area Council 2016
- Instructor, Wolf Den Leaders, Cub Scouts, Quapaw Area Council Sep 2016
- Den leader, Wolf, Cub Scouts, Pack 24, Quapaw Area Council 2015
- Den leader, Webelos 1 and 2, Cub Scouts, Pack 24, Quapaw Area Council 2013-2014
- Den leader, Bears, Cub Scouts, Pack 70, Quapaw Area Council 2012
- Den leader, Wolf, Cub Scouts, Pack 70, Quapaw Area Council 2011
- Den leader, Tiger, Cub Scouts, Pack 70, Quapaw Area Council 2010

Teacher, Module on Service to Others (third - fifth grade), Parish Religious Education, Our Lady of Holy Souls Catholic Church, Kay Kay DeRosette, coordinator 2018

Teacher, Fourth graders, Parish Religious Education, Our Lady of Holy Souls Catholic Church, Kay Kay DeRosette, coordinator 2016-2017

Volunteer, Little Rock City Swim Meet 2017-2018

Race Timer, Hillsborough Hammerhead Summer Swim Team 2015-2017

Treasurer, Fair Park Early Childhood Center Parent Teacher Association 2013

Organizer, Hurricane Katrina Relief Effort (*UAMS Buzz*, September, pg 9) 2005

From:	Ronald Hines
To:	Knott, Steven
Cc:	Tonia Mason
Subject:	Nominees for US EPA TSCA SACC
Date:	Friday, April 17, 2020 9:13:52 AM
Attachments:	image003.png BARCHOWSKY.pdf CARVAN.pdf KARMAUS.pdf MILLER.pdf RUSYN.pdf STEVENS.pdf

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Good morning Steven,

Thank you for your April 1, 2020 note to Tonia Mason, Society of Toxicology (SOT) Executive Director, regarding nominations for individuals to serve on the US EPA Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). To alert SOT membership regarding this opportunity, we sent a tweet to all members and followed that communication with a blog announcement. In addition, SOT leadership identified several individuals that we felt were highly qualified and directly contacted those individuals seeking their interest in serving. We received several positive responses. I have attached the requested information on each of these nominees to this note.

The TSCA SACC is an important advisory committee and we are pleased we were able to help identify possible candidates to serve on this group. We hope the US EPA will consider reaching-out to SOT for future opportunities to serve on this or other advisory committees to the Agency.

Ron

Ronald N. Hines, MS, PhD, ATS
President (2019-2020)

11190 Sunrise Valley Drive, Suite 300
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Contact Information

Ivan Rusyn, MD, PhD
University Professor
The KC Donnely Professor of Veterinary Integrative Biosciences
Chair, Interdisciplinary Faculty of Toxicology
Director, Superfund Research Center
Texas A&M University
4458 TAMU
College Station, TX 77843-4458
Office: (979) 458-9866
Cell: (b) (6)

Discipline and specific areas of expertise

Discipline – toxicology
Areas of expertise - human health risk assessment, toxicology, carcinogenesis, susceptible subpopulations, NAMs

Ivan Rusyn is University Professor in the Department of Veterinary Integrative Biosciences in the College of Veterinary Medicine & Biomedical Sciences at Texas A&M University in College Station. He is also Chair of the Interdisciplinary Faculty of Toxicology, Director of an NIEHS T32 training program in "Regulatory Science in Environmental Health and Toxicology," and Director of the Superfund Research Center. Prior to joining Texas A&M University in 2014, he was Professor of Environmental Sciences and Engineering at the University of North Carolina in Chapel Hill. His laboratory has an active research portfolio with a focus on the mechanisms of chemical toxicity, genetic determinants of susceptibility to toxicant-induced disease and the use of new approach methods in decision-making. His studies on health effects of chemical agents resulted in over 250 peer-reviewed publications which were cited over 19,000 times (*h*-index=70). He has served on and chaired several US National Academies committees, World Health Organization/International Agency for Research on Cancer monograph working groups (as an overall chair, or a chair of "Mechanistic and Other Relevant Evidence" sub-group) and on the Expert Taskforce for the Joint FAO/WHO Meeting on Pesticide Residues (JMPR). His other notable service commitments include serving on the Board of Environmental Studies and Toxicology for the National Academies, Board of the Scientific Councilors of the United States National Institute of Environmental Health Sciences, the advisory board for Texas Department of Public Health, and membership on the Research Committee of the Health Effects Institute. Dr. Rusyn received a doctor of medicine degree from Ukrainian State Medical University in Kyiv and a Ph.D. in toxicology from the University of North Carolina at Chapel Hill. He conducted postdoctoral research at the Massachusetts Institute of Technology and Heinrich-Heine University in Dusseldorf. Dr. Rusyn's laboratory is funded by grants and cooperative research agreements from the National Institutes of Health and US Environmental Protection Agency, institutional funding from Texas A&M University, the industry, and other sources.

IVAN RUSYN, M.D., PH.D.

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Texas A&M University
College Station, TX 77843-4458
irusyn@cvm.tamu.edu
Google Scholar page

Education

Bogomolets National Medical University (Kiev, Ukraine)	M.D.	1994	Medicine
University of North Carolina at Chapel Hill (Chapel Hill, NC)	Ph.D.	2000	Toxicology

Professional Experience

2019-	University Professor, Texas A&M University
2016-	Chair, Interdisciplinary Faculty of Toxicology, Texas A&M University
2014-	KC Donnelly Professor of Veterinary Integrative Biosciences, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University
2002-2014	Professor (2010-2014), Associate (with tenure, 2007-2010) and Assistant Professor (2002-2007), Department of Environmental Sciences & Engineering, University of North Carolina (UNC) at Chapel Hill
2002-2014	Member, Associate Director (2007-2011), Curriculum in Toxicology, UNC
2008-2014	Director, Carolina Center for Computational Toxicology, Gillings School of Global Public Health, UNC-Chapel Hill
2004-2014	Member, Executive Committee, Curriculum in Toxicology School of Medicine, UNC-Chapel Hill
2003-2014	Full Member, Lineberger Comprehensive Cancer Center, School of Medicine, UNC-Chapel Hill
2003-2014	Member, Bowles Center for Alcohol Studies School of Medicine, UNC-Chapel Hill
2003-2014	Member, Center for Environmental Health and Susceptibility
2002-2014	Member, Carolina Center for Genome Sciences
2011-2013	Faculty fellow, National Center for Environmental Assessment (US EPA)
2001-2002	Postdoctoral Associate Division of Bioengineering and Environmental Health Massachusetts Institute of Technology, Cambridge, MA Research Advisor: **Leona D. Samson**, Ph.D.
2000-2001	Golberg Postdoctoral Fellow Department of Environmental Sciences and Engineering University of North Carolina, Chapel Hill, NC Research Advisor: **James A. Swenberg**, D.V.M., Ph.D.
1996-2000	Ph.D. Candidate Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC Research Advisor: **Ronald G. Thurman**, Ph.D. (1941-2001)

	Ph.D. Dissertation: Role of Oxidants in Molecular Mechanism of Action of Peroxisome Proliferators
1995-1996	Guest-Researcher & Fellow, German Academic Exchange Service (DAAD) Institute for Physiological Chemistry I University of Düsseldorf, Germany Research Advisor: **Helmut Sies**, Ph.D.
1994-1995	Intern, Department of Otolaryngology Kiev Regional Clinical Hospital, Ukraine
1993-1995	Research Assistant, Department of Immunology Scientific Research Laboratory Center Bogomolets National Medical University, Kiev, Ukraine

Honors and/or Special Awards

2019	2018 Best Manuscript Published in ALTEX: Grimm et al. ***ALTEX*** 35:441-452, 2018
2019	2018 *Toxicological Sciences* Paper of the Year Award: Venkatratnam et al. ***Toxicol Sci*** 158:48-62, 2017
2018	Top 25 NIEHS-funded Papers of the Year: Wignall et al. ***Environ Health Perspect*** 126(5):057008, 2018
2017	Outstanding Research Leader Award, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University
2015	Distinguished service award (for service as Councilor), Society of Toxicology
2013	Paper of the Year, Society of Toxicology Occupational and Public Health Specialty Section: Zeise et al. ***Environ Health Perspect*** 121:23-31, 2013
2009	Outstanding Published Paper Award for Advancing the Science of Risk Assessment, Society of Toxicology: Harrill et al ***Genome Res*** 19: 1507-1515, 2009
2008	Achievement Award, Society of Toxicology
2002-2005	Transition to Independent Position Award, NIEHS
2000-2002	Individual Postdoctoral National Research Service Award, NIEHS
2000-2001	Leon & Bertha Golberg Memorial Postdoctoral Fellowship, UNC-Chapel Hill
2000	Young Investigator Award, Society for Free Radical Research International
2000	AACR - Bristol Myers Squibb Oncology Young Investigator Scholar Award
2000	Carl C. Smith Mechanisms Specialty Section Award, Society of Toxicology
2000	Visiting Professor of Surgery, Yamanashi Medical University, Japan
1998/99/2001	Young Investigator Award, Oxygen Society
1995-1996	Research Fellowship, German Academic Exchange Service (DAAD)
1994	First Class Honors Diploma, Ukrainian State Medical University, Kiev, Ukraine

Membership in Professional Societies:

1997 -	Society of Toxicology (National and Lone Star Chapter)
2012 -	European Association for the Study of the Liver (EASL)
2011 - 2012	American Society for Pharmacology and Experimental Therapeutics
1998 - 2007	Society for Free Radical Biology and Medicine
1998 - 2007	Society for Free Radical Research International

Bibliography

Refereed papers (full listing):

*, indicates a doctoral trainee; [&], indicates a postdoctoral trainee; [#], indicates a masters trainee

1. de Conti, A., Tryndyak, V., Willett, R.A., Borowa-Mazgaj, B., Watson, A., Patton, R., Khare, S., Muskhelishvili, L., Olson, G.R., Avigan, M.I., Cerniglia, C.E., Ross, S.A., Sanyal, A.J., Beland, F.A., **Rusyn, I.,** and Pogribny, I.P. Characterization of the variability in the extent of non-alcoholic fatty liver induced by a high-fat diet in the genetically diverse Collaborative Cross mouse model. ***FASEB J*** (in press).
2. Hyun, J., Sun, Z., Ahmadi, A.R., Bangru, S., Chembazhi, U.V., Du, K., Chen, T., Tsukamoto, H., **Rusyn, I.,** Kalsotra, A., and Diehl, A.M. Epithelial splicing regulatory protein 2-mediated alternative splicing reprograms hepatocytes in severe alcoholic hepatitis. ***J Clin Invest*** (in press).
3. Marx, U., Akabane, T., Andersson, T.B., Baker, E., Beilmann, M., Beken, S., Brendler-Schwaab, S., Cirit, M., David, R., Dehne, E.M., Durieux, I., Ewart, L., Fitzpatrick, S.C., Frey, O., Fuchs, F., Griffith, L.G., Hamilton, G.A., Hartung, T., Hoeng, J., Hogberg, H., Hughes, D.J., Ingber, D.E., Iskandar, A., Kanamori, T., Kojima, H., Kuehnl, J., Leist, M., Li, B., Loskill, P., Mendrick, D.L., Neumann, T., Pallocca, G., **Rusyn, I.,** Smirnova, L., Steger-Hartmann, T., Tagle, D.A., Tonevitsky, A., Trapecar, M., van de Water, B., van den Eijnden-van Raaij, J., Vulto, P., Watanabe, K., Wolf, A., Zhou, X., and Roth, A. Biology-inspired microphysiological systems to advance medicines for patient benefit and animal welfare. ***ALTEX*** (in press).
4. [&]Luo, Y.S., [#]Ferguson, K.C., **Rusyn, I.,** and Chiu, W.A. *In vitro* bioavailability of the hydrocarbon fractions of dimethyl sulfoxide (DMSO) extracts of petroleum substances. ***Toxicol Sci*** 174:168–177, 2020.
5. Keele, G.R., Quach, B.C., Israel, J.W., *Chappell, G.A., *Lewis, L., Safi, A., Simon, J.M., Cotney, P., Crawford, G.E., Valdar, W., **Rusyn, I.,** and Furey, T.S. Integrative QTL analysis of gene expression and chromatin accessibility identifies multi-tissue patterns of genetic regulation. ***PLoS Genet*** 16:e1008537, 2020.
6. [&]Furuya, S., Argemi, J., Uehara, T., Katou, Y., Fouts, D.E., Schnabl, B., Dubuquoy, L., Belorkar, A., Vadigepalli, R., Kono, H., Bataller, R., and **Rusyn, I.** A novel mouse model of acute-on-chronic cholestatic alcoholic liver disease: A systems biology comparison with human alcoholic hepatitis. ***Alcohol Clin Exp Res*** 44:87-101, 2020.
7. Sakolish, C., House, J.S., Chramiec, A., [&]Liu, Y., *Chen, Z., Halligan, S.P., Vunjak-Novakovic, G., and **Rusyn, I.** Tissue-engineered bone tumor as a reproducible human in vitro model for studies of anti-cancer drugs. ***Toxicol Sci*** 173:65-76, 2020.
8. [&]Sakolish, C., *Chen, Z., [&]Dalaijamts, C., Mitra, K., Liu, Y., Fulton, T., Wade, T., Kelly, E., **Rusyn, I.,** and Chiu, W.A. Predicting tubular reabsorption with a human kidney proximal tubule tissue-on-a-chip and physiologically-based modeling. ***Toxicol In Vitro*** 63:104752, 2020.
9. Danforth, C., Chiu, W.A., **Rusyn, I.,** Schultz, K., Bolden, A., Kwiatkowski, C., and Craft, E. An integrative method for identification and prioritization of constituents of concern in produced water from onshore oil and gas extraction. ***Environ Int*** 134:105280, 2020.
10. **Rusyn, I.,** Belpoggi, F., Camacho, L., Käfferlein, H.U., Cattley, R., Estill, C.F., Kanno, J., Le Curieux, F., Mráz, J., Roberts, G.K., Stubbings, W.A., Umemura, T., Vlaanderen, J., Bouvard, V., Grosse, Y., Benbrahim-Tallaa, L., Girschik, J., El Ghissassi, F., Rowan, E.G., Chung, F., Li, M., Schubauer-Berigan, M.K., and Guyton, K.Z. Carcinogenicity of some industrial chemical intermediates and solvents. ***Lancet Oncol*** 21:25-26, 2020.

11. Krewski, D., Rice, J.M., Bird, M., Milton, B., Collins, B., Lajoie, P., Billard, M., Grosse, Y., Cogliano, V.J., Caldwell, J.C., **Rusyn, I.,** Portier, C.J., Melnick, R.L., Little, L., and Zielinski, J.M. Concordance between sites of tumor development in humans and in experimental animals for 111 agents that are carcinogenic in humans. ***J Toxicol Environ Health B*** 22:203-236, 2019.
12. Bera, G., Camargo, K., Sericano, J.L., Liu, Y., Sweet, S.T., Horney, J., Jun, M., Chiu, W., **Rusyn, I.,** Wade, T.L., and Knap, A.H. Baseline data for distribution of contaminants by natural disasters: results from a residential Houston neighborhood during Hurricane Harvey flooding. ***Heliyon***, 5:e02860, 2019.
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Refereed oral presentations (since 2002):

1. "When Disaster Strikes: Response, Research, and Recovery." International Congress of Toxicology, Honolulu, HI. 2019.
2. "Accurate Prediction of Animal Toxicity Endpoints: All Things Considered in the Age of Big Data." Applied Pharmaceutical Toxicology, South San Francisco, CA. 2019.
3. "A Database for High-Throughput Exposomic Analyses of Environmental Chemicals by Solid Phase Extraction-Ion Mobility Spectrometry-Mass Spectrometry." The Toxicology Forum, Brussels, Belgium. 2019.
4. "Mouse vs. Machine…Are Animal Studies Being Supplanted by Computers?" Society of Toxicology Annual Meeting, Baltimore, MD. 2019.
5. "Tissue Chips: Building Confidence through Independent Experimental Testing." Laboratory Animal Sciences Virtual Conference. 2019.
6. "Categorization of Real-life Mixtures Using Chemical-Biological Grouping: Applying New Approach Methodologies to Complex Challenges." Superfund Research Program Annual Meeting, Sacramento, CA. 2018.
7. "High content bioactivity profiling of 141 petroleum substances." EuroTox2018 Satellite Meeting – Cat-App Project Results Presentation, Brussels, Belgium. 2018.
8. "Categorization of UVCBs using chemical-biological read-across." Society of Toxicology Annual Meeting, San Antonio, TX. 2018.
9. "Grouping of UVCBs using chemical-biological read-across: Case study of petroleum substances." The Toxicology Forum, Washington, DC. 2018.
10. "Tissue Chip Validation Center at Texas A&M University (Tex-Val Center)." Keystone Symposium: Organs- and Tissues-on-Chips, Big Sky, MT. 2018.
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12. "Read-across and grouping of complex substances using bioactivity data from human induced pluripotent stem cell (iPSC)-derived models." 10th Congress on Alternatives and Animal Use in the Life Sciences. Seattle, WA. 2017.
13. "A population-based organotypic human *in vitro* model for cardiotoxicity testing." 10th Congress on Alternatives and Animal Use in the Life Sciences. Seattle, WA. 2017.
14. "Is Glyphosate a Probable Human Carcinogen? Yes!" Society of Toxicology Annual Meeting, Baltimore, MD. 2017.

15. “The Future of Human Health Assessments: Using New Methodologies for Better Understanding of the Health Impacts of Petroleum Substances.” 12th Concawe Symposium, Antwerp, Belgium. 2017.
16. “Experimental animal studies of co-morbidity factors as a path for translational impact to human disease.” International Congress of Toxicology, Merida, Mexico. 2016.
17. “Exploring the characterization of human variability with *in vitro* models.” International Conference on Toxicity Testing Alternatives & Translational Toxicology, Hangzhou, China. 2016.
18. “Chemical safety assessment using read-across: Novel biological and chemical profiling methodologies.” The International Council of Chemical Associations’ Long-Range Research Initiative (ICCA-LRI) and Japan’s National Institute of Health Sciences (NIHS) Workshop, “Meeting the Global Challenge of Applying New Scientific Methods to Improve Environmental and Human Health Risk Assessments,” Awaji Island, Japan. 2016.
19. “A chemical–biological similarity-based grouping of complex substances using multi-dimensional high-content screening of human induced pluripotent stem cell (iPSC)-derived models.” Environmental Mutagenesis and Genomics Society Annual Meeting, Kansas City, MO. 2016.
20. “Epigenetic Mechanisms of Genotoxicity and Carcinogenesis.” SOT CCT meeting “Toxicoepigenetics: The Interface of Epigenetics and Risk Assessment,” Tysons Corner, VA. 2016.
21. “Genetics for Toxicologists: Why Should We Care?” Society of Toxicology Annual Meeting, New Orleans, LA. 2016.
22. “Multi-strain panels of inbred mice.” American Association for Study of Liver Disease Annual Meeting, San Francisco, CA. 2015
23. “Advancing safety assessments of chemicals through biological read across using multi-dimensional *in vitro* toxicity testing.” American Chemical Society Annual Meeting, Boston, MA, 2015.
24. “Exploring the characterization of human variability with in vivo and in vitro experimental models.” ASIATOX, Jeju, Korea. 2015.
25. “miRNA as population variability-independent biomarkers of toxicity.” EuroTOX Annual Meeting, Porto, Portugal, 2015.
26. “Hazard identification and toxicogenomics data: Read-across using high-dimensional biological data.” Society of Toxicology Annual Meeting, San Diego, CA. 2015.
27. “Genetic mapping of *in vitro* susceptibility to cytotoxic compounds: The 1000 genomes high-throughput screening study.” Society of Toxicology Annual Meeting, San Diego, CA. 2015.
28. “Genes, genomes, and genotoxicity: *In vivo* epigenetic toxicology of 1,3-butadiene.” Society of Toxicology Annual Meeting, San Diego, CA. 2015.
29. “Assessment of inter-individual variability in chemical safety testing: Replacing defaults with scientific evidence.” Society for Risk Analysis Annual Meeting, Denver, CO, 2014.
30. “Systems biology analysis of genetic and environmental determinants of toxicity.” 19th North American ISSX/29th JSSX Meeting, San Francisco, CA, 2014.
31. “Toxicogenomics and Toxicogenetics: Genetic diversity and susceptibility to toxicity in Next-generation human health assessments of chemicals.” Japanese Society of Toxicology Meeting, Kobe, Japan, 2014.

32. "HAWC: Health Assessments Workspace Collaborative." OpenTox USA 2013, RTP, NC. 2013.
33. "Testing for Population Variability in Responses to Chemical Toxicity." EuroTOX Annual Meeting, Interlaken, Switzerland. 2013.
34. "Genetic diversity and responses to chemical exposures." International Council of Chemical Association's (ICCA) Long-Range Research Initiative (LRI) and U.S. National Institutes of Health's National Center for Advancing Transitional Sciences (NCATS) workshop "What is Normal? Implications for Chemical Safety Assessment." Santa Fe, NM. 2013.
35. "Expanding the boundaries of toxicogenomics." Organization for Economic Cooperation and Development, Paris, France. 2013.
36. "1000 Genomes *in vitro* toxicology project: Quantitative high-throughput screening for chemical toxicity in a population-based *in vitro* model." Society of Toxicology Annual Meeting, San Antonio, TX. 2013.
37. "Utilizing new technologies and approaches to understand individual and population susceptibility." FutureTox: Building the Road for 21st Century Toxicology and Risk Assessment Practices. Arlington, VA. 2012.
38. "Bridging computational modeling and wet-bench toxicology: Inter-disciplinary approach to move the field forward." 3rd International Symposium on New Horizons in Toxicity Prediction. Cambridge, UK. 2012.
39. "Expanding the boundaries of toxicogenomics." 12th European ISSX Meeting, Noordwijk, the Netherlands. 2012.
40. "Using the power of human genome variation for population-scale *in vitro* testing." Toxicology and Risk Assessment Conference, Cincinnati, OH. 2012.
41. "Mechanisms of liver carcinogenesis: Studies of co-morbidity factors using animal models." Environmental Mutagens in Human Populations: 6th International Conference, Doha, Qatar. 2012.
42. "Probing mechanisms of inter-individual susceptibility to toxicants with population-based experimental approaches." Experimental Biology 2011, Washington, DC. 2011.
43. "Genetic background-independent and -dependent pathways in alcohol-induced liver injury." Research Society on Alcoholism Annual Meeting, Atlanta, GA. 2011.
44. "Integrating emerging science: Computational toxicology." Society of Toxicology Annual Meeting, Washington, DC. 2011.
45. "Assessing the impact of inter-individual genetic variability on toxicity through toxicogenomic data." Society of Toxicology Annual Meeting, Washington, DC. 2011.
46. "Population-based discovery of toxicogenomics biomarkers for hepatotoxicity." Society of Toxicology Annual Meeting, Washington, DC. 2011.
47. "*In vitro* screening for population variability in chemical toxicity: chemical prioritization and mode of action analysis." Society of Biomolecular Sciences Conference "Biomolecular Screening: Advanced Applications Across Academia, Government & Industry." RTP, NC. 2010.
48. "Gene expression and epigenetic changes in nontumoral liver tissue and recurrence-free survival in hepatitis C virus-positive hepatocellular carcinoma." International Conference "Tumor and host: Novel aspects of old problem," National Academy of Sciences of Ukraine, Kiev, Ukraine. 2010.

49. “Computational Toxicology: From data, to analyses, to applications”. 2010 Annual Meeting of the Teratology Society, Louisville, KY. 2010.
50. “The Role of Genomics in Mode-of-Action Based Risk Assessment.” 2010 Annual Meeting of the American Association for the Advancement of Science (AAAS), San Diego, CA. 2010.
51. “Modeling Toxicity in the Population Using Experimental Models.” 2010 Annual Meeting of the American Association for the Advancement of Science (AAAS), San Diego, CA. 2010.
52. “Carolina Center for Computational Toxicology.” The STAR Centers review meeting, EPA, RTP, NC. 2009.
53. “Probing the mechanisms of inter-individual susceptibility to environmental agents with population-based experimental approaches.” The Annual Meeting of the Superfund Basic Research Program, Columbia University, New York, NY. 2009.
54. “Exploring inter-individual differences in toxicity responses using *in vitro* and *in vivo* approaches.” The International Council of Chemical Associations’ Long-Range Research Initiative Workshop, Charleston, SC. 2009.
55. “Modeling chemical toxicity in the population: Mouse to the rescue!” Society of Toxicology Annual Meeting, Baltimore, MD. 2009.
56. “Pathway mapping of chemical-perturbed regulatory networks.” Society of Toxicology Annual Meeting, Baltimore, MD. 2009.
57. “Use of inbred mouse strains to model genetic variation in susceptibility to drug-induced liver injury.” The Hepatotoxicity Summit, Philadelphia, PA. 2008.
58. "Mechanisms of alcohol-related liver carcinogenesis." Research Society on Alcoholism Annual Meeting, Washington, DC. 2008.
59. “Experimental pharmacogenetic approaches to understanding toxic responses in populations.” Environmental Mutagenesis Society Annual Meeting, San Juan, Puerto Rico. 2008.
60. “Genetical genomics and liver toxicology.” Society of Toxicology Annual Meeting, Seattle, WA. 2008.
61. “Predictive power of biomarkers of oxidative stress and inflammation in patients with hepatitis C virus-associated hepatocellular carcinoma.” Biomarkers of Oxidative Stress in Health and Disease (BOHSD 2008). Osaka, Japan. 2008.
62. “Epigenetic aspects of peroxisome proliferator-induced rodent liver carcinogenesis.” Risk 007: Agents and Analysis. 2007 Annual Meeting of the Society for Risk Analysis. San Antonio, TX. 2007
63. “Bridging investigative toxicology and disease-oriented research by building a mouse-to-human paradigm.” 4th International Symposium on Computational Methods in Toxicology and Pharmacology: Integrating Internet Resources. Moscow, Russia. 2007.
64. "Multi-center study of acetaminophen hepatotoxicity reveals the importance of biological endpoints in genomic analyses." Empowering environmental health sciences research with new technologies: A conference on omics applications in the environmental health sciences. Chapel Hill, NC. 2006.
65. "Genomic profiling in nuclear receptor-mediated toxicity." Empowering environmental health sciences research with new technologies: A conference on omics applications in the environmental health sciences. Chapel Hill, NC. 2006.

66. "Metabolomic and Toxicogenetic Study of Ethanol Toxicity." Empowering environmental health sciences research with new technologies: A conference on omics applications in the environmental health sciences. Chapel Hill, NC. 2006.
67. "Bridging basic sciences and disease-oriented research by building a mouse-to-human paradigm." 2nd Central and Eastern European Conference on Health and the Environment, Bratislava, Slovakia. 2006.
68. "Kupffer cell activation by non-genotoxic chemicals: Does it play a role in hepatocarcinogenesis?" 13th International Symposium on Cells of the Hepatic Sinusoid, Niigata, Japan. 2006.
69. "Toxicogenetic dimension in studies of the mechanisms of liver injury." 5th Annual Meeting of the Complex Traits Consortium, Chapel Hill, NC. 2006.
70. "Advancing toxicology by improving linkage of traditional toxicity and pathology endpoints with toxicogenomics." Society of Toxicology Annual Meeting, San Diego, CA. 2006.
71. "Temporal correlation of pathology and markers of oxidative stress with gene expression in rat liver carcinogenesis." Society of Toxicology Annual Meeting, San Diego, CA. 2006.
72. "Kupffer cell activation by non-genotoxic chemicals: Does it play a role in hepato-carcinogenesis?" Society of Toxicology Annual Meeting, San Diego, CA. 2006.
73. "Oxidative stress in alcohol-induced hepatic carcinogenesis." International Symposium on Energy Metabolism and Oxidative Stress in Liver Patho-physiology. Juntendo Medical University, Tokyo, Japan. 2005.
74. "Toxicogenomics as a new area in toxicology: Technology, promises and challenges." Ukrainian Toxicology Society. 6th International Scientific and Practical Conference "Actual Problems of Toxicology: Safety of Human Living" Kiev, Ukraine. 2005.
75. "The elusive role of oxidant-induced DNA damage in the mechanisms of non-genotoxic liver carcinogenesis: Did not we figure it out a decade ago?" 6h International Conference of the Society for Free Radical Research – Africa, Tetouan, Morocco. 2005.
76. "Toxicogenetic and toxicogenomic analysis of alcohol-induced liver injury." Society of Toxicology Annual Meeting, New Orleans, LA. 2005.
77. "Gene expression profiling of rat liver fibrosis, cirrhosis, and cancer induced by choline-deficient, L-amino acid-defined diet." Japanese Society of Toxicologic Pathologists Meeting, Kobe, Japan. 2004.
78. "Toxicogenetic and toxicogenomic analysis of susceptibility to liver injury." Central and Eastern European Environmental Health Conf., Prague, Czech Republic, 2004.
79. "Studying liver carcinogenesis and liver injury in animal models: Lessons learned from considering cell-cell interactions." Tissue Engineering Society International Annual Meeting, Orlando, FL. 2003.

Refereed poster presentations (since 2002):

1. Aly, N., Luo, Y.S., Roman-Hubers, A. T., Liu, Y., Baker, E.S., Chiu, W.A. and **Rusyn, I.** Creating an Ion Mobility Collision Cross Section Library for the ToxCast Chemicals and Utilizing it for Rapid Exposure Assessment. ASMS Conference on Mass Spectrometry and Allied Topics. Houston, TX. 2020.
2. Luo, Y.-S., Aly, N.A., Dodds, J., Foster, M., Baker, E.S., Chiu, W.A., and **Rusyn, I.** Rapid Characterization of Emerging Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Film Forming Foams (AFFF) Using Ion Mobility Mass Spectrometry. SETAC North America

Focused Topic Meeting: Nontarget Analysis for Environmental Risk Assessment. Durham, NC. 2020.

3. Roman-Hubers, A., Wade, T., Baker, E., McDonald, T., Chiu, W., and **Rusyn, I.** Forensic fingerprinting of petroleum: Comparative analysis of analytical techniques for rapid identification of oil spills. 9th Young Environmental Scientists (YES) of the Society of Environmental Toxicology and Analytical Chemistry meeting, Waco, TX. 2020.
4. Chen, Z., Kamelia, L., Liu, Y., Sirenko, O., and **Rusyn, I.** High-content and -throughput 3D mouse embryonic stem cell spheroid cultures for characterizing the developmental toxicity potency of chemicals. Society of Toxicology Annual Meeting, Anaheim, CA. 2020.
5. Burnett, S., Blanchette, A., Wright, F., Chiu, W., and **Rusyn, I.** An In Vitro Human Population Model for Screening Environmental Chemicals for the Cardiotoxicity Hazard. Society of Toxicology Annual Meeting, Anaheim, CA. 2020.
6. Roman-Hubers, A., Chen, Z., McDonald, T., Tuttle, K., Chiu, W., and **Rusyn, I.** Rapid hazard identification using innovative high throughput bioactivity and chemical profiling assays: A case study of a hypothetical spill of a complex substance. Society of Toxicology Annual Meeting, Anaheim, CA. 2020.
7. Blanchette, A., Burnett, S., Grimm, F., House, J., Reif, D., Wright, F., **Rusyn, I.,** and Chiu, W.A. An in vitro-in silico model for characterizing hazard and population variability in cardiotoxicity induced by environmental chemicals. Society of Toxicology Annual Meeting, Anaheim, CA. 2020.
8. Lewis, L., Chen, Z., Goodman, S., Matyjasiak, J., Erber, L., Tretyakova, N., and **Rusyn, I.** The utility of a human in vitro population-based model for studies of epigenetic and genotoxic mechanisms. Society of Toxicology Annual Meeting, Anaheim, CA. 2020.
9. Sakolish, C., Charrez, B., Huebsch, N., Healy, K., and **Rusyn, I.** The cross-laboratory testing and evaluation of a cardiac Microphysiology system. Society of Toxicology Annual Meeting, Anaheim, CA. 2020.
10. de Conti, A., Tryndyak, V., Willett, R.A., Borowa-Mazgaj, B., Watson, A., Beland, F.A, Rusyn, I., and Pogribny, I.P. Molecular markers of non-alcoholic fatty liver disease variability in Collaborative Cross mouse population. Society of Toxicology Annual Meeting, Anaheim, CA. 2020.
11. Roman-Hubers, A. Chen, Z., Liu, Y., McDonald, T., Wade, T., Lyon, D., Chiu, W., and **Rusyn, I.** Passive dosing methods for in vitro testing of UVCB substances. SRP Annual Meeting, Seattle, WA. 2019.
12. Aly, N., Luo, Y.S., Liu, Y., Casillas, G., McDonald, T., Kaihatu, J., Jun, M., Ellis, N., Gossett, S., Dodds, J., Baker, E.S., Chiu, W.A. and **Rusyn, I.** Temporal and Spatial Analysis of Poly/perfluoroalkyl Substances in Houston Ship Channel Following Firefighting Foam Deployment at the Intercontinental Terminal Company Fire. SRP Annual Meeting, Seattle, WA. 2019.
13. Luo, Y-S. Valdiviezo, A.C., Chen, Z., Chiu, W.A., and **Rusyn, I.** Quantitative in vitro-to-in vivo extrapolation for lipophilic environmental chemicals. SRP Annual Meeting, Seattle, WA. 2019.
14. Chen, Z., Liu, Y., Chiu, W.A., and **Rusyn, I.** A compendium of human cell lines from different organs as an in vitro model for rapid grouping of superfund chemicals into classes. SRP Annual Meeting, Seattle, WA. 2019.
15. Lewis, L., Chappell, G., Blazier, J., Konganti, K., Israel, J., Simon, J., Peck, B., Eklund, K., Furey, T., and **Rusyn, I.** MicroRNA as regulators of 1,3-butadiene-induced strain- and tissue-specific effects in mice. American College of Toxicology Annual Meeting, Phoenix, AZ. 2019.
16. Aly, N.A., Luo, Y.S., Roman-Hubers, A.T., Liu, Y., Zheng, X., Baker, E.S., Chiu, W.A. and **Rusyn, I.** Reproducibility of collision cross section measurements with ion mobility mass spectrometry-mass spectrometry. International Congress of Toxicology, Honolulu, HI. 2019.

17. Lewis, L., Kosyk, O., Bodnar, W., Sexton, K., Konganti, K., House, J., Wright, F.A., and **Rusyn, I.** The persistence of 1,3-butadiene-induced DNA damage, transcriptional effects, and chromatin state alterations in C57BL6/J and CAST/EiJ mice. International Congress of Toxicology, Honolulu, HI. 2019.
18. Sakolish, C., Liu, Y.S., Reese, C., DeBiasio, R., Montiel, F., Lee, S., Vernetti, L., Taylor, L., Healy, K., and **Rusyn, I.** The Cross-Laboratory Testing and Evaluation of two Liver Microphysiological systems. International Congress of Toxicology, Honolulu, HI. 2019.
19. Fukushima, H., Luo, Y.S., Lewis, L., Threadgill, D.W., and **Rusyn, I.** Population variability in the severity of the alcoholic hepatitis in a mouse model. International Congress of Toxicology, Honolulu, HI. 2019.
20. Luo, Y.S., Cichocki, J.A., Lewis, L., Threadgill, D.W., Chiu, W.A., and **Rusyn, I.** Population-based Analysis of Toxicokinetics and Kidney Toxicodynamics of Tetrachloroethylene in the Mouse. Society of Toxicology Annual Meeting, Baltimore, MD. 2019.
21. Burnett, S., Blanchette, A., Grimm, F., Wright, F., Chiu, W. and **Rusyn, I.** Enabling Assessment of Cardiotoxicity Hazard for Environmental Chemicals Using An *In Vitro* Human Population Model. Society of Toxicology Annual Meeting, Baltimore, MD. 2019.
22. Sakolish, C., Liu, Y., Reese, C., DeBiasio, R., Vernetti, L., Taylor, L., and **Rusyn, I.** The cross-laboratory testing and comparison of a liver microphysiological system. Society of Toxicology Annual Meeting, Baltimore, MD. 2019.
23. Chen, Z., Yanagisawa, L., Liu, Y., Camargo, K., Casillas, G., McDonald, T., Horney, J., Chiu, W.A., and **Rusyn, I.** A multi-tissue organotypic human in vitro model for rapid hazard identification of environmental chemicals and mixtures. Society of Toxicology Annual Meeting, Baltimore, MD. 2019.
24. Lewis, L., Borowa-Mazgaj, B., de Conti, A., Chappell, G., Bodnar, W., Pogribny, I.P., and **Rusyn, I.** Tissue-Specific Epigenetic Effects of 1,3-Butadiene In A Collaborative Cross Mouse Population. Society of Toxicology Annual Meeting, Baltimore, MD. 2019.
25. Liu, Y., Sakolish, C., Chen, Z., Zushin, P.J., Lee, C., Healy, K., and **Rusyn, I.** Evaluation of Chemical Effects on Adipogenesis Using a Physiologically-Relevant Microfluidic System. Society of Toxicology Annual Meeting, Baltimore, MD. 2019.
26. Danforth, C., Craft, E., Bolden, A., Schultz, K., Kwiatkowski, C., **Rusyn, I.,** and Chiu, W. Evidence integration across multiple toxicity endpoints to prioritize constituents of potential concern in oil and gas produced water. Society of Toxicology Annual Meeting, Baltimore, MD. 2019.
27. Aly, N.A., Luo, Y.S., Roman-Hubers, A.T., Liu, Y., Zhang, X., Baker, E.S., Chiu, W.A. and **Rusyn, I.** A library of 4,000+ Environmental chemicals for high throughput exposomic measurements. Superfund Research Program Annual Meeting, Sacramento, CA. 2018.
28. Roman-Hubers, A., Aly, N., Sweet, S., Wade, T., Bushang, S., Baker, E., Chiu, W., and **Rusyn, I.** The application of Ion Mobility-Mass Spectrometry technique as a rapid analytical method for identification of the origin of oil spills. Lone Star SOT Annual Meeting, Austin, TX. 2018.
29. Blanchette, A., Grimm, F., Dalaijamts, C., Hsieh, N.H., Ferguson, K., Luo, Y.S., Anson, B., **Rusyn, I.,** and Chiu, W.A. Thorough QT/QTC in a dish: An in vitro human model that accurately predicts clinical concentration-QTC relationships. Lone Star SOT Annual Meeting, Austin, TX. 2018.
30. Burnett, S., Grimm, F., Anson, B., Wright, F.A., Chiu, W, and **Rusyn, I**. An *in vitro* human population model for assessment of inter-individual variability in cardiotoxicity. Lone Star SOT Annual Meeting, Austin, TX. 2018.
31. Aly, N., Luo, Y.S., Roman-Hubers, A., Liu, Y., Zhang, X., Baker, E., Chiu, W., and **Rusyn, I.** Enabling high-throughput Exposomics by developing a library of 4,000+ environmental

chemicals for solid phase extraction-ion mobility spectrometry-mass spectrometry. Lone Star SOT Annual Meeting, Austin, TX. 2018.

32. Luo, Y.S., Cichocki, J., Lewis, L., Threadgill, D., and **Rusyn, I.** Population-based analysis of toxicokinetics and kidney toxicodynamics of tetrachloroethylene in the mouse. Lone Star SOT Annual Meeting, Austin, TX. 2018.
33. Liu, Y., Sakolish, C., Chen, Z., Zushin, P.J., Lee, C., Healy, K., and **Rusyn, I.** Evaluation of chemical effects on adipogenesis using a physiologically-relevant microfluidic system. Lone Star SOT Annual Meeting, Austin, TX. 2018.
34. Chen, Z., Yanagisawa, L., Chiu, W.A., and **Rusyn, I.** A multi-tissue organotypic human *in vitro* model for rapid hazard identification of environmental chemicals and mixtures. The Harvey Research Symposium, Corpus Christie, TX. 2018.
35. Chen, Z., Yanagisawa, L., Chiu, W.A., and **Rusyn, I.** A multi-tissue organotypic human *in vitro* model for rapid hazard identification of environmental chemicals and mixtures. Lone Star SOT Annual Meeting, Austin, TX. 2018.
36. Lewis, L., de Conti, A., Borowa-Mazgaj, B., Chappell, G., Bodnar, W., Pogribny, I.P., and **Rusyn, I.** Investigating iner-individual variability in epigenotoxicity and genotoxicity in response to 1,3-butadiene in a population-based mouse model. Lone Star SOT Annual Meeting, Austin, TX. 2018.
37. Sakolish, C., Liu, Y., Reese, C., DeBiasio, R., Vernetti, L., Taylor, L., and **Rusyn, I.** The Cross-laboratory testing and comparison of two liver microphysiological systems. Lone Star SOT Annual Meeting, Austin, TX. 2018.
38. Dalaijamts, C., Cichocki, J.A., Luo, Y.S., **Rusyn, I.,** and Chiu, W.A. Physiologically-Based Pharmacokinetic (PBPK) Modeling of Variability in Perchloroethylene Metabolism Across Multiple Mouse Strains. Lone Star SOT Annual Meeting, Austin, TX. 2018.
39. **Rusyn, I.,** Sakolish, C., Bell, C., Chramiec, A., Yeager, K., Halligan, S., Mouneimne, R., Wade, T., Han, A., Burghardt, R., Chiu, W., Vunjak-Novakovic, G. The cross-laboratory testing of the tissue-engineered Ewing's sarcoma bone model. Keystone Symposium: Organs- and Tissues-on-Chips, Big Sky, MT. 2018.
40. Furuya, S., Cichocki, J.A., Kono, H., Bataller, R., and **Rusyn, I.** Comprehensive analysis of alcohol treatment in mouse model of acute-on-chronic liver injury. The International Liver Congress, Paris, France. 2018.
41. Ouyang, X., Furuya, S., Fukushima, H., Chen, J., Yousef, M., Bataller, R., **Rusyn, I.,** and Mehal, W. Digoxin protects from alcoholic hepatitis and inhibits tgf-b induced fibrotic response. Digestive Disease Week, Washington, DC. 2018.
42. Sakolish, C., Bell, C., Weber, E.J., Kelly, E.J., Himmelfarb, J., Mouneimne, R., Wade, T., Han, A., Burghardt, R., Chiu, W., and **Rusyn, I.** The cross-laboratory testing of the human proximal tubule chip. Keystone Symposium: Organs- and Tissues-on-Chips, Big Sky, MT. 2018.
43. Klaren, W.D., Grimm, F.A., Shen, H., and **Rusyn, I.** *In vitro* approaches to grouping of complex substances and UVCBs: A case study of olefin streams. Society of Toxicology Annual Meeting, San Antonio, TX. 2018.
44. Grimm, F.A., Klaren, W.K., Li, X., House, J.S., Chiu, W., Lehmler, H.J., Robertson, L.W., and **Rusyn, I.** Cardiotoxicity Screening of Polychlorinated Biphenyls and Their Major Metabolites. Society of Toxicology Annual Meeting, San Antonio, TX. 2018.
45. Lewis, L., Borowa-Mazgaj, B., de Conti, A., Chappell, G., Bodnar, W., Pogribny, I.P., and **Rusyn, I.** Inter-individual variability in epigenetic and genotoxic responses to 1,3-butadiene in a population-based Collaborative Cross mouse model. Society of Toxicology Annual Meeting, San Antonio, TX. 2018.

46. Luo, Y.S., Furuya, S., Yoo, H.S., and **Rusyn, I.** Comparative Analysis of Toxicokinetics and Toxicodynamics of Perchloroethylene in Cytochrome P450 2E1 Knockout and Humanized Transgenic Mice. Society of Toxicology Annual Meeting, San Antonio, TX. 2018.
47. Sakolish, C., Bell, C., Weber, E., Kelly, E., Himmelfarb, J., Mouneimne, R., Wade, T., Han, A., Burghardt, R., Chiu, W., and **Rusyn, I.** The Cross-Laboratory Testing of the Human Proximal Tubule Chip. Society of Toxicology Annual Meeting, San Antonio, TX. 2018.
48. Venkatratnam, A., House, J.S., Konganti, K., McKenney, C., Threadgill, D.W., Chiu, W.A., Aylor, D.L., Wright, F.A., and **Rusyn, I.** Collaborative Cross (CC) mouse population-based dose-response analysis of liver transcriptomic responses to trichloroethylene (TCE) at the level of genes and pathways. Society of Toxicology Annual Meeting, San Antonio, TX. 2018.
49. Dalaijams, C., Cichocki, J.A., Luo, Y., Rusyn, I., and Chiu, W.A. Physiologically-Based Pharmacokinetic (PBPK) modeling of interstrain variability in perchloroethylene metabolism in mice. Society of Toxicology Annual Meeting, San Antonio, TX. 2018.
50. Ferguson, K., Sericano, J., Luo, Y., **Rusyn, I.,** and Chiu, W. Utility of rapid equilibrium dialysis (RED) for high-throughput screening of environmental chemicals. Society of Toxicology Annual Meeting, San Antonio, TX. 2018.
51. Onel, M., Beykal, B., Grimm, F.A., Zhou, L., Wright, F.A., **Rusyn, I.**, and Pistikopoulos EN. Optimization of Clustering Algorithms for Grouping of Complex Chemical Substances Based on Chemical and Biological Characteristics. Superfund Program Annual Meeting, Philadelphia, PA. 2017.
52. **Rusyn, I.,** and Knap, A.H. Texas A&M University Superfund Research Center: Comprehensive tools and models for addressing exposure to mixtures during environmental emergency-related contamination events. Superfund Program Annual Meeting, Philadelphia, PA. 2017.
53. Camargo, K., Jun, M., Horney, J., **Rusyn, I.,** Chiu, W., McDonald, T.J., and Knap, A. Environmental Sampling Strategies for Disasters: Lessons Learned from Hurricane Harvey Response. Superfund Program Annual Meeting, Philadelphia, PA. 2017.
54. Furuya, S., Cichocki, J., Konganti, K., Dreval, K., Uehara, T., Katou, Y., Kono, H., Pogribny, I., Bataller, R., and **Rusyn, I.** Relationship between alcohol treatment and transcriptome in mouse model of acute-on-chronic alcoholic liver injury. American Association for Studies of Liver Disease Annual Meeting, Washington, DC, 2017.
55. Cichocki, J., Furuya, S., Luo, Y.-S., Pogribny, I., Chiu, W.A., Threadgill, D.W., and **Rusyn, I.** Non-alcoholic fatty liver disease as a modifier of perchloroethylene-induced toxicity. Society of Toxicology Annual Meeting, Baltimore, MD. 2017.
56. Luo, Y.-S., Cichocki, J., McDonald, T.J., and **Rusyn, I.** Simultaneous detection of the tetrachloroethylene metabolites S-(1,2,2-trichlorovinyl) glutathione, S-(1,2,2-trichlorovinyl)-L-cysteine, and N-acetyl-S-(1,2,2-trichlorovinyl)-L-cysteine in multiple mouse tissues via ultra-high performance liquid chromatography electrospray ionization tandem mass spectrometry. Society of Toxicology Annual Meeting, Baltimore, MD. 2017.
57. Venkatratnam, A., Furuya, S., Kosyk, O., Konganti, K., Aylor, D., Hillhouse, A., Chiu, W.A., Threadgill, D.W., and **Rusyn, I.** A population-wide study of metabolism and toxicodynamics of trichloroethylene using Collaborative Cross mouse panel provides critical insights into the mechanisms of inter-individual variability. Society of Toxicology Annual Meeting, Baltimore, MD. 2017.
58. Grimm, F.A., Chiu, W., Hsieh, N.H., Dalaijamts, C., Burnett, S., Anson, B., Wright, A., Wright, F., and **Rusyn I.** A population-based organotypic human *in vitro* model for cardiotoxicity testing. Society of Toxicology Annual Meeting, Baltimore, MD. 2017.

59. Iwata, Y., Klaren, W., Grimm, F.A., and **Rusyn, I.** A Multi-dimensional high-throughput approach for toxicity evaluation of environmental chemicals in induced pluripotent stem cell-derived endothelial cells. Society of Toxicology Annual Meeting, Baltimore, MD. 2017.
60. Lewis, L., Chappell, G., O'Brien, B., Kobets, T., Tretyakova, N., Sangaraju, D., Kosyk, O., Sexton, K., Bodnar, W., Pogribny, I. and **Rusyn, I.** Sex differences in genotoxic and epigenotoxic effects of 1,3-Butadiene in mice. Society of Toxicology Annual Meeting, Baltimore, MD. 2017.
61. Klaren, W.D., Iwata, Y., Grimm, F. and **Rusyn, I.** Development of a high-throughput multiplexed assay for determining chemical effects on macrophage function. Society of Toxicology Annual Meeting, Baltimore, MD. 2017.
62. Israel, J., Lewis, L., Chappell, G., Safi, A., Simon, J., Cotney, P., Bodner, W., Pott, S., Crawford, G., **Rusyn, I.**, and Furey, T. Strain-specific epigenetic programs determine susceptibility to 1,3-butadiene induced DNA damage. Society of Toxicology Annual Meeting, Baltimore, MD. 2017.
63. Chappell, G., Pogribny, I., Guyton, K., and **Rusyn, I.** Epigenetic alterations induced by genotoxic occupational and environmental human chemical carcinogens: A systematic literature review. Epigenetics and Environmental Origins of Cancer Meeting, Lyon, France, 2016.
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75. Furuya, S., Iwata, Y., Bataller, R. and **Rusyn, I.** Transcriptomic analysis of the mouse model of fibrosis and alcohol-associated acute kidney injury. American Association for Studies of Liver Disease Annual Meeting, San Francisco, CA, 2015.
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109. Uehara, T., Kutanzi, K., Koturbash, I., Pogribny, I. and **Rusyn, I.** Epigenetic alterations underlie the mechanism of N,N-diethynitrosamine and carbon tetrachloride carcinogenesis in the mouse liver. Society of Toxicology Annual Meeting, San Francisco, CA. 2012.
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111. Low, Y., Fourches, D., Sedykh, A., **Rusyn, I.,** and Tropsha, A. Multi-space *k*-Nearest Neighbors as a Novel Hybrid Approach Integrating Chemical and Toxicogenomic Descriptors for Improved Toxicity Prediction. Society of Toxicology Annual Meeting, San Francisco, CA. 2012.

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117. Ainslie, G., Uehara, T., Kosyk, O., Bradford, B. Boorman, G., and **Rusyn, I.** Co-carcinogenesis of N,N-diethylnitrosamine and carbon tetrachloride in mouse liver. Society of Toxicology Annual Meeting, Washington, DC. 2011.
118. Uehara, T., Kosyk, O., Jeannot, E., Bradford, B., Grimes, J., O'Connell, T., Boorman, G., Melnyk, S., Weinman, S., and **Rusyn, I.** Acute liver toxicity of acetaminophen is not potentiated in HCV transgenic mice. Society of Toxicology Annual Meeting, Washington, DC. 2011.
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127. Tryndyak, V.P., Gatti, D.M., **Rusyn, I.,** Beland, F.A., and Pogribny, I.P. Basal differences in DNA methylation impact susceptibility to nonalcoholic steatohepatitis (NASH)-induced liver injury in mice. Society of Toxicology Annual Meeting, Salt Lake City, UT. 2010.
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129. Sedykh, A., Zhu, H., Tang, H., Zhang, L., Richard, A., **Rusyn, I.,** and Tropsha, A. Using *in vitro* Dose-Response Profiles to Enhance QSAR Modeling of *in vivo* Toxicity. Society of Toxicology Annual Meeting, Salt Lake City, UT. 2010.
130. Li, Z., **Rusyn, I.,** and Wright, F.A. Pathway-based dose-response analysis of toxicogenomics data. Society of Toxicology Annual Meeting, Salt Lake City, UT. 2010.
131. Bradford, B.U., Kim, S., Kosyk, O., Grimes, J., O'Connell, T., and **Rusyn, I.** NMR and microarray based analysis of mouse liver following exposure to trichloroethylene. Society of Toxicology Annual Meeting, Salt Lake City, UT. 2010.
132. Grimes, J., Kim, S., O'Connell, T., Bradford, B., and **Rusyn, I.** Analysis of trichloroethylene metabolism in a genetically diverse panel of inbred mouse strains. 5th Annual Metabolomics Society Meeting, Edmonton, Alberta, Canada. 2009.
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134. Jeannot, E., Boorman, G., Kosyk, O., Shymoniak, S., and **Rusyn, I.** Incidence of aflatoxin B1-induced hepatic tumors is increased in Hepatitis Virus C transgenic mice as compared to wild type C57BL/6J strain. The 60th Annual Meeting of the American Association of the Study of Liver Disease, Boston, MA. 2009.
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139. Zhu H, Sedykh A, Zhang L, **Rusyn I,** and Tropsha A. Using ToxCast cell-viability and gene-expression assays as biological descriptors in QSAR modeling of animal toxicity endpoints. EPA ToxCast Data Analysis Summit, RTP, NC. 2009.
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145. Kim, S., Collins, L.B., Pollack, G., and **Rusyn, I.** Pharmacokinetic modeling of trichloroethylene metabolism in B6C3F1 mice: Formation and disposition of trichloroacetic acid, dichloroacetic acid, *S*-(1,2-dichlorovinyl)glutathione and *S*-(1,2-dichlorovinyl)-L-cysteine. NIEHS Superfund Basic Research & Training Program 2008 Annual Meeting. Pacific Grove, CA.
146. Jeannot, E., Mellottee, E., Bioulac-Sage, P., Genthep (Inserm network), **Rusyn, I.,** and Zucman-Rossi, J. Investigation of the mechanism of mutatagenesis in HNF1alha gene in hepatocellular adenoma. International Liver Cancer Association Meeting, Chicago, IL. 2008.
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148. Gatti, D.M., Shabalin, A.A., **Rusyn, I.,** Wright, F.A., Nobel, A.B. Fast association mapping using summation trees. 7th Annual Meeting of the Complex Traits Consortium, Montreal, Canada. 2008.
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154. Tryndyak, V., Boureiko, A., Melnyk, S., **Rusyn, I.,** and Pogribny, I.P. Mechanism of genomic hypomethylation during hepatocarcinogenesis induced by peroxisome proliferators in rats. Society of Toxicology Annual Meeting, Seattle, WA. 2008.

155. Rodgers, A., Zhu, H., **Rusyn, I.,** and Tropsha, A. QSAR modeling of Human Liver Adverse Effects Database using *k*NN method. Society of Toxicology Annual Meeting, Seattle, WA. 2008.
156. Zhu, H., Ye, L., **Rusyn, I.,** Richard, A., Golbraikh, A., and Tropsha, A. Two-step Quantitative Structure Activity Relationship modeling of *in vivo* toxicity using *in vitro* cytotoxicity data. Society of Toxicology Annual Meeting, Seattle, WA. 2008.
157. Tsuchiya, M., Kono, H., Asakawa, M., Matsuda, M., Fujii, H., and **Rusyn, I.** Protective effect of Juzen-taiho-to on hepatocarcinogenesis is mediated through the inhibition of Kupffer cell-induced oxidative stress. Digestive Disease Week 2008.
158. Roberts, A., McMillan, L., Wang, W., Parker, J., **Rusyn, I.,** and Threadgill, D. Inferring missing genotypes in large SNP panels using fast nearest-neighbor searches over sliding windows. 15th Annual International Conference on Intelligent Systems for Molecular Biology (ISMB) & 6th European Conference on Computational Biology (ECCB) Vienna, Austria. 2007.
159. Bradford, B.U., Han, J., Kosyk, O., Shymonyak, S., Winnike, J., Kono, H., O'Connell, T., and **Rusyn, I.** Metabolomic analysis of urine and liver after chronic alcohol treatment in C57BL/6J mice. American Association for Studies of Liver Disease Annual Meeting, Boston, MA. 2007.
160. Burns, A.M., Woods, C.G., and **Rusyn, I.** Regulation of the mevalonate pathway influences proliferative effects of WY-14,643 in mouse liver. Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
161. Gatti, D., Maki, A., Chesler, E.J., Kirova, R., Lu, L., Wang, J., Qu, Y., Williams, R.W., Perkins, A., Langston, M.A., Threadgill, D.W., and **Rusyn, I.** Examination of genetic networks that regulate gene expression in liver using complex trait analysis. Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
162. Hege, A., Ross, P., Balletta, L., Bradford, B., Boorman, G., Tennant, R., Bogue, M., Paigen, K., Wiltshire, T., Watkins, P.B., **Rusyn, I.,** and Threadgill, D.W. Cross-species association mapping identifies genetic risk factors for liver toxicity. Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
163. Peffer, R., Milburn, G., Wright, J., Dow, J., Currie, R., Harris, J., Davis, J., Pastoor, T., and **Rusyn, I.** Liver-specific effects of cyproconazole, a triazole fungicide, are dependent upon the CAR nuclear receptor. Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
164. Powell, C.L., Ross, P.K., Woods, C.G., Bradford, B.U., and **Rusyn I.** PPARα-regulated molecular networks are responsible for the differential effects of dietary fatty acids on oxidative stress and DNA damage in mouse liver. Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
165. Tryndyak, V.P., Woods, C.G., Witt, S.E., Pogribny, I.P., and **Rusyn, I.** Epigenetic effects of the peroxisome proliferator WY-14,643 in mouse liver. Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
166. Wang, K., Richard, A., **Rusyn, I.,** and Tropsha, A. Combined toxico-cheminformatics and QSPR modeling of the carcinogenic potency database. Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
167. Zhu, H., Wang, K., **Rusyn, I.,** Richard, A., and Tropsha, A. The use of NTP-HTS data for predictive ADME/TOX modeling. Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
168. Woods, C.G., Burns, A.M., Bradford, B.U., Threadgill, D.W., Cunningham, M.L., and **Rusyn, I.** The role of differences in expression of PPARα between mouse strains in pleiotropic response to peroxisome proliferators. Society of Toxicology Annual Meeting, Charlotte, NC. 2007.

169. Lee, M.H., **Rusyn, I.,** Threadgill, D., and Marron, J.S. Visualization of features in curve estimates and application to genetic loci mapping. Joint Statistical Meeting of the American Statistical Association. Seattle, WA, 2006.
170. DeSimone, M.C., Harbourt, D., Boysen, G., Collins, L., Bradford, B., Han, J., Swenberg, J.A., Threadgill, D., and **Rusyn, I.** Multi-strain study of trichoroethylene toxicity in mice. Superfund Basic Research Program Annual Meeting: New Technologies to Assess Environmental Exposure. San Diego, CA. 2006.
171. Han, J., Harbourt, D., Danell, R.M., Borchers, C.H., Threadgill, D.W. and **Rusyn, I.** High throughput metabolite profiling of serum from trichloroethylene-exposed mice by direct infusion FTICR-MS. Superfund Basic Research Program Annual Meeting: New Technologies to Assess Environmental Exposure. San Diego, CA. 2006.
172. Hege, A., Ross, P, Su, S., Stylianou, I., Bradford, B., Boorman, G.A., Tennant, R., Bogue, M., Paigen, K., Threadgill, D., **Rusyn, I.** Toxicogenetic dimension in studies of the mechanisms of liver injury. EPA Science Forum, Washington, DC. 2006.
173. Shah, I., **Rusyn, I.,** Cai, J., Maki, A., Kim, D., Qin, L., Corbell, J., Crews, F.T., and Higgins, A. Metabolomic analysis of alcohol toxicity in rat brain and liver. Society of Toxicology Annual Meeting, San Diego, CA. 2006.
174. Hege, A., Russo, M., Su, S., Ross, P.K., Stylianou, I., Bradford, B., Boorman, G., Tennant, R., Bogue, M., Paigen, K., Threadgill, D., **Rusyn, I.** Time- and dose- dependent factors in genetic susceptibility to acetaminophen hepatotoxicity. Society of Toxicology Annual Meeting, San Diego, CA. 2006.
175. Powell, C., Kosyk, O., Showalter, L., Weinman, S., and **Rusyn, I.** Effect of alcohol on oxidative stress and DNA damage in mouse liver expressing hepatitis C viral core protein. Society of Toxicology Annual Meeting, San Diego, CA. 2006.
176. Woods, C.G., Burns, A.M., Maki, A., Bradford, B.U., Threadgill, D.W., Cunningham, M.L., and **Rusyn, I.** Variation in biological responses to peroxisome proliferators between mouse strains. Society of Toxicology Annual Meeting, San Diego, CA. 2006.
177. Hege, A.I., Ross, P., Lodestro, C., Bradford, B.U., Tennant, R., Boorman, G., Bogue, M.A., Paigen, K., Threadgill, D.W., and **Rusyn, I.** Toxicogenetic analysis of susceptibility to acetaminophen-induced liver injury. Meeting of the International Society for Studies of Xenobiotics (ISSX), Maui, HA. 2005.
178. Parker, J.S., Lee, M.H., Marron, J.S., Raheja, V., **Rusyn, I.,** and Threadgill, D.W. Software for missing data estimation in high throughput typing studies. American Public Health Association 133rd Annual Meeting, New Orleans, LA. 2005
179. Parker, J.S., Lee, M.H., Marron, J.S., Raheja, V., **Rusyn, I.,** and Threadgill, D.W. *In silico* estimation of missing data for high throughput genotyping experiments. 13th Annual international conference on intelligent systems for molecular biology (ISMB), Detroit, MI. 2005.
180. Powell, C., Ross, P., Heinloth, A., Paules, R., and **Rusyn, I.** Phenotypic anchoring of acetaminophen-induced oxidative stress and gene expression profiles in rat liver. Society of Toxicology Annual Meeting, New Orleans, LA. 2005.
181. Hege, A.I., Lodestro, C., Lee, D., Balletta, L.D., Bradford, B.U., Maki, A., Tennant, R., Bogue, M.A., Paigen, K., Threadgill, D.W., and **Rusyn, I.** Toxicogenetic analysis of susceptibility to acetaminophen-induced liver injury. Society of Toxicology Annual Meeting, New Orleans, LA. 2005.
182. Woods, C.G., Bradford, B.U., Cunningham, M.L., Kadiiska, M., Mason, R.P., Burns, A. M., Peters, J. M., and **Rusyn, I.** Toxicogenomic Analysis of Nuclear Receptor-Mediated and -Independent Responses to Peroxisome Proliferators. Society of Toxicology Annual Meeting, New Orleans, LA. 2005.

183. **Rusyn, I.,** Lee, M.H., Tak, W., Milton, J., Bradford, B.U., Maki, A., Wheeler, M.D., Threadgill, D.W., Marron, J.S. Toxicogenetic and toxicogenomic analysis of alcohol-induced liver injury. Society of Toxicology Annual Meeting, New Orleans, LA. 2005.
184. Hammond, L.E., Albright, C.D., He, L., **Rusyn, I.,** Watkins, S.M., Lemasters, J.J., and Coleman, R.A. Mitochondrial glycerol-3-phosphate acyltransferase 1 deficient mice have altered mitochondrial phospholipid fatty acid composition and mitochondrial dysfunction, and increased reactive oxygen species production, cell proliferation, and apoptosis. Experimental Biology 2005, San Diego, CA. 2005.
185. Powell, C.L., Ross, P.K., Kosyk, O., Bradford, B.U., and **Rusyn, I.** Dietary fat rich in □-6 polyunsaturated fatty acids modulates oxidative DNA damage and repair. Society of Toxicology Annual Meeting, Baltimore, MD. 2004.
186. Bradford, B. U., Kosyk, O., and **Rusyn, I.** The effect of DNA damaging agents on gene expression of DNA repair glycosylases in human and mouse fibroblasts. Society for Free Radical Biology and Medicine Annual Meeting, St. Thomas, VI. 2004.
187. Woods, C.G., Tak, W., Maki, A., Kadiiska, M.B., Mason, R.P., Cunningham, M.L., and **Rusyn, I.** The role of hepatocyte and Kupffer cell-derived free radicals in peroxisome proliferator induced carcinogenesis. Society for Free Radical Biology and Medicine Annual Meeting, St. Thomas, VI. 2004.
188. Powell, C., Kosyk, O., Bradford, B., Denda, A., Konishi, Y., Uematsu, F., Nakae, D., and **Rusyn, I.** Temporal correlation of histopathological changes and markers of oxidative DNA damage with gene expression in a choline deficient model of rodent hepatocellular carcinoma. Soc. for Free Radical Biology and Med. Annual Meeting, St. Thomas, VI. 2004.
189. Maki, A., Kono, H., Asakawa, M., Matsuda, M., Fujii, H., and **Rusyn, I.** Predictive power of oxidative stress biomarkers in patients with HCV-associated hepatocellular carcinoma. Society for Free Radical Biology and Medicine Annual Meeting, St. Thomas, VI. 2004.
190. Uematsu, F., Takahashi, M., Yoshida, M., Maekawa, Y., **Rusyn, I.,** and Nakae, D. Comprehensive expression analysis of hepatocellular carcinomas induced in rats fed a choline-deficient, L-amino acid-defined diet. American Association for Cancer Research Annual Meeting, San Francisco, CA. 2004.
191. **Rusyn, I.,** Asakura, S., and Swenberg, J.A. Expression of base excision DNA repair genes is a sensitive biomarker for *in vivo* detection of chemical-induced chronic oxidative stress. Aspen Cancer Conference, Aspen, CO. 2003.
192. **Rusyn, I.,** Begley, T.J., and Samson, L.D. Imbalanced expression of DNA base excision repair genes leads to accumulation of apurinic/apyrimidinic sites and changes in transcriptional profile in yeast. Gordon Research Conference on Toxicogenomics, Bates College, Lewiston, ME. 2003.
193. **Rusyn, I.,** Kono, H., Kosyk, O., Bradford, B.U. Cytochrome P450 2E1, but not NADPH oxidase is required for ethanol-induced DNA damage and upregulation of DNA repair genes in mouse liver. American Association for the Study of Liver Diseases Annual Meeting, Boston, MA. 2003.

Research and Educational Presentations (since 2002):

2020 Society of Toxicology Risk Assessment and Mixtures specialty sections webinar.

2019 Los Alamos National Laboratory, Los Alamos, NM.

2019 Joint Research Centre, European Commission, Ispra, Italy.

2019 Taiwan EPA, Taipei, Taiwan.

2019 National Taiwan University, Taipei, Taiwan.
2019 The Galveston Bay Foundation, Houston, TX.
2019 University of Cincinnati, Cincinnati, OH.
2019 National Center for Advancement of Translational Sciences, NIH, Rockville, MD.
2019 Bristol-Myers Squibb, Princeton, NJ.
2019 Takeda Pharmaceuticals, Boston, MA.
2019 Sanofi-Aventis, Boston, MA.
2019 Novartis Pharmaceuticals, Boston, MA.
2018 Texas A&M University Energy Institute, College Station, TX.
2018 GlaxoSmithKline Pharmaceuticals, King of Prussia, PA.
2018 National Institutes of Health, NIH, Bethesda, MD.
2018 Kansas University Medical Center, Kansas City, MO.
2018 University of Arizona, Tucson, AZ.
2018 Norteastern University, Boston, MA.
2018 Theravance Biopharma, South San Francisco, CA.
2018 Food and Drug Administration, White Oak, MD.
2018 TAMU-Galveston, Galveston, TX.
2018 US Army Public Health Command, Aberdeen Prooving Ground, MD.
2018 National Toxicology Program, RTP, NC.
2018 AstraZeneca Pharmaceuticals, Boston, MA.
2018 Novartis Pharmaceuticals, Boston, MA.
2018 Roche Pharmaceuticals, Basel, Switzerland.
2018 European Commission, Directorate General Research & Innovation, Brussles, Belgium.
2018 National Institutes of Health, NIH, Bethesda, MD.
2017 Texas Department of State Health Services, Austin, TX.
2017 Food and Drug Administration, White Oak, MD.
2017 National Institutes of Health, NIH, Bethesda, MD.
2017 Massachusetts Institute of Technology, Boston, MA.
2017 National Center for Advancement of Translational Sciences, NIH, Rockville, MD.
2017 National Center for Environmental Research, US EPA, Washington, DC.
2017 Concawe Toxicology Working Group, Antwerp, Belgium.
2016 National Center for Toxicological Research, Food & Drug Administration, Jefferson, AR.
2016 School of Medicine, Yamanashi University, Chuo, Japan.
2016 ICCA-LRI and NIHS Workshop on New Scientific Methods to Improve Environmental and Human health Risk Assessments, Awaji, Japan.
2016 Shell Health, Houston, TX.
2016 Procter & Gamble, Cincinnati, OH.
2016 European Chemicals Agency, Helsinki, Finland.
2015 National Center for Environmental Research, US EPA, Washington, DC.
2015 Food and Drug Administration, College Park, MD

2015 Institute for Health and Consumer Protection, Joint Research Centre, European Commission, Ispra, Italy.
2015 Michigan State University, East Lansing, MI.
2015 Emory University, Atlanta, GA.
2015 Texas Commission on Environmental Quality, Austin, TX.
2015 California EPA, Oakland, CA.
2015 American Chemistry Council, Washington, DC.
2014 Total Petroleum, Paris, France.
2014 Roche Pharmaceuticals, Basel, Switzerland.
2014 National Center for Computational Toxicology, US EPA, RTP, NC.
2014 University of North Carolina-Greensoboro, Greensboro, NC.
2014 National Center for Environmental Research, US EPA, Washington, DC.
2014 School of Medicine, Yamanashi University, Chuo, Japan.
2014 UNILEVER, Colworth, UK (webinar).
2014 CONCAWE, Brussels, Belgium.
2014 Institute for Health and Consumer Protection, Joint Research Center, Ispra, Italy.
2014 Texas Commission on Environmental Quality, Austin, TX.
2013 North Carolina State University, Raleigh, NC.
2013 University of Pittsburg, Pittsburg, PA.
2013 CONCAWE, Brussels, Belgium.
2013 National Institute of Alcohol Abuse and Alcoholism, Bethesda, MD.
2013 Novartis Pharmaceuticals, Basel, Switzerland.
2013 Seoul National University, Seoul, Korea.
2013 Health Canada, Ottawa, ON.
2013 The Hamner Institutes, RTP, NC.
2013 Université Paris Descartes, Paris, France.
2013 University of Ottawa, Ottawa, ON.
2013 University of Connecticut, Storrs, CT.
2013 Duke University, Durham, NC.
2013 Office of Pollution Prevention and Toxics, US EPA, Washington, DC.
2013 Texas A&M University, College Station, TX.
2013 National Center for Environmental Research, US EPA, Washington, DC.
2012 National Toxicology Program/NIEHS, RTP, NC.
2012 Roche Pharmaceuticals, Basel, Switzerland.
2012 ExxonMobil Biomedical Sciences, Annandale, NJ.
2012 American Chemistry Council, Washington, DC.
2012 Shionogi Pharmaceuticals, Osaka, Japan.
2012 National Center for Computational Toxicology (EPA), RTP, NC.
2012 Department of Surgery, School of Medicine, Yamanashi University, Chuo, Japan.
2012 European Chemicals Agency, Helsinki, Finland.
2012 Roche Pharmaceuticals, Nutley, NJ.

2012 National Human and Environmental Effects Research Laboratory (EPA), RTP, NC.
2012 California EPA, Sacramento, CA.
2012 California EPA, Oakland, CA.
2012 National Center for Environmental Assessment (EPA), Washington, DC.
2012 Office of Solid Waste and Emergency Response (EPA), Washington, DC.
2012 Dow Chemicals Company, Midland, MI.
2011 Department of Environmental Health, Harvard School of Public Health, Boston, MA.
2011 Comprehensive Cancer Center, Ohio State University, Columbus, OH.
2011 European Chemicals Agency, Helsinki, Finland.
2011 Institute for Health and Consumer Protection, Joint Research Centre, European Commission, Ispra, Italy.
2011 National Center for Environmental Assessment (EPA), Washington, DC.
2011 Gordon Research Conference: Cellular and Molecular Mechanisms of Toxicity, Andover, NH.
2011 NC Chapter of the Environmental Mutagenesis Society, EPA, RTP, NC.
2010 Center for Liver Diseases, Keck School of Medicine, University of Southern California, Los Angeles, CA.
2010 Board of Scientific Counselors, National Toxicology Program, NIEHS, RTP, NC.
2010 Institute for Health and Consumer Protection, Joint Research Centre, European Commission, Ispra, Italy.
2010 Epigenetics of Health and Disease, Symposium of the Alberta Epigenetics Network, University of Lethbridge, Alberta, Canada.
2010 9th Annual World Pharmaceutical Congress, Philadelphia, PA.
2010 Mouthwash Use and Oral Cancer Risk, International expert workshop, Lyon, France.
2010 Boston Area Pharmaceutical Toxicology Group annual meeting, Boston, MA.
2010 North Carolina Chapter of the Society of Toxicology, Spring meeting, RTP, NC.
2009 Faculty of Medicine and Health Sciences, United Arab Emirates University, Al Ain, UAE.
2009 Workshop “Computational Toxicology: From Data to Analyses to Applications.” Board on Environmental Sciences and Toxicology, National Research Council, National Academies of Sciences, Washington, DC.
2009 Risk eLearning: "Computational Toxicology: New Approaches for the 21st Century" webinar. NIEHS Superfund Basic Research Program in collaboration with the US Environmental Protection Agency's Office of Superfund Remediation and Technology Innovation, Research Triangle Park, NC.
2009 Symposium “Toxicity Pathway-Based Risk Assessment.” Board on Environmental Sciences and Toxicology, National Research Council, National Academies of Sciences, Washington, DC.
2009 GlaxoSmithKline Pharmaceuticals, Research Trinagle Park, NC.
2009 Novartis Pharmaceuticals, New Haven, NJ.
2009 AASLD/FDA/PhRMA Hepatotoxicity Special Interest Group Meeting, Silver Spring, MD.
2009 Institute for Cancer Research, Medical University of Vienna, Austria.
2008 Boehringer-Ingelheim Pharmaceiticals, Ridgefield, CT.
2008 Workshop “Global variability in response to air pollution: Approaches to translation of cardiopulmonary disease models.” NIEHS, RTP, NC.

2008 McNeil Consumer Healthcare Hepatology Meeting, Denver, CO.

2008 Department of Gastroenterology and Hepatology, Mie University, Tsu, Japan.

2008 Department of Surgery, Yamanashi University Medical School, Tamaho, Nakakoma, Japan.

2007 TIES-2007 Conference: Toxicogenomics Integrated with Environmental Sciences, Raleigh, NC

2007 Workshop "Mouse liver tumors: Benefits and Constraints on Use in Human Health Risk Assessment, Qualitative and Quantitative Aspects." Board on Environmental Sciences and Toxicology, National Research Council, National Academies, Washington, DC

2007 Environmental and Occupational Health Institute, Rutgers University, Piscataway, NJ

2007 Department of Pathology and Laboratory Medicine, UNC-Chapel Hill

2007 Gordon Research Conf. on Toxicogenomics, Colby-Sawyer College, New London, NH

2007 Department of Pathology and Laboratory Medicine, Brown University, Providence, RI

2007 Boehringer-Ingelheim Pharmaceuticals, Ridgefield, CT

2006 Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA.

2006 Merck Research Laboratories, West Point, PA.

2006 Northeast Chapter of the Society of Toxicology Annual Meeting, Worchester, MA.

2006 L.I. Medved's Institute of Ecohygiene and Toxicology, Kiev, Ukraine.

2006 North Carolina Department of Environment and Natural Resources, Raleigh, NC.

2006 Center for Environmental Health and Susceptibility, UNC-Chapel Hill.

2006 National Center for Toxicological Research, Food & Drug Administration, Jefferson, AR.

2005 Department of Surgery, Yamanashi University Medical School, Tamaho, Nakakoma, Japan.

2005 Department of Pharmacology, Toxicology, and Therapeutics, Kansas University Medical Center, Kansas City, KS.

2005 Annual Meeting of the Netherlands Society of Toxicology, Ph.D. Student's Days, Oss, the Netherlands.

2005 Laboratory of Pharmacology and Chemistry, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

2005 Oak Ridge National Laboratory, Oak Ridge, TN.

2005 Department of Nutrition, University of North Carolina, Chapel Hill, NC.

2004 Department of Veterinary Science, Pennsylvania State University, University Park, PA.

2004 Department of Health Risk Analysis and Toxicology, University of Maastricht, the Netherlands.

2003 Bowles Center for Alcohol Studies, School of Medicine, UNC-Chapel Hill, NC

2003 Division of Pulmonology, EPA Human Studies Facility, Chapel Hill, NC

2003 Cedar Ridge High School, Hillsborough, NC

2002 Laboratory of Experimental Carcinogenesis, National Cancer Institute, Bethesda, MD

2002 Department of Epidemiology, School of Public Health, UNC-Chapel Hill, NC

Teaching Activities

Summary of Courses Taught at the University of North Carolina (2006-2014):

Term	Course ID	Course Title	Credit Hours	Role in the course	Number of students
Spring 2006	ENVR 132	Biochemical and Molecular Toxicology	3	Course Director	15
	ENVR 104	Unifying Concepts in Environmental Sciences	3	Module Director	3
	ENVR 234	Toxicology Seminar	1	Course Director	37
Fall 2006	ENVR 722	Toxicology Seminar	1	Course Director	39
	ENVR 430	Health Effects of Environmental Agents	3	Lecturer (3 lectures)	24
	EPID 745	Molecular Techniques for Public Health Research	2	Lecturer (2 lectures)	9
Spring 2007	ENVR 722	Toxicology Seminar	1	Course Director	36
	ENVR 442	Biochemical and Molecular Toxicology	3	Course Director	17
	ENVR 401	Unifying Concepts in Environmental Sciences	3	Module Director	11
Fall 2007	ENVR 722	Toxicology Seminar	1	Course Director	39
	ENVR 430	Health Effects of Environmental Agents	3	Lecturer (3 lectures)	21
Spring 2008	ENVR 722	Toxicology Seminar	1	Course Director	39
	ENVR 442	Biochemical and Molecular Toxicology	3	Course Director	10
	ENVR 401	Unifying Concepts in Environmental Sciences	3	Module Director	4
Fall 2008	ENVR 722	Toxicology Seminar	1	Course Director	31
	ENVR 430	Health Effects of Environmental Agents	3	Lecturer (3 lectures)	32
	EPID 745	Molecular Techniques for Public Health Research	2	Lecturer (1 lecture)	9
Spring 2009	ENVR 722	Toxicology Seminar	1	Course Director	30
	ENVR 401	Unifying Concepts in Environmental Sciences	3	Module Director	9
Fall 2009	ENVR 722	Toxicology Seminar	1	Course Director	30
	ENVR 442	Biochemical and Molecular Toxicology	3	Course Director	21
	ENVR 430	Health Effects of Environmental Agents	3	Lecturer (3 lectures)	44
Spring 2010	ENVR 722	Toxicology Seminar	1	Course Director	30
	ENVR 401	Unifying Concepts in Environmental Sciences	3	Module Director	8

	ENVR 722	Toxicology Seminar	1	Course Director	31
Fall 2010	ENVR 442	Biochemical and Molecular Toxicology	3	Course Director	9
	ENVR 430	Health Effects of Environmental Agents	3	Lecturer (3 lectures)	48
Spring 2011	ENVR 722	Toxicology Seminar	1	Course Director	27
	ENVR 722	Toxicology Seminar	1	Course Director	30
Fall 2011	ENVR 442	Biochemical and Molecular Toxicology	3	Course Director	16
	ENVR 430	Health Effects of Environmental Agents	3	Lecturer (3 lectures)	30
Spring 2012	ENVR 722	Toxicology Seminar	1	Course Director	29
	ENVR 722	Toxicology Seminar	1	Course Director	36
	ENVR 442	Biochemical and Molecular Toxicology	3	Course Director	13
Fall 2012	ENVR 742	Theory and Practice of Evaluating Human Health Risks of Chemicals	2	Course Director	6
	ENVR 430	Health Effects of Environmental Agents	3	Lecturer (3 lectures)	40
Spring 2013	ENVR 722	Toxicology Seminar	1	Course Director	29
	ENVR 722	Toxicology Seminar	1	Course Director	30
Fall 2013	ENVR 442	Biochemical and Molecular Toxicology	3	Course Director	10
	ENVR 430	Health Effects of Environmental Agents	3	Lecturer (3 lectures)	45
Spring 2014	ENVR 722	Toxicology Seminar	1	Course Director	26

Summary of Courses Taught at Texas A&M University (since 2015):

Fall 2015	VTPP 673	Metabolism-Dependent and – Independent Mechanisms of Toxicity	3	Course co-Director	7
Spring 2016	VIBS 689	Practice of Human Health Assessments of Chemicals	2	Course Director	9
Spring 2016	VIBS 670	Environmental Toxicology	3	Course Director	9
Fall 2016	VTPP 673	Metabolism-Dependent and – Independent Mechanisms of Toxicity	3	Course co-Director	15
Spring 2017	VIBS 689	Practice of Human Health Assessments of Chemicals	2	Course Director	10
Spring 2017	VIBS 670	Environmental Toxicology	3	Course Director	9
Fall 2017	VTPP 673	Metabolism-Dependent and – Independent Mechanisms of Toxicity	3	Course co-Director	11
Spring 2018	VIBS 645	Practice of Human Health Assessments of Chemicals	2	Course Director	8
Spring 2018	VIBS 670	Environmental Toxicology	3	Course Director	7
Fall 2018	VTPP 673	Metabolism-Dependent and – Independent Mechanisms of Toxicity	3	Course co-Director	11

Spring 2019	VIBS 645	Practice of Human Health Assessments of Chemicals	2	Course Director	11
Spring 2019	VIBS 670	Environmental Toxicology	3	Course Director	10
Fall 2019	VTPP 673	Metabolism-Dependent and – Independent Mechanisms of Toxicity	3	Course co-Director	12
Spring 2020	VIBS 645	Practice of Human Health Assessments of Chemicals	2	Course Director	6
Spring 2020	VIBS 670	Advanced Toxicology	3	Course Director	8

Advising:

Undergraduate:

Pamela Ross	2002-2005
Elin Glomnes (visiting student, Norway)	2004 (3-week research project)
Devin Pastoor	2007-2009
Travis Book	2009-2010
Bridget O'Brien	2010-2011
Emeraghi David	2011
Samantha Tulenko	2011
Kathryn Singsank	2011
Sangeeta Kumar	2012
Alexandra Hamilton	2013
Julia Matyjasiak (visiting student, UK)	2019-2020

Masters (M.S. or M.S.P.H.):

Eric Money (UNC ESE, M.S.) 2002-2003 (committee member)
An Analysis of Inter-Agency Perspectives on the Integration of Genomics Into Risk Assessment

Lauren Fleishman (UNC ESE, M.S.) 2003-2004 (committee member)
Application of a Generalized State-Vector Model for Radiation-Induced Cellular Transformation to In Vitro Irradiation of Cells by Acute Doses of X-Rays

Mahesh Shetty (UNC ESE, M.S.) 2003-2004 (committee member)
The Effect of Race on Determining the Treatment Response to Serotonergic Antidepressant Drugs in Intellectually Disabled Adults

Aksay Raizada (UNC ESE, M.S.) 2005 (committee member)
Laparoscopic Radiofrequency Ablation in Patients with Small Hepatocellular Carcinoma Awaiting Orthotopic Liver Transplantation

Amanda Burns (UNC ESE, M.S.P.H.) 2005-2007 (advisor)

Regulation of the Cholesterol-Biosynthesis Pathway Influences Effects of Peroxisome Proliferators in Mouse Liver

Daniel Gatti (UNC ESE, M.S.) 2005-2007 (advisor)
Genome-level analysis of genetic regulation of liver gene expression networks

Matthew Martin (UNC ESE, M.S.) 2006-2008 (academic advisor)
Classification of Chemicals Based on Structured Toxicity Information

Patrick Craig (UNC ESE, M.S.P.H.) 2006-2008 (advisor)
Methyl-donor Enrichment Attenuates Alcohol-induced Liver Injury: Mechanisms of Protective Action

Pamela Ross (UNC ESE, M.S.P.H.) 2006-2008 (advisor)
Time-course Comparison of Xenobiotic Activators of CAR and PPARα in Mouse Liver
Awards:
- North Carolina Chapter of the Society of Toxicology 2008 Spring Meeting graduate student poster competition 3rd place award

April Luke (UNC Toxicology, M.S.) 2007-2009 (committee member)
DNA Damage and Repair Responses to the Quinoid Metabolites of Naphthalene

Amie Rodgers (UNC Toxicology, M.S.) 2007-2009 (advisor)
Modeling Adverse Liver Effects of Drugs using kNN QSAR method

Ni Zhao (UNC ESE, M.S.) 2007-2009 (advisor)
Genetic regulation of sex-specific gene expression in mouse liver

Eric Formeister (UNC ESE, M.S.P.H.) 2008-2010 (advisor)
Comparative analysis of promoter methylation and gene expression endpoints between tumorous and non-tumorous tissues from HCV-positive patients with hepatocellular carcinoma

Shannon O'Shea (UNC ESE, M.S.P.H.) 2008-2010 (advisor)
In vitro screening for population variability in chemical toxicity
Awards:
- Travel award from the National Research Council to present posters on their work at the Symposium on Toxicity Pathway-Based Risk Assessment (2009)
- North Carolina Chapter of the Society of Toxicology 2010 Spring Meeting graduate student poster competition 2nd place award
- UNC ESE Environmental Sciences Achievement Award (2010)

Daniel Rotroff (UNC ESE, M.S.) 2008-2010 (academic advisor)
Incorporating human dosimetry and exposure into the utilization of ToxCast in vitro screening data for chemical prioritization

Stephanie Martinez (UNC ESE, M.S.P.H.) 2008-2010 (advisor)
Evaluation of an in vitro Toxicogenetic Model for Hepatotoxicity
Awards:

- Travel award from the National Research Council to present posters on their work at the Symposium on Toxicity Pathway-Based Risk Assessment (2009)

Valerie Soldatow (UNC ESE, M.S.) 2009-2011 (advisor)
Evaluation of a Multi-well Perfused Bioreactor System for the Long-term Culture of Mouse Hepatocytes

Travis Book (UNC ESE, M.S.P.H.) 2010-2012 (advisor)
Interstrain Differences in Transcription Factor Activity in Mouse Liver
Awards:
- University Research Day award for "Best Undergraduate Oral Presentation in Biological Sciences (2010)

Bridget O'Brien (UNC ESE, M.S.P.H.) 2011-2012 (advisor)
Interstrain Variability in Genotoxicity of 1,3-Butadiene May be a Result of Epigenetic and DNA Repair Mechanisms

Mary Kushman (UNC ESE, M.P.H.) 2012 (advisor)
A Systematic Approach for Identifying, Evaluating, and Presenting Mechanistic Evidence in Human health Risk Assessment

Jessica Wignall (UNC ESE, M.S.P.H.) 2011-2013 (advisor)
Awards:
- UNC Graduate School Masters Merit Scholarship (2011)
- Society of Toxicology Regulatory and Safety Evaluation Specialty Section student award (2012)
- North Carolina Chapter of the Society of Toxicology 2012 Spring Meeting graduate student poster competition 2nd place award
- North Carolina Chapter of the Society of Toxicology 2013 Spring Meeting graduate student poster competition 3rd place award

Standardized Benchmark Dose Calculation: Opportunities to Inform Science-Based Decisions in Human Health Assessments

Tetyana Kobetz (UNC ESE, M.S.P.H.) 2011-2013 (advisor)
Modeling Alcoholic Hepatitis in Mice: Modified Acute-on-Chronic Binge Ethanol Feeding and Alcohol Liquid Diet Models

Kenda Freeman (UNC ESE, M.P.H.) 2011-2013 (academic advisor)
Communicating Breast Cancer Awareness Information to African-American Women: Implications for Effective Communication by Health Professionals

Andy Shapiro (UNC ESE, M.S.P.H.) 2012-2014 (advisor)
HAWC (Health Assessment Workspace Collaborative): a modular web-based interface to facilitate development of human health assessments of chemicals
Awards:
- UNC Graduate School Masters Merit Scholarship (2012)
- Society of Toxicology Regulatory and Safety Evaluation Specialty Section student award (2013)
- OpenTox USA meeting best poster award (2013)

Grace Chappell (UNC ESE, M.S.P.H.) 2012-2014 (advisor)
Assessment of DNA copy number alterations in mouse and human hepatocellular carcinoma
Awards:
- North Carolina Chapter of the Society of Toxicology 2014 Spring Meeting graduate student poster competition 1st place award
- North Carolina Chapter of the Society of Toxicology 2014 Spring Meeting graduate student poster competition 3rd place award
- Leon Golberg travel award (2014)

Jimmy Phuong (UNC ESE, M.S.P.H.) 2012-2014 (academic advisor)
Structured Application of Biological Ontologies to Annotate High-Throughput Screening Assays and their Targets of Activity

Sean Watford (UNC ESE, M.S.P.H.) 2012-2014 (academic advisor)
Building Bridges Between Toxicity Testing in the 21st Century and Regulatory Decision-making Through Interactive Web Applications

Melinda Wilson (TAMU IFT, M.S.) 2014-2016 (advisor)
Data integration and visualization for transparent communication in read-across: a glycol ether case study
Awards:
- Concawe research studentship (2014-2015)

Oleksii Seniutkin, M.D. (TAMU IFT, M.S.) 2015-2017 (advisor)
Effects of Pirfenidone in a mouse liver fibrosis model
Awards:
- Texas A&M University Walter W. Lechner Estate Scholarship (2016)
- Texas A&M University 20th Annual Student Research Week: First Place Poster Award for Veterinary Medicine & Biomedical Sciences (2017)
- Texas A&M University 20th Annual Student Research Week: Sigma Xi Scientific Research Society Interdisciplinary Research Award (2017)

Kyle Ferguson (TAMU IFT, M.S.) 2016-2018 (committee member)
Characterization of complex substances used in biological profiling through determination of the free concentration within in vitro assays

Doctoral (Ph.D.):

Jiannan Song (UNC Nutrition) 2003-2005 (committee member)
PEMT Gene Polymorphism and Human Choline Requirement

Danitsja van Leeuwen (UNC visiting, U. Maast.) 2004 (3-month research project)
Toxicogenomic Investigation of DNA Damage Responses in Cultured Cell Models

Christine Powell (UNC Toxicology) 2003-2006 (advisor)
Improving Linkage of Hepatic Toxicity and Pathology Endpoints with Toxicogenomics

Courtney Woods (UNC ESE) 2003-2006 (advisor)
Role of Nuclear Receptor –Dependent and –Independent Pathways in the Effects of Peroxisome Proliferators
Awards:
- NIH Ruth L. Kirchstein National Research Service Award (2004-2007)
- NIEHS Toxicogenomics Research Consortium Best Poster Award (2004)
- Minority Trainee Research Forum (MTRF) Travel Award (2004)
- NSF-Sponsored Alliances for Graduate Education and the Professoriate (AGEP) Fellowship (2003)

Thomas Long (UNC ESE) 2006-2007 (committee member)
Mammalian and Bacterial Toxicity of Nanoparticles Used in Hazardous Waste Treatment and Environmental Remediation

Myung Hee Lee (UNC Statist. & Oper. Res.) 2004-2007 (committee member)
Continuum Direction Vectors in High Dimensional Low Sample Size Data

Jonathan Sobus (UNC ESE) 2005-2008 (committee member)
Assessing Polycyclic Aromatic Hydrocarbon Exposure Surrogates

Alison Harrill (UNC Toxicology) 2004-2008 (advisor)
Toxicogenetic analysis of factors associated with sensitivity to acetaminophen-induced liver injury using a Mouse Model of the Human Population
Awards:
- U.S. Environmental Protection Agency "Science to Achieve Results (STAR)" pre-doctoral fellowship
- UNC Curriculum in Toxicology Annual Retreat 1st place poster competition merit award (2008)
- Leon Golberg travel award (2008)
- North Carolina Chapter of the Society of Toxicology 2008 Spring Meeting graduate student poster competition 1st place award

Rebecca Clewell (UNC ESE) 2006-2009 (committee member)
Mode of Action Studies with Phthalate Acid Monoesters: Pharmacokinetic and Pharmacodynamic Factors Affecting Steroidogenesis

Jason Winnike (UNC Biomedical Engineering) 2008-2010 (committee member)
Metabolomics of Human Biofluids and Cultured Hepatocytes

Daniel Gatti (UNC ESE) 2007-2010 (advisor)
Genome-wide Analysis of Transcriptional Regulation in the Murine Liver
Awards:
- UNC ESE Environmental Sciences Achievement Award (2007)
- UNC ESE Interdisciplinary Research Fellowship (2007)
- U.S. Environmental Protection Agency "Science to Achieve Results (STAR)" pre-doctoral fellowship
- UNC Lineberger Comprehensive Cancer Center's Graduate Fellow Award (2010)

Andrey Shabalin (UNC Statist. and Oper. Res.) 2008-2010 (committee member)

Detection of Low Rank Signals in Noise and Fast Correlation Mining with Applications to Large Biological Data

Kristy Kutanzi (Univ. of Lethbridge, AB) 2010 (external reviewer/examiner)
The Role of Epigenetics in the Rat Mammary Gland

Matthew Martin (UNC ESE) 2009-2011 (academic advisor)
Using high-throughput screening for predictive modeling of reproductive toxicity

Anne Hakenewerth (UNC Epidemiology) 2010-2011 (committee member)
Joint effects of alcohol consumption and polymorphisms in alcohol and oxidative stress metabolism genes on risk and survival from head and neck cancer

Liying Zhang (UNC Med. Chem. & Nat. Prod.) 2009-2012 (committee member)
Development and Application of Cheminformatics Approaches to Facilitate Drug Discovery and Environmental Toxicity Assessment

Erick Lock (UNC Statist. and Oper. Res.) 2010-2012 (committee member)
Vertical Integration of Multiple High-Dimensional Datasets

Daniel Rotroff (UNC ESE) 2010-2013 (academic advisor)
Endocrine Disrupting Potential of Environmental Chemicals Characterized by High-Throughput Screening

Raju Prasad (UNC ESE) 2011-2013 (committee member)
Effect of the Nano-Bio Interface on the Genotoxicity of Titanium Dioxide Nanoparticles and Associated Cellular Responses

Yen Low (UNC ESE) 2009-2013 (co-advisor)
Toxicity Prediction Using Multi-disciplinary Data Integration and Novel Computational Approaches

Hong Sik Yoo (UNC ESE) 2009-2014 (advisor)
Effects of Inter-Strain Differences in the Metabolism of Trichloroethylene on Liver and Kidney Toxicity
Awards:
- Astra-Zeneca Merit Student fellowship award (2011-2014)
- Society of Toxicology Student Travel Award (2012)

Nour Abdo (UNC ESE) 2010-2014 (advisor)
The 1000 Genomes Toxicity Screening Project: Utilizing the Power of Human Genome Variation for Population-scale In Vitro Testing
Awards:
- North Carolina Chapter of the Society of Toxicology 2012 Spring Meeting graduate student poster competition 2nd place award
- North Carolina Chapter of the Society of Toxicology 2013 Spring Meeting graduate student poster competition 1st place award
- 2013 Gillings Poster Award (UNC School of Public Health)
- 2013 Koch Travel Award (UNC School of Public Health)

Grace Silva (UNC Bioinf. & Comp. Biology) 2011-2015 (committee member)
Comprehensive Characterization of DNA Copy Number Alterations in Mouse and Human Breast Tumors

Andrew Fant (UNC Med. Chem. & Nat. Prod.) 2011-2015 (committee member)
The Effect of data Curation on the Accuracy of Quantitative Structure-Activity Relationship Models

Grace Chappell (UNC ESE) 2014-2015 (advisor)
Alterations to the Epigenome Represent Critical Mechanisms of Chemically-Induced Carcinogenesis
Awards:
- Leon Golberg travel award, UNC Chapel Hill Curriculum in Toxicology (2015)
- Lone Star SOT Regional Chapter, Fall Meeting graduate student poster competition 2nd place award (2015)
- miRNA Biomarkers for Toxicology CCT Meeting travel award (2016)
- Society of Toxicology Student Travel Award (2016)
- Society of Toxicology Carcinogenesis Specialty Section Graduate Student Award (2016)
- Best Poster Prize, Epigenetics and Environmental Origins of cancer Meeting, Lyon, France (2016)

Abhishek Venkatratnam (UNC ESE) 2013-2018 (advisor)
Population-level variability in trichloroethylene toxicokinetics and toxicodynamics
Awards:
- Leon Golberg travel award, UNC Chapel Hill Curriculum in Toxicology (2016)
- SOT Risk Assessment Specialty Section Perry J. Gehring Best Graduate Student Abstract Award (2017)
- Society of Toxicology Student Travel Award (2018)
- SOT Molecular and Systems Biology Specialty Section (MSBSS) Graduate Student Research Award (2018)
- SOT Association of Scientists of Indian Origin (ASIO) Graduate Student Best Abstract award (2018)
- *Toxicological Sciences* Paper of the Year Award, Venkatratnam et al. Toxicol Sci 158:48-62, 2017 (2019)

Yu-Syuan Luo (TAMU IFT) 2015-2018 (advisor)
Inter-individual variability in metabolism and toxicity of trichloroethylene and tetrachloroethylene
Awards:
- Texas A&M University Walter W. Lechner Estate Scholarship (2015)
- Lone Star SOT Regional Chapter, 2nd Best Student Poster Award (2016)
- SOT Graduate Student Travel Support Award (2017)
- SOT Ronald G. Thurman Student Travel Award (2017)
- Lone Star SOT Regional Chapter, 2nd place Platform Presentation Award (2017)
- SOT Regulatory and Safety Evaluation Specialty Section (RSESS) Graduate Student Excellence Award (2018)
- SOT American Association of Chinese in Toxicology Special Interest Group and Charles River Best Abstract Award – 2nd prize (2018)

- Texas A&M College of Veterinary Medicine and Biomedical Sciences High Impact Achievement Award (2018)
- Texas A&M College of Veterinary Medicine and Biomedical Sciences George T. Edds Award (2018)

Sarah Schneider (TAMU BIMS) 2016-2019 (committee member)

Lauren Lewis (TAMU IFT) 2016-2019 (advisor)

Awards:

- Texas A&M University Interdisciplinary Faculty of Toxicology annual meeting Best Student Poster Travel Award (2016)
- Texas A&M University College of Veterinary Medicine Advanced Developmental Training Award (2017)
- Colgate-Palmolive/SOT Award for Student Research Training in Alternative Methods (2018)
- SOT Women in Toxicology Special Interest Group Student representative (2018)
- Texas A&M University College of Veterinary Medicine Graduate Student Association Travel Award (2018)
- International Mammalian Genome Society Student Travel Award (2018)
- SOT 58th Annual Meeting Graduate Student Travel Award (2019)
- SOT-Syngenta Fellowship Award in Human Health Applications of New Technologies (2019)
- SOT Supplemental Training for Education Program (STEP) Award (2019)
- SOT Celebrating Women in Toxicology Graduate Student Award (2019)
- SOT Drug Discovery Toxicology (DDT) Specialty Section Best Poster Presentation Award, 2nd place (2019)
- Texas A&M University College of Veterinary Medicine Graduate Student and Postdoc Research Symposium, Graduate Student Platform Presentation Award, 2nd Place (2019)
- Texas A&M University College of Veterinary Medicine Graduate Student and Postdoc Research Symposium, High Impact Achievement Award – Small External Research Grant (2019)
- Texas A&M University Student Research Week, 2nd place oral presentation, Veterinary Medicine and Biomedical Sciences category (2019)
- Texas A&M University College of Veterinary Medicine Graduate Student Association Travel Award (2019)
- North American Travel Grant, American College of Toxicology (2019)
- Lone Star SOT Regional Chapter, 1st place platform presentation award (2019)
- Texas A&M University Association of Former Students Distinguished Graduate Student Award (2020)

Julia Popp (TAMU BIMS) since 2016 (committee member)

Sarah Burnett (TAMU IFT) since 2016 (advisor)

Awards:

- Texas A&M University Interdisciplinary Faculty of Toxicology Annual Meeting Best Student Poster Presentation (2018)
- Texas A&M University College of Veterinary Medicine Graduate Student Association Travel Award (2019)

- Texas A&M University College of Veterinary Medicine Graduate Student and Postdoc Research Symposium, 2nd Place Graduate Student Poster Presentation (2019)
- SOT Regulatory and Safety Evaluation Specialty Section (RSESS) Graduate Student Excellence Award (2019)
- American Society for Cellular and Computational Toxicology (ASCCT) Poster Award (2019)
- Texas A&M University College of Veterinary Medicine and Biomedical Sciences Graduate Student Association Travel Award (2020)
- Texas A&M College of Veterinary Medicine and Biomedical Sciences George T. Edds Award (2020)
- SOT In Vitro and Alternative Methods Specialty Section (IVAM) Student Award (2020)

Zunwei Chen (TAMU IFT) since 2017 (advisor)

Awards:

- Walter W. Lechner Estate Scholarship, Texas A&M University (2018)
- SOT Stem Cells Specialty Section Excellence in Research Award, 1st place (2019)
- SOT Mixtures Specialty Section, Top 5 Best Abstracts (2019)
- Texas A&M University Interdisciplinary Faculty of Toxicology Annual Meeting Best Student Poster Presentation (2019)
- Superfund Research Program, Best Biomedical Poster Award (2019)
- Texas A&M University College of Veterinary Medicine and Biomedical Sciences Graduate Student Association Travel Award (2020)
- AACT and InnoStar Best SOT Abstract Award by American Association of Chinese in Toxicology (2020)

Noor Aly (TAMU IFT) since 2018 (advisor)

Alina Roman-Hubers (TAMU IFT) since 2018 (advisor)

Awards:

- Texas A&M University College of Veterinary Medicine Graduate Student Association Travel Award (2020)
- SETAC Chemistry Interest Group travel award (2020)

Alan Valdiviezo (TAMU IFT) since 2018 (advisor)

Samantha Goodman (TAMU IFT) since 2019 (advisor)

Alexandra Cordova (TAMU IFT) since 2020 (advisor)

Post Doctoral:

Won Young Tak, M.D.	2003-2004
Akira Maki, M.D., Ph.D.	2004-2006
Jun Han, Ph.D.	2006-2007

Sungkyoon Kim, Ph.D. 2007-2008

Kenichi Ishii, M.D., Ph.D. 2009

Masato Tsuchiya, M.D., Ph.D. 2006-2009

Emmanuelle Jeannot, Ph.D. 2007-2010

Takeki Uehara, Ph.D., D.V.M. 2009-2010

Yasuhiro Iwata, D.V.M. 2014-2016

Shinji Furuya, M.D., Ph.D. 2013-2017

Joseph Cichocki, Ph.D. 2014-2017

Awards:

- NIEHS F32 Individual Postdoctoral Fellowship (2015-2018)
- Lone Star SOT Regional Chapter, Fall Meeting overall best trainee presentation award (2015)
- Texas A&M CVM Postdoc High Impact Achievement Award (2016)
- Texas A&M Honors Convocation for distinguished academic achievement (2016)
- Lone Star SOT Regional Chapter, Fall Meeting best postdoctoral trainee presentation award (2016)
- Texas A&M Division of Research Postdoctoral Scholar Travel Award (2016)
- SOT Regulatory and Safety Evaluation Specialty Section travel award (2017)
- SOT Gabriel L. Plaa Education Award, 3rd place (2017)
- SOT Risk Assessment Specialty Section Trainee Award (2017)

Fabian Grimm, Ph.D. 2014-2017

Awards:

- Colgate-Palmolive/SOT Postdoctoral Fellowship in *In Vitro* Toxicology (2015)
- Texas A&M CVM Postdoc High Impact Achievement Award (2016)
- Syngenta Fellowship Award in Human Health Applications of New Technologies (2017)
- Best Postdoctoral Publication Award from Society of Toxicology for publication “A chemical–biological similarity-based grouping of complex substances as a prototype approach for evaluating chemical alternatives” (2017)
- SOT In Vitro and Alternative Methods Specialty Section (IVAM) Postdoctoral Travel Award (2017)
- SOT Risk Assessment Specialty Section Perry J. Gehring Best Postdoctoral Fellow Abstract Award (2017)
- Texas A&M College of Veterinary Medicine and Biomedical Sciences Honors Convocation Outstanding Postdoctoral Research Associate Award (2017)
- ALTEX Prize for the best manuscript published in ALTEX in 2018 (2019)

William Klaren, Ph.D. 2016-2017

Awards:

- NIEHS T32 Postdoctoral Fellowship (2016-2017)

Courtney Sakolish, Ph.D. 2016-2018

- NIEHS T32 Postdoctoral Fellowship (2016-2017)
- Texas A&M University Interdisciplinary Faculty of Toxicology annual meeting: Best Postdoctoral Platform Presentation (2018)

- Lone Star Society of Toxicology Regional Chapter annual meeting: 2nd place platform presentation (2018)

Hisataka Fukushima, M.D., Ph.D. 2017-2019

Yizhong Liu, Ph.D. 2018-2019

Awards:

- AACT and InnoStar Best SOT Abstract Award by American Association of Chinese in Toxicology (2019)
- Texas A&M University College of Veterinary Medicine Postdoctoral Travel Award (2019)

Sangjo Shim, Ph.D. 2019-2020

Yu-Syuan Luo, Ph.D. since 2018

Awards:

- SOT Mechanisms Specialty Section Renal Toxicology Award, 1st Place (2019)
- NIEHS Extramural paper of the Month (September 2019): Luo et al Environ Health Perspect 127(6):67011, 2019

Research Grants

Active:

P42 ES027704 (Rusyn) 04/01/17-03/31/22 1.8 calendar months
NIH
Comprehensive tools and models for addressing exposure to mixtures during environmental emergency-related contamination events
Role: PI
Total Award Amount: $9,747,566
This Center brings together a team of scientists from biomedical, geosciences, data science and engineering disciplines to design comprehensive solutions for complex exposure- and hazard-related challenges. Our overall theme is to characterize and manage both existing and environmental emergency-created hazardous waste sites through the development of the tools that can be used by first responders, the impacted communities, and the government bodies involved in site management and cleanup.

T32 ES026568 (Rusyn) 04/01/16-03/31/21 2.4 cal. months (cost share)
NIH
Regulatory Science in Environmental Health and Toxicology
Role: PI
Total Award Amount: $1,301,445
This training program aims to strengthen training and research base at Texas A&M Interdisciplinary Faculty of Toxicology program and also to provide unique focus on regulatory science, a scientific discipline consisting of the development and application of scientific methods, tools, and approaches that are used to support regulatory and other policy objectives.

RD83580201 (Rusyn) 06/01/15-05/31/20 2.4 calendar months
US EPA
Cardiotoxicity Adverse Outcome Pathway: organotypic culture model and in vitro-to-in vivo extrapolation for high-throughput hazard, dose-response and variability assessments
Role: PI (overall and Project 1)
Total Award Amount: $6,000,000
The long-term objective of the Center is to advance the regulatory decision making by establishing and validating effective, accurate and fiscally responsible means for identifying/characterizing cardiac chemical hazards.

U24 TR002633 (Rusyn) 09/19/18-07/30/20 2.4 calendar months
NIH/NCATS
TEX-VAL: Texas A&M Tissue Chip Validation Consortium
Role: PI
Total Award Amount: $1,480,311
This award supports the transition of a Tissue Chip Validation Center at Texas A&M University (TEX-VAL) which conducts testing of the microphysiological systems developed by NIH grantees to the Consortium.

R01 ES029911 (Rusyn) 11/01/18-10/31/23 1.2 calendar months
NIH
Chromatin regions, genes and pathways that confer susceptibility to chemical-induced DNA damage

Role: PI
Total Award Amount: $3,315,339
This study will use an example of butadiene, a toxic chemical that in present in cigarette smoke and to which people can also be exposed at work if they work with rubber, to study how our DNA sequence may determine who may be more susceptible to butadiene-induced damage to cells.

M1702165 (Chiu) 06/27/17-06/30/20 0.48 academic months
California EPA
Risk assessment support and training to the Office of Environmental Health Hazard Assessment (OEHHA)
Role: Co-I
Total Award Amount: $145,000
This support contract aims to advance OEHHA risk assessment methods and applications through technical advice and training from Texas A&M University faculty.

P30 ES029067 (Threadgill) 04/01/19-03/31/24 0.4 calendar months
NIH/NIEHS
Texas A&M Center for Environmental Health Research – Integrated Health Sciences Facility Core (IHSFC)
Pole: PI of IHSFC
Total Award Amount (IHSFC only): $1,082,905
The Integrated Health Sciences Facility Core will support bidirectional translation with a human translational studies component, a mouse translational studies component, and an *in vitro* translational studies component.

T32 GM135748 (Butler-Purry) 02/01/20-01/31/2025 0.4 calendar months
IMSD at Texas A&M University: Initiative for Maximizing Student Diversity in Biomedical Sciences
Pole: co-PI (MPI)
Total Award Amount: $1,249,640
This proposal established a new T32 program at Texas A&M University and to maximize student diversity in biomedical sciences at Texas A&M by focusing on recruitment and retention of underrepresented minority populations of trainees seeking a PhD degree who have the skills to successfully transition into careers in the biomedical research workforce.

Pending:

UG3 TR003278 (Healy)
Population-Wide Cardiac MPS and In Silico Data Driven Modeling for Late Stages of Drug Development
Pole: co-PI (sub-contract PI)
Total Requested Amount at TAMU: $1,671,438
This proposal directly addresses the aims of the Funding Opportunity RFA-TR-19-014: “Clinical Trials on a Chip: Tissue Chips to Inform Clinical Trial Design and Implementation in Precision Medicine.” This program will implement MPS technology as replacement of some types of human clinical trials such as TQT, enable refinement of the de-risking strategies for certain at-risk populations before clinical trials, and demonstrate the ability to use MPS in a “personalized medicine” framework.

US EPA G19D112939182 (Rusyn)

Integrating tissue chips, rapid untargeted analytical methods and molecular modeling for toxicokinetic screening of chemicals, their metabolites and mixtures
Role: PI
Total requested amount: $799,993
This project will support risk-based decisions with new approach methodologies (NAMs) data by demonstrating integration of new biological (i.e., tissue chips), analytical (i.e., IMS-MS), and modeling methods for high fidelity, data-driven IVIVE.

Completed:

U24 TR001950 (Rusyn) 2016-2019
NIH
TEX-VAL: Texas A&M Tissue Chip Validation Center
Role: PI
Total Award Amount: $4,224,733
This award supports a Tissue Chip Validation Center at Texas A&M University (TEX-VAL) which conducts testing of the microphysiological systems developed by NIH grantees. It supports the resources, personnel and infrastructure for establishing functionality, reproducibility, robustness and reliability of tissue chip models that represent a wide array of human organs.

M1603310 Rusyn (PI) 2016-2019
European Petroleum Refiners Association
New Technologies to Underpin Category Approaches and Read-across in Regulatory Programmes (CAT-APP)
Role: PI
Total Award Amount: $985,045
The overall objective of this project is to develop a workflow for category read-across for substances characterized as UVCB (Unknown or Variable composition, Complex reaction products and Biological materials). We use petroleum substances as a case study and develop an integrated testing strategy using experimental and computational analyses to demonstrate how UVCB testing can meet the regulatory information requirements in the EU.

M1603182 Rusyn (PI) 2016-2018
Foundation for Chemistry Research and Initiatives
Olefins Streams Biological Read-Across
Role: PI
Total Award Amount: $288,894
This project applies a “biological read-across” principle to grouping complex substances for read across by using a case study of the low benzene naphthas and resin oils and cyclodiene dimer concentrates categories. We test the hypothesis that high-content screening and high-throughput genomic analysis using a panel of human iPSC-derived organotypic cultures (hepatocytes, cardiomyocytes, endothelial cells, macrophages, neurons, etc.) can effectively group substances in these categories for read-across.

U01 AA021908 Bataller (PI) 2013-2018
NIH/NIAAA
Molecular Subtypes for Targeted Therapies in Alcoholic Hepatitis: Mouse Models Core
Role: PI
Total Award Amount (Mouse Models Core): $506,296
The proposed initiative "Integrated Approaches for Identifying Molecular Targets in Alcoholic Hepatitis" (InTeam) will coordinate a multidisciplinary group composed of clinicians, physician-

scientists, basic scientists and bioinformatics experts. Because mouse models for alcoholic hepatitis are lacking making it impossible to evaluate promising targets in preclinical mouse studies in a meaningful manner. For this purpose, we will integrate data obtained from molecular pathology studies in humans by using animal models.

R01 ES023195 Rusyn (PI) 2013-2018
NIH/NIEHS
Genes, genomes, and genotoxicity: in vivo epigenetic toxicology of 1,3-butadiene
Role: PI (multiple PIs)
Total Award Amount: $2,203,058
This project's overall objective is to uncover the mechanistic linkages between the genome (*e.g.*, DNA sequence variants), epigenome (*e.g.*, chromatin status), and molecular initiating events (*e.g.*, DNA damage) elicited by a genotoxic carcinogen butadiene in an *in vivo* mouse model. Two Specific Aims will test the hypothesis that genetic variability-associated chromatin remodeling events affect the genotoxic potential of butadiene.

RD83516602 Rusyn (PI) 2012-2017
EPA STAR
Carolina Center for Computational Toxicology: Experimental and computational tools for NexGen safety assessments
Role: PI
Total Award Amount: $1,200,000
This research supports Tox21 and NexGen by focusing on the following Objectives: (1) Develop a quantitative high-throughput screening (qHTS) approach to probe differential chemical effects in a population-based in vitro system; (2) Provide the computational toxicology solutions for risk characterization in NexGen assessments with a focus on point-of-departure and population variability; and (3) Develop cheminformatics-based, as well as enhanced chemical-biological, models of in vivo reproductive and developmental toxicity that rely on concomitant exploration of chemical descriptors and population-based screening data.

RD83561202 Rusyn (PI) 2014-2017
EPA STAR
Toxicogenetics of tetrachloroethylene metabolism and toxicity: Using Collaborative Cross mouse population approach to address remaining gaps in human health assessments
Role: PI
Total Award Amount: $800,000
This project will pursue the following objectives: (1) to characterize variability in toxicokinetics of PERC by using the Collaborative Cross mouse model of the human population; (2) to characterize variability in toxicodynamics of PERC by evaluating inter-strain differences in dose-dependent effects on the liver and kidney in a sub-acute study; (3) to evaluate the effects of inter-strain variability in PERC metabolism on liver and kidney effects in a sub-chronic study.

P42 ES005948 Swenberg (PI) 2011-2017
NIH/NIEHS
Elucidating Risks: From Exposure and Mechanism to Outcome – Project 2
Role: PI Project 2
Project 2 investigates the role of inter-individual genetic variability in the toxicity of chlorinated solvents. We use an innovative mouse population resource, the Collaborative Cross, and sensitive analytical techniques to understand the role of genetic variability in metabolism of trichloroethylene and Perchloroethylene, as well as the relationship between formation of certain metabolites and organ-specific toxic effects.

RD-83499901 Tropsha (PI) 2011–2014
EPA STAR
Development, Validation, and Delivery of Externally Predictive QSAR Models of Hepatotoxicity
Role: Investigator
The goal of the project was to develop and deliver novel and robust computational predictors of chemical hepatotoxicity in animals. Models resulting from this project enabled prioritization of chemicals for *in vivo* studies and support regulatory risk assessment decisions.

R01 ES15241 Rusyn (PI) 2007–2013
Bioengineering partnership to improve chemical hazard testing paradigms
Role: PI
This proposal applied an integrative systems approach to: (1) Develop a 3D microscale mouse liver tissue bioreactor that can be applied to high-throughput screening of chemicals; (2) Build, test and validate a quantitative structure-toxicity relationship model that takes into account genetic diversity among individuals; and (3) Validate a fiscally sensible in vivo and in vitro toxicity screening paradigm for a class of allylbenzene derivatives by producing knowledge anchored on the genetic variability present within the population.

R01 ES015241 Rusyn (PI) 2010-2013
Bioengineering partnership to improve chemical hazard testing paradigms
(Competitive supplement)
Role: PI
The supplement was designed to extend the Bioengineering research to inhalation exposure studies. Specifically, we took advantage of the innovative exposure systems for bronchial epithelial cells to modelled but real atmospheres. Human and mouse cells, as well as mice from different strains were exposed to fresh and aged diesel exhaust and atmospheric mixtures modeling urban exposures.

R01 MH090936 Rusyn (multiple PIs) 2010-2013
Facilitating GTEx, Disease, and GxE Analyses via fast expression (e)QTL mapping
Role: PI
We tested the hypothesis that expression quantitative trait locus (eQTL) analysis is an effective and mechanistically-relevant approach to the discovery and validation of candidate genomic loci/genes that control biological pathways that may be responsible for environment-related human disease. In this project we developed new statistical tools and graphical user interface-enabled software to facilitate the analysis of data from studies in which high-content measurements are obtained on a common set of genetically-diverse individuals exposed to environmental agents. The primary goal of the analysis was to identify the interactions between genes, polymorphisms and phenotypes that may influence susceptibility to disease, but which would not be found using traditional GWAS.

R01 MH090936 Rusyn (multiple PIs) 2010-2013
Facilitating GTEx, Disease, and GxE Analyses via fast expression (e)QTL mapping
(Administrative supplement)
Role: PI

STAR RD 83382501 Rusyn (PI) 2008-2013
Carolina Center for Computational Toxicology
Role: PI

The Center developed complex predictive modeling solutions that span from mechanistic- to discovery-based efforts.

R01 AA016258 Rusyn (PI) 2005–2010
Metabolomic and toxicogenetic study of ethanol toxicity
Role: PI
The aim of this proposal was to define a "liver toxicity susceptibility state" in mouse liver in response to ethanol by combining knowledge of toxicology, metabolomics, gene expression profiling and mouse genetics.

STAR RD 83272001 Wright (PI) 2005–2010
Carolina Environmental Bioinformatics Research Center
Project 3: Computational Infrastructure for Systems Toxicology
Role: PI and Center Scientific co-Director
The objective of this EPA-funded proposal was to develop novel analytic and computational methods, create user-friendly tools to disseminate the methods to the wide toxicology community, and enhance and advance the field of Computational Toxicology.

NIEHS (R01 ES12686) Rusyn (PI) 2004–2009
Molecular Mechanisms of Phthalate-Induced Carcinogenesis
The long term goal of this project was to evaluate the peroxisome proliferator-induced molecular pathways that lead to production of oxidants, activation of Kupffer cells, and increased proliferation of rodent liver parenchymal cells.

NIGMS (R21 GM076059) Tropsha (PI) 2006–2009
Robust Computational Framework for Predictive ADME-Tox Modeling
This proposal sought to establish a universally applicable and robust predictive ADME-Tox modeling framework based on rigorous Quantitative Structure Activity/Property Relationships.
Role: Co-I.

NIEHS (R01 ES012689) Swenberg (PI) 2005–2010
Adducts as Quantitative Markers of Butadiene Mutagenesis
The aim of this project was to study mutagenesis of butadiene and its metabolites in rodents and humans. New biomarkers of butadiene exposure will be developed, and applied for research on the mechanisms of action.
Role: Co-I.

NIEHS (U19 ES11391) Kaufmann (PI) 2001–2008
Profiles of Susceptibility to Toxicant Stress
Project 4: Genomic Profiling in Nuclear Receptor-Mediated Toxicity Rusyn (PI)
The major goal of the research project #4 of UNC-CH Toxicogenomics Research Consortium grant was to determine the profiles of altered gene expression *in vivo* in mouse livers and *in vitro* in mouse and human parenchymal cells following treatments with non-genotoxic carcinogens that act via activation of nuclear receptors PPARα, CAR and AhR.

NIAAA (HHSN281200410004C) Higgins (PI) 2004–2007
Metabolomics: Alcohol Induced Toxicity
In collaboration with UNC's Bowles Center for Alcohol Studies, the goal of this SBIR grant was to develop and employ metabolomic and computational methods to study mechanisms of alcohol-induced liver and brain injury in three rodent models. Role: Co-I.

NIEHS (K22 ES11660) Rusyn (PI) 2002–2006
DNA Repair and Susceptibility to Environmental Agents
This project was set to test a hypothesis that the extent of induction of DNA repair in response to oxidative and alkylation damage varies in different species and tissues, and that such variation contributes to species- and site-specific mutagenic and cytotoxic effects of environmental chemicals. The ultimate goal is to understand the cellular and molecular changes induced by xenobiotics that will provide a strong scientific basis for or against the extrapolation of animal findings to humans in risk assessment.

NIAAA (P60 AA11605) Crews (PI) 2004–2006
Genomic and Genetic Analysis of Liver Effects of Alcohol
This Pilot Project from Bowles Center for Alcohol Studies tested the hypothesis that genetic predisposition to liver damage due to alcohol can be predicted by a specific gene expression profile in normal liver. Six mouse inbred lines with varying degree of sensitivity to alcohol-induced liver injury will be compared (naïve, single bolus dose, sub-chronic intragastric administration of ethanol). Gene expression will be correlated with phenotypic signs of injury, haplotype differences, and or knowledge of the mechanisms of liver damage by ethanol.
Role: P.I.

NCI (1435-04-04-CT73980) Earp (PI) 2004 – 2006
Cancer Biomedical Informatics Grid (caBIG)
This NCI initiative funded support for working groups to participate in the data sharing and intellectual capital (DSIC) component of the Cancer Biomedical Informatics Grid know as caBIG. This funding allows for attendance at meetings, intellectual sharing through participation in conference calls and other methods of communication exchange.
Role: Working Group member

NIEHS (P30 ES10126) Swenberg (PI) 2004-2005
Genetic Analysis of Transcriptional Regulation in Liver
This *pilot project* from the UNC Center for Environmental Health and Susceptibility aimed to combine microarray-based assays of mRNA level with gene mapping methods to detect polymorphic loci that co-regulate extensive molecular networks in mouse liver. Our specific experimental approach was to analyze the variation in basal gene expression among genetically controlled mice by using a panel of BXD recombinant inbred (RI) strains derived from C57BL/6J and DBA/2J.
Role: P.I.

NIDDK (P30 DK56350) Zeisel (PI) 2002-2004
Molecular Mechanisms of Mitogen Production by Dietary Fat
This UNC Clinical Nutrition Research Center *pilot project* is to determine the role of Kupffer cells, the resident hepatic macrophages, in increased cell proliferation induced by polyunsaturated fat in rodent liver.
Role: P.I.

NIEHS (F32 ES 05920) Rusyn (PI) 2000-2002
Peroxisome Proliferator-Induced DNA Damage and Repair
The major goal of this *Individual Postdoctoral National Research Service Award* project was to delineate the mechanisms of DNA damage and repair following exposure to peroxisome proliferators, a class of non-genotoxic rodent liver carcinogens. In addition, this program was designed to broaden training in toxicology and provide specific research experience in the area of DNA damage and repair.

Professional Service

Texas A&M University:

2020-	Graduate School Task Force
2019-	Search Committee for the Dean of the College of Veterinary Medicine
2018-	College of Veterinary Medicine Research Advisory Council
2018-	President's Excellence Funds Initiative Steering Committee
2016-	Graduate Operations Committee
2016-	Chair, Interdisciplinary Faculty of Toxicology
2017	Search Committee for the director of Texas A&M Inst. for Data Science
2017	Search Committee for the Vice President for Research
2016	“Big Data” Task Force
2015-2016	“Democracy on Edge” Initiative Leadership Council

UNC Department of Environmental Sciences and Engineering:

2009-2012	Admissions Committee (Chair 2011-2012)
2010	1-Yr Master’s Degree Program Planning Committee
2009	Council for Education in Public Health Site Visit, ESE representative
2006-2009	Strategic Planning Committee
2007-2009	Academic Programs Committee
2006-2007	Faculty Search Committee
2004-2006	*Ad Hoc* Committee on the "Vision for the role of focus areas in ESE"

University of North Carolina at Chapel Hill:

2011-2012	Faculty Council
2011	SPH2020 Initiative of the UNC Gillings School of Global Public Health, taskforce on “Revenue generation for key priorities across the School”
2004-2011	Executive Committee, Curriculum in Toxicology School of Medicine, UNC-Chapel Hill
2005-2007	Admissions Committee, Curriculum in Toxicology School of Medicine, UNC-Chapel Hill
2004-2005	Steering Committee on Metabolomics
2004	Organizing Committee, *NC Metabolomics Initiative Symposium*

Within the Profession:

2020-present	Finance Committee, Society of Toxicology, Reston, VA

2019-present	Chair of the organizing committee for "FutureTox V: New technologies to evaluate organ-specific effects of drugs and chemicals" (November 18-18, 2020; Chapel Hill, NC)
2019-present	Board on Environmental Studies and Toxicology (BEST), Division on Earth and Life Studies of the National Academies of Sciences, Engineering, and Medicine, Washington, DC
2019-present	Associate Editor, *Toxicological Sciences*
2018-present	External Advisory Board, Southwest Environmental Health Sciences Center, University of Arizona, Tucson, AZ
2016-present	Health Assessment Comparison (HAC) Value Review Workgroup, Texas Department of State Health Services
2016-present	External Advisory Board, Interdisciplinary Center for Exposures, Diseases, Genomics and Environment (EDGE Center), University of Washington, Seattle, WA
2016-present	Associate Editor, *Environmental Health Perspectives*
2015-present	Health Effects Institute, Research Committee, Boston, MA
2014-present	Editorial Board, *Environment International*
2008-present	Editorial Board, *Toxicology and Applied Pharmacology*
2015-2020	Board of Scientific Councilors, National Institute of Environmental Health Sciences, Research Triangle Park, NC
2019	Chair, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 125: *Some Industrial Chemicals*. International Agency for Research on Cancer (IARC), Lyon, France
2016-2019	Chair, Scientific Program Committee, The International Congress on Toxicology, Honolulu, HI. July 2019.
2008-2019	Editorial Board, *Toxicological Sciences*
2018-2019	Chair, Workshop Committee to Support Development of EPA's IRIS Toxicological Reviews, Board on Environmental Studies & Toxicology, National Academies of Sciences, Engineering & Medicine, Washington, DC
2017-2018	Chair, Committee to Review Report on Long-Term Health Effects on Army Test Subjects, Board on Environmental Studies & Toxicology, The National Academies, Washington, DC
2013-2017	Environmental Health Sciences Review Committee, NIEHS, RTP, NC
2015-2017	Chair, FDA-SOT Colloquia on Emerging Toxicological Science Challenges
2009-2017	Science Advisory Board, North Carolina Department of Environmental Quality

2012-2017	Committee on Toxicology, Board on Environmental Studies & Toxicology, National Research Council of the National Academies, Washington, DC
2019	NIH Scientific Review Group ZAI1 JTS-I (M1)1
2017	NIH Scientific Review Group ZES1 LAT-S (T1)1
2017	Chair, NIH Scientific Review Group ZES1 RAM-D (NT)1
2016	Chair, "*Mechanistic and other relevant data*" subgroup. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 116: *Carcinogenicity of drinking coffee, mate, and very hot beverages*. International Agency for Research on Cancer (IARC), Lyon, France
2014-2016	Committee on Incorporating 21st Century Science in Risk-Based Evaluations, Board on Environmental Studies & Toxicology, National Research Council of the National Academies, Washington, DC
2009-2016	Committee on Use of Emerging Science for Environmental Health Decisions, Board on Life Sciences, Board on Environmental Studies & Toxicology, National Research Council of the National Academies, Washington, DC
2016	Global Health Engagement Research Program Proposal Review Panel, Defense Health Agency, Uniformed Services University of the Health Sciences, Bethesda, MD
2016	NIH Scientific Review Group ZES1 JAB-D (R1)
2016	NIH Scientific Review Group ZES1 LWJ-D (U01)
2015	Chair, "*Mechanistic and other relevant data*" subgroup. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 112: *Some organophosphate insecticides and herbicides: Diazinon, Glyphosate, Malathion, Parathion, and Tetrachlorvinphos*. International Agency for Research on Cancer (IARC), Lyon, France
2015	Expert Taskforce on Diazinon, Glyphosate and Malathion. Joint FAO/WHO Meeting on Pesticide Residues (JMPR), Geneva, Switzerland
2015	NIH Scientific Review Group ZES1 RAM-J
2015	NIH Scientific Review Group ZES1 LWJ-J (SF)
2012-2015	Councilor, Society of Toxicology, Reston, VA
2014	Chair, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 110: *Perfluoro-octanoic acid, Tetrafluoroethylene, Dichloromethane, 1,2-Dichloropropane, and 1,3-Propane sultone*. International Agency for Research on Cancer (IARC), Lyon, France
2013-2014	Committee on Design and Evaluation of Safer Chemical Substitutions – A Framework to Inform Government and Industry Decisions, Board on Chemical Sciences and Technology, National Research Council of the National Academies, Washington, DC

2013-2014	Committee on Review of the Styrene Assessment in the National Toxicology Program 12th Report on Carcinogens, Board on Environmental Studies & Toxicology, National Research Council of the National Academies, Washington, DC
2013-2014	Committee on Review of the Formaldehyde Assessment in the National Toxicology Program 12th Report on Carcinogens, Board on Environmental Studies & Toxicology, National Research Council of the National Academies, Washington, DC
2014	Chair, NIH Scientific Review Group ZES1 RAM-J NM
2014	NIH Scientific Review Group ZRG1 HDM R50
2010-2014	NIH Xenobiotic and Nutrient Disposition and Action (XNDA) study section
2014	NIEHS Board of Scientific Counselors, *ad hoc* reviewer, RTP, NC
2014	NIH Scientific Review Group ZES1-JAB-J (AU)
2013	EPA STAR Grant Peer Review Meeting (G2013 K1)
2013	EPA STAR Grant Peer Review Meeting (G2012 F1)
2013	NIH Scientific Review Group ZES1 JAB-D (VT)
2012	Chair, "*Mechanistic and other relevant data*" subgroup. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 106: *Trichloroethylene and other chlorinated agents*. International Agency for Research on Cancer (IARC), Lyon, France
2012	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans “Tumour concordance and mechanisms of carcinogenesis: Lessons learned from Volume 100 of the IARC Monographs” International Agency for Research on Cancer (IARC), Lyon, France
2008-2012	Chair (2011-2012) and member, Board of Publications, Society of Toxicology, Reston, VA
2010-2012	Secretary/Treasurer, Carcinogenesis Specialty Section, Society of Toxicology, Reston, VA
2011	Chair, "*Mechanistic and other relevant data*" subgroup. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 101: *Some Chemicals in Industrial and Consumer Products, Food Contaminants, and Water Chlorination By-Products*. International Agency for Research on Cancer (IARC), Lyon, France
2011	ILSI/EPA/NIEHS Workshop on distinguishing adverse from adaptive effects in the 21st century, US EPA, RTP, NC
2011	NIH Study Section ZAA1 JJ(01)
2011	NIH Study Section ZRG1 BBBP-E (53) R

2011	Staff Scientist Review Committee, NIEHS, RTP, NC
2011	Conference Organizing Committee *TIES 2011: Toxicogenomics Integrated with Environmental Sciences* (September 15-16, 2011), Chapel Hill, North Carolina
2010-2011	Committee on Formaldehyde, Board on Environmental Studies and Toxicology, National Research Council of the National Academies, Washington, DC
2010	EPA Workshop: Advancing the Next generation (NexGen) of Risk Assessment: The Prototypes, US EPA, RTP, NC
2010	US EPA Science Advisory Board: Trichloroethylene Panel
2010	NIH Study Section ZES1 RAM V S8 (Chair)
2009	External peer reviewer of the draft IRIS assessment for Toxicological Review of Trichloroacetic Acid, US EPA, Washington, DC
2007-2009	Councilor, Carcinogenesis Specialty Section, Society of Toxicology, Reston, VA
2007-2009	Committee on Tetrachloroethylene, Board on Environmental Studies and Toxicology, National Research Council of the National Academies, Washington, DC
2009	Conference Organizing Committee *ToxCast data Analysis Summit* (May 14-15, 2009) EPA, Research Triangle Park, North Carolina
2009	NIH Study Section XNDA (2 meetings)
2009	NIH Study Section ZDA1 GXM-A (03) "Gene-Environment Initiative"
2009	NIH Study Section AA-1
2009	NIH Study Section ZES1 LWJ-J-U1
2009	EPA STAR Grant Peer Review Meeting (G2008 W1) "Computational Toxicology Research Centers: *in vitro* and *in silico* Models of Developmental Toxicity Pathways"
2009	The Canada Foundation for Innovation, reviewer for the Leading Edge Fund and New Initiatives Fund, Toronto, Canada
2005-2008	Expert consultant in support of the preparation of the Report on Carcinogens, NTP/NIEHS, Research Triangle Park, NC
2006-2008	Scientific Program Committee, Society of Toxicology, Reston, VA
2003-2007	Bioinformatics/Biostatistics Working Group, Toxicogenomics Research Consortium, NIEHS, RTP, NC
2003-2008	Steering Committee, Toxicogenomics Research Consortium, NIEHS, RTP, NC

2007	NIH Study Section ZES1 LWJ-E(CG) "Comparative Biology"
2006-2007	Member, Working Group to develop IARC Monographs Volume 96 on "Alcoholic beverage consumption, acetaldehyde and urethane" International Agency for Research on Cancer (IARC), Lyon, France
2006	Conference Organizing Committee *Empowering environmental health sciences research with new technologies: A conference on omics applications in the environmental health sciences* (December 4-6, 2006) Chapel Hill, North Carolina
2004-2006	Toxicology Working Group, Toxicogenomics Research Consortium, NIEHS, RTP, NC
2005-2006	NCI Cancer Biomedical Informatics Grid (caBIG): Data Sharing and Intellectual Capital (DSIC) Working Group
2006	Conference Organizing Committee *5th Annual Meeting of the Complex Traits Consortium* (May 6-10, 2006) Chapel Hill, North Carolina
2006	Co-Chair, Conference Organizing Committee *Current and Future Challenges in Environmental Health, Toxicology, and Food Safety in Eastern and Central Europe* (May 2-5, 2006) L.I. Medved's Institute of Ecohygiene and Toxicology, Kiev, Ukraine
2005	NIEHS Strategic Planning Forum
2005	NIEHS Environmental Genetics/Genomics Working Group
2005	NIH Study Section ZRG1 ONC-L M
2005	NIH Study Section ZDK1 GRB-2 M3
2005	Conference Scientific Committee *Sixth International Conference of the Society for Free Radical Research – Africa* (September 26 – 29, 2005) Université Abdelmalek Essaadi, Tétouan, Morocco
2004-05	Staff Scientist Search Committee National Center for Toxicogenomics, NIEHS, RTP, NC
2004	Conference Organizing Committee *Current and Future Issues in Toxicogenomics for Academia, Government and the Industry* (December 6-8, 2004) Friday Center, UNC-Chapel Hill

Reviewing manuscripts for professional journals:

Archives of Biochemistry and Biophysics
Basic & Clinical Pharmacology & Toxicology
BMC Medical Genomics
Cancer Letters
Cancer Research
Carcinogenesis
Chemical Research in Toxicology
Chemico-Biological Interactions
Critical Reviews in Toxicology
Drug Discovery Today
Environmental Health Perspectives (Associate Editor)
Environment International (Editorial Board member)
Free Radical Biology and Medicine
Free Radical Research
Gastroenterology
Genetics
Genome Research
Hepatology
Journal of Toxicology and Environmental Health
Journal of Hepatology
Laboratory Investigation
Molecular Carcinogenesis
Nature Reviews Genetics
Physiological Genomics
Risk Analysis
Scientific Reports
Toxicological Sciences (Associate Editor)
Toxicology
Toxicology & Applied Pharmacology (Editorial Board member)
Toxicology Letters
Toxicologic Pathology

Contact Information:
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Distinguished Research Fellow, Lilly Research Laboratories (Retired)
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Jls.paradoxfound@gmail.com

Discipline and expertise:
Toxicology, Predictive and systems toxicology

Stevens, James L., PhD

Dr. Steven has served in leadership positions in government, academe and industry over four decades. His research activities have focused on molecular and cellular responses to the metabolism and toxicity of drugs and xenobiotics. Stevens current research interest is on the application of systems biology methods to improving drug and chemical safety assessment and elucidating mechanisms of toxicity. Recent publications include the first application of network-based systems approaches (Weighted Gene Co-expression Network Analysis; WGNCA) to applying toxicogenomic in predictive toxicology and mechanism of action analysis. Stevens received his Ph.D. in Pharmacology from the University of Minnesota in 1980. He joined Lilly Research Laboratories in 2000 where he was promoted to Distinguished Research Fellow in 2010. Before retiring from Lilly in 2017, Stevens led predictive toxicology and new technology implementation initiatives across the company. Prior to joining Lilly, he held positions at the National Institutes of Health, the Food and Drug Administration, the University of Vermont and the W. Alton Jones Cell Science Center, where he was Executive Director. He has served on a variety of national advisory committees including the HESI Board of Trustees, National Advisory General Medical Sciences at NIH, National Toxicology Program Board of Scientific Councilors (BOSC), the EPA Board of Scientific Councilors, Subcommittee on Chemical Safety for Sustainability, as well as the Boards of Directors for Argonex Pharmaceuticals, Inc., and Upstate Biotechnology, Inc. He was a member of the Translational Safety Strategic Governance Group for the European Union Innovative Medicine Initiative (IMI2) and was instrumental in launching and leading an IMI2 project titled, *"Translational Quantitative Systems Toxicology"* (*TransQST*) initiated in January of 2017. He received the Achievement Award from the Society of Toxicology in 1994 and was elected a Fellow of the American Association for the Advancement of Sciences in 1996. Dr. Stevens is recognized internationally as an expert in predictive toxicology and the application of systems biology to risk assessment.

Resume

James L. Stevens, PhD
President, Paradox Found Consulting Services, LLC
Distinguished Research Fellow, Lilly Research Laboratories (Retired)

Jls.paradoxfound@gmail.com

Personal Information:

Address: [redacted]

Mobile Phone: [redacted]

Leadership Experience:
Over 35 years of leadership experience in safety science, research and technology development in government, academia and biopharmaceutical companies. Specific areas of expertise include:

- *Drug discovery and development*: Science driven safety decisions including target safety, hit to lead scaffold selection and lead optimization. Drug discovery portfolio management from target entry to candidate selection
- *Science and technology strategy*: Safety strategy and implementation, workflow integration for novel technologies, organizational change management. Experienced with implementation of cell-based screens, systems biology and genomics applications and mechanisms of nonclinical pathogenesis.
- *Investigative and predictive toxicology*: Implementation of cell and computational safety models, biomarkers, and genomic applications. Mechanisms of adverse responses to drugs and xenobiotics and molecular stress responses.
- *Public Private Partnerships:* Technology transfer and small company start-ups. Managing cooperative academic and industrial technology partnerships

Research Interests: *Systems biology and drug safety research.*
My primary research interest is in quantitative systems approaches to drug target and drug molecule safety assessment. Although systems approaches have the potential to revolutionize drug safety assessment, and risk assessment for xenbiotics generally, realizing that potential requires integration of high content data, e.g. cheminformatic, genomic, proteomic and metabonomic data, while reducing complexity (dimensionality) with the right analytics to reveal meaningful biological information. Unsupervised network-based approaches, such as weighted gene co-expression network analysis (WGCNA), reduce the dimensionality of complex gene expression datasets and organize expression data into statistically robust networks of genes that translates vertically (*in vitro* to *in vivo*) and horizontally (across species). These network—based approaches reveal relevant and interpretable mechanisms of pathogenesis.

Education:

University of Minnesota Minneapolis, MN	PhD	Pharmacology	1980
Macalester College St. Paul, MN	BS	Biology	1974

Job History and Narrative: Responsibilities and Accomplishments

President, Paradox Found Consulting Services, LLC (2018-present)

- Paradox Found provides consulting services in predictive toxicology, systems biology and new technology implementation in risk assessment to both pharmaceutical and chemical companies. Our focus is on helping companies develop effective strategies for implementing new technologies that lead to better risk assessment and improved safety decisions.

Lilly Research Laboratories, Indianapolis, IN:
Distinguished Research Fellow (2010-2017); Senior Research Fellow (2004-2010) and Research Fellow (2000-2004)

- Joined Lilly as an internationally recognized expert in the application of molecular and cellular approaches to understanding drug toxicity.
- Responsible for career development for senior technical staff within Toxicology.
- Created a strategic vision and implemented the Early Safety Assessment (ESA) program to improve the quality and productivity of the Lilly pipeline from Target to Clinical Candidate selection.
- Developed and implemented an integrated suite of predictive toxicology tools including *in silico*, cell-based screens, biomarkers and genomic applications.
- Served as a member the LRL Target Development Portfolio Management Committee. Responsible for safety assessment decisions across the portfolio from target entry through lead declaration.
- Member of the Toxicology Planning Committee responsible for preclinical safety assessment strategies from Lead through Phase II clinical trials.
- Developed and Led the Lilly Research Award Program (LRAP), a program that enables industry academic relationships and research collaborations through a competitive grant mechanism.
- Developed and Led the Lilly Graduate Study Advancing Development (LGRAD) program. Lilly staff were able to pursue advanced degrees while working.

University of Vermont, Department of Pathology, School Medicine, Burlington, VT:
Professor of Pathology (1998-2000)

- Established and led a Molecular Toxicology laboratory within the Department of Pathology carrying out NIH funded research
- Participated in graduate and medical student teaching and training

Argonex Pharmaceutical, Inc. Charlottesville, VA:
Interim Vice President for Research and Development (1996-1997)

- Acted as Interim Vice President for Research and Development for a start-up biopharmaceutical company spun out of a nonprofit institution.
- Developed a business and scientific plan, with the Vice President for Business Development and the CEO of Argonex, for which $7M in venture capital was raised.

W. Alton Jones Cell Science Center, Lake Placid, NY:
Executive Director (1992-1998)

- Responsible for the operations of a nonprofit institute with 8 laboratories, 120 employees and an annual operating budget of $5M the bulk of which was derived from NIH and other granting agencies.
- Managed the relationship between the institute and a wholly owned for-profit subsidiary, Upstate Biotechnology.
- Established a technology transfer unit within the institute that developed novel research reagents sold through the for-profit subsidiary.
- Represented the interests of the nonprofit institute in a merger of Upstate Biotechnology with Argonex Pharmaceuticals to form Agonex Holdings.
- Developed and executed a business plan to combine the facilities of the nonprofit and Argonex/Upstate while spinning out a new nonprofit 501(3)b entity associated with the University of Virginia. Argonex/Upstate sold for more than $150M in 2004 and generated a $40M endowment for the 501(3)b organization.

W. Alton Jones Cell Science Center, Lake Placid, NY:
Senior Scientist (1986-1998)

- Established and led the Molecular Toxicology Laboratory.
- Received funding for 5 independent NIH RO1 and PO1 grants.
- Pioneered application of gene expression technology to elucidating mechanisms of toxicity.
- Elucidated growth control mechanisms responsible for renal tubular repair.
- Trained graduate students and postdoctoral fellows.

Center for Drug and Biologics, FDA, Bethesda, MD:
Senior Staff Fellow (1983-1986)

- Established and led an independent research laboratory focused on the toxicity of reactive drug and chemical metabolites.
- Served as an FDA internal expert on bound residues.
- Reviewed IND submissions on novel bioproducts.

National Cancer Institute, Bethesda, MD: Postdoctoral training
Staff Fellow (1982-1983)

- Completed postdoctoral studies on skin carcinogenesis and tumor promotion.

National Institute of General Medical Sciences, Bethesda, MD: Postdoctoral training
Pharmacology Research Associate Training Fellowship (1980-1982)

- Completed postdoctoral research on the purification and characterization of Phase II drug metabolism enzymes.

University of Minnesota, Department of Pharmacology, Minneapolis, MN: Graduate training
Research Assistant (1975-1980)

- Completed PhD thesis work on the formation and toxicity of reactive chemical metabolites.

Professional Memberships: (past and present)

- Society of Toxicology
- American Association of Cancer Research
- American Association for the Advancement of Science

- American Society of Nephrology
- International Society of Nephrology
- International Society for the Study of Xenobiotics

Selected Professional Activities:
- EFPIA Co-Leader, Translational and Quantitative Systems Toxicology IMI2 Project (2017-present)
- Chair, Drug Safety Gordon Research Conference (2016-2018)
- Board of Scientific Councilors, Executive Committee, US Environmental Protection Agency (2017-present)
- Board of Scientific Councilors, National Toxicology Program, National Institutes of Environmental Health Sciences (2016 – 2019)
- Board of Scientific Councilors, Chemical Safety for Sustainability, Environmental Protection Agency (2015-present)
- Program Committee, Society of Toxicology, 2010-2013
- National Advisory General Medical Sciences, NIH/NIGMS, 2009-2012
- Board of Trustees, Health and Environmental Science Institute (HESI), 2008-2016
- PhRMA PISC Working Group on Predictive Animal Models, 2005-2007
- ILSI-HESI Steering Committee on Toxicogenomics (eSTAR committee), 1998-present
- W. Alton Jones Cell Science Center, Board of Directors, 1992-1999
- Upstate Biotechnology, Inc., Board of Directors, 1994-1996
- Argonex Holdings, Inc., Board of Directors, 1996-1999
- Scientific Advisory Board, Argonex Holdings, Inc., Chairman, 1996-1997
- Molecular Biology Specialty Section, Society of Toxicology, Vice-President, 1993; President, 1994; Councilor, 1995.
- Mechanisms Specialty Section, Society of Toxicology, Vice President, 1999; President, 2000; Councilor 2001
- Drug Discovery Specialty Section, Society of Toxicology, Councilor, 2007-2009
- Phase I Toxicology, Inc., Scientific Advisory Board, 1998-2000
- In Vitro Cellular and Developmental Biology Editorial Board, 1986-1998
- Chemical Research in Toxicology Editorial Board, Associate Editor 1998-2001
- Cell Stress and Chaperones Editorial Board, 1990-2000
- Toxicology and Applied Pharmacology Editorial Boar,d 1990-2000

Academic Appointments:
- Adjunct Professor of Biochemistry and Molecular Biology, Indiana University School of Medicine, Indianapolis, IN 2014-present
- Adjunct Associate Professor, Leiden University, The Netherlands 2017-present
- Professor of Pathology, University of Vermont School of Medicine, Burlington, VT 1998-2000
- Adjunct Professor of Chemistry, Clarkson University, Potsdam, NY 1988-2000

Awards/Honors/Citations:
- Pharmacology Research Associate Training (PRAT) Fellowship, National Institutes of General Medical Sciences, Bethesda, MD, 1980-1982

- Achievement Award, Society of Toxicology, 1994
- Fellow, American Association for the Advancement of Science, elected 1996
- LRL President's Scientific Recognition Award, Lilly Research Laboratory, 2011

NIH Funding Summary (academic career):

- Transport and metabolism of cysteine conjugates. *National Institute of General Medical Sciences.* RO1 GM39604 (1987-1990)
- Growth factors and renal cancer (PO1 subproject). *National Cancer Institute.* PO1 CA37589 (1988-1992)
- Chemical pathology and renal repair. *National Institute of Environmental Health Sciences.* RO1 ES05670 (1992-1995)
- Nephrotoxicity of cysteine conjugates. *National Institute of Diabetes and Digestive and Kidney Diseases.* RO1 DK38925 (1992-1996)
- Biochemical toxicology and molecular stress responses. *National Institute of Diabetes and Digestive and Kidney Diseases.* RO1 DK46267 (1994-2000)

Publications:

1. Anders MW, Stevens JL, Sprague RW, Shaath Z, Ahmed AE. 1978. Metabolism of haloforms to carbon monoxide II. In vivo studies. Drug Metabolism and Disposition. 6: 556-560.
2. Stevens JL, Anders MW. 1979. Metabolism of haloforms to carbon monoxide III. Studies on the mechanism of the reaction. Biochemical Pharmacology. 28: 3189-3194.
3. Stevens JL, Ratnayake JH, Anders MW. 1980. Metabolism of dihalomethanes to carbon monoxide IV. Studies in isolated hepatocytes. Toxicology and Applied Pharmacology. 55: 484-489.
4. Ahmed AE, Kubic VL, Stevens JL, Anders MW. 1980. Halogenated methanes: Metabolism and toxicity. Federation Proceedings. 39: 3150-3155.
5. Stevens JL, Anders MW. 1981. Metabolism of haloforms to carbon monoxide IV. Studies on the reaction mechanism in vivo. Chemico-Biological Interactions. 37: 365-374.
6. Stevens JL, Anders MW. 1981. Effect of cysteine, diethyl maleate and phenobarbital treatment on the hepatotoxicity of ^{1}H and ^{2}H-chloroform. Chemico-Biological Interactions. 37: 207-217.
7. Stevens JL, Jakoby WB. 1983. Cysteine conjugate β-lyase. Molecular Pharmacology. 23: 761-765.
8. Jakoby WB, Stevens JL, Duffel M, Wiesiger RA. 1984. The mercapturic acid shunt: The terminal enzymes. Reviews in Biochemical Toxicology. 6: 97-116.
9. Jakoby WB, Stevens JL. 1984. Cysteine conjugate β-lyase and the thiomethyl shunt. Biochemical Society Transactions. 2: 33-34.
10. Stevens JL, Jakoby WB. 1985. Assay of cysteine conjugate β-lyase. Methods in Enzymology. 113: 510-515.
11. Stevens JL. 1985. Characterization of cysteine conjugate β-lyase activities in rat kidney cortex: Subcellular localization and relationship to the hepatic enzyme. Biochemical and Biophysical Research Communications. 129: 499-504.

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From:	hong.zhuang@symrise.com
To:	Knott, Steven
Cc:	Stephanie.Blakely@symrise.com
Subject:	Re: EPA Extending Nomination and Public Comment Periods for Candidates to be Considered for Membership on the TSCA SACC
Date:	Friday, August 21, 2020 3:17:41 PM
Attachments:	3E968881.gif graycol.gif ecblank.gif 3E617240.gif 3E948565.gif Dr Hong Zhuang Bio.docx

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Dear Steven,
In response to EPA's call for Nomination for Candidates to be Considered for Membership on the TSCA SACC, I would like to submit my application to be considered for serving on the Committee. Please find my bio attached.
On copy of this E-mail is Stephanie Blakely, Symrise Vice President of Scent & Care Division Global Regulatory Affairs. Please let us know if you have questions or comments with regard to this nomination and my qualifications. Thank you.

(See attached file: Dr Hong Zhuang Bio.docx)

Best Regards,

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"U.S. EPA Office of Chemical Safety and Pollution Prevention" ---08/14/2020 12:51:12 PM---EPA is extending the nomination and public comment periods for the TSCA SACC

From: "U.S. EPA Office of Chemical Safety and Pollution Prevention" <oppt.epa@public.govdelivery.com>
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Date: 08/14/2020 12:51 PM
Subject: EPA Extending Nomination and Public Comment Periods for Candidates to be Considered for Membership on the TSCA SACC

EPA Extending Nomination and Public Comment Periods

for Candidates to be Considered for Membership on the TSCA SACC

EPA is extending the nomination and public comment periods for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC) to receive additional nominees and input on prospective candidates for membership.
Public comments will be used to assist the Agency in selecting multiple members of the SACC over the next year. EPA anticipates appointing approximately 15 members to the SACC by March 2021. Please note that current members of the SACC are eligible for reappointment during this period. Therefore, the approximately 15 members appointments completed by March 2021 may include a mix of newly appointed and reappointed members. The biographies of current SACC members are available on the TSCA SACC website.
Nominations, identified by docket identification (ID) number EPA-HQ-OPPT-2020-0135, must be submitted by email to knott.steven@epa.gov on or before **September 1, 2020**.
Public comments on prospective candidates for membership on the SACC must be received within 30 days of EPA posting an updated List of Candidates. The availability of the updated List of Candidates and the due date for public comments will be announced through this listserv and the TSCA SACC website.
Public comments must be submitted through the Federal eRulemaking Portal. When providing nominations and comments, do not submit electronically (through email or the Federal eRulemaking Portal) any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute.
The SACC is a federal advisory committee, established in December 2016, to provide independent advice and recommendations to the EPA Administrator on the scientific basis for risk assessments, methodologies, and approaches relating to implementation of TSCA.
For additional information, please see the Federal Register notice or contact Steven M. Knott, M.S., Designated Federal Officer, Office of Science Coordination and Policy, Environmental Protection Agency (202-564-0103 or knott.steven@epa.gov).

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Dr. Hong Zhuang

Affiliation: Senior Regulatory Scientist, Symrise Inc. Teterboro, NJ

Expertise: Chemical Registration; Chemical regulatory compliance; Chemical hazard assessments; Chemical manufacturing EHS.

Education: PhD in Chemistry, Virginia Polytechnic Institute and State University;
MS in Chemistry, Virginia Polytechnic Institute and State University;

Experience Summary: Dr. Zhuang is an expert in Chemical safety and compliance. She has over 20 years experience in chemical industry and held various positions in chemical product development, manufacturing, safety, wast management, hazard communication, and compliance. Most recently, she has been working on new chemical human health and ecological risk assessment and registration for various chemical inventories including US TSCA. Dr. Zhuang has experience with a variety of chemical industries, including adhesives, silicone, semiconduct processing chemicals, as well as consumer and personal care products.

Panel Experience: None

From:	Mark Robson
To:	Knott, Steven
Cc:	mark.robson@rutgers.edu
Subject:	RE: EPA SACC ROBSON
Date:	Thursday, August 20, 2020 10:39:22 PM
Attachments:	ROBSON (TSCA) Science Advisory Committee on Chemicals (SACC) FULL CV.pdf ROBSON (TSCA) Science Advisory Committee on Chemicals (SACC) INFO.pdf ROBSON (TSCA) Science Advisory Committee on Chemicals (SACC) BIOSK.pdf

Dear Mr. Knott

Thank you for the email regarding the SACC.

Attached are the documents required: the contact information, the biosketch and the full CV.

Stay safe and stay healthy,

Mark

Mark Gregory Robson
Board of Governors Distinguished Service Professor
Department of Plant Biology
Faculty Director of the Byrne First-Year Seminar Program
Editor in Chief – Human and Ecological Risk Assessment
Rutgers University - School of Environmental and Biological Sciences
59 Dudley Road - Foran Hall
New Brunswick, New Jersey USA 08901
P: 848-932-6276 F: 732-932-9441 C: (b) (6)
mark.robson@rutgers.edu

From: Knott, Steven <Knott.Steven@epa.gov>
Sent: Tuesday, August 18, 2020 9:29 AM
To: Mark Robson <robson@sebs.rutgers.edu>
Subject: RE: EPA SACC ROBSON

Dr. Robson,

EPA has extended the TSCA SACC nomination period until September 1, 2020. If you are still interested in being considered for appointment to the SACC, please submit your nomination by following the instructions in the Federal Register notice available through our website at https://www.epa.gov/tsca-peer-review/epa-extending-nomination-and-public-comment-periods-toxic-substances-control-act.

Thank you.

Steven M. Knott, M.S.
Chemist and Executive Secretary
FIFRA Scientific Advisory Panel and
Science Advisory Committee on Chemicals

U.S. EPA Office of Science Coordination and Policy
Knott.steven@epa.gov
(202) 564-0103

From: Knott, Steven
Sent: Wednesday, July 22, 2020 1:38 PM
To: Mark Robson <robson@sebs.rutgers.edu>
Subject: RE: EPA SACC ROBSON

Dr. Robson,

Thank you for your interest in membership on the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Although we are not considering nominations for SACC membership that were received after the deadline, we will retain your information for possible consideration to participate as an ad hoc reviewer in future SACC reviews. In addition, SACC meetings are open to the public and you are welcome to submit written comments on the issues under consideration and, on request, present oral comments before the Committee. Information on upcoming SACC reviews will be posted on the Committee's website at https://www.epa.gov/tsca-peer-review.

Thank you again.

Steven M. Knott, M.S.
Chemist and Executive Secretary
FIFRA Scientific Advisory Panel and
Science Advisory Committee on Chemicals
U.S. EPA Office of Science Coordination and Policy
Knott.steven@epa.gov
(202) 564-0103

From: Mark Robson <robson@sebs.rutgers.edu>
Sent: Wednesday, April 22, 2020 11:39 AM
To: Knott, Steven <Knott.Steven@epa.gov>
Cc: Mark Robson (mark.robson@rutgers.edu) <mark.robson@rutgers.edu>
Subject: EPA SACC ROBSON

Dr. Steven Knott
SACC Designated Federal Officer
US EPA

Dear Dr. Knott:

A colleague forwarded the notice from several weeks ago about the SACC nomination. Unfortunately due to some of the issues with COVID and our university (Rutgers) this appeared today in my inbox.

It is clearly two days past the due date. If the date has some flexibility, I have attached my CV for your review and consideration. If the date is a hard date, then I will wait until the next round of "calls for nominations".

Thank you and stay healthy,

Mark Robson

Mark Gregory Robson
Board of Governors Distinguished Service Professor
Department of Plant Biology
Faculty Director of the Byrne First-Year Seminar Program
Editor in Chief – Human and Ecological Risk Assessment
Rutgers University - School of Environmental and Biological Sciences
59 Dudley Road - Foran Hall
New Brunswick, New Jersey USA 08901
P: 848-932-6276 F: 732-932-9441 C: (b) (6)
robson@sebs.rutgers.edu

Scroll to the top of this document for Instructions, biosketch template, and example. Use the fields below to enter you biosketch information.

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Mark Gregory Robson, PhD, MPH, ATS

Affiliation: Primary position title and Primary Place of employment (including city and state)

Rutgers University, New Jersey Agricultural Experiment Station. Dept of Plant Biology and Pathology. New Brunswick, NJ

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

I study farmers in the US and in developing countries and assess their exposure to agricultural chemicals and the potential health effects as well as develop strategies and training programs to effectviely and safety use these pest control products.

Education: include degrees earned and name of college/university

BS Agricutural Science (1977) Rutgers New Brunswick NJ; MS Plant Biology (1979) Rutgers New Brunsiwck, NJ; PhD Plant Biology (1988) Rutgers New Brunsiwck, NJ
MPH Environ Health (1995) Univ of Med and Dent of New Jersey, Piscataway NJ

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …) ; additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests.

Mark Robson is Rutgers Board of Governors Distinguished Service Professor and Professor and Extension Specialist in Plant Science (2006 to pres). Mark has been the Chair of both the Plant Biology and Pathology Dept (2013-2014) as well as the Chair of Environmental and Occupational Health (2001-2006). He has also served as the Director of the New Jersey Agricutural Experiment Station (2006-2008). Mark is an AAAS Fellow, a Fellow of the Collegium Ramazinni, and a Fellow of the Academy of Toxicologial Sciences. Mark was the Chair of the Drinking Water Quality Institute for New Jersey and on the New Jersey Science Advisory Board. Mark is the Editor in Chief of the Journal of Human and Ecological Risk Assessment.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

For USEPA BOSC review of the NERL Labs (2001) and CTAG for the Pesticide Program Office (2010-2012). Others include: NIH - Mechanism for Time Sensitive Research Opportunities in Environmental Health Sciences, (Chair 2020), NIH Time-sensitive R21 review of COVID-19 applications (Chair 2020), NIH Time-sensitive R21 review applications (Chair 2020), NIH Community Influences on Health Behavior (2015), Gulf of Mexico Research Initiative Peer Review (2017) NIH Understanding and Promoting Health Literacy Special Emphasis Panel (2016), Peer Reviewing for Ontario's Ministry of Labour - Research Opportunities Program (2015- pres), NIH Community Influences on Health Behavior (CIHB) Study Section (2013-2014), NIH Integrated Review Groups Healthcare Delivery and Methodologies Pilot Review (2013-2014) additional on full CV

Mark Gregory Robson
Board of Governors Distinguished Service Professor
Rutgers – School of Environmental and Biological Sciences
Department of Plant Biology - Room 186 Foran Hall
59 Dudley Road New Brunswick, New Jersey 08901
Office: 848-932-6276 Fax: 732-932-6535
Home: (b) (6) Cell: (b) (6)
E-mail: robson@sebs.rutgers.edu
WEB: https://plantbiology.rutgers.edu/faculty/robson/Mark_Robson.html
ORCID: https://orcid.org/0000-0001-5702-4781
BIBLI: https://www.ncbi.nlm.nih.gov/myncbi/1fko7a-gz9K5Q/bibliography/public/

Education

1977 **BS** in Agricultural Science with High Honors
Rutgers - The State University of New Jersey
New Brunswick, New Jersey
Advisor: William Smith, EdD

1979 **MS** in Plant Science
Rutgers - The State University of New Jersey
New Brunswick, New Jersey
Advisor: Paul Eck, PhD

1988 **PhD** in Plant Science
Rutgers - The State University of New Jersey
New Brunswick, New Jersey
Advisor: Paul Eck, PhD

1995 **MPH** in Environmental and Occupational Health
Graduate Program in Public Health, Rutgers - Bloustein School and UMDNJ RWJMS
New Brunswick, New Jersey
Advisor: Michael Gochfeld, MD, PhD

Academic Honors

1990 **Fellow** Kellogg Agricultural Leadership National Center for Food and Agricultural Policy
Washington, DC https://www.ncfap.org/

2003 **Fellow** (Elected) Academy of Toxicological Sciences
Reston, Virginia http://www.acadtoxsci.org/

2010 **DrPH** in Public Health (*honoris causa)*
Chulalongkorn University - College of Public Health Sciences
Bangkok, Thailand http://www.cphs.chula.ac.th/

2012 **Fellow** (Elected) American Association for the Advancement of Science
Washington, DC http://www.aaas.org/aboutaaas/fellows/

2013 **Fellow** (Elected) Collegium Ramazzini
Bologna, Italy http://www.collegiumramazzini.org/

Summary of Experience-Current

Rutgers Board of Governors Distinguished Service Professor Jul 2015 -
Professor and Extension Specialist of Plant Biology Jan 2015 -
Faculty Director Byrne First Year Seminars Sep 2019 -
Senior Fellow in Global Health Policy and Practice, Bloustein School May 2020 -
Rutgers University-School of Environmental and Biological Sciences
New Brunswick, New Jersey

Graduate Faculty in Toxicology, Entomology, Environmental Science, Plant Science, Landscape Architecture, and Public Health and Graduate School of Education. Member of the Institute for Food Nutrition and Health, Center for Agricultural Food Ecosystems (RUCAFE); NIEHS Center of Excellence; Center for the Study of Genocide and Human Rights. Visiting Professor-Senior Academic Advisor, Chulalongkorn University College of Public Health Sciences. Bangkok, Thailand. http://www.cphs.chula.ac.th/ , Member of C-RAHS Research Center for Risk Analysis and Health Surveillance for Thai Population http://www.c-rahs.org/index.php/research-area-menu Visiting Professor, Mahidol University Faculty of Public Health. Bangkok, Thailand. http://www.ph.mahidol.ac.th/eng/ Visiting Professor, Uniwersytet Kardynała Stefana Wyszyńskiego w Warszawie. Warsaw, Poland https://uksw.edu.pl/pl/ Visiting Professor, Chulalongkorn University - Graduate Program in Environmental Management. Bangkok, Thailand. http://www.iphsm.grad.chula.ac.th/

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*The Board of Governors Distinguished Service Professorship recognizes sustained and exceptional service to the University, to the academic profession, to the state or nation, or to the broader community by a faculty member at the full professorial rank. The Board of Governors will award the Distinguished Service Professorship. It is anticipated that this designation will be made to only a few faculty. *Adopted by Rutgers University Board of Governors, October 2012*

Summary of Experience-Previous

Department Chair - Plant Biology
Professor and Extension Specialist of Plant Biology
Rutgers University-School of Environmental and Biological Sciences
New Brunswick, New Jersey
Jan 2015 - Jul 2016

Chair of Plant Biology entails providing leadership for 65 faculty (42 TT and 23 NTT) and 70 administrative, research and farm staff. In Plant Biology there are three undergraduate majors: Ag and Food Systems, Plant Science, and Biotechnology and one graduate program: Plant Biology (MS and PhD Programs). Tenured Professor and Extension Specialist in the Department of Plant Biology and Pathology, School of Environmental and Biological Sciences. Director of the Thai Fogarty ITREOH Center, Chulalongkorn University, Bangkok, Thailand.

Dean - Agricultural and Urban Programs
Professor and Extension Specialist of Plant Biology
Rutgers University-School of Environmental and Biological Sciences
New Brunswick, New Jersey
Nov 2008 – Dec 2014

Developed and implemented degree and non-degree undergraduate and graduate programs in entrepreneurial and innovative education in the agricultural sciences. Areas of focus include controlled-environment agriculture, agricultural policy and entrepreneurship, energy efficiency, and niche agriculture, including agro-tourism, community-supported agriculture, and sustainable agriculture. This includes a master's degree in the business and science of agriculture, as well as non-degree certificate programs. Additionally, responsible for the Office of Continuing and Professional Education and the IR-4 Minor Use Pesticide Program.

Director - New Jersey Agricultural Experiment Station
Professor and Extension Specialist of Entomology
Rutgers University - School of Environmental and Biological Sciences
New Brunswick, New Jersey
Sep 2006 – Nov 2008

Served as the director and primary administrator for the programs of the New Jersey Agricultural Experiment Station (NJAES) at Rutgers University. Under the Executive Dean and Executive Director, supervised all aspects of the state and federal research programs, including Cooperative Extension, Hatch, Smith Lever, and McIntyre Stennis funds, as well as the programs in production agriculture and environmental sciences, health and consumer science, 4H Youth Development, economic development, the IR-4 Project, and the Office of Professional Education. In total, this includes 424 FTEs (faculty and staff) with an annual combined budget of approximately $85 million. Director of the Thai Fogarty ITREOH Center, Chulalongkorn University, Bangkok, Thailand. Member, Graduate Faculty, Joint Graduate Program in Toxicology, University of Medicine and Dentistry of New Jersey and Rutgers University. NIEHS T32-ES07148.

Department Chair - Environmental and Occupational Health and Assistant Dean of Student Affairs
Associate Professor of Public Health
School of Public Health - University of Medicine and Dentistry of New Jersey
Piscataway, New Jersey
Nov 2000 - Aug 2006

Served as the Chairman of the Department of Environmental and Occupational Health in the UMDNJ-School of Public Health (SPH). Provided guidance, leadership, and oversight to the departmental faculty. Responsible for course assignments, scheduling, and development of new programs. Taught core courses and served as advisor to MPH, PhD and DrPH students. As Assistant Dean of Student Affairs oversaw the admissions process for MPH and certificate programs, judicial matters; provided oversight on student services, graduation, fees, and student life programs. Fulbright Senior Specialist in at Prince of Songkla University in Hat Yai, Thailand.

Executive Director - Environmental and Occupational Health Sciences Institute
Rutgers University
Piscataway, New Jersey
Apr 1993-Nov 2000

Initiated, developed, and implemented all administrative matters for the Environmental and Occupational Health Sciences Institute (EOHSI). Worked with and coordinated administrative and scientific personnel at Rutgers University and the University of Medicine and Dentistry of New Jersey. Served as the central coordinator for day to day building operations. Facilitated the effective integration of independent graduate programs in Toxicology, Public Health, Occupational Medicine Residency and Exposure Assessment. Oversight of an annual combined extramural budget of $27 million. Provided direction, guidance, and oversight to all administrative matters.

Science Coordinator - Environmental and Occupational Health Sciences Institute
Assistant Professor of Environmental and Community Medicine
UMDNJ-Robert Wood Johnson Medical School – University of Medicine and Dentistry of New Jersey
Piscataway, New Jersey
Nov 1991-Apr 1993

Provided support and coordination for the implementation of interdisciplinary research and education in health and environmental sciences. Organized and implemented conferences, lecture programs, colloquia, and seminars on relevant topics. Provided administrative support to the Director and Executive Director. Worked with EOHSI divisions to integrate program components, teaching, and research efforts.

Director - Division of Regulatory Services, New Jersey Department of Agriculture (NJDA)
Oct 1990-Nov 1991

Under the direction of the Secretary of Agriculture, provided leadership and guidance for the work program and staff of the Division of Regulatory Services. The Division's primary responsibility was to direct the various programs to assure the quality of agricultural chemicals and farm products for the protection of consumers.

Deputy Director - Division of Rural Resources, New Jersey Department of Agriculture (NJDA)
Mar 1989-Oct 1990

Assisted in the administration, planning, development, implementation, and evaluation of the programs in the Rural Resources Division, including Soil and Water Conservation, Agricultural and Economic Development, Fisheries and Seafood Development, and the New Jersey Agricultural Statistical Service.

Research Scientist - New Jersey Department of Environmental Protection (NJDEP)
Mar 1985-Mar 1989

Supervised Technical Evaluation and Monitoring Section of the Pesticide Control Program (PCP). Provided scientific support to Certification and Compliance Bureaus of the pesticide regulatory agency. Coordinated special projects for the Program in pesticide use, disposal, assessment, and impact.

Extension Pesticide Coordinator - Rutgers Cooperative Extension
Instructor in Entomology
Jul 1981-Mar 1985

Developed and administered an educational program in the proper use of pesticides and pesticide applicator certification. Coordinated a statewide pesticide impact assessment program, pest control and pesticide use.

Extension Associate - Rutgers Cooperative Extension
Instructor in Horticulture
Jul 1980-Jun 1981

Worked with extension specialists and county agricultural agents conducting applied research to develop small fruit and vegetable recommendations. Provided publications, training, and educational programs for commercial and residential growers.

Editor in Chief

Human and Ecological Risk Assessment: An International Journal, 2014-
Taylor and Francis, Philadelphia, PA
http://www.tandfonline.com/action/journalInformation?journalCode=bher20#.U06SCPldVic

Associate Editor

Watershed Ecology and the Environment, 2017-
China Science Publishing, Media, Ltd and Elsevier. Beijing, China
http://www.keaipublishing.com/en/journals/watershed-ecology-and-the-environment/

Mindanao Journal of Science and Technology (MJST) 2015-
University of Science and Technology of Southern Philippines. Cagayan de Oro City, Philippines
http://mjst.ustp.edu.ph/index.php/mjst/about

European Journal of Oncology, Occupational and Environmental Health, 2019-
Collegium Ramazzini, Fidenza (PR) – Italy.
https://mattioli1885journals.com/index.php/Europeanjournalofoncology

The Journal of Higher Education Research Disciplines, 2020-
Northwestern Mindanao State College of Science and Technology, Misamis, Philippines
http://www.nmsc.edu.ph/ojs

Editorial Board Memberships

Environment and Natural Resources Journal, 2017-
Faculty of Environment and Resource Studies - Mahidol University, Bangkok, Thailand
https://www.tci-thaijo.org/index.php/ennrj/index

International Journal of Environmental Research and Public Health, 2015-
MDPI Tongzhou Office Jincheng Center, No. 21 Cuijingbeili, Beijing, China
http://www.mdpi.com/journal/ijerph

The Southeast Asian Journal of Tropical Medicine and Public Health 2014-
SEAMEO TROPMED Network, Bangkok, Thailand
http://www.tm.mahidol.ac.th/seameo/publication.htm

Roczniki Państwowego Zakładu Higieny - Annales of National Institute of Hygiene, 2013-
Narodowy Instytut Zdrowia Publicznego - National Institute of Public Health, Warsaw, Poland
http://www.pzh.gov.pl/page/index.php?id=roczniki_pzh0

ISRN Toxicology, 2010-
Hindawi Publishing Corporation, New York, New York
http://www.hindawi.com/isrn/toxicology/Melody

Journal of Health Research, 2007-
Chulalongkorn University, Bangkok Thailand
http://www.cphs.chula.ac.th/index.php/journal-of-health-research

Past Editorial Board and Associate Editor Positions

Public Health Reports, 2005-2019
DHHS-ASPH-PHS, Cincinnati, Ohio
http://journals.sagepub.com/home/phr

New Solutions, A Journal of Environmental and Occupational Health Policy, 1995-2017
Baywood Publishing Company, Inc., Amityville, New York
https://journals.sagepub.com/home/new

The International Journal of Philippine Science and Technology, 2015-2017
Co-Editor in Chief with G. Concepcion and D. Hall - US AID STRIDE, Manila, Philippines
http://www.philsciletters.org/

Journal of Agromedicine, Associate Editor, 2013-2016
Marshfield, Wisconsin
http://www.tandfonline.com/toc/wagr20/current#.UmshonDOkpg

Journal of Environmental Health. Editorial Board 2000-2012
National Environmental Health Association, Denver, Colorado
http://www.neha.org/JEH/

International Journal of Occupational and Environmental Health, Editorial Board,1995-2012
Abel Publishing Services, Burlington, North Carolina
https://www.tandfonline.com/action/journalInformation?journalCode=yjoh20

Manuscript Peer-Review

African Journal of Biochemistry Research
African Journal of Medical and Health Sciences
African Journal of Environmental Science and Technology
American Journal of Experimental Agriculture
American Journal for Industrial Medicine
Annals of Agricultural and Environmental Medicine
Annals of Occupational Hygiene
Annual Research and Review in Biology
Archives of Environmental Contamination and Toxicology
Archives of Environmental and Occupational Health
Asian Journal of Agricultural Extension, Economics, and Sociology
Atmospheric Environment
British Journal of Education, Society & Behavioural Science
Chemosphere
Chiang Mai Journal of Science
Environmental Health Perspectives
Environment International
Environmental Geochemistry and Health
Environmental Management
Environmental Monitoring and Assessment
Environmental Research
Environmental Science and Pollution Research
Environmental Toxicology
Food Additives and Contaminants
Food and Chemical Toxicology
Frontiers in Bioscience
Frontiers in Public Health: Public Health Education and Promotion
Health Promotion Practice
Human and Ecological Risk Assessment
International Journal of Environmental Analytical Chemistry
International Journal of Environmental Research and Public Health
International Journal of Environmental Health Research
International Journal of Occupational and Environmental Health
Irrigation Science
Journal of Agromedicine
Journal of Environmental Health
Journal of Environmental and Public Health
Journal of Exposure Science and Environmental Epidemiology
Journal of Environmental and Occupational Science
Journal of Health and Pollution
Journal of Public Health Policy

Journal of Risk Analysis
Journal of Toxicology and Environmental Health
Journal of the National Medical Association
Metals
Local Environment: The International Journal of Justice and Sustainability
Molecules – Open Access Organic Chemistry Journal
New Solutions Journal
Pakistan Journal of Agricultural Sciences
Pest Management Science
Population Health Metrics
Science of the Total Environment
The Southeast Asian Journal of Tropical Medicine and Public Health
Toxicology and Environmental Chemistry

Book Peer Review

Withgott/Brennan's Environment: The Science Behind the Stories
Pesticides: Evaluation of Environmental Pollution

Peer-Review Activities

NIH - Mechanism for Time Sensitive Research Opportunities in Environmental Health Sciences, (Chair), 2020
NIH Time-sensitive R21 review of COVID-19 applications (Chair), 2020
NIH Time-sensitive R21 review applications (Chair), 2020
NIH Community Influences on Health Behavior, 2015
Gulf of Mexico Research Initiative Peer Review, 2017
NIH Understanding and Promoting Health Literacy Special Emphasis Panel, 2016
Peer Reviewing for Ontario's Ministry of Labour - Research Opportunities Program, 2015-
NIH Community Influences on Health Behavior (CIHB) Study Section, 2013-2014
NIH Integrated Review Groups Healthcare Delivery and Methodologies Pilot Review, 2013-2014
EPA Food Quality Protection Act (FQPA) Science Review Board (SRB), 2008-2014
Northeast Sustainable Agriculture Research and Education (SARE) Technical Committee, 2011-2014
Pfizer Fellowship in Global Health Selection, Medical and Academic Partnership Program (Chair), 2011
USDA NIFA International Science and Education Competitive Grants Panel, 2011
NIH Blue Ribbon Panel on the National Emerging Infectious Diseases Laboratory at BUMC, 2008-2012
USDA International Science and Education Competitive Grants, 2011
NIH-Community Level Health Promotion (CLHP) Study Section Member, 2009-2013
NIH ZRG1 BBBP-S 58 RC4 Sustainable Community Linked Infrastructure, 2010
NIH Distinguished Editor for Challenge Grant Review Panel, ZRG1 HDM-A 58 R (Chair), 2009
NIH Distinguished Editor for Challenge Grant Review Panel, ZRG1 PSE-C 58, 2009
NIH-NIEHS Special Study Section, for Community Based Research for Medically Underserved, 2008
NIH-NIEHS Special Study Section (Chair), for Community Based Participatory Research Projects, 2007
USEPA FIFRA Scientific Advisory Panel, for Review of Worker Exposure Assessment Methods, 2007
NIH-NIEHS Special Study Section (Chair), for Community Based Participatory Research Projects, 2006
Health Research Council of New Zealand, for Occupational Health and Safety Joint Research, 2006
NIH-NIEHS Special Study Section (Co-Chair), Community Based Participatory Research Projects, 2005
NIH-NIEHS Special Study Section (Chair), SBIR (Small Business Innovation Research) and STTR 2005 5
NIH-NIOSH Special Study Section for RO1 Ag Child Health Proposals, 2004
NIH-NIOSH Special Study Section for U50 for Ag Child Health Centers, 2004
NIH-NIEHS Special Study Section for Ethics in Environmental Justice Research, 2002
USEPA Board of Scientific Counselors for Review of National Exposure Research Laboratory, 2001

NIH-NIEHS Special Study Section for Community Based Environmental Research Grants, 2001
NIH-NIEHS EHS Center Review Committee for University of Iowa, 2001
NIH-NIEHS Special Study Section for Environmental Justice Grants, 2000
EPA Peer Review for the Agricultural Health Study (Chair), 1999-2001
National Academy of Science NRC Report for *the Future of Pesticides*, 1999

International Activities

Core Faculty Member and Advisor to Rutgers Global Health Institute Student Council, 2018-

Member of the faculty team for New Agriculture for New Generation (in Greece) funded by the Stavros Niarchos Foundation, 2014-2016

Visiting Professor, Mahidol University – Faculty of Public Health, Bangkok, Thailand, 2016 - http://www.ph.mahidol.ac.th/eng/

Visiting Professor-Senior Academic Advisor, Technological Institute of the Philippines (TIP). Manila, Philippines 2015 - http://www.tip.edu.ph/

Member of Faculty Exchange Working Group of the United States-Indonesia Joint Council for Higher Education Partnership, 2011- http://www.usindonesiajointcouncil.org/

World Information Transfer (WIT) a Non-Profit NGO with the United Nations, Promoting Environmental Health,
Board of Directors 2011-
Board of Scientific Advisors 1999-2011, http://worldinfo.org/

Visiting Professor, Faculty of Environmental Management, Prince of Songkla University, Hat Yai, Thailand 2001-2007, http://w08.psu.ac.th/en/node/447

Visiting Professor-Senior Academic Advisor, Chulalongkorn University College of Public Health Sciences Bangkok, Thailand, 2006 - http://www.cphs.chula.ac.th/

Fulbright Senior Specialist Prince of Songkla University Hat Yai, Thailand, 2005-
https://fulbrightspecialist.worldlearning.org/

European Centre for Occupational Health, Safety, and the Environment
University of Glasgow- International Advisory Board, Scotland, UK. 1998-2003
https://cordis.europa.eu/project/rcn/57335/factsheet/en

Visiting Professor, Chulalongkorn University - Graduate Program in Environmental Management
Bangkok, Thailand, 2001 - http://www.iphsm.grad.chula.ac.th/

Environmental Health Center
Collaborator and International Advisory Board Member, Cluj-Napoca, Romania, 1997-2000

Advising and Teaching Activity

Advising:
Rutgers - School of Public Health:
Academic Advisor to MPH, PhD, and DrPH Graduate Students 1992-

Rutgers – School of Graduate Studies Rutgers Professional Science Master's Program
Concentration Coordinator – International Agriculture 2013-

Rutgers - School of Environmental and Biological Sciences
Freshman Academic Advisor and Academic Advisor for Agriculture and Food Systems Major 2006-2016
Undergraduate Program Director (UPD) 2009-2013

Undergraduate courses:

Plants and People Fall, Spring, and Summer Semester-3 credits	11:776:170
Global Health Perspectives Fall, Spring and Summer Semester-3 credits	10:832:240
Agroecology Spring Semester-3 credits	11:776:442
Global Health and Service Learning in Thailand Summer Semester- 3 credits	01:959:409
Topics in Health and Environ: Risk, Health, and Safety Fall Semester-3 credits (With Dr. Hallman)	11:374:430
Byrne First-Year Seminar - Global Environmental Health Fall Semester and Spring Semesters-1 credit	11:090:101
Population Health & Urbanization Fall Semester-3 credits (With Dr. Greenberg)	10:762:337 10:832:337

Graduate courses:

Concepts in Global Agriculture Fall and Spring Semester-3 credits Professional Science Master's Program	16:137:576
CASE Learning Course Summer Semester-3 credits Graduate School of Education	15:256:570

Res in Entomology	Fall and Spring	16:370:701
Res in Environmental Science	Fall and Spring	16:375:701
Res Problems in Entomology	Fall and Spring	11:370:493
Res Problems in Plant Biology	Fall and Spring	11:775:495

Provide lectures in the following courses:

Natural Products and Human Health		16:765:540
Environmental and Pollution Microbiology		16:375:510

Previous courses taught:

Honors Sem Agriculture and Food Systems Spring Semester-3 credits (Dr. Morin)	2018-2019	11:020:296
Teaching Agriculture Fall Semester-3 credits	2007-2015	11:300:426
Developing Ideas in Teaching Agriculture Spring Semester-3 credits	2007-2015	11:300:425
Pesticides: Impact Human and Env Health Fall Semester-3 credits (Drs. Hamilton, Baron and Ayeni)	2009-2016	11:015:439
Entrepreneurial Agriculture Colloquium Spring Semester-3 credits (Drs. Ayeni, Sciarappa, and Lee)	2010-2018	11:015:442
Issues in Environmental Health Spring Semester-3 credits		10:832:321
Environmental Risk Assessment Spring Semester-3 credits School of Public Health (Dr. Meng)	2006-2017	ENOH 0656
Exploring Graduate School Spring Semester- 1 credit (Drs. Roepke, Grassle, Sharma and Sukhdeo)	2015-2016	11:015:395
Introduction to Horticulture Spring Semester-3 credits	2009	11:776:211
Apiculture Spring Semester-3 credits (Mr. Schuler)	2009-2013	11:370:308
Intro to Environmental Health Fall and spring semesters-3 credits	1998-2007	PHCO 0503
Pesticides and Public Health, Fall Semester-1 credit	1998-2006	ENOH 0562

Current Competitive Extramural Funding

NIH GEOHealth Hub: Improving Agricultural Health in Southeast Asia
Grant Number U2R TW010088-01
NIH Fogarty and University of Massachusetts
Oct 2015 to July 2021 $83,520 Principal Investigator

NJAES Hatch and Multi-state Projects

Project 2921
Evaluating Physical and Biological Availability of Pesticides and Contaminants in Agricultural Ecosystems

Project 3081
Agrochemical Impacts on Human and Environmental Health: Mechanisms and Mitigation

Completed Funded Research

USAID El Salvador Higher Education Program (HEP-ES)-El Salvador
Grant Number 1-330-0214405 (James Simon is the PI)
USAID and Research Triangle Institute
Jul 2014 to Jun 2019 $900,037 Co-Investigator

USDA Reducing Pest Infestations and Insecticide Residues in Low Income Housing
USDA National Institute of Food and Agriculture (Changlu Wang is the PI)
Sep 2015 to Aug 2018. $175,000 Co-Investigator

USAID Science, Technology, Research, and Innovation for Development (STRIDE) Program-Philippines
Grant Number 3-330-0213997
USAID and Research Triangle Institute
Sep 2013 to Dec 2017 $476,342 Principal Investigator

USAID Excellence in Higher Education for Liberian Development (EHELD)
USAID and Research Triangle Institute (James Simon is the PI)
Mar 2011 to Aug 2017 $3,887,068 Co-Investigator

Entrepreneurial Agriculture Program and Internship
National Collegiate Inventors and Innovators Alliance (Albert Ayeni is the PI)
Dec 2012 to Dec 2015 $70,850 Co-Investigator

Rutgers Centers for Global Advancement and International Affairs.
Global Health Initiative. Intro to Environmental Health
September 2013 to May 2014 $ 700 Principal Investigator

US EPA Methane to Markets Partnership Grant
Grant Number (FAIN): 83538601
Turkey's Landfill Inventory and Methane Emissions Assessment
US EPA - Office of Atmospheric Programs (Serpil Guran is the PI)
Jan 2013 to Dec 2013 $100,000 Co-Investigator

Rutgers Centers for Global Advancement and International Affairs. Technologies Without Borders/Technologies Across Borders Project. Dealing With Disasters Workshops,
September 2012 to May 2013 $ 600 Principal Investigator

Contracts - New Jersey State Mosquito Control Commission (Principal Investigator)
437161-15092220 An Adult Mosquito Surveillance Program - $42,000
437162-15092221 Surveillance for the Mosquito Vectors of Arboviruses in NJ - $40,000
437163-15092222 Surveillance Data Standardization and Assurance Pilot - $40,000
432487-10102740 An Adult Mosquito Surveillance Program - $37,000
432489-10123144 Surveillance for the Mosquito Vectors of Arboviruses in NJ - $49,000
432487-10102740 An Adult Mosquito Surveillance Program - $37,000
432488-10123130 Surveillance Data Standardization and Assurance Pilot - $41,000
432489-10123144 Surveillance for the Mosquito Vectors of Arboviruses in NJ - $49,000

Thai Fogarty ITREOH Center
Grant Number: 1 D43 TW007849-01
Fogarty International Center - National Institutes of Health – NIEHS
May 2007 - Jan 2013 $800,015 Principal Investigator

US EPA Methane to Markets Partnership Grant
Grant Number XA-83444101-1 Activities that Advance Methane Recovery and Use as a Clean Energy Source
US EPA - Office of Atmospheric Programs
Jul 2009 - Dec 2012 $90,000 Principal Investigator

Rutgers Centers for Global Advancement and International Affairs. Technologies Without Borders/Technologies Across Borders Project. Video Project for Sustainable Agriculture
Sep 2011 - May 2012 $ 600 Principal Investigator

US EPA Conference Grant
Grant Number X59720231-0
Greening New Jersey Communities from the Ground Up
US EPA Region II Office of the Administrator
Sep 2011 - Feb 2012 $6,500 Principal Investigator

Tsunami Long Term Relief Efforts
Grant Number: 61416
Robert Wood Johnson Foundation
Nov 2007 - Dec 2010 $295,390 Principal Investigator

Solving Critical Urban Environmental Issues: A Collaboration with the Chinese Academy of Sciences and Rutgers
Rutgers University
July 2008 - Dec 2009 $8,000 Principal Investigator

Perchlorate in Breast Milk Pilot Project
NJDEP-Division of Science, Research, and Technology
Sep 2006 - Dec 2009 $75,000 Principal Investigator

Development of Indicators of Gestational Exposure of Infants
Grant number: SR04-058
NJDEP-Division of Science, Research and Technology
Dec 2001 - Jun 2008 $243,745 Principal Investigator

Investigation of Endocrine Disruptor Compounds in New Jersey Frogs
NJDEP-Division of Science, Research, and Technology
Jul 2002 - Dec 2007 $84,397 Principal Investigator

Peer Review of NJDEP Chromium Workgroup Report
NJDEP-Division of Science, Research, and Technology
Oct 2004 - Oct 2006 $26,137 Principal Investigator

Investigation of Health Information on Unregulated Contaminants Found in NJ Drinking Water
NJDEP-Division of Science, Research, and Technology
Jan 2004 - Dec 2005 $10,000 Principal Investigator

Environmental and Health Effect Tracking in New Jersey: Developing Capabilities and Collaborations
NJDEP-Division of Science, Research, and Technology
Apr 2004 - Dec 2005 $28,000 Principal Investigator

Survey of Migrant Worker Access to Health Care
New Jersey Office of Rural Health
Apr 2004 - Oct 2004 $10,000 Principal Investigator

Exposure Assessment and Source Apportionment of Pb and As Exposures in Rural Thailand
NIEHS Environmental Health Sciences Center - UMDNJ
Jun 2003 - Dec 2004 $15,000 Principal Investigator

Urban Residential IPM Strategies
USEPA
Oct 2003 - Sep 2004 $40,000 Principal Investigator

Pesticide Resource Gateway Project
National Environmental Education and Training Foundation, Washington, D.C.
Jan 2002 - Jun 2004 $40,000 Principal Investigator

Research in Environmental Health
New Jersey Agricultural Experiment Station, Rutgers University
Jul 2003 - Jun 2004 $17,847 Principal Investigator

Environmental Health Information to Laboratory Support
NJDHSS-Division of Environmental Laboratories, Trenton, New Jersey
Sep 2002 - Sep 2003 $40,000 Principal Investigator

Preliminary Assessment of Health Information in Synthetic Organic Chemicals Found in Water
NJDEP-Division of Science Research and Technology
Oct 2001 - Mar 2003 $32,000 Principal Investigator

Burlington County Watershed Pesticide Pilot Project
Burlington County Office of Land Use Planning
Apr 2001 - Dec 2002 $50,000 Principal Investigator

Research in Environmental Health
New Jersey Agricultural Experiment Station, Rutgers University
Jul 2002 - Jun 2003 $35,695 Principal Investigator

An Evaluation of Asthma and Intervention in Urban K-8 Students
School of Public Health Exploratory Research- Robert Wood Johnson Foundation Funds
Mar 2001 - Mar 2002 $7,500 Principal Investigator

NJDEP-Academic Indicators Partnership Developing in State Capability: Program Management
NJDEP - Division of Science, Research and Technology
Jan 2001 - Dec 2001 $75,000 Co-investigator
Consortium for Risk Evaluation and Stakeholder Participation (CRESP), Administrative Core Funding
Jan 1998 - Dec 2001 $609,924 Principal Investigator

Organophosphate Exposure Based on the Paraoxonase (PON1) Polymorphism, NIEHS Center
Jul 2000 - Jun 2001 $10,839 Co-Investigator

Exposure to Airborne Polycyclic Organic Matter and Adverse Reproductive Outcomes
NIEHS Environmental Health Sciences Center - UMDNJ
Jul 1999 - Jun 2000 $14,325 Principal Investigator

NJDEP-Academic Indicators Partnership Developing In-State Capability: Human Health
NJDEP - Division of Science, Research and Technology
Jul 1998 - Jun 2000 $25,000 Principal Investigator

Utilization of County Natural Resource Inventories in the Protection of Critical Watershed Areas
NJDEP-Division of Science, Research and Technology
Jul 1998 - Jun 2000 $35,000 Principal Investigator

Case Study Training Video, Rea Brothers Case Study
USEPA
Oct 1998 - Sep 1999 $44,000 Co-Investigator

Community Responsive Partners for Environmental Health
NIH-National Environmental Health Sciences Institute, Grant NIEHS ES 95-002
Oct 1995 - Sep 1999 $104,000 Co-Investigator

NJDEP/Academic Partnership in Environmental Science and Health
NJDEP-Division of Science and Research
Jul 1997 - Jun 1998 $25,000 Principal Investigator

Investigation of and Technical Support for Health Effects of Chemically Contaminated Sediments in NY/NJ Harbor Estuary and Coastal Regions, and Alternative to Ocean Disposal of Contaminated Dredged Material from the NY/NJ Port
NJDEP-Division of Science and Research
Jul 1994 - Jun 1997 $133,012 Principal Investigator

National Human Exposure Assessment Study - Pesticides and PAHS in Food
USEPA/RTI
Oct 1993 - Sep 1997 $164,000 Principal Investigator

Assessment and Measurement of Pesticides for Regulatory Guidance
NJDEP - Pesticide Control Program
Jul 1992 - Jun 1995 $199,396 Co-Investigator

Assessment of Regulatory, Market and Financial Obstacles to Integrated Pest Management
NJDEP-Office of Pollution Prevention
Jul 1993 - Jun 1994 $7,500 Principal Investigator

Technology Transfer for Cancer Research
New Jersey Commission for Cancer Research
Jul 1993 - Jun 1994 $24,145 Co-Investigator

Honors and Awards

Clement A. Price Human Dignity Award, 2020.
This award recognizes outstanding individuals who have demonstrated extraordinary achievement and commitment to promoting and practicing diversity, inclusion, equity, and access within the University.

Faculty Honoree Undergraduate Academic Affairs, 2018.
Recognition for selfless generosity and impact on the lives and education of the students within Undergraduate Academic Affairs.

Team Excellence Award from the Rutgers School of Environmental and Biological Science and the New Jersey Agricultural Experiment Station, 2017.
Awarded to the Nurture Through Nature Project which includes faculty and staff from SEBS, The Bloustein School and Community Members from the City of New Brunswick.

First-Year Interest Group Seminars (FIGS) Faculty Mentor Award, 2016.
Presented by New Student Programs Academic and Transition Programs to the faculty member who has worked with FIGS Peer instructors, nominations are made by the peer instructors.

Frank J. Osborne Memorial Award, 2016.
Presented by the NJ Association of County and City Health Officials since 1963,
The Osborne Award is the highest honor bestowed upon a member of New Jersey's public health community. The award is presented in recognition of meritorious achievement in public health.

Chancellor's Award for International Impact, 2016.
This award is given by the Rutgers New Brunswick Chancellor for recognition of a senior faculty member for exceptional and sustained global efforts in teaching, scholarship, and service.

Board of Governors Distinguished Service Professor, 2015.
The Distinguished Service Professorship recognizes sustained and exceptional service to the University, to the academic profession, to the state or nation, or to the broader community by a faculty member at the full professorial rank. Contributions to the University include service to the department, the faculty, the campus, the academic programs, the undergraduate colleges, or the students, and are demonstrated by contributions to important committees or other activities in support of the academic or administrative functioning of the University, the academic development of students, or student life programs.

Bloustein School Career Achievement Award, 2015.

This award is named to honor Bloustein School Alumni with fifteen or more years beyond completion of their studies, whose personal and professional accomplishments have demonstrated the highest standard of the public service ethic and whose commitment to civic improvement have brought credit to themselves, their communities, and the Bloustein School**.**

The Warren I. Susman Award for Excellence in Teaching, 2015.

This award is named to honor the memory of the noted historian and Rutgers University professor, Warren I. Susman, is awarded annually to tenured faculty members in recognition of outstanding service in stimulating and guiding the intellectual development of students at Rutgers University.

Loyal Son of Rutgers, 2015.

The Rutgers Alumni Association (RAA) honors those individuals who have made a significant contribution of service to Rutgers. Among the awards made to alumni volunteers by the RAA, the Loyal Son / Loyal Daughter award is the highest acknowledgement of service.

Dennis J. Sullivan Award, 2014.

New Jersey Public Health Association's highest award. Established in 1976 and named after Dennis J. Sullivan, a health officer who dedicated his life to improving the public health of New Jersey. Presented to an individual for dedicated and outstanding public service and contributing to the cause of public health.

Faculty Scholar-Teacher Award, 2014.

The Scholar-Teacher Award honors a tenured faculty member who has made outstanding synergistic contributions in research and teaching as a faculty member who integrates teaching with research, whose research informs and adds excitement to their teaching, and whose interactions with students in the classroom stimulate and inform their scholarship.

Team Excellence Award from the Rutgers School of Environmental and Biological Science and the New Jersey Agricultural Experiment Station, 2014.

Awarded to the Asian Tiger Mosquito Research and Extension Team which includes faculty and staff from Rutgers, New Jersey countries, CDC, and the University of Florida.

Steinman-Bloustein Memorial Lecturer, 2014.

The Ruth Ellen Steinman and Edward J. Bloustein Memorial Lecture is an endowed annual lectureship that celebrates the values and interests of former Rutgers President Edward Bloustein and his wife Dr. Ruth Ellen Steinman which is delivered each spring at the Bloustein School.

Elected as a Fellow of the Collegium Ramazzini, 2013.

The Collegium is an independent, international academy comprised of 180 internationally renowned experts in the fields of occupational and environmental health. The mission is to advance the study of occupational and environmental health issues and to be a bridge between the world of scientific discovery and the social and political centers which must act on the discoveries of science to protect public health.

Association of Public and Land-Grant Universities (APLU) Michael Malone International Leadership Award, 2013.

This award provides national recognition for outstanding contributions to further international education at state and land-grant institutions. The Malone Awards honor those who further international education in public higher education and is presented by the Commission on International Programs in the APLU.

Alpha Zeta Teacher of the Year, 2013.
The winner of this award is recognized for going above and beyond the call of duty and representing the ideals that Alpha Zeta was founded upon as voted on by the Cook Chapter of Alpha Zeta the National Agricultural Honors Fraternity.

Elected as an AAAS Fellow by the American Association for the Advancement of Science Council, 2012.
As an AAAS member whose "efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished."

Teaching Excellence Award, Rutgers Graduate School New Brunswick, 2012.
The Graduate School honors faculty members and graduate students for outstanding contributions to teaching and research.

Teaching Excellence Award, Rutgers School of Environmental and Biological Science, 2012.
The Teaching Excellence Award recognizes outstanding contributions to the community at SEBS in undergraduate and graduate teaching.

Surgeon General's Certificate of Appreciation for Outstanding Service, 2012.
For serving as Editor for Global Health Matters for Public Health Reports Journal.

Constance Mehlman Award, International Society for Exposure Science, 2011.
For recognition for an ISES member who has made an outstanding contribution in exposure analysis research that helped shape a national or state policy or provided new approaches for reduction or prevention of exposures.

International Excellence Award, Rutgers School of Environmental and Biological Science (SEBS), 2011.
The International Excellence Award recognizes outstanding contributions to the community in international programs.

Honorary Doctoral Degree in Public Health, Chulalongkorn University, Bangkok, Thailand. 2010.
Awarded for contributions in teaching and research to Chulalongkorn University and to the People of the Kingdom of Thailand, conferred by Her Royal Highness Princess Maha Chakri Sirindhorn.

Pfizer-ASPH Teaching Excellence Award for Public Health, 2009.
Given jointly by Associations of Schools of Public Health and Pfizer for outstanding teaching excellence in public health, the award includes a $10,000 honorarium.

Foundation of UMDNJ Research Excellence Award, 2010
Future Farmers of America, American FFA Degree, 2009
Rutgers University Graduate School Award for Distinction in the Biological Sciences, 2009
Jesse B. Leslie Award for Contributions to Mosquito Research, 2008
ASPH/Pfizer Public Health Academy of Distinguished Teachers, 2007
UMDNJ-School of Public Health - Distinguished Alumni Award, 2007
UMDNJ-School of Public Health - SGA Excellence in Teaching Award, 2006
UMDNJ-School of Public Health - Community Health Award, 2006
ASPH Recognition as ENOH Council Chair, 2005
ASPH Certificate of Appreciation for ASPH Core MPH Competency ENOH Workgroup, 2005
American Water Works Association – Research and Education Award, 2005
George Hammell Cook Distinguished Alumni Award, Rutgers Cook College, 2005
Helyar House (Rutgers) Distinguished Achievement Award, 2003
Fellow, Academy of Toxicological Sciences: Elected, 2003

New Jersey Environmental Health Association NEHA Certificate, 2002
Foundation of UMDNJ Teaching Excellence Award, 2002
Delta Omega Honorary Public Health Fraternity, 2002
UMDNJ-School of Public Health - SGA Excellence in Teaching Award, 2001
UMDNJ-Master Educator, 2001
Certificate of Appreciation: Outstanding Service in Pesticide Education, USDA and USEPA, 2001
Telly Award for Outstanding Non-Series Documentary: *An American Farm Tale,* 2000
New Jersey Commission on Cancer Research: Outstanding Service Award, 1995
Kellogg Fellow at the National Center for Food and Agriculture 1990
New Jersey Future Farmers of America: Honorary Garden State Farmer Degree, 1988
New York Conference Central Atlantic States Assoc of Food and Drug Officials Service Award, 1987
Pesticide Association of New Jersey for Outstanding Activities in Pesticide Education, 1986
President's Citation: Soil Conservation Society of America, 1979
Sigma Xi: Honorary Scientific Research Society, 1978
Alpha Tau Alpha: Honorary Agricultural Educational Fraternity, 1976
Alpha Zeta: Honorary Agriculture Fraternity, 1976

Professional Affiliations

American Association for the Advancement of Science (AAAS)
American College of Toxicology (ACT)
Association for the Study of Food and Society (ASFS)
New Jersey Public Health Association

Rutgers Committees and Advisory Group Memberships

Rutgers Connection Network Mentoring Program, 2019-
Rutgers Center for African Studies, 2015-, Executive Committee 2017-
RU-New Brunswick CARES: Community Action, Respect, Engagement, and Service, 2017-
Faculty Leading Change Program, Interdisciplinary Faculty Involved in Faculty Development 2016-2017
Rutgers SEBS Instructional Assessment Committee 2017-
Start-up Company COI Committee, 2015-2018
Executive Council, Graduate School New Brunswick, 2015-2018
Advisor to Rutgers University Supports the Homeless (RUSH), 2014- 2015
Pesticide Safety Education Program Advisory Committee, 2014-
International Advisory Committee - Faculty International Engagement Subcommittee, 2014-
Teeing up Rutgers Investigators for Gifts, Grants, Engagement, and Results (TRIGGER), 2014-2015
Alumni Leaders Council, At Large Member, 2013-
Public Health Curriculum Committee, 2013-2015
Louis Stokes Alliance for Minority Participation Program Mentor, 2013-2015
Advisor to GlobeMed Chapter at Rutgers, 2013-
Graduate School – New Brunswick Fulbright Faculty Committee, 2013- 2018
Pre-Doctoral Leadership Development Program (PLDI) Mentor, 2013.
Rutgers University Press Editorial Board, 2013-
Rutgers University Press, Press Council, 2013-
Rutgers Cooperative Extension 100th Anniversary Committee, 2013-2014
Advisor to The Hive, undergraduate apiculture club. 2012-2015
Advisor to Dealing with Disaster undergraduate preparedness club, 2012-2014
Admissions and Scholastic Standing Committee, 2011- 2018
G. H. Cook Honors Committee, 2011-
Advisor to Alpha Zeta Agricultural Honor Fraternity, G H Cook Chapter, 2011-

Committee on Educational Policy, 2011- 2013
Admissions Committee Plant Science Graduate Program (Chair), 2010-2015
Interim Advisor to the Rutgers Chapter of Engineers Without Borders, 2009-2010
Freshman Academic Advisor, 2009-2015
Harassment Councilor for Human Resources, 2009-2012
SEBS International Committee, 2008-
Rutgers University, University College Honors Committee, 1999-2002
Rutgers University, University College Academic Standing Committee, 1999-2002
Rutgers University Ph.D. in Environmental Policy Committee, Chair, 1997-2000
Rutgers Environmental Sciences and Engineering Research Coordination, 1992-2000
Rutgers University, Member Helyar House Advisory Board, 1986-

External Committees and Advisory Group Memberships

World Information Transfer Board of Directors, 2011-
GreenFaith Board of Directors, 2011- 2017
National Board of Public Health Examiners, 2014-2016
Upper Freehold Regional (Monmouth County) High School Agricultural Advisory Council, 2013-2019
Cumberland County College Agriculture Advisory Committee, 2013-2014
Working Group of the US-Indonesia Joint Council for Higher Education Partnership, 2011-
US EPA - Certification and Training Assessment Group (CTAG), 2010-2014
New Jersey Department of Environmental Protection Science Advisory Board (SAB), 2010 - 2019
New Jersey State Office of Rural Health Advisory Committee, 2008 -2014
NJDHSS Occupational Health Surveillance Advisory Board, 2005-2014
UMDNJ-Graduate School of Biomedical Sciences Executive Council, 2005 - 2006
NJDHSS-CDC Environmental Public Health Data Tracking External Advisory Committee, 2004 – 2010
NJDEP Chrome Workgroup Peer Review, 2004 - 2006
ASPH Competency Council ENOH Chair, 2004 - 2005
ASPH Council on Environmental and Occupational Health, 2001 – 2006 (Chair 2003 – 2006)
UMDNJ-Vice President for Operations Search, 2004
UMDNJ-Vice President for University Affairs Search, 2004
New Jersey Drinking Water Quality Institute, Chair 2003 - 2009
UMDNJ-Middle States Accreditation Committee, 2003 - 2005
UMDNJ-School of Public Health Admissions Committee, Chair 2003 - 2006
UMDNJ-School of Public Health Dean's Search Committee, 2001
UMDNJ-School of Public Health Appointments and Promotions Committee, 2001- 2003
UMDNJ-Student Assistance Campus Committee- Piscataway Campus, 2001 - 2003
UMDNJ-School of Public Health Executive Council, 2000 - 2006
UMDNJ-School of Public Health Executive Committee-Piscataway Campus, 2000 - 2006
Federal Interagency Pesticide Resources for Health Care Providers, Chair 1999 - 2001
USEPA Agricultural Health Study Peer Review Committee, Chair 1997-2000
NJ Future Advisory Committee for the Sustainable Goals and Indicators Process, 1997 - 2003
Harvard Center for Risk Analysis, Agricultural Health Study Review Committee, 1996 - 2000
Advisory Board for Environmental Justice, Rural Coalition, Washington, D.C., 1995 - 2000
NJ Environmental Education Commission, 1992 - 1993
NJDEP Sludge Technical Evaluation Committee, 1990 - 1996
NJ Agricultural Education Advisory Committee, 1990 - 1992
NJ Clean Water Council (Ex-Officio), 1989 - 1991
NJ Clean Air Council (Vice-Chair) (Ex-Officio), 1989 - 1991
NJ Solid Waste Advisory Council (Ex-Officio), 1989 - 1991

Peer Reviewed Publications (Since 1989)

1. Laohaudomchok, W., Nankongnab, N., Siriruttanapruk, S., Klaimala, P., Lianchamroon, W., Ousap, P., Jatiket, M., Kajitvichyanukul, T., Kitana, N., Siriwong, W., Hemachudha, T., Satayavivad, J., **Robson, M.,** Jaacks, L., Boyd, D., Kongtip, P., and Woskie, S. Pesticide Use in Thailand: Current Situation, Health Risks, and Gaps in Research and Policy. *Human and Ecological Risk Assessment*. ACCEPTED. 2020.

2. Williams, C., Kenny, L., Weinert, L., Sullivan, K., Meyer, W and **Robson, M.** Effects of Twenty-Seven Months of Rotational vs. Continuous Grazing on Horse and Pasture Condition. Translational Animal Science. ACCEPTED. 2020.

3. Kunno, J., Ong-artborirak, P., Panicharoen, P., **Robson, M.**, and Siriwong, W. Pyrethroid Insecticides in Households from Unban Area: Association with 3-PBA Metabolite and Hand Wipes, Annals of Global Health. 86(1), 55. 2020.

4. Thongsringklee, M., **Robson, M.**, and Siriwong, W. Health Effects of Low-Level Exposure to Lead among Communication Radio Repair Workers at Samutsakhon Province, Thailand. Human and Ecological Risk Assessment. https://doi.org/10.1080/10807039.2020.1714425. 2019.

5. Kunno, J., Ong-artborirak, P., Panicharoen, P., **Robson, M.**, Taneepanichskul, N., and Siriwong, W. Effect of Pyrethroid Insecticides Exposure in Relation to Pyrethroid Metabolite and GABA Concentration of Young Children, Bangkok Thailand. Human and Ecological Risk Assessment. https://doi.org/10.1080/10807039.2019.1689098. 2019.

6. Goralczyk, K. and **Robson, M.** Distribution of biomarkers of human exposure to persistent organic pollutants from the group of organohalogen compounds as a result of the impact of the environment. Human and Ecological Risk Assessment. https://doi.org/10.1080/10807039.2019.1594155. 2019.

7. Ong-artborirak, P., Siriwong, W., Nganchamung, T., Siriwat, S., and **Robson, M.** Factors associated with health effects from occupational exposure to pesticide residues among greengrocers in fresh market, Bangkok, Thailand. Human and Ecological Risk Assessment. 25(3):590-601. 2019.

8. Srilert, C., Wongsasuluk, P., Siriwong, W., and **Robson, M.** Using urine as a biomarker in human exposure risk associated with arsenic and other heavy metals contaminating drinking groundwater in intensively agricultural areas of Thailand. Environmental Geochemistry and Health. 40(1):323-348 PMID: 28176197 2018.

9. Lwin, T., **Robson, M.**, and Siriwong, W. Effects of pesticide exposure on reproductivity of male groundnut farmers in Kyauk Kan village, Nyaung-U, Mandalay region, Myanmar. Risk Management and Healthcare Policy. 11: 235-241. 2018. PMCID: PMC6276625 PMID: 30568520.

10. Siriwat, S., Rohitrattana, J., **Robson, M.**, and Siriwong, W. Exposure of chlorpyrifos in toddlers living in an agricultural area in Sakon Nakhon province, North-East Thailand. International Journal of Occupational and Environmental Health. 33:151-161. 2018.

11. Muadchim, M., Phanprasit, W., **Robson, M.**, Sujirarat, D., Kwonpongsagoon, S., and Detchaipitak, R. Mercury exposure and health risk assessment among petrochemical workers in Rayong Province, Thailand. Human and Ecological Risk Assessment. 25(6):1448-1462. 2018.

12. Wilaiwan, W., Rohitrattana, J., Taneepanichskul, N., Danthamrongkul, V., **Robson, M.**, and Siriwong, W. Health effects of using mobile communication devices: A case study in senior citizens, Thailand. EnvironmentAsia. 11(2):80-90. 2018.

13. Kenny, L., Ward, D., **Robson, M.** and Williams, C. Comparing four techniques for estimating grass species composition in horse pastures. Journal of Animal Science. 96 (6):2219–222. 2018.

14. Muadchim, M., Phanprasit, W., **Robson, M.**, Sujirarat, D., and Detchaipitak, R. Case study of occupational mercury exposure during decontamination of turnaround in refinery plants. International Journal of Occupational and Environmental Health. 23 (1):81-86. 2018. PMID: 29334858 PMCID: PMC6060844.

15. Wongsasuluk, P., Chotpantarat, S., Siriwong, W., and **Robson, M.** Using urine as a biomarker in human exposure risk associated with arsenic and other heavy metals contaminated in drinking water in intensively agricultural areas, Thailand. Environmental Geochemistry and Health. 40 (1):323-348. 2018. PMID: 28176197.

16. Panuwet, P., Ladva, C., Barr, D., Prapamontol, T, Meeker, J., Ryan, P, B., Maldonado-Perez, H., and **Robson, M.** Investigation of associations between exposures to pesticides and testosterone levels in Thai farmers. Archives of Environmental and Occupational Health. 73 (4): 205-218. 2018. PMID: 28901838 PMCID: PMC6422528.

17. Tun, S., Aung, T., Mon, A., Kyaw, P., Siriwong, W., **Robson, M.**, and Htut, T. Assessment of ambient dust pollution status at selected point sources (residential and commercial) of Mingaladon Area, Yangon Region, Myanmar. Journal of Health Research. 32 (1):60-68. 2018.

18. Wongsasuluk, P., Chotpantarat, S., Siriwong, W., and **Robson, M.** Hair and nail usage as biomonitoring for arsenic and other heavy metals contaminated in groundwater and other associated factors in intensively cultivated agricultural areas in Thailand using binary logistic regression. Environment Research. 162: 106-118. 2018. PMID: 29289858.

19. Hwang, L., Beyene, G., Juliani, H., **Robson, M.**, Govindasamy, R., and Simon, J. Resource inventory of Griffonia simplicifolia in Liberia: A case study in the Lepula Community Forest in Nimba County. Liberian Studies Journal. 42 (1&2):200-223. 2017.

20. Lwin, T., Min, A., **Robson, M.**, and Siriwong, W. Awareness of safety measures on pesticide use among farm workers in selected villages in Magway Division, Myanmar. Journal of Health Research. 31(5): 403-409. 2017.

21. Rockafellow-Baldoni, M., Spayd, S., Hong, J., Meng, Q., Ohman-Strickland, P, and **Robson, M.** Arsenic Exposure and Cancer Risk Reduction with Local Ordinance Requiring Whole-House Dual-Tank Water Treatment Systems. Human and Ecological Risk Assessment. 24:5, 1256-1267. 2017. PMID: 30245564. PMCID: PMC6145128.

22. Thongcharoen, K., **Robson, M.**, and Keithmaleesatti, S. Determination of Heavy Metals in Eggs of Little Grebe (Tachybaptus ruficollis) around the Wastewater Treatment Ponds, Khon Kaen University. Human and Ecological Risk Assessment. 24(2): 362-376. 2017.

23. Louis, L., Lerro, C., Friesen, M., Andreotti, G., Koutros, S., Sandler, D., Blair, A., **Robson, M.**, and Beane-Freeman, L. A prospective study of cancer risk among Agricultural Health Study farm spouses associated with personal use of organochlorine insecticides. Environmental Health. 16(1):95, 1-11. 2017. PMID: 28874165 PMCID: PMC5585902

24. Boonkhao, L., Phanprasit, W., **Robson, M.**, Sujirarat, D., Kwonpongsagoon, S., and Tangton, C. Arsenic exposure levels of petrochemical workers in three workplace settings in Rayong Province, Thailand. Human and Ecological Risk Assessment. 23(7): 1645-1654. 2017.

25. Singh, N., Wang, C., Zha, C., Cooper, R., **Robson, M.** A Threshold-based Integrated Pest Management Protocol for Bed Bug Management in Apartment Buildings. Insects. 8(3):76. 2017. PMCID: PMC5620696 PMID: 28933720

26. Lashway, N., Hallman, W., Cutie, C., Byrd-Bredbenner, C., McWilliams, R., Netterville, L., and **Robson, M.** Vitamin D in food inventories of homebound older adults in South Carolina receiving Meals on Wheels. Topics in Clinical Nutrition. 32(4): 282-291. 2017.

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42. Czaja, K., Ludwicki, J., **Robson, M.**, Goralczyk, K., Strucinski, P. and Buckley, B. Concentrations of Persistent Organochlorine Compounds in the Placenta and Milk of the Same Women. American Chemical Society. Division of Environmental Chemistry. Preprints of Extended Abstracts Presented at the 217th ACS National Meeting, Anaheim, CA. Vol. 39 No. 1, Pages: 150-152, March 21-25, 1999.

43. Strucinski, P., Ludwicki, J., Goralczyk, K., Czaja, K., Olszewski, W., Baranska, J. **Robson, M.** and Buckley, B. Organochlorine Pesticide Residues in Human Breast Adipose Tissue in Poland. Sixth Meeting of the Central and Eastern European Regional Section in Conjunction with the Annual Meeting of the Union of Hungarian Toxicologists: Organochlorine Pollution in Central and Eastern Europe - Hazard and Risk for Humans and the Environment. Balatonfoldvar, Hungary, September 19-23, 1999.

44. **Robson, M.**, Meyer, R., Hore, P., Petlick, S., and Buckley, B. Pesticide Measurement on Toys, Plates, and Walls, How Dry is Dry? Abstract 1329 - PITTCON'98, New Orleans, LA, March 5, 1998.

45. Meyer, R., **Robson, M.**, Hore, P., Petlick, S., and Buckley, B. Measurement of VOCs and Pesticide Aerosols in a Controlled Field Environment, were the Models Wrong? Abstract 1328 PITTCON'98, New Orleans, LA, March 5, 1998.

46. Gurunathan, S., **Robson, M.**, Freeman, N., Buckley, B., and Lioy, P. Measurement of Chlorpyrifos Residues in an Indoor Environment to Assess the Dermal and Non-Dietary Oral Exposure Pathways. Joint Society for Risk Analysis and International Society for Exposure Analysis and Epidemiology Annual Conference. New Orleans, LA, December 8-12, 1996.

47. **Robson, M.** Opportunities for Sustainable Agriculture in the United States and Eastern Europe. Presented at the 6th Annual Conference on Health and Environment in Eastern Europe. Eforie Nord, Romania. Conference Proceedings. B. Levy and C. Levenstein, eds. June 1995.

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49. **Robson, M.** Interdisciplinary Efforts are needed. Interdisciplinary Science Reviews, 18(4): 325-326, 1993.

50. Meyer, L., Hamilton, G. and **Robson, M.** New Jersey Agricultural Applications Pesticide Use Survey. American Chemical Society Special Conference IV, Point Clear, AL, January 21-25, 1990.

51. Louis, J., Meyer, L., Post, G., **Robson, M.**, Mattern, G., Lia, G. and Rosen, J. Pesticide Residues Measured in Fruits and Vegetables. American Chemical Society Special Conference IV, Point Clear, AL, January 21-25, 1990.

52. Louis, J. and **Robson, M.** New Jersey pesticide use survey. Abstract and paper for Pesticides in Terrestrial and Aquatic Environment, Richmond, VA, May 11-12, 1989.

53. Hopfinger, J. and **Robson, M.** The Effect of Foliar Calcium Application on Organoleptic Evaluation. Southeast Professional Fruitworkers Conference, Athens, GA, October 19, 1988.

54. **Robson, M.** How Pesticide Regulatory Decisions are Made. Presented at the American Public Health Association Annual Meeting, Boston, MA, November 14, 1988.

55. Louis, J., **Robson, M.**, Post, G., Rosen, J., Mattern, G. and Lia, C. Dietary Exposures to Pesticide Residues in Food. Presented at the 9th Annual SETAC Meetings, Arlington, VA, November 13, 1988.

56. **Robson, M.**, Hopfinger, J. and Eck, P. Postharvest Sensory Evaluation of Calcium Treated Peach Fruit. Presented at the International Peach Symposium, Clemson, SC, June 19, 1988.

57. Louis, J., Oxenford, J., Vowinkle, E., Battaglin, W., **Robson, M.**, Murphy, E. and Bordenka, M. Impact of Agricultural Chemicals on Groundwater Quality in the New Jersey Coastal Plain. Presented at the 4th Annual Hudson/Delaware Regional SETAC Symposium, New Brunswick, NJ, May 13, 1988.

Popular Articles

1. **Robson, M.** How to Enjoy Your Fulbright Experience and Thai Culture. In: Knitting the Fulbright Family. Pages 17 to 22. Thailand - US Educational Foundation. Fulbright – Thailand. 2006.

2. **Robson, M.** and Whitaker, C. New Roles for Science in Developing Environmental Indicators: A New Jersey Example. Risk Policy Report. Vol. 8, No. 5, 2001.

3. **Robson, M.** Health Issues and the Media: The Complexity of Reporting. World Ecology Report. Vol. XII, No. 3, 2000.

4. **Robson, M.** Pest Wars, or a Look at the Relative Acute Toxicity of Commonly used Pesticides. EQ Review, Vol. 2, No. 4, 1988.

5. **Robson, M.** Electronic Database to Determine Actual Pesticide use in New Jersey. EQ Review, Vol. 1, No. 3, 1986.

6. **Robson, M.** Pesticide Disposal Days. EQ Review, Vol. 1, No. 1, 1986.

7. **Robson, M.** pH Effects of Pesticide Stability and Efficacy. Horticultural News, Vol. 63(1): 12, 12, 1983.

8. **Robson, M.** Review of Strawberry Varieties and Disease Resistance. Horticultural News, New Brunswick, New Jersey, Vol. 60(2): 4-5, 1978.

Peer Reviewed Electronic Articles

1. **Robson, M.** Food Safety. *Oxford Bibliographies Online.* www.oxfordbibliographiesonline.com DOI: 10.1093/obo/9780199756797-0099. 2013.

2. **Robson, M.** Environmental Protection Agency. *Oxford Bibliographies Online.* www.oxfordbibliographiesonline.com DOI: 10.1093/OBO/9780199756797-0060. 2011.

3. **Robson, M.** Pesticides. *Oxford Bibliographies Online.* www.oxfordbibliographiesonline.com DOI: 10.1093/OBO/9780199756797-0061. 2011.

4. **Robson, M.**, Water Quality. *Oxford Bibliographies Online.* www.oxfordbibliographiesonline.com DOI: 10.1093/OBO/9780199756797-0062. 2011.

Major Project Reports

1. Kaplan, M., **Robson, M.**, and Cheyne, R., Stakeholder Engagement Report: Agriculture. Climate Change Preparedness in New Jersey. New Jersey Climate Adaptation Alliance 2014.

2. **Robson, M.**, Hamilton, G., Samulis, R. and Prostko, E. An Assessment of Regulatory, Market and Financial Obstacles to Integrated Pest Management in New Jersey - Pilot Project. N.J. Department of Environmental Protection - Office of Pollution Prevention, 1994.

3. Ferrarin, R., **Robson, M.** and Gerding, F. Research report: New Jersey pesticide disposal project, 1986.

4. Jackson, M., Else, M., **Robson, M.** and Prostak, D. Evaluation of Soil Insecticide Treatments and Their Impact on the Yield of Field Corn in New Jersey. USDA-Northeast Pesticide Impact Assessment Project Report USDA TPSU RU 257-260, 1985.

Extension Publications

1. **Robson, M.** and Johnson, W. Coordinators. Commercial Vegetable Production Recommandations. Extension Bulletin E-001A, 1985.

2. **Robson, M.** and Smith, R. Pesticide Dealer's Manual. Leaflet 619, 1985.

3. **Robson, M.** and Johnson, W. Coordinators. Commercial Vegetable Production Recommandations. Extension Bulletin E-001, 1984.

4. Clarke, B., **Robson, M.** and Vasvary, L. Pest Control Recommendations for Commercial Nurserymen. Extension Bulletin E-36, 1984.

5. Clarke, B., **Robson, M.** and Vasvary, L. Insect and Disease Control on Lawn and Turf. Extension Bulletin E-037, 1984.

6. Clarke, B., Meade, J., **Robson, M.** and Vasvary, L. Pest Control Recommendations for Flower Growers. Extension Bulletin E-038, 1984.

7. Race, S. and **Robson, M.** Poultry Insect Control Recommendations for New Jersey. Extension Bulletin E-039, 1984.

8. Clarke, B., **Robson, M.** and Vasvary, L. Insect and Disease Recommendations for Shade Tree and Woody Ornamentals. Extension Bulletin E-040, 1984.

9. **Robson, M.** pH Effects on Pesticide Stability and Efficacy. Leaflet 617, 1983.

10. **Robson, M.** Partial list of Small Fruit Nurseries. Leaflet 616, 1983.

11. **Robson, M.** and Johnson, W. Coordinators. Commercial Vegetable Production Recommandations. Extension Bulletin 406J, 1983.

12. Janes, H., Giacomelli, G. and **Robson, M.** Nutrient Film Technique, a Hydroponics Method for Growing Plants. Extension Leaflet 612, 1982.

13. Pollack, B. and **Robson, M.** Coordinators. Commercial Vegetable Production Recommendations. Extension Bulletin 406I, 1982.

14. Pollack, B. and **Robson, M.** Coordinators. Commercial Vegetable Production Recommendations. Extension Bulletin 406H, 1981.

15. **Robson, M.** and Miller, L. Commercial Small Fruit Production Manual, 1981.

16. **Robson, M.** Small Fruit Pest Control Recommendations for Home Gardens in New Jersey. Leaflet 608A, 1981.

17. **Robson, M.**, Christ, E. and Fiallo, M. Frutas Adaptadas para el Crecimento de un Huerto Casero en New Jersey. Folleto 581, 1980.

18. **Robson, M.** and Christ, E. Raspberry and Blackberry Culture in New Jersey. Extension Bulletin 429, 1980.

19. Christ, E. and **Robson, M.** Commercial Strawberry Production in New Jersey. Extension Bulletin 417A, 1980.

20. Christ, E. and **Robson, M.** Fruit Adapted for Home Garden Growing in New Jersey. Leaflet 539B, 1980.

21. Christ, E. and **Robson, M.** Strawberries for Home Garden. Leaflet 252D, 1980.

22. Christ, E. and **Robson, M.** Bush Fruits for Home Garden. Extension Bulletin 298F, 1980.

23. Christ, E. and **Robson, M.** Grape Growing in New Jersey. Extension Bulletin 330C, 1980.

24. Christ, E. and **Robson, M.** Blueberries. Leaflet 320A, 1980.

25. Fabian, M. and **Robson, M.** Guidelines for Marketing Pick Your Own Produce in New Jersey. Extension Bulletin 428, 1980.

Invited Presentations - International

Climate Change and Public Health Consequences
Chulalongkorn University
Center for Hazardous Waste Management
Bangkok, Thailand. January 2020

Seminar Series in Agricultural Health
Cardinal Stefan Wyszyński University - Institute of Ecology and Bioethics
Warsaw, Poland. May 2019

Developing Academic Programs that Lead to Innovation and Economic Development
USAID Workshop – RTI and Rutgers
San Salvador, El Salvador. November 2018

Challenges and Opportunities in Global Health
University of the Philippines College of Public Health
90th Anniversary Celebration – Keynote speaker
Manila, Philippines. August 2017

Climate Change and Public Health Consequences
Chulalongkorn University
National Center of Excellence for Hazardous Waste Management
Bangkok, Thailand. January 2017

Issues of University Governance- A model for planning, budgeting, and cost recovery
USAID EHELD Workshop - University of Liberia
Monrovia, Liberia. November 2016

Opportunities and Challenges in Assessing Agricultural Risk: Introduction to Agricultural Health
GEOHealth Hub Meeting on Agricultural Health
Mahidol University Faculty of Public Health
Bangkok, Thailand. August 2016

Developing and Designing Research Programs in Food and Agriculture
USAID STRIDE Workshop
Cuttington University
Suakoko, Bong County, Liberia. July 2016

Global and Local Environmental Health in the Kingdom: A Perspective from Outside
The 11th Professor Emeritus Charas Suwanwela, M.D. Lecture
15th International Conference of Public Health Sciences, Celebration on the Auspicious Occasion of Her Royal Highness Princess Maha Chakri Sirindhorn's 5th Cycle Birthday Anniversary.
Bangkok, Thailand. October 2015

Climate effects and related stress on horticultural crops in NE United States.
International Symposium in Plant Response to Stresses.
China Agricultural University
Beijing, China. June 2015

Developing Professional Science Masters Programs for SE Asia
USAID Workshop RTI STRIDE Office
Manila, Philippines. February 2014

Challenges and Opportunities in Global Agricultural Research
Beijing Institute of Technology
Beijing, China. June 2013

Human Health Assessment Workshop
Hanoi University of the Science
2nd International Conference on Environmental Pollution
Hanoi, Vietnam. March 2013

Challenges and Opportunities in Global Health and Pesticide Use
Faculty of Health Sciences, Universiti Kebangsaan Malaysia
Kuala Lumpur, Malaysia. July 2012

Challenges and Opportunities in Global Agricultural Research
USAID Excellence in Higher Education for Liberia Development (EHELD) Project
Cuttington University
Bong County, Liberia, West Africa. April 2012

Challenges and Opportunities in Global Environmental Health
Ministry of Environmental Protection - CRAES
People's Republic of China
Beijing, China. April 2010

Challenges and Opportunities in Global Environmental Health
SE Asian SETAC Meeting
Ho Chi Minh City, Vietnam. March 2010

Public Health Consequences of Climate Change
Professor Dr. Arun Sorathad Memorial Lecture
วิทยากรที่จะมาให้ความรู้และร่วมในการบรรยายครั้งนี้ ได้แก่
Chulalongkorn University
Bangkok, Thailand. January 2008

Pesticide Use and Consequences in the Developing World
Presentation to the US Mission to the Holy See
Rome, Italy. December 2007

Invited Presentations within the United States

Global Food Security Risks and Covid 19: Adding to the already fragile food system
World Information Transfer Virtual Voices
United Nations, New York June 2020

Challenges and Opportunities for Pest Management in the Developing World
8th International IPM Symposium
Salt Lake City, Utah March 2015

Challenges and Opportunities in Global Environmental Health
Duke University Nicholas School of the Environment
Durham, North Carolina December 2014

Challenges and Opportunities in Global Environmental Health
University of Arizona School of Public Health
Division of Community, Environment, and Policy
Tucson, Arizona. April 2014

Challenges and Opportunities in Global Environmental Health
University of Colorado School of Public Health
Global Programs Office and Department of Environmental and Occupational Health
Denver, Colorado. November 2013

Lessons in Forming Successful International Higher Education Partnerships
Global Youth Economic Opportunities Conference 2013
Washington, DC. September 2013

Challenges and Opportunities in Global Environmental Health
University of Rochester
Grand Rounds in Public Health
Rochester, New York. October 2012

Challenges and Opportunities in Global Pesticide Measurement and Exposure Reduction
Wake Forest Medical School
Center for Worker Health Seminar Series
Winston Salem, North Carolina. December 2011

Food Insecurity: Preventing Political Famines
Preventing Food Insecurity: The Role of Media and NGO's
World Information Transfer and Co-sponsored by the Government of Ukraine, Kenya, Laos, and S. Sudan
United Nations Headquarters, New York. November 2011

Politics of Agriculture and Food Production: A Global Review
UN Commission on Sustainable Development Seventeenth Session
Sponsored by the Permanent Mission of Ukraine to the UN
United Nations Headquarters, New York. May 2009

Community Affiliations

Zimmerli Art Museum at Rutgers 2013-
Member and Chair, North Hanover Township Land Use Committee, 2008-2009
Member, North Hanover Emergency Management Committee, 1984-1991
Member, North Hanover Township Shade Tree Commission, 1985-1991
Parish Trustee, Holy Cross Catholic Church, 1988-1991
Lector and Eucharistic Minister, Holy Cross Catholic Church, 1987-2012
Treasurer, Wrightstown Firemen's Relief Association, 1998-2002
Treasurer, Wrightstown Volunteer Fire Company, 1998-2002
Chief, Wrightstown Volunteer Fire Company, 1987-1989
Assistant Chief, Wrightstown Volunteer Fire Company, 1979-1981 and 1985-1986
Member, Wrightstown Volunteer Fire Company, 1973-

Professional Certificates

New Jersey Teacher of Science K-12
New Jersey Teacher of Agriculture
NJDEP Licensed Pesticide Applicator Category, 1A and 10 (not active)
NJ State Firefighter I
NJ State Firefighter Staff and Command
NJ Level A - Hazardous Materials
STUDENTS

Undergraduate Honors Students – George H. Cook and Henry Rutgers Scholars

Jessica Tallman	2021
Chloe Holt-Reiss	2021
Valerie Kim	2020
Domonique Noel	2019
Samuel Snyder	2019
Charlene Manalaysa	2019
Anastasia Bellisari	2019
Ummia Zaman	2019
Florence Pierre	2018
Sheridan Reyes	2018
Matthew Nguyen	2017
Sandeep Srivastava	2017
Madison Little	2016
Samuel Lucas	2016
Neal Kantharia	2016
Veronica Walentowicz	2015
Katie Fudacz	2015
Kaitlin Morey	2014
Srutika Sabu	2014
Nicole D'Amadeo	2013
Vincent Zheng	2013
Christine Hannigan	2009
Kenneth Disbrow	2009
Adam Reese	1999
David Rich	1997

First-year Interest Group Seminars (FIGS) Mentees

Bartosz Skiba	2021
Chloe Holt-Reiss	2019
Mariam Basta	2019
Adam D'Angelo	2018
Gloria Wowolo	2017
Kofi Ado	2016
Rahma Tayyab	2016
Lindsay Ruhlin	2014
Kaitlin Morey	2013
Jonathan Winter	2013

Aresty Research Undergraduate Students Rutgers

Nicholas Cruz	2017
Kaitlin Morey	2014

Lloyd C. Gardner Fellowship in Leadership and Social Policy

Juan Santiago	2020

Graduate Students - International

Master of Science - Chulalongkorn University (Thailand)

Doni Marisi Sinaga (Indonesia)	2015	Major Professor
Viris Jirachaiyabhas	2004	Major Professor
Supanad Hensawang	2017	Thesis Committee

Master of Public Health - Chulalongkorn University (Thailand)

Edward Rivera (USA)	2016	Co-Major Professor
Cong Dat Truong (Vietnam)	2009	Co-Major Professor
Thet Aung (Myanmar)	2009	Co-Major Professor
Saowanee Norkaew	2008	Co-Major Professor
Nuttha Taneepanichskul	2008	Co-Major Professor

Doctor of Philosophy - Chulalongkorn University (Thailand)

Totaporn Luangwilai	2022	Co-Major Professor
Oludoye Oluseye Olalekan (Nigeria)	2021	Co-Major Professor
Jadsada Kunno	2020	Co-Major Professor
Manasawee Thongsringklee	2020	Co-Major Professor
Ekarat Sombatsawat	2019	Co-Major Professor
Thant Zaw Lwin (Myanmar)	2017	Co-Major Professor
Parichart Ong-artborirak	2016	Co-Major Professor
Withaya Chanchai	2016	Co-Major Professor
Thanusin Saleeon	2015	Co-Major Professor
Srithaya Ridchuayrod	2015	Co-Major Professor
Juthasiri Rohitrattana	2014	Co-Major Professor
Sangchom Siripanich	2014	Co-Major Professor
Wanpen Songkham	2013	Co-Major Professor
Saowanee Norkaew	2013	Co-Major Professor
Nuttha Taneepanichskul	2013	Co-Major Professor
Denpong Wongwichit	2012	Co-Major Professor
Phiman Teeranasuntorn	2012	Co-Major Professor
Sangchom Koetkhai	2012	Co-Major Professor
Chanagun Chitmanat	2010	Co-Major Professor
Sarun Keithmaleesatti	2008	Co-Major Professor
Somsiri Jaipieam	2008	Co-Major Professor
Chidhathai Petchuay	2007	Co-Major Professor
Wattasit Siriwong	2007	Co-Major Professor

Doctor of Philosophy – Mahidol University (Thailand)

Anusorn Paosungnoen	2021	Co-Major Professor
Pajaree Konthonbut	2019	Co-Major Professor
Ritthirong Pundee	2019	Co-Major Professor
Maytiya Muadchim	2018	Co-Major Professor
Laksanee Boonkhao	2017	Co-Major Professor

Doctor of Philosophy – Chiang Mai University (Thailand)

Warangkana Narksen	2015	Co-Major Professor

Doctor of Philosophy – University of Agriculture (Pakistan)

Qurban Ali	2015	External Reader
Sohail Akhtar	2014	External Reader

Doctor of Philosophy – Mindanao University of Science and Technology (Philippines)

Richard Licayan	2016	External Reader

Graduate Students – Other US Universities

Master of Public Health – New York Medical College

Jeffrey Dobken	2014	Thesis Committee

Master of Public Health - St. Georges University Grenada

Jamie Jonach	2015	Thesis committee

Graduate Students Rutgers

Master of Business and Science

George Bogner	2022	Major Professor
Michaela Kramer	2021	Major Professor
Brittany VanBuskirk	2021	Major Professor
Brian Ducey	2019	Major Professor
Jennifer Paul	2019	Major Professor
Yiwei Melody Wang	2019	Major Professor
John Kirby	2018	Major Professor
Harrison Wang	2018	Major Professor
Mara Sanders	2018	Major Professor
Julieane Camile Lacsina	2017	Major Professor
Lester Sabo	2017	Major Professor
Debapom Saha	2017	Major Professor
Arlan James Rodeo	2016	Major Professor
Daniel Burke	2016	Major Professor
Zahra Patel	2015	Major Professor

Master of Science - Environmental Science

George Molnar	2005	Major Professor
Pamela Jankowski	2004	Major Professor
Frank McLaughlin	2003	Major Professor

Master of Science – Ecology

Brian Johnson	2011	Thesis Committee

Master of Science – Entomology

Scott Crans	2016	Major Professor
Jennifer Gruener	2014	Thesis Committee
John Cambridge	2015	Thesis Committee

Master of Science - Plant Biology

Christopher Satch	2015	Major Professor
Laura Gladney	2015	Major Professor
David Specca	2008	Thesis Committee

Master of Science – Toxicology

Lydia Louis	2017	Major Professor
Valescia John	2003	Thesis Committee

Master of Public Health – Public Health

Zoe Landau	2020	Major Professor
Ruby Gupta	2020	Major Professor
Patrick Kenny	2019	Major Professor
Anna Dinh	2016	Major Professor
Colleen Smith	2016	Major Professor
Datta Dixit	2016	Major Professor
Héctor Maldonado	2016	Major Professor
Dawn Prandi	2015	Major Professor
Elyse Convery	2015	Major Professor
John Cambridge	2015	Major Professor
Amanda Ismeail	2014	Major Professor
Cynthia Lee Cheng	2014	Major Professor
Douglas Erling	2013	Major Professor
Sharon Martens	2012	Major Professor
Christine Poulsen	2011	Major Professor
Kristen Bartlett	2011	Major Professor
Michael Wun	2010	Major Professor
David Dzubina	2009	Major Professor
Sarah Kelly	2009	Major Professor
David Richards	2009	Major Professor
Jeanette Figueroa	2009	Major Professor
Amy Wilson	2009	Major Professor
Jennifer Hollis	2009	Major Professor
Kimberly Hopf	2008	Major Professor
Mehul Patel	2007	Major Professor
Peter Skeels	2007	Major Professor
Marija Borjan	2006	Major Professor
Marie Bouchard	2006	Major Professor

Karen Butzgy	2006	Major Professor
Robert Beswick	2006	Major Professor
Lydia Louis	2006	Major Professor
Jennifer Mancini	2006	Major Professor
Anupama Neelakanta	2006	Major Professor
James Park	2006	Major Professor
Jaspreet Sodhi	2006	Major Professor
LaToya Stevenson	2006	Major Professor
Atiera Abatemarco	2005	Major Professor
Jennifer Brown	2005	Major Professor
Kerry Hennessey	2005	Major Professor
Jennifer Horsman	2005	Major Professor
Kety Rosario	2005	Major Professor
Bahram Salahi	2005	Major Professor
Vanessa Sciorra	2005	Major Professor
Rosemary Kidder	2004	Major Professor
Milind Shah	2004	Major Professor
Amy Ryan	2004	Major Professor
Maria Hafer	2004	Major Professor
Kelechukwu Olejeme	2004	Major Professor
Kimberly Brown	2004	Major Professor
Peter Gregory	2004	Major Professor
Wilson Rodriguez	2004	Major Professor
Michele Shiel	2004	Major Professor
Shaundree Ferebee	2004	Major Professor
Eliana Gafanhao	2004	Major Professor
Rangan Madhavan	2004	Major Professor
Jennifer Mikulis	2004	Major Professor
Chizoba Nwankwo	2004	Major Professor
Karen Whitaker	2003	Major Professor
James Kwiatkowski	2003	Major Professor
Steven Spayd	2003	Major Professor
William Lenczuk	2003	Major Professor
Frank McAllen	2003	Major Professor
Steven Junker	2003	Major Professor
Hans Knapp	2003	Major Professor
Raymond Klimcsak	2003	Major Professor
Laurie Cooper	2002	Major Professor
Carline Dixon	2002	Major Professor
Lydia Varona	2002	Major Professor
Diann Blanset	2002	Major Professor
Pamela Frank	2002	Major Professor
Dev Ganguly	2002	Major Professor
Diane Applebaum	2002	Major Professor
Margaret Bambery	2002	Major Professor
Jerry Bonanno	2000	Major Professor
Mary Ann Kowalski	2000	Major Professor
Robert LaRosa	2000	Major Professor
Scott Petlick	2000	Major Professor
Janice Boryszewski	2000	Major Professor
Christa Fontecchio	2000	Major Professor

Charles Gzmenski	2000	Major Professor
Janet Kolzny Nickolyn	2000	Major Professor
Maria Lourdes deJesus	2000	Major Professor
Victoria Doyle	2000	Major Professor
Kanchan Govil	1999	Major Professor
Carol Schwar	1999	Major Professor
Natalie Aloyets	1999	Major Professor
Lisa Devine	1999	Major Professor
Colleen Cella	1998	Major Professor
Paromita Hore	1998	Major Professor
Amishi Gandhi	1998	Major Professor
Valeri Marone	1998	Major Professor
Heather Case	1997	Major Professor
Kevin Breen	1997	Major Professor
Robert Greco	1996	Major Professor

Doctor of Philosophy – Public Health

Thanawat Rattanawitoon	2021	Major Professor
Mohamed Elsaid	2020	Major Professor
Lydia Louis	2019	Major Professor
Megan Rockafellow	2016	Major Professor
Brent Altemose	2014	Major Professor
Marija Borjan	2009	Major Professor
Steven Spayd	2007	Major Professor
Diann Blanset	2006	Major Professor
Margaret Lumia	2006	Major Professor
Mehra Blott	2018	Thesis Committee
Uma Bruen	2018	Thesis Committee
Victor DeCandia	2017	Thesis Committee
Jessica Small	2016	Thesis Committee
Jay Blum	2010	Thesis Committee
Paul In-Kun Han	2008	Thesis Committee
Chizoba Nwanko	2008	Thesis Committee
Gerald Harris	2006	Thesis Committee
Paromita Hore	2003	Thesis Committee
Fred Ellerbusch	2003	Thesis Committee

Doctor of Public Health – Public Health

Nancy Lashway	2016	Major Professor
Nicholas Roden	2013	Major Professor
Diane Applebaum	2009	Major Professor
Peter Lenahan	2018	Thesis Committee

Doctor of Philosophy – Plant Biology

Larry Hwang	2017	Thesis Committee

Doctor of Philosophy – Ecology

Brian Johnson	2014	Thesis Committee

Doctor of Philosophy – Entomology

Traci Morris	2021	Major Professor
Diana Carle	2015	Major Professor
Chen Zha	2017	Thesis Committee
John Cambridge	2016	Thesis Committee
Richard Cooper	2015	Thesis Committee
David Moskowitz	2015	Thesis Committee

Doctor of Philosophy - Environmental Science

Abigail Lazofsky	2022	Thesis Committee
Fatima Green	2022	Thesis Committee
Melody Wren	2019	Thesis Committee
Sarah Wolfson	2017	Thesis Committee
Wale Adewunmi	2015	Thesis Committee
Seth Oduro	2014	Thesis Committee
Binnian Wei	2010	Thesis Committee
Min Yoon	2008	Thesis Committee
John Kozlosky	2008	Thesis Committee
Somia Gurunathan	2004	Thesis Committee
Thomas Wainman	2004	Thesis Committee
Baoping Jin	2003	Thesis Committee

Doctor of Philosophy - Joint Graduate Program in Toxicology

Xiaoyong Yan	2009	Major Professor
Marisol Gutierrez	2007	Major Professor
Olly Nnodi	2014	Thesis Committee
Thomas Coyne	2004	Thesis Committee
Marjorie Wintermeyer	2003	Thesis Committee

Doctor of Philosophy – Bloustein School Planning and Public Policy

Mitchel Rosen	2012	Thesis Committee
Margaret Brennan	2010	Thesis Committee
Brian Schilling	2009	Thesis Committee

Rutgers Pre-Doc Leadership Institute Fellow Mentor

Christopher Manente	2014

Rutgers Connection Network Mentoring Program Mentor

Peter Townsend, PhD	2019-2020

USAID STRIDE SCHOLARS (Mentees) from the Philippines - MBS

Jason Occidental	2017
Yusoph Manalundong	2017
Julieane Camile Lacsina	2017
Jerrilee Laspinas	2017
Norence Aaron Tan	2017
Givette Kristine Esguerra	2017
Arlan James Rodeo	2016
Micaela Cristina Perlada	2016
Peter Immanuel Tenido	2016

Postdoctoral Fellows and Visiting Scientists

Saowanee Norkaew, PhD, MPH; Pesticide Residues in Indoor Air.	2018
Zdravko Vassilev MD, MPH; Health-Based Environmental Indicators.	1997-1998
Katarzyna Góralczyk PhD; Analysis of Contaminants in Breast Milk.	1999
Ruth Prince, PhD; Contaminants in New York-New Jersey Estuary.	1996-1998
Paromita Hore, PhD; Gestational Burden of Endocrine Disruptors.	2003-2004
Lidan Du, PhD; Assessment of Health and Nutrition Programs in Urban Settings.	2007-2008

Fulbright Visiting Scholars

Somporn Kamolsiripichaiporn, PhD, Chulalongkorn University; Bangkok, Thailand.	2008

Mark Gregory Robson, PhD, MPH, DrPH
Board of Governors Distinguished Service Professor
Faculty Director of the Byrne First-Year Seminar Program
Editor, Journal of Human and Ecological Risk Assessment
Rutgers, The State University of New Jersey
59 Dudley Road Foran Hall
New Brunswick, NJ 08901-8525

robson@sebs.rutgers.edu
http://plantbiopath.rutgers edu/
Off: 848-932-6276
Fax: 732-932-0312
Cell: (b) (6)

August 20, 2020

Steven M. Knott, M.S.
Chemist and Executive Secretary
FIFRA Scientific Advisory Panel and
Science Advisory Committee on Chemicals
U.S. EPA Office of Science Coordination and Policy

Re: Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC)

Dear Mr. Knott:

Current contact information for the nominee:
Mark Gregory Robson
Board of Governors Distinguished Service Professor
Department of Plant Biology
Rutgers University - School of Environmental and Biological Sciences
59 Dudley Road - Foran Hall
New Brunswick, New Jersey USA 08901
Phone (b) (6)
mark.robson@rutgers.edu

The disciplinary and specific areas of expertise of the nominee:
Crop science, crop protection, toxicology, risk assessment.

The nominee's curriculum vitae:
Attached to this email.

Biographical sketch of the nominee developed using the template:
Attached to this email.

Sincerely yours,

Mark Gregory Robson, PhD MPH DrPH
Board of Governors Distinguished Service Professor
Professor of Plant Biology

Vijayavel "Vijay" Kannappan, Ph.D, ERT.
Manager, Regulatory Toxicology & Stewardship @ Georgia Pacific LLC.
1915 Marathon Ave. Neenah, WI-54957
Mobile: (b) (6)
(b) (6) @gmail.com
Citizenship: U.S.A

SUMMARY OF SKILLS

- **Board Certified Toxicologist** (European Registered -ERT) with over 15 years of experience in conducting toxicological risk assessment for both human and environmental health.
- Demonstrated experience in **Consumer Goods Industry**: Cosmetics & Skin Care; Personal Hygiene; Food contact materials; Nonwoven fabrics; Printing inks & dyes etc.
- Specialized in **Product Safety, Stewardship & Post Market Surveillance.**
- Experienced in **managing compliance obligations of Global** and **Domestic Regulatory Guidelines** viz. EU-REACH, RoHs; US FDA- Food Contact Substances, GRAS Notifications, Cosmetic & OTC; USEPA- TSCA, FIFRA, CWA, SDWA, CERCLA; CA-Proposition-65, Green Chemistry, Safe Cosmetics Act; OSHA HAZCOM Korea-REACH; Turkey-REACH; Taiwan-TCSCA; Canada-DSL; Conflict Minerals; Retailers Sustainable Chemistry Policy etc.
- Conversant in **QA/QC Procedures** viz. **GCPs, GLPs, cGMPs, ISO, &OECD**.
- **Business Liaison** skills, by effectively managing safetyrelated issues with stakeholders such as customers, consumers, legal counsel, and regulatory agencies.
- Reorganized **Subject Matter Expert** and **Task Force Member** in Trade Associations.
- Authored **100+ publications** (peer-reviewed and non-refereed) with a track record of **1300+ citations** in the field of Human and Environmental Health Sciences.
- **Strategic thinker** to improve, streamline and **reinvent work processes**.

EDUCATIONAL BACKGROUND

Postdoctoral Research *in Environmental Toxicology***,** University of Hawaii, (2006 to 2009)
Ph.D *in Environmental Toxicology*, University of Madras, (2000 to 2004)
M.S *in Environmental Toxicology*, University of Madras, (1998 to 2000)
B.S *in Microbiology,* University of Madras, (1995to1998)
Diploma *in Microsoft Office Automation*, Orchid Soft Systems, (1999)

COMPUTER AND TECHNICAL SKILLS

- **Operating Systems** : Windows 95/98/2000/NT/XP/Vista/7
- **Desktop Application** : MS Office, Agile-PLM, SAP-EHS, LIMS, and Lotus Notes.
- **Web Application** : Microsoft Internet Information Services.
- **Modeling Tools** : QSAR (DEREK & ToxTree), Nowcast, ProUCL, Episuite, & Probit.
- **Database Mining** : EU-ECHA, IRIS-EPA, ATSDR-CDC, & chemIDplus, HSDB-NIH
- **Developer Modules** : Virtual Beach-USEPA;ENDAT-USGS; PROCESS-NOAA

WORK AND RESEARCH EXPERIENCE

Manager, Regulatory Toxicology & Stewardship. Georgia-Pacific LLC. (May, 2016 to xxx)

- Subject matter expert and the go to resource for product safety and stewardship consultation.
- Lead risk assessment and regulatory compliance projects to ensure finished product safety for both human and environmental health.
- Responsible for consumer product categories such as,

  Food Service: food wraps, primary & secondary food packages, food containers etc.
  Cosmetics and Personal care: Bath, Makeup, Fragrance, Cleanliness, hygiene & Skin Care.
  Nonwovens: baby wipes & diapers, fem hygiene wipes, cleaning wipes etc.
  Medical Devices: Class1 products- Surgical Drapes, Menstrual Pads, Wound dressings.
  Paper Products: kitchen towels, bath tissue, facial tissue, napkins etc.
  Air Care: room fresheners, deodorizer urinal screens, scented candles.

- Evaluate Biocompatibility Risk (ISO 10993, EU-MDR, FDA) of Class-I Medical devices and chemical characterization of degradants, leachables, extractables and residuals.
- Manage external clinical/toxicological testing with CRO's and conduct audits to ensure good laboratory and clinical practice.
- Provide clinical safety substantiation for new product launches and claims.
- Write dossiers and position papers for new product registration.
- Manage post market safety complaints in consultation with business partners & legal counsel.
- Conduct periodical review of regulatory policies, dossiers and position papers for compliance, approval, variance, and exemptions.
- Proactively apprise the leadership on business impacts of global chemical regulations.
- Lead projects to identify chemicals of high concern in raw materials throughout the supply chain and identify phaseout strategies.
- Advocate in partnership with trade associations and coalitions on legislative regulatory, to track emerging chemical regulations, and identify risk areas.

Sr. Product Safety Toxicologist, Mary Kay Inc. (September, 2013 to May, 2016)

- Accountable for the safety of raw materials through all phases of product development and commercialization.
- Technical lead for Chemical Safety Assessment and Toxicological Review (both human and environmental health) of specialty chemicals used in personal care products in accordance with applicable regulatory frameworks.
- Used alternate risk assessment strategies (eg. *Invitro & Insilico toxicology*, *Threshold of Toxicological Concern* etc.) to fill data gaps.
- Project lead for screening hazardous and restricted substances in raw materials with potential human health or environmental impacts.
- Delivered Cosmetic Product Safety Report (CPSR) & Product Information File (PIF) for new product showcase, premarket notification, and registrations worldwide.
- Prepared critical reviews, "white paper" advocacy documents, scientific rationales, position statements of new and evolving product safety regulations impacting Mary Kay's business.
- Represented Mary Kay Inc. at professional meetings, workshops, and industry task forces of special interest to the business.
- Mentored and Trained junior scientists on new dimensions of Toxicological risk assessment.

Environmental Health Toxicologist, State of Michigan/Ottawa County Health Department/ Wayne State University (April, 2009 - September, 2013)

Worked as a Research Investigator and Program Manager in collaboration with Federal Agencies (USEPA, NOAA, & USGS); State of Michigan (Department of Environmental Quality); Ottawa County Health Department (Environmental Health); Academia (Wayne State University, Michigan State University, & Hope College), and NGO's (Macatawa Area Coordinating Council & Out Door Discovery Center).

Projects focused on conducting human and environmental health risk assessment pertaining to USEPA guidance's such as,

- Clean Water Act (CWA) & Safe Drinking Water Act (SDWA)
- Comprehensive Environmental Response Compensation and Liability Act (CERCLA)
- Resource Conservation and Recovery Act (RCRA)
- Toxic Substances Control Act (TSCA)

Key regulatory toxicology tasks include but not limited to,

- Provide toxicological and risk assessment consultation to stakeholders by understanding the adverse/no-adverse effect of harmful chemicals to human and environmental health using USEPA's Integrated Risk Information System (IRIS).
- Review critical guidance and technical documents (IRIS, TSCA, ATSDR, PPRTV etc.) to identify cancer and non-cancerous effects of chemical and biological agents.
- Interpret technical documents to fill knowledge gaps in health risk assessment using toxicological end points such as (carcinogenicity, reproductive toxicity, teratogenicity, mutagenicity; inhalation, dermal, and endocrine toxicity).
- Predict Vapor intrusion (VI) Pathway of volatile organic compounds (VOCs), such as gasoline compounds, and other specialty chemicals concerning Indoor Air Quality.
- Evaluate risk assessments, site-specific response activity proposals including cleanup criteria, remedial investigations, and cleanup closure reports.
- Determine the type of organizational efforts needed for reducing the impacts of emerging contaminants such as Pharmaceutical and Personal Care Products entering the environment.
- Conduct risk assessments and environmental forensic investigations on phosphorus loads, nutrient levels, sedimentation, and microbial contamination focusing on public and environmental health.
- Review changing regulatory guidelines established by Federal and State Agencies and present the gist to steering committee, public health managers, and stakeholders for compliance, variance and exemptions.
- Participate in the State of Michigan's Toxics Steering Group as well as external stakeholder meetings to identify and improve scientific needs.

Postdoctoral Associate (Environmental Toxicologist): University of Hawaii @ Manoa (February, 2006 - March, 2009)

- Co-Investigator for the ecotoxicology project entitled "Integrating Coral Reef Ecosystem, Integrity and Restoration Options" funded by NOAA.
- Developed a mesocosm model for coral reef ecotoxicology.
- Elucidated the response of biomarkers in corals (*Montipora verrucosa, Pocillopora meandrina, Pocillopora damicornis, Porites compressa,* and *Porites lobata*).
- Studied the effect of environmental and chemical stressors in sea urchins focusing on fertilization success and embryo development.
- Source tracked endocrine disruptors in effluent waters and performed toxicity studies by assessing the molecular biomarker signals in aquatic animals.
- Co-Investigator for the environment and human health project entitled "Microbial Pathogens in Tropical Coastal Waters: An Ecosystem Approach to Determine Risk and Prevent Water-Borne Diseases" funded by NSF and NIEHS.
- Used cutting edge DNA finger printing and novel immune assays for source tracking microbial pathogens (*Clostridium botulinum, & Clostridium perfrignens*) and indicators (*E. coli*, enterococci, Bacteroides HF183 and Bacteriophages).
- Conducted Risk Assessment and characterization of microbial pathogens to human health in compliance with Clean Water Act, and the Safe Drinking Water Act of USEPA.

Project Scientist (Environmental Toxicologist), Integrated Coastal Marine Area Management/Institute for Ocean Management. Chennai, India. (October, 2003 - February, 2006)

- Worked as a Study Monitor/Director for non-target toxicity testing (eg, fish, daphnia, algae).
- Direct hands on experience in toxicity test of various classes of chemicals like pesticides, fertilizers, biocides, heavy metals, petroleum hydrocarbons, poly chlorinated biphenyls, pharmaceuticals, nanomaterials, and endocrine disruptors.
- Conducted Acute, Sub Acute, Chronic and Sub Chronic Toxicity testing of target contaminants using Static, Recirculation, Continuous Flow-Through System, Micro and Mesocosm models.
- Followed and implemented good laboratory procedures (GLP), guidelines of OCED and other valid quality assurance methods.
- In depth toxicity studies includes Fertilization bioassays (Reproductive Toxicity Testing); Embryological and Larval bioassay (Developmental Toxicity); Whole Effluent Toxicity Testing (WET); Endocrine disruption studies; Sediment Toxicity Testing; Toxicity reduction evaluation (TRE); toxicity identification evaluation (TIE); Environmental fate, metabolism & degradation; Bioaccumulation & Bio-magnification; and Biochemical & molecular biomarkers.
- Pesticide residue (Organochlorine and organophosphorus) analysis in biological samples and SOP development using Gas Chromatography/Mass Spectrometry (GC/MS).
- Data mining on the ecotoxicological effects of organic and inorganic chemicals
- Prepared/submitted necessary test reports and documents.

Ph.D Research Scholar (Environmental Toxicology), Department of Pharmacology and Environmental Toxicology, University of Madras, Chennai, India. (November, 2000 - October, 2003)

- Research focused on elucidating the toxic (acute and chronic) manifestations of naphthalene in an estuarine edible crab *Scylla serrata* and its vitellogenic phases.
- Derived benchmark screening concentrations (LC_{100}, LC_{50}, LC_0 & EC_{100}, EC_{50}, EC_0) of naphthalene to *S. serrata*.
- Utilized various parameters needed for the hazard evaluation such as, exposure levels, hazard quotient, hazard index, reference dose, threshold concentrations, toxicity values, toxicity slope factors, benchmark dose/concentrations, uncertainty factors etc.
- The extent of biological damage - sub lethal end point was determined by assessing a suite of cellular and molecular biomarkers viz. biochemical and molecular Biomarkers; developmental toxicity, carcinogenicity, biotransformation, DNA damage etc.
- Developed/designed continuous flow-through and recirculation system for conducting bioassay tests using In-situ waters from contaminated aquatic environments.
- Investigated the ecophysiology and biochemistry of aquatic species like bivalves, crabs, prawns and fish species under controlled laboratory, and ambient environmental conditions.
- Presented seminars, lectured and tutored master's students.
- Served as an examiner for post graduate students, prepared exams and assessed their potential based upon their intellectual performance.

CERTIFICATIONS AND WORKSHOP TRAININGS

- **Mid America Toxicology Course**. 2018. Kansas City, MO.
- **Issues in Product Safety Assessment Workshop**. 2017. PCPC. Alexandria, VA.
- **Product Quality Assurance Workshop**. 2017. PCPC. Alexandria, VA
- Food Safety Colloquium: **Safety Assessment of Good Packaging and other contact substances**. USFDA. College Park, MD. 2017
- **Sustainable Futures Training Workshop**. USEPA/OPPT and Critical Path Services, LLC. Newark, DE. 2017
- **Hands-On Workshop for Pulp and Paper Basics**. NC State University. Raleigh, NC.2017
- **Food Contact Compliance Training**. 2016. Steptoe & Johnson. LLP. Atlanta.GA.
- **Practical Methods for In Vitro Toxicology**. 2016. IIVS. Gaithersburg, MD.
- **Good Clinical Practices.** 2015. Hill Top Research. Dallas, TX.
- **Risk Assessment Guidance** for Superfund. 2013. Environmental Response Training Program, US. Environmental Protection Agency- Region 4, Atlanta, GA.
- **The Smart Negotiation Workshop.** 2013. Michigan Department of Environmental Quality & Midwest Environmental Enforcement Association. Lansing, MI.
- **Verbal Judo for Regulators.** 2013. Michigan Department of Environmental Quality & Midwest Environmental Enforcement Association. Lansing, MI.
- **Public Speaking 101.** 2013. Toast Masters International. Lansing, MI.
- **Developing Predictive Models for Health Risk Assessments -**Interagency Workshop. 2011. United States Geological Survey, Columbus, OH.
- **Microbial Source Tracking**: Source ID workshop. 2011. Southern California Coastal Research Water Project. Costa Mesa, CA.
- **Fish Consumption Advisories** in the Detroit River: Progress towards a solution**.** 2010**.** Belle Isle Nature Zoo, Detroit, MI**.**
- **New Ground Water Rule**: Detection of Coliphages on ground water. 2008. Board of Water supply, City and County of Honolulu, HI**.**

AD-HOC PANEL

1. Vice President, **Food Safety Specialty Section** of the **Society of Toxicology**. (Active)
2. Vice President, **Dermal Toxicology Specialty Section** of the **Society of Toxicology**. (Executed)
3. Steering Committee Member of the **Ecological Risk Assessment World Interest (ERAIG)** of Society of Environmental Toxicology & Chemistry. (Active)
4. Taskforce Member with **Personal Care Product Council** advocating and driving science- based policies and deliverables relevant to business approaches. (Active)
5. Grant Reviewer for **National Oceanic Atmospheric Administration**-SeaGrant, and **US Environmental Protection Agency**-National Center for Environmental Research (Active)
6. **International Ph.D Thesis Examiner** for the University of Madras; Dr. MGR Medical University, India. (Active)
7. **Editorial Member** with Springer Publications; Academic Journals; Hindawi Publishing Corporation and Peer **Reviewer** for 15 top notch journals in Toxicological Sciences. (Active)
8. **Toxicology Steering Committee** Member of the Department of Environmental Quality, State of MI, USA. (EXECUTED)
9. **Steering Committee Member** for The Macatawa Area Coordinating Council, MI, USA. (EXECUTED)

PROFESSIONAL MEMBERSHIPS

- Society of Toxicology (SOT) - Current
- Society of Environmental Toxicology and Chemistry (SETAC) - Current

From: (b) (6)
To: Knott, Steven
Subject: Re: FW: TSCA Science Advisory Committee on Chemicals; Request for Nominations
Date: Tuesday, September 1, 2020 8:58:58 PM
Attachments: Vijay Kannappan Biosketch.pdf
2. Vijay_CV_short_2020.pdf

Hi Steven,

I would like to self nominate myself for the TSCA Science Advisory Committee on Chemicals.
Please find attached my Bio's and CV for inclusion.

Regards,
Vijay

> **From:** Knott, Steven <Knott.Steven@epa.gov>
> **Sent:** Tuesday, August 18, 2020 8:30 AM
> **To:** Kannappan, Vijay <Vijay.Kannappan@GAPAC.com>
> **Subject:** RE: TSCA Science Advisory Committee on Chemicals; Request for Nominations
>
> Sent by an external sender
>
> ---
>
> Dr. Kannappan,
>
> EPA has extended the TSCA SACC nomination period until September 1, 2020. If you are still interested in being considered for appointment to the SACC, please submit your nomination by following the instructions in the Federal Register notice available through our website at https://www.epa.gov/tsca-peer-review/epa-extending-nomination-and-public-comment-periods-toxic-substances-control-act.
>
> Thank you.
>
> Steven M. Knott, M.S.
>
> Chemist and Executive Secretary
>
> FIFRA Scientific Advisory Panel and
>
> Science Advisory Committee on Chemicals

U.S. EPA Office of Science Coordination and Policy

Knott.steven@epa.gov

(202) 564-0103

From: Knott, Steven
Sent: Wednesday, July 22, 2020 1:37 PM
To: Kannappan, Vijay (NTC) <Vijay.Kannappan@GAPAC.com>
Subject: RE: TSCA Science Advisory Committee on Chemicals; Request for Nominations

Dr. Kannappan,

Thank you for your interest in membership on the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Although we are not considering nominations for SACC membership that were received after the deadline, we will retain your information for possible consideration to participate as an ad hoc reviewer in future SACC reviews. In addition, SACC meetings are open to the public and you are welcome to submit written comments on the issues under consideration and, on request, present oral comments before the Committee. Information on upcoming SACC reviews will be posted on the Committee's website at https://www.epa.gov/tsca-peer-review.

Thank you again.

Steven M. Knott, M.S.

Chemist and Executive Secretary

FIFRA Scientific Advisory Panel and

Science Advisory Committee on Chemicals

U.S. EPA Office of Science Coordination and Policy

Knott.steven@epa.gov

(202) 564-0103

From: Kannappan, Vijay (NTC) <Vijay.Kannappan@GAPAC.com>
Sent: Tuesday, April 28, 2020 4:58 PM
To: Knott, Steven <Knott.Steven@epa.gov>
Subject: TSCA Science Advisory Committee on Chemicals; Request for Nominations

Hi Steven,

Sorry I missed the nomination deadline for the April 20, 2020.

Is there a possibility for my entry !

Vijay Kannappan. Ph.D., E.R.T

Manager, Regulatory Toxicology
Georgia Pacific LLC.
1915 Marathon Ave.
Neenah, WI-54957

(920) 729-8445 Office
(b) (6) Cell
Email : vijay.kannappan@gapac.com

Vijayavel "Vijay" Kannappan
Bio-sketch

Dr. Vijayavel "Vijay" Kannappan is a Board-certified Toxicologist (European Registered -ERT) with over 15 years of active practice in Human and Environmental Health Toxicology. Vijay is currently a Regulatory Toxicology & Stewardship Manager with Georgia Pacific LLC., ensuring the human and environmental safety of personal hygiene and skin care products. Prior to he was employed with Mary Kay Inc. as a Sr. Product Safety Toxicologist, accountable for the safety of raw materials used in cosmetic products. He also worked as an Environmental Health Toxicologist for various research projects in collaboration with Federal Agencies (USEPA, NOAA, & USGS); State of Michigan-Department of Environmental Quality; Ottawa County Health Department; Academia (Wayne State University, Michigan State University, & Hope College), and NGO's (Macatawa Area Coordinating Council & Out Door Discovery Center) where his research focused on conducting human and environmental health risk assessment of specialty chemicals and biological agents. Vijay's educational qualifications includes, Post-Doctoral Research in Environmental Toxicology; Ph.D & M.S in Environmental Toxicology; B.S in Microbiology. Vijay is a reorganized Subject Matter Expert and serves a Committee Member in the Safety and Regulatory Toxicology Task Force with Personal Care Products Council, advocating and driving science-based policies impacting cosmetics and personal care products. He is an Author/Co-author of 100+ publications (peer-reviewed and non-refereed) with a track record of 1200+ citations in the field of Human and Environmental Health Sciences. Vijay's Ad-Hoc Service also includes, Vice President Elect with the Food Safety Specialty Section and Dermal Toxicology Specialty Section with the Society of Toxicology; Steering Committee Member of the Ecological Risk Assessment World Interest Group of the Society of Environmental Toxicology & Chemistry. He is also a recipient of Sr. Toxicologist Award (2019) with the Association of Scientists of Indian Origin, a Special Interest Group within the Society of Toxicology.

From:	gavin.smith@civilianexposure.org
To:	Knott, Steven
Subject:	RE: Nomination - Science Advisory Comm. on Chemicals
Date:	Monday, August 31, 2020 5:35:19 PM
Attachments:	GavinPSmith-Resume-07-2020-B.pdf biosketchform-GavinPSmith.pdf GavinPSmith-EPA-SACC-Nomination-Cover.pdf

Good afternoon, Mr. Knott –

Please find attached my information for nomination to be appointed to the SACC. If there is anything further that you may require, please do not hesitate to reach out.

Sincerely,
Gavin

Gavin P. Smith, MBA, MGM
Founder | Director | Editor-in-Chief
Civilian Exposure
203 Taylor Notion Road
Cape Carteret, NC 28584

Phone: 407-968-5788
Email: Gavin.Smith@civilianexposure.org
Website: www.civilianexposure.org

From: Knott, Steven <Knott.Steven@epa.gov>
Sent: Tuesday, August 18, 2020 9:29 AM
To: gavin.smith@civilianexposure.org
Subject: RE: Nomination - Science Advisory Comm. on Chemicals

Dr. Smith,

EPA has extended the TSCA SACC nomination period until September 1, 2020. If you are still interested in being considered for appointment to the SACC, please submit your nomination by following the instructions in the Federal Register notice available through our website at https://www.epa.gov/tsca-peer-review/epa-extending-nomination-and-public-comment-periods-toxic-substances-control-act.

Thank you.

Steven M. Knott, M.S.
Chemist and Executive Secretary
FIFRA Scientific Advisory Panel and
Science Advisory Committee on Chemicals

U.S. EPA Office of Science Coordination and Policy
Knott.steven@epa.gov
(202) 564-0103

From: Knott, Steven
Sent: Wednesday, July 22, 2020 1:37 PM
To: gavin.smith@civilianexposure.org
Subject: RE: Nomination - Science Advisory Comm. on Chemicals

Dr. Smith,

Thank you for your interest in membership on the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Although we are not considering nominations for SACC membership that were received after the deadline, we will retain your information for possible consideration to participate as an ad hoc reviewer in future SACC reviews. In addition, SACC meetings are open to the public and you are welcome to submit written comments on the issues under consideration and, on request, present oral comments before the Committee. Information on upcoming SACC reviews will be posted on the Committee's website at https://www.epa.gov/tsca-peer-review.

Thank you again.

Steven M. Knott, M.S.
Chemist and Executive Secretary
FIFRA Scientific Advisory Panel and
Science Advisory Committee on Chemicals
U.S. EPA Office of Science Coordination and Policy
Knott.steven@epa.gov
(202) 564-0103

From: gavin.smith@civilianexposure.org <gavin.smith@civilianexposure.org>
Sent: Friday, May 29, 2020 10:39 AM
To: Knott, Steven <Knott.Steven@epa.gov>
Subject: Nomination - Science Advisory Comm. on Chemicals

Dear Mr. Knott,

I wanted to inquire as to whether or not you are still seeking nominations for the Science Advisory Committee on Chemicals? I lead a nonprofit that works with veterans and civilian employees in military base communities around the country exposed to a variety of chemicals over the past 50+ years. My family has also been directly impacted by it. I have served on panels at the CDC in the past and would like to be involved with this committee, if possible.

Thank you for your time and consideration.

Gavin

Gavin P. Smith
Founder | Director
Civilian Exposure

407-968-5788
Gavin.Smith@civilianexposure.org

Environmental Protection Agency (EPA)
Office of Science Coordination and Policy (OSCP)
Biosketch Instructions, Example, and Fillable Form

Thank you for your interest in peer reviews at the EPA. As part of the process of soliciting, nominating, and recruiting established members of a panel or committee or adding *ad hoc* members for select meetings, OSCP needs a one-page biographical sketch (a.k.a. biosketch).

We are requesting that you provide information that is focused and appropriate to represent your profession, expertise, scientific or related technical experience, and prior panel or committee experience like that of a Federal Advisory Committee (e.g., Scientific Advisory Panel, Scientific Advisory Board, Board of Scientific Counselors, or similar).

The one-page biosketch will be used in the candidate phase of recruiting and identifying members with the credentials that support the potential participation in a particular meeting and, if placed on a panel or committee meeting roster, will be used to document members who contributed to a meeting.

INSTRUCTIONS

The next page provides a description of the information that is requested by field name.

The following page is an example of a properly formated one-page biosketch.

The last section (2 pages) of this document is a fillable form that corresponds to the fields (sections) that comprise the biosketch. *Fields are character limited*. Scroll bars may appear for a field, but once the maximum characters are used the field will accept no additional information. We will receive the form and extract the information to a document for final review and formatting. If more than one page of information is received, we will contact you about any edits made to conform to the single page format.

NOTE: This PDF file is in an "extended format" and can be opened, fields filled in, and the file saved using either Acrobat Reader or Acrobat Professional. In the extended format you will be able to open the file later and edit the document.

BIOGRAPHICAL SKETCH TEMPLATE

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …); additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests. Usually 200-word count.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

EXAMPLE:

Daniel Schlenk, Ph.D.

Affiliation: Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California Riverside, CA.

Expertise: Research on understanding the biochemical factors that influence susceptibility to environmental and natural chemicals with a focus on Aquatic Ecotoxicology.

Education: PhD in Toxicology, Oregon State University. BS Toxicology Northeast Louisiana University.

Experience Summary: Dr. Daniel Schlenk is Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California-Riverside. He is a Fellow of the American Association for the Advancement of Science, and from 2007-2014. Dr. Schlenk was a member of the Board of Directors for the North American Society of Environmental Toxicology and Chemistry (2003-2006). His research interests focus on mechanisms of action of pesticides, PAHs, and emerging compounds in aquatic organisms.

Panel Experience: Dr. Schlenk is currently a member of EPA Science Advisory Committee on Chemicals (SACC; 2017-present); Dr. Schlenk's experience on Federal panels includes: Permanent Member US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Science Advisory Panel (2007-2012) and Chair US EPA FIFRA Science Advisory Panel (2012-2014). USEPA Chemical Safety Advisory Committee (CSAC) (2016) and the Toxic Substances Control Act (TSCA), Draft Risk Assessment Work Plan Chemical for 1-Bromopropane (2016); Ad hoc reviewer National Institute of Environmental Health Sciences (NIEHS) Freshwater Biomedical Centers (1996); US Department of Agriculture (1997-2000) and National Science Foundation (1996-present); National Oceanic and Atmospheric Administration (NOAA) Oceans and Human Health Initiative Grant Review Panel (2005); US EPA Endocrine Disrupter Mixtures Grant Review Panel (2005); US EPA Science Advisory Board, Aquatic Life Criteria Guidelines (2005); NIEHS P30 Core-Center Applications (2008); and NIEHS Superfund Research Program P42 Center Applications (2016). Dr. Schlenk has also served on numerous State and foundation review panels and committees.

Scroll to the top of this document for Instructions, biosketch template, and example. Use the fields below to enter you biosketch information.

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …) ; additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

GAVIN P. SMITH

(b) (6) • (b) (6) • linkedin.com/in/gavinpsmith • (b) (6)

Steven M. Knott, M.S.
Chemist and Executive Secretary
FIFRA Scientific Advisory Panel and Science Advisory Committee on Chemicals
U.S. EPA Office of Science Coordination and Policy
Washington, DC

August 31, 2020

RE: SACC Membership Nomination 2020

Dear Sir:

I respectfully submit my credentials for nomination to the Science Advisory Committee on Chemicals. The issue of drinking water contamination is particularly important to me as I have seen firsthand the results of contaminated drinking water and poor drinking water protections. My father was a victim of contaminated groundwater and passed of acute leukemia derived from his exposure in 2008 at Camp Lejeune, NC.

In 2013, I discovered the true nature of my father's passing and decided to try to make a difference for others like him. I launched a nonprofit news and outreach organization, Civilian Exposure, that provides investigative reporting on the extent of toxic groundwater contamination from a variety of chemicals at hundreds of military bases and surrounding communities. We report on the extent of contamination, plus the economic and healthcare impacts for exposed veterans, civilian workers and their families.

As an issue advocate in this area, I have also helped those impacted with sourcing documentation, seeking legal assistance, and ultimately contributing to individuals achieving disability status for their exposures. As part of that work, I also served as a member of a Community Assistance Panel at the CDC in Atlanta from 2013-2015, collaborating with government agencies to promote scientific research and corrective measures.

As a new member of the Committee, I would bring to the table an extensive and diverse background in media, marketing, and management, as well as the ability to tap a vast network of educational and professional connections in order to contribute value. I have also researched a variety of toxic chemicals and contamination sites around the country to provide valuable information to a vast network of exposure victims, media outlets, and government officials.

Specifically, I hope to help the Committee in improving communication and frequency on key issues, garnering more earned media attention to promote the Committee's overall efforts, as well as provide the unique perspective based on years of research and interviews with those directly impacted by contaminated drinking water and a variety of toxic substances such as TCE, PFAS/PFOS, Agent Orange, burn pits, radiation and more. Finally, I also hope to use my experience on the SACC to enhance my research and reporting efforts in the future.

I would be honored to be a part of this Committee to make a positive impact. Thank you for your consideration.

Sincerely,

Gavin P. Smith, MBA, MGM
Founder | Director | Editor-in-Chief, Civilian Exposure
203 Taylor Notion Road, Cape Carteret, NC 28584
407-968-5788 | gavin.smith@civilianexposure.org

/enc

GAVIN P. SMITH

(b) (6) • (b) (6) • linkedin.com/in/gavinpsmith • (b) (6)

GLOBAL MEDIA, MARKETING & MANAGEMENT LEADER

Executive Communicator • Strategic Thinker • Systems/Process Innovator • Issue Advocate

EDUCATION

Thunderbird School of Global Management 2013
Master of Global Management (MGM) – Received with Distinction plus Beta Gamma Sigma AZ
- Najafi Global Mindset Scholar, US Steel Scholar & SNS-Future in Review Conference / Rodel Scholar.

The College of William & Mary 2013
Master of Business Administration (MBA) VA
- Mason Leadership Award Winner & President, MBA Executive Council.

Wake Forest University 1995 / 2010
Bachelor of Arts (BA) - History NC
- Dean's List and 1st Place Honors / Scholar for WFU Summer Management Program.

EXPERIENCE

Founder / Executive Director 2014 - present
Civilian Exposure – https://www.civilianexposure.org/ NC
- **Advocacy:** Launched 501c3 news and outreach organization to grow awareness for military base contamination.
- **Management:** Grant-writing, marketing (web, social, PR, interviews), legal compliance, and board development.
- **Collaboration:** Served as member of CDC/ATSDR Camp Lejeune Community Assistance Panel. Worked with U.S. Senators, scientists, government agencies, and VSOs to promote studies, research, aid, and assistance to victims.
- **Earned Media:** Coverage from MSNBC, Military Times, Stars & Stripes, ProPublica, US Medicine, Veterans Radio, BlogTalkRadio, and various regional TV/print news outlets.

CEO / Consultant 2014 - present
Gavin P. Smith Consulting – https://www.gavinpsmith.com NC
- **Management:** Drafting/reviewing business plans, proposals, pitches, financial strategies, operational analysis, business development, partnerships, and negotiations.
- **Marketing:** Executed omni-channel marketing plans, content management, and custom marketing products.
- **Sample Client Projects & Results:**

  Keta Foundation – Non-Profit – https://www.ketafoundation.org/ | https://www.freedomghana.org/
  - **Business Development:** Relationship-building/sales to all US and Caribbean universities.
  - **Implementation:** Created management processes, marketing, and strategic partnerships.
  - **Project/Grant Development:** Multiple project proposals totaling $100million+.

  Cayman Islands National Credit Bureau – Finance – https://www.cincb.ky/
  - **Marketing Strategy:** Developed marketing plan, strategy, and tactics (web, social, email, content, search marketing, and graphic design).

  Cayman Healthcare Consulting – Healthcare/Regulatory – http://www.chcc.ky
  - **Marketing Strategy:** Developed complete launch of brand. Manage all messaging, website, social, email, content, and search marketing.

VP / Director of Marketing 2013 - 2014
SkinCareRx, Apothica, & SkinBotanica AZ
- **Executive Leadership:** Reporting directly to President/Ownership, was responsible for a team of nine, an annual budget of $2million, 85% of annual revenue target ($25million), and 40% of annual growth target.
- **Project Management:** Led team through a complete website re-platform and re-launch for all properties including content, feed, and technical deliverables. Met 3-month project deadline while simultaneously maintaining current sales revenues during warehouse transition and backend software migration.
- **Negotiation:** Negotiated contracts to lower revenue share/commissions, reducing annual expense 3-5%. Moved marketing staff positions in-house from agency to save company over $150,000/year.
- **Multi-Channel Marketing/Strategic Planning:** Budgeting, analysis and forecasting for content, email, web, social, affiliate, SEO, PPC, PR, print, sweepstakes, and other channels. Increased conversions, AOV, customer/subscriber acquisition, and traffic volume by 30%. Developed original brand standards and operational procedures.
- **Collaboration:** Managed vendor, contractor, and agency relationships to streamline operations.

Business Journalist – Freelance 2011 - 2013
The Motley Fool

Co-Founder / VP of Media & Technology 2009 - 2011
D2Media Partners NC / GA

- **Start-Up Operations:** Created internet radio websites, social media strategy, revenue streams, sales strategies, programming/operations procedures, and workflow processes for four healthcare market channels.

Owner / Consultant 2007 - 2013
DRG Media FL / VA

- **Web Design/E-Commerce:** 100+ websites built for satisfied clients, PPC, CPC, product, and viral marketing.
- **Marketing:** Created custom client blogs, integrated marketing plans, consulting, retail, PR, and paid/earned media.
- **Sample Client Projects & Results:**

Keller Williams Lake Mary – Florida – Real Estate

- **Web Project Management:** Managed design, copy, email marketing, press releases, and content for 70+ websites to drive brand awareness.
- **Marketing/Brand Awareness:** Improved Google Page Rank from page 20/30 to top 3 pages with targeted system of newsletters, market updates, blogs, and brochures.

Triad Media & Marketing – Florida – Coaching/E-Learning

- **E-Commerce:** Coached 20+ new web entrepreneurs weekly, providing strategic web/social/email marketing plans, design, and analysis unique to their business.

WAABA (Washington DC Area Alumni Business Alliance) – Education/Networking

- **Marketing Strategy:** Integrated marketing plan grew brand awareness 400% in 6 months.

Williamsburg Faith in Action (WFIA) – Virginia – Non-Profit

- **Marketing/Design:** Created website - Increased outreach/giving by 25%.

Creative Director 2006 - 2007
Offerlab FL

- **Content Marketing:** Emails, newsletters, websites, call center phone sales scripts, webinars, learning program and product development (e-learning tools, eBooks, audiobooks, and CD audio series).
- **Affiliate Marketing:** Split-testing, partnerships, lead list development, and campaign management.

Radio Broadcasting – On-Air & Management 1994 - 2006

Spectrum Media – Style FM – General Manager / Operations Director	Cayman Islands
Hurley's Media – Z99 FM & Rooster 101 FM – Operations Director / Program Director	Cayman Islands
Sea-Comm Media – Jammin' 99.9 FM – Program Director	Wilmington, NC
102.7 WGNI – On-Air Talent	Wilmington, NC
G-105 & Sunny 93.9 FM – On-Air Talent	Raleigh, NC
WUNC Public Radio – Producer, "The Linda Belans Show"	Chapel Hill, NC
WXRA 94.5 FM – On-Air Talent	Winston-Salem, NC
WFDD 88.5 FM – Public Radio News & Host of "88.5 Jazz Place"	Winston-Salem, NC

ADDITIONAL INFORMATION

Leadership:	Member of Beta Gamma Sigma, Internet Marketing Association (IMA), International Executive Council (IEC), William & Mary Tribe Partners, Thunderbird Independent Alumni Association, and Society for Environmental Journalists (SEJ). Former member of CDC/ATSDR Camp Lejeune Community Assistance Panel.
Technical Skills:	Proficient in HTML, PHP, CSS, SQL, SSL, WordPress, Joomla, Listrak, Mailchimp, Vertical Response, Salesforce, Hootsuite, Photoshop, Google Analytics, Google AdWords, Magento, Microsoft IIS, Cool Edit Pro, Audition, Pro Tools, RCS Selector, Prezi, and Microsoft Office.
Civic Engagement:	Civilian Exposure, Keta Foundation, LLS.org, Jimmy V Foundation, and USMC Toys4Tots.
Journalism:	LinkedIn, Motley Fool, Griffin Report, Orlando Tribune, Radio & Records, and Reel Carolina.
Languages:	English (native), French (intermediate/proficient), and Spanish (beginner)
Published Works:	https://www.muckrack.com/gavin-p-smith

From: Bill Doucette
To: Knott, Steven
Subject: Re: [EXT] EPA Seeks Nominations for Science Advisory Committee on Chemicals
Date: Tuesday, March 31, 2020 6:31 54 PM

HI Steve

I would like to nominate Dr. George Cobb, Baylor University. What additional information do you need from me to move this forward?

Bill

Bill Doucette, PhD
Professor
Utah State University
Utah Water Research Laboratory
8200 Old Main Hill
Logan, UT 84322-8200
435-797-3178
435-797-3663 fax
(b) (6) mobile
william.doucette@usu.edu
(b) (6) @mac.com

On Mar 31, 2020, at 3:06 PM, Knott, Steven <Knott.Steven@epa.gov> wrote:

All,
I am forwarding the listserv message regarding EPA's current call for TSCA SACC nominations (in case you haven't received this already).
Please let me know if you have any questions.
Thanks.
Steve
Steven M. Knott, M.S.
Chemist and Executive Secretary
FIFRA Scientific Advisory Panel and
Science Advisory Committee on Chemicals
U.S. EPA Office of Science Coordination and Policy
Knott.steven@epa.gov
(202) 564-0103

From: U.S. EPA Office of Chemical Safety and Pollution Prevention <oppt.epa@public govdelivery.com>
Sent: Thursday, March 19, 2020 2:40 PM
To: Knott, Steven <Knott.Steven@epa.gov>
Subject: EPA Seeks Nominations for Science Advisory Committee on Chemicals

EPA Seeks Nominations for Science Advisory Committee on Chemicals

EPA is announcing its request for nominations of candidates for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Nomina ions are due no later than April 20, 2020. Any interested person or organization may nominate qualified persons to be considered for appointment to the SACC. Individuals also may self-nominate. Further details of information to be included in a nomina ion are provided in the March 20, 2020, Federal Register Notice in docket EPA-HQ-OPPT-2020-0135. The preferred method for submitting nominations is via email to Steven Knott, the SACC's Designated Federal Officer (knott.steven@epa.gov).

The agency is seeking nominations for individuals who have demonstrated high levels of expertise in scientific/technical fields relevant to chemical safety and risk assessment including, but not limited to: human health and ecological risk assessment, biostatistics, epidemiology, pediatrics, physiologically-based pharmacokinetics, toxicology and pathology, and he relationship of chemical exposures to women, children, and o her potentially exposed or susceptible subpopulations.

In addition, nominees should have backgrounds and experiences that would contribute to the diversity of scientific viewpoints on he committee, including professional experiences in government, labor, public health, public interest, animal protection, industry, and other groups, as the EPA Administrator determines to be advisable (e.g., geographical location; social and cultural backgrounds; and professional affiliations).

The TSCA SACC serves as a primary scien ific peer review mechanism of EPA's Office of Chemical Safety and Pollution Prevention and is structured to provide independent scientific advice and recommendations to EPA on the scientific basis for risk assessments, methodologies, and pollution prevention measures and approaches for chemicals regulated under he Toxic Substances Control Act.

For more information on the TSCA SACC, visit: https://www.epa.gov/tsca-peer-review

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This email was sent to knott.steven@epa.gov using GovDelivery Communications Cloud on behalf of: U.S. EPA Office of Chemical Safety and Pollution Prevention 707 17th St, Suite 4000 Denver, CO 80202 1-800-438-1420

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From:	Teeguarden, Justin G
To:	Knott, Steven
Subject:	Re: EPA SAB, Chemicals, Nomination
Date:	Monday, April 6, 2020 10:04:07 AM

Yes, sorry Steven…TSCA

From: "Knott, Steven" <Knott.Steven@epa.gov>
Date: Monday, April 6, 2020 at 5:01 AM
To: Justin Teeguarden <jt@pnnl.gov>
Subject: RE: EPA SAB, Chemicals, Nomination

Dr. Teeguarden,
Thank you for the nomination. I just want to clarify that I am accepting nominations for the TSCA Science Advisory Committee on Chemicals (SACC). Please confirm whether it is your intent to nominate Dr. Smith for the SACC.
The Agency's Science Advisory Board (SAB) is a different committee.
Thanks again.
Steve
Steven M. Knott, M.S.
Chemist and Executive Secretary
FIFRA Scientific Advisory Panel and
Science Advisory Committee on Chemicals
U.S. EPA Office of Science Coordination and Policy
Knott.steven@epa.gov
(202) 564-0103

From: Teeguarden, Justin G <jt@pnnl.gov>
Sent: Friday, April 03, 2020 8:49 PM
To: Knott, Steven <Knott.Steven@epa.gov>
Subject: EPA SAB, Chemicals, Nomination

Hi Steven:
I'm writing to nominate Dr. Jordan Smith for SAB. Jordan is a toxicologist at the Pacific Northwest National Laboratory in Richland, WA. He would bring deep experience in toxicology, physiologically based pharmacokinetic modeling of environmental chemicals and particles, understanding of risk assessment and deep understanding of how to connect and translate human exposures to exposures in experimental systems like rodents and cell cultures. He leads and contributes to multiple research programs here at the lab, including those funded by NIH DARPA and DTRA. He has worked extensive on population exposure to pesticides including understanding age and gender differences.
His professional and personal ethics are very strong. Having served on such boards (now EPA BOSC), I know he would be a great contributor a positive for the team
I am happy to provide any additional information you need.

Justin G Teeguarden, PhD, DABT
Chief Scientist, Exposure Science
Chemical Biology and Exposure Science Team Lead
Biological Sciences Division
Pacific Northwest National Laboratory, Richland WA
jt@pnnl.gov 509-371-6982

From:	Muhammad Hossain
To:	Knott, Steven
Subject:	RE: EPA Seeks Nominations for Science Advisory Committee on Chemicals
Date:	Tuesday, March 31, 2020 11:57:03 PM
Attachments:	Nomination Letter-Dr. MMHossain.pdf

Dear Dr. Knott,
Attached, please find the letter for nomination of a candidate for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC).
Best regards,
Muhammad Hossain

Muhammad M. Hossain, DVM, MS, PhD
Assistant Professor
Department of Environmental Health Sciences
Robert Stempel School of Public Health & Social work

Florida International University
11200 SW 8th Street | AHC4-430 | Miami, FL 33199
p 305.348.2327 | f 305.348.7782 | e muhossai@fiu.edu

From: Peterson, Todd [mailto:Peterson.Todd@epa.gov]
Sent: Tuesday, March 31, 2020 9:31 AM
To: Peterson, Todd <Peterson.Todd@epa.gov>
Subject: EPA Seeks Nominations for Science Advisory Committee on Chemicals

Note: This message originated from outside the FIU Faculty/Staff email system.

To SACC peer reviewers:
Below my signature block is the announcement for nominations for the SACC and because you have served as an ad hoc reviewer you know something about SACC peer reviews. If you are interested, you may self-nominate. And if you know of a colleague who may be qualified and interested then all nominations are welcome.
Please note that I am hearing that future SACC reviews may broaden out into related topics and simply not just chemical-after-chemical reviews—making for added variety for future SACC reviews and meetings.
Best Regards,

Todd Peterson, PhD
Designated Federal Official
US Environmental Protection Agency
OCSPP/OSCP
Scientific Advisory Panel & Science Advisory Committee on Chemicals
William Jefferson Clinton East Bldg
Mail Code M 7201
1200 Pennsylvania Ave, NW
Washington, DC 20460

Office: 202-564-6428

EPA Seeks Nominations for Science Advisory Committee on Chemicals

EPA is announcing its request for nominations of candidates for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Nominations are due no later than April 20, 2020. Any interested person or organization may nominate qualified persons to be considered for appointment to the SACC. Individuals also may self-nominate. Further details of information to be included in a nomination are provided in the March 20, 2020, Federal Register Notice in docket EPA-HQ-OPPT-2020-0135. The preferred method for submitting nominations is via email to Steven Knott, the SACC's Designated Federal Officer (knott.steven@epa.gov).

The agency is seeking nominations for individuals who have demonstrated high levels of expertise in scientific/technical fields relevant to chemical safety and risk assessment including, but not limited to: human health and ecological risk assessment, biostatistics, epidemiology, pediatrics, physiologically-based pharmacokinetics, toxicology and pathology, and the relationship of chemical exposures to women, children, and other potentially exposed or susceptible subpopulations.

In addition, nominees should have backgrounds and experiences that would contribute to the diversity of scientific viewpoints on the committee, including professional experiences in government, labor, public health, public interest, animal protection, industry, and other groups, as the EPA Administrator determines to be advisable (e.g., geographical location; social and cultural backgrounds; and professional affiliations).

The TSCA SACC serves as a primary scientific peer review mechanism of EPA's Office of Chemical Safety and Pollution Prevention and is structured to provide independent scientific advice and recommendations to EPA on the scientific basis for risk assessments, methodologies, and pollution prevention measures and approaches for chemicals regulated under the Toxic Substances Control Act.

For more information on the TSCA SACC, visit: https://www.epa.gov/tsca-peer-review

FIU | FLORIDA INTERNATIONAL UNIVERSITY

Department of Environmental Health Science
11200 SW 8th Street ● Miami, FL33199
Tel: (305) 348-2327 (Off)

March 31, 2020

To
Steven Knott, PhD
The SACC's Designated Federal Officer
US Environmental Protection Agency

Re: Nomination of a candidate for Science Advisory Committee on Chemicals

Dear Dr. Knott:
I am Muhammad Hossain, an Assistant Professor of Environmental Health Sciences at Florida International University (FIU), Miami, Florida. Before joining FIU, I was an Assistant Professor in the Department of Pharmaceutical Sciences at NEOMED from August 2015- August 2018. I have wide knowledge in toxicology, neurotoxicology and molecular neuroscience because of my PhD in neurotoxicology and postdoctoral trainings in environmental neurotoxicology and molecular neuroscience. I have been working in the field of neurotoxicology and investigating adverse health effects of environmental chemicals for over 16 years and have extensive experience in pesticide neurotoxicity. My research focuses on the molecular and cellular mechanisms of neurotoxicity underlying the processes of neuroinflammation, neurodegeneration, disruption hippocampal neurogenesis, and impairment of cognitive functions. Overall, I am author and co-author of more than 30 peer-reviewed publications in the areas of pesticide neurotoxicology, neuroinflammation, and neurodegeneration. I am an active member of the Society of Toxicology (SOT), and a regular reviewer for several scientific journals. Furthermore, I served as an ad-hoc member on the US Environmental Protection Agency (EPA) Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Scientific Advisory Panel in 2015. I have served on US EPA Chemical Safety Advisory Committee (CSAC) Sub-committee for reviewing the Draft Risk Assessment for Work Plan Chemical 1-Bromopropane in 2016. I have served as an ad-hoc peer reviewer on US EPA TSCA Science Advisory Committee on Chemicals (SACC) for reviewing the Draft Risk Assessment of Methylene Chloride (MC) and N-Methyl-23-Pyrrolidone (NMP) in 2019 and most recently, I have served as an ad-hoc peer reviewer for the Draft Risk Evaluation for Trichloroethylene (TCE) in March 2020.

I believe that my expertise and experiences will enable me to contribute to chemical safety and risk assessment to create a safer and healthier world.

Therefore, I would like to nominate myself as a candidate for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). Please let me know if there is more information you would like from me.

I look forward to hearing from you.

Sincerely,

Muhammad M. Hossain, DVM, MS, PhD

From:	Mike Kavanaugh
To:	Knott, Steven
Subject:	RE: Nomination for TSCA Science Advisory Committee
Date:	Monday, April 20, 2020 3:55:58 PM
Attachments:	ATT00001.txt Biographical Statment of Michael C. Kavanaugh.pdf MCK_CV 2020 Submitted on 4 19 2020.pdf

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Dear Mr. Knott, Please find enclosed my self-nomination materials as requested in the Federal Register notification, (**Federal Register** / Vol. 85, No. 55 / Friday, March 20, 2020)

I appreciate the opportunity to be considered for service on this important advisory committee.

Sincerely yours,

Mike Kavanaugh
Mike Kavanaugh, Ph.D., P.E. (Ca), BCEE.
Senior Principal
Member, National Academy of Engineering

1111 Broadway
6th Floor
Oakland, California 94607
Phone: 510.836.3034, ext. 2766
Direct: 510.285.2766
Fax: 510.836.3036
Mobile: (b) (6)
www.geosyntec.com
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MICHAEL C. KAVANAUGH – P.E., PhD, BCEE

Senior Principal

Current Contact Information

Geosyntec Consultants, Inc
1111 Broadway, 6th Floor
Oakland, CA, 94607
Email: MKavanaugh@geosyntec.com
Phone: (b) (6)

Education

Ph.D., Civil/Sanitary Engineering, University of California, Berkeley

M.S., Chemical Engineering, University of California, Berkeley

B.S., Chemical Engineering, (cum laude), Stanford University, Stanford

Registrations, Certifications, Honors

Registered Chemical Engineer (PE), California

Board Certified Environmental Engineer (BCEE), American Academy of Environmental Engineers and Scientists (Certified in Water Supply/Wastewater, Sustainability and Hazardous Waste Management)

Elected Member, National Academy of Engineering (NAE) (1998)

Fellow, Water Environment Federation (2013)

Work Experience

Geosyntec Consultants, Inc., 2010 to present

Malcolm-Pirnie/ARCADIS, 1997 to 2010

MWH 1977 to 1997

Swiss Federal Institute for Water Research, 1972 to 1976

BIOGRAPHICAL STATEMENT

Dr. Kavanaugh is a chemical and environmental engineer with 43 years of professional experience in private practice, providing a broad range of environmental, hydrogeological and chemical engineering consulting services to private and public-sector clients in the U.S. and worldwide. He is also a Consulting Professor in the Civil and Environmental Engineering Department, Stanford University. During his career, he has served on numerous boards, committees and advisory councils within the National Academies, the US EPA, for the Department of Defense, the Department of Energy, the State of California, various professional organizations, and non-profit organizations.

Current Position: Dr. Kavanaugh is currently a Senior Principal in the firm of Geosyntec Consultants, Inc (www.Geosyntec.com) a privately owned geo-environmental consulting firm with 1400 employees. Dr. Kavanaugh has an active practice in the areas of water quality management, water and wastewater treatment, and remediation of contaminated sites with a focus on restoration of contaminated groundwater. He was elected into the National Academy of Engineering in 1998.

Educational Background: Dr. Kavanaugh received a PhD from UC Berkeley in Civil and Environmental Engineering. He has a M.S. in Chemical Engineering, also from UC Berkeley and a B.S. in Chemical Engineering from Stanford University.

Research Activities: Following completion of his PhD research on filtration, Dr. Kavanaugh worked as a Research Associate for four years at that Swiss Federal Institute for Water Research (EAWAG), directing research on water and wastewater treatment for removal of organic contaminants, primarily chlorination disinfection byproducts and other emerging contaminants at the time (e.g. asbestos fibers and volatile organic compounds). During his consulting career, beginning in 1977, Dr. Kavanaugh participated in several applied research projects including directing the largest pilot scale investigation at that time (1980-1983) on the recycling of wastewater for potable reuse. This project was one of the first large scale testing programs to demonstrate that advanced treatment technologies could produce a product water quality sufficient to meet all drinking water standards as well as removing trace organic compounds not yet regulated, a project authorized by Congress in 1974. Since that time, Dr. Kavanaugh as served as a Principal Investigator, or co-PI on multiple research projects funded by various research foundations, and by the DoD environmental research program, SERDP/ESTCP. Details of these projects, three of which are on-going are provided in the attached CV.

Recent or Relevant Service Experiences: Dr. Kavanaugh is currently serving on the Advisory Board for the Division on Earth and Life Sciences, within the National Academies of Science, Engineering and Medicine (NASEM). He recently completed a four-year appointment serving on the Advisory Council for the

California Council on Science and Technology (CCST). From 1996 to 2000, Dr. Kavanaugh served on the EPA's Board of Scientific Councilors. Within NASEM, Dr. Kavanaugh has chaired the Water Science and Technology Board and the Board on Radioactive Management (now called the Board on Radiation Studies). He has also chaired three NASEM committees, two focused on groundwater remediation (1994 and 2013) and one on sustainability tools and processes to support EPA decision making (2014). He has also served on several research advisory boards for the DoD, the DOE, and a hazardous substance research center at Stanford, a board that he chaired. Details are provided in the attached CV.

Disciplinary and Specific Areas of Expertise

Dr. Kavanaugh has extensive experience in addressing emerging contaminants of concern (e.g. chemicals that have not yet been regulated under the Federal Safe Drinking Water Act) in the context of water treatment, water quality management and remediation of contaminated sites. His research interests have focused on the fate and transport of organic and inorganic contaminants in the water environment, in-situ technologies to mitigate contamination from releases of hazardous chemicals, and ex-situ treatment technologies.

His two primary technical focus areas have been in water quality management and remediation of contaminated sites, serving as project engineer, project manager, principal-in-charge, and technical advisor on several hundred projects, including more than 40 Superfund sites, impacted with a wide range of organic and inorganic chemicals, including radionuclides. He has authored or co-authored 40 peer-reviewed technical publications, edited and contributed to seven books, and has made over 165 presentations to technical audiences as well as public groups including testimony before U.S. Congressional and California state legislative committees. He has also served as an independent technical expert in various alternative dispute resolution processes including as a court appointed independent expert.

CURRICULUM VITAE

MICHAEL C. KAVANAUGH

April 2020

EDUCATION

Ph.D. Civil/Sanitary Engineering, 1974, University of California, Berkeley, CA
M.S. Chemical Engineering, 1964, University of California, Berkeley, CA
B.S. Chemical Engineering, 1962, (*Cum Laude*), Stanford University, Stanford, CA

REGISTRATIONS and CERTIFICATIONS

Professional Engineer, Chemical; No. 3498; State of California.

Board Certified Environmental Engineer, (BCEE), certified by the American Academy of Environmental Engineers and Scientists, (AAEES); certified in Water Supply and Wastewater, Sustainability, and Hazardous Waste Management and Site Remediation.

HONORS

2019 The G.V. Loganathan Distinguished Lecture, Virginia Polytechnic Institute, Blacksburg, VA
2018 Henske Lecture, Yale University, Department of Chemical and Environmental Engineering, New Haven, CT
2016 Elizabeth Rockwell Distinguished Lecture, University of Houston, TX
2015 Perry McCarty Distinguished Lecture, Stanford University, CA
2013 Elected Fellow, Water Environment Federation
2012 Abel Wolman Distinguished Lecture, NAS, Washington, D.C.
2012 Elected Member, Distinguished Alumni Academy, Department of Civil and Environmental Engineering, UC Berkeley, Berkeley, CA
2006 Ernest Gloyna Distinguished Lecturer, Johns Hopkins University, Baltimore MD.
2005 Walter J. Weber Distinguished Lecturer, Ann Arbor, MI.
2003 AEESP Distinguished Lecturer, WEFTEC, Los Angeles, CA.
2002 Samuel R. Greeley Award, Best Water Resources Paper, ASCE Journal 2000
1998 Elected to National Academy of Engineering (NAE)
1994 Selected as one of the 25 top news makers in 1994, by Engineering News Record
1993 Kappe Lecturer, Sponsored by American Academy of Environmental Engineers

EXPERIENCE CHRONOLOGY - CONSULTING

2010-present	**Senior Principal,** Geosyntec Consultants, Inc. Oakland, CA
2009-2010	**Vice President**, ARCADIS, Oakland, CA
2008-2009	**Vice President,** Malcolm Pirnie, Inc. Global Science and Technology Leader Oakland, CA
2002-2008	**Vice President,** Malcolm Pirnie, Inc. National Science and Technology Leader Oakland, CA
1997-2002	**Vice President**, Malcolm Pirnie, Inc. Manager, Northern California Operations, Oakland, CA
1994-1996	**Principal**, ENVIRON Corporation Manager, Engineering Practice, Emeryville, CA
1993-1994	**Senior Vice President and Director,** Montgomery Watson Environmental Management Division, London, UK
1991-1993	**Vice President and Sr. Company Officer,** James M. Montgomery Director of European Development, Walnut Creek, CA
1989-1991	**Vice President and Sr. Company Officer,** James M. Montgomery National Technical Director, Industrial and Hazardous Waste Services, Walnut Creek, CA
1984-1989	**Vice President**, James M. Montgomery Manager, Hazardous Waste Department, Walnut Creek, CA
1980-1983	**Vice President,** James M. Montgomery Sr. Project Manager, Reston, VA
1977-1980	**Principal Engineer**, James M. Montgomery Walnut Creek, CA
1967-1969	**Engineer (part-time)**, Engineering Science, Inc., Oakland, CA
1963-1964	**Process Engineer**, Chevron Research Corporation, Richmond, CA
1961(summer)	**Assistant Engineer,** Procter & Gamble Company, Sacramento, CA
1960 (summer)	**Ordinary Seaman,** Standard Oil Company, Tanker ship traveling to South East Asia.
1959 (summer)	**Galley Assistant,** General Steamship Corporation, Norwegian Freighter traveling to Japan.

EXPERIENCE CHRONOLOGY – APPLIED RESEARCH PROJECTS

Geosyntec Consultants, 2010-present

Principle Investigator, "Development of Guidelines for Forecasting Effective Site Characterization and Early Remediation Performance", SERDP 2013-2020 ($1.25 M).

Co-Principal Investigator, "Evaluating and Applying Site-Specific NAPL Dissolution Rates during Remediation" ; ESTCP Project ER19-5223 ; 2019-2021($130k).

Co-Principle Investigator, "Development of Predictive Tools for Assessment of Natural Attenuation Capacity and Treatment Transition at Chlorinated Solvent Sites", SERDP Project, ER20-1079, 2020-2023 ($1.2 M).

Malcolm Pirnie, Inc., 1997 – 2010

Principal Investigator, Applied Research Project for ESTCP, "Improved Evaluation of NAPL Dissolution and Source Longevity", 2009-2010 ($350k)

Principal Investigator, Applied Research Project for ESTCP, "Technology Status of Diagnostic Tools for Remedial Selection, Design, and Performance Assessment", ESTCP, (2008-2011). ($1.1M)

Principal Investigator, Applied Research Project on Causes, Fate and Control of Cyanide in Municipal Wastewaters; project for Water Environment Research Foundation ($500k) (2002)

Principal Investigator, Evaluation of Advanced Oxidation Processes to remove MTBE and TBA from Drinking Water; project for American Water Works Association Research Foundation. ($650k) (2000)

Principal Investigator, Comparison of Diagnostic Tools for Performance Assessment of In-Situ Remediation Technologies, project funded by the DoD through the ESTCP program. ($1.7 Million) (2006-2011).

Principal Investigator, Evaluation of the fate, transport, generation and destruction of N-nitrosdiethlyamine (NDMA) in wastewater treatment plants, project funded by the WateReuse Foundation. ($700k) (2000-2002).

James M. Montgomery, 1977-1987

Project Manager: Planned and directed several research projects:

a) Optimization of coagulation for organic carbon removal in water treatment applications.
b) Kinetics of trihalomethane formation during disinfection with free chlorine.
c) Mass transfer investigation of volatile organic chemicals in packed towers.
d) Theoretical, lab and pilot investigations of dissolved organic carbon and VOC removal on granular activated carbon (GAC).
e) Optimization of advanced water treatment processes for indirect potable reuse of wastewater.

f) Pilot investigation and modeling of GAC process for removal of multicomponent mixtures of synthetic organic compounds found in Lake Ontario.

EAWAG, 1972-1976, Switzerland

Research Engineer: Planned, conducted or directed several research projects as listed below:

a) Theoretical, lab and field investigations of fate of particulates in Swiss lakes; development of particulate characterization using visual scanning techniques.
b) Design and construction of 10 L/s pilot plant for investigations of advanced wastewater treatment.
c) Lab, pilot and full-scale investigations of wastewater filtration, direct filtration for phosphorus removal.
d) Theoretical and pilot plant investigations of phosphorus removal by chemical precipitation (ferric chloride) and particulate p-removal in sludge blanket clarifier.
e) Lab and pilot investigations of organic carbon removal by ozone and granular activated carbon.

UC Berkeley, 1969-1971, Department of Civil Engineering

PhD Candidate: Theoretical and experimental investigation of kinetics of particle deposition in granular media filters, Ph.D., thesis project.

Engineering Science, Inc., 1967-1968

Associate Engineer: Planned and conducted lab investigation of new continuous shallow bed granular media filter, equipment development project.

U.C. Berkeley, 1963-1964, Department of Chemical Engineering

M.S. Candidate: M.S. Thesis; Developed computer program to simulate amino acid separations in a fixed-bed annular electrochromatograph.

Stanford University, 1962, Department of Chemical Engineering

Summer Intern: Conducted lab scale investigations to determine photochemical reaction rate constants for formation of TiO_2 from $TiCl_3$

EXPERIENCE CHRONOLOGY – ACADEMIC/TEACHING

2008-2020 **Lecturer,** Princeton Hydrology and Remediation Professional Courses (http://www.princeton-groundwater.com/)

2014-2019 **Consulting Professor,** Department of Civil and Environmental Engineering(CEE), Stanford University, CA. Graduate Seminar, "Practice of Environmental Consulting", 2-unit course.

1995-2002 **Consulting Professor,** Department of Civil and Environmental Engineering(CEE), Stanford University, CA; lectures on hazardous waste management and site remediation.

2001 **Lecturer**, University of California at Berkeley Extension, Environmental Management Program Certificate Program in Hazardous Materials Management.

1989 **Lecturer**, University of California, Berkeley graduate course (CE 216) in industrial and hazardous waste management.

1978-1980 **Lecturer**, Stanford University, Stanford; Course on physico-chemical processes for water and wastewater treatment.

1976-1977 **Lecturer**, Department of Civil Engineering, University of California, Berkeley, CA: Introduction to Environmental Engineering.

1972-1976 **Lecturer**, Swiss Federal Institute for Water Research (EAWAG), Duebendorf, and Swiss Institute of Technology (ETH), Zurich, Switzerland. Courses (In German) on water and wastewater treatment.

1964-1967 **Peace Corps Volunteer,** Guatemala City, Guatemala; **Lecturer**, University of San Carlos, Guatemala City. Taught courses on physical chemistry, advanced mathematics (In Spanish).

EXPERIENCE CHRONOLOGY - PEER REVIEW AND EXPERT PANELS

2015. Member, Expert Panel, California Coastal Commission -Poseidon Independent Scientific and Technical Advisory Panel (ISTAP), Phase 2. One of six experts assessing the overall feasibility of subsurface intake systems for a proposed desalination plant in Huntington Beach, CA.

2014. Member, Expert Panel, California Coastal Commission -Poseidon Independent Scientific and Technical Advisory Panel (ISTAP), Phase 1. One of five experts assessing the technical feasibility of subsurface intake systems for a proposed desalination plant in Huntington Beach, CA.

2007, 2010, 2013, 2020. Member, Expert Panel on Remedy Optimization; Orica Corporation, Sydney Australia,. Assessment of alternatives to large scale hydraulic containment remedy at a chlorinated solvent spill site, Botany Bay, Australia.

2013. Peer Reviewer, Ecological Risk Assessment Report, Deep Sea Tailings Placement, Lihir Mine, Papua New Guinea, Newcrest Mining Co.

2012. Expert Reviewer, EPA Watershed Assessment of the Pebble Mine Project; on behalf of Northern Dynasty, Inc.

2012. Expert Panel, Third Party Review; BNSF Somerville Tie Plant, Somerville, TX; RCRA Corrective Action Project; BNSF.

2009-2010. Member, Wyckoff Generational Remedy Expert Panel, Washington Department of Ecology.

2009/2010. Expert Panel Member, Imagine H2O Competition for Business Plans, Water and Water/Energy products and services.

2000-2006. Member, Science Advisory Board, Regenesis Corporation, California.

2003. Co-Chair, EPA Advisory Panel on DNAPL Source Remediation: Prepared report on DNAPL Source Remediation, presented results to directors of Office of Solid Waste and Emergency Response.

2004. Member of Independent Review Panel, Idaho National Engineering Laboratory, Review of Site-wide groundwater cleanup strategy.

1998 – 2002. Member, Integration Project Expert Panel, Hanford DOE Facility, Reviewing all groundwater strategies at the Hanford Site.

1997. Member of an Independent Review Team under contract to Sandia National Lab to review groundwater program planned for UMTRA (Uranium Mill Tailings) sites, and to review environmental restoration program for the Lawrence Livermore National Laboratory.

1998 – 2002. Vice-Chair, Integration Project Expert Panel; Hanford DOE Site, Richland, WA; one of eight panel members selected by DOE from list of 150 nationally recognized experts on site remediation at DOE facilities.

1998. Chair, Expert Panel, Massachusetts Military Reservation, Cape Cod, MA; selected by Air Force Center for Environmental Excellence; prepared report recommending strategies to reduce estimated $600M remediation costs while meeting regulatory and stakeholder concerns.

1987. Reviewer of EPA Report, entitled "Alternative Disinfection Strategies for Control of Trihalomethanes"

1985. One of five national reviewers, review of EPA's research program on "Granular Activated Carbon for control of synthetic organics in Drinking Water".

1983. One of three reviewers of EPA's research program for "Control of Organics in Drinking Water".

1981. One of two national reviewers, EPA Research and Development Publication, "Treatment Techniques for Controlling Trihalomethanes in Drinking Water".

PROFESSIONAL ACTIVITIES

National Committees/Boards - Invited Membership

2019-2021. Member, Advisory Committee, Division on Earth and Life Sciences, National Academies.

2017-2020, Appointed Member, Advisory Council, California Council on Science and Technology (CCST), Sacramento, CA.

2018 – 2019. CCST Steering Committee, Chair; Report on Utility of SB 1281 Reporting on Produced Water in California.

2013 – 2014. Chair, National Research Council (NRC) Committee on Scientific Tools and Approaches for Sustainability, Board on Environmental Studies and Toxicology.

2010-2011. Member, NRC Committee on Incorporating Sustainability in the US Environmental Protection Agency.

2010-2017. Member, National Academies Roundtable on Science and Technology for Sustainability.

2010 – 2015. Member, Report Review Committee, National Research Council.

2013-2015. Elected Trustee, Board of Directors, American Academy of Environmental Engineers and Scientists.

2009-2013. Chair, National Research Council Committee on Future Options for the Nations Subsurface Remediation Efforts.

2009 – 2015. Member, Board of Directors, Environmental Law Institute, Washington, D.C.,; Chair, Finance Committee and Treasurer.

2005-2007. Member, National Research Council Committee on Hydrologic Impacts of Forest Management Practices.

2000-2005. Member, Scientific Advisory Board, DOD Strategic Environmental Research and Development Program (SERDP).

2000-2004. Member, Environmental Engineering Committee, EPA Science Advisory Board.

1996-2000. Member, Board of Scientific Counselors, Office of Research & Development, USEPA.

1995 - 1999. Chairman, Board on Radioactive Waste Management, National Research Council.

1994-2002. Member, Editorial Advisory Board, Environmental Science and Technology.

1991-1995. Editorial Advisory Board, Environmental Progress Journal.

1991 – 1994. Chairman, Committee on Groundwater Cleanup Alternatives, National Research Council.

1990-1993. Member, Technical Review Group, HAZWRAP, Department of Energy.

1989-2000. Chairman, Science Advisory Committee, Hazardous Substance Research Center, Stanford University (one of five EPA funded research centers under Superfund law).

1990-1999. Member, Water Resources Planning Committee, Water Resources Center, University of California.

1988-1991. Chairman, Water Science and Technology Board, National Research Council, Washington, D.C..

1986-1988. Member, Water Science and Technology Board, National Research Council, Washington, D.C..

1989-1991. Member, Research Advisory Council, Water and Environment Research Foundation, Water and Environment Federation, Washington D.C..

1983-1986. Member, Scientific Advisory Committee, EPA Center Program, Advanced Environmental Control Technology Research Center, University of Illinois.

1981-1987. Chairman and Trustee, Research Division, American Water Works Association .

1984-1987. Member, Research Planning Committee, AWWA Research Foundation .

1980-1983. Chairman, AWWA Coagulation Research Committee.

1987-1988. Member Project Advisory Committee, AWWARF Research Project, "Optimization of Air Stripping Process".

Other Professional Committees, Volunteer Membership

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AWWA Filtration Committee 1979-1982.

AWWA Organic Contaminants Committee 1985-1991.

Virginia Section, Chairman, Water Quality Committee 1981-1983.

WPCF Groundwater Committee, Co-Chairman 1987-1989.

WPCF Hazardous Waste Committee 1986-1991.

California WPCA, Hazardous and Industrial Waste Committee, Member and Program Chairman 1984-1986.
Member, Environmental Committee, International Federation of Consulting Engineers, (FIDIC) 1991-1994.

Vice Chair, Advisory Council to the Civil/Environmental Engineering Department, UC Berkeley, CA, 2007-2011.

Member, Advisory Council, Department of Geography and Environmental Engineering, Johns Hopkins University, Baltimore, MD, 2012 – 2104.

Member, Advisory Committee, Department of Chemical and Environmental Engineering, UC Riverside, Riverside, CA, 2011-2014.

PUBLICATIONS

Books

National Research Council, **Scientific Tools and Approaches for Sustainability;** National Academy Press, 2014. (I chaired the committee).

National Research Council, **Alternatives for Managing the Nation's Complex Groundwater Sites,** National Academy Press, March, 2013. (I chaired committee).

IWA Publishing, **Groundwater Management in Large River Basins**, Dimkic, M., Brauch, H-J., Kavanaugh, M., Editors, 2008.

National Research Council, **Alternatives for Ground Water Cleanup,** National Academy Press, October 1994. (I chaired committee, wrote parts of two chapters, reviewed all chapters and wrote the preface.)

Water Science and Technology Board, **Cleanup of Hazardous Waste Sites: Water Quality Issues**, National Academy Press, January, 1988. (I was Chairman of a colloquium sponsored by the Water Science and Technology Board, National Research Council; I reviewed all papers, and wrote the overview, which was subjected to peer review.)

Montgomery, James M., **Water Treatment: Principles and Design**, Wiley, New York, 1985, 1st Edition. (I was principal editor of 28-chapter book, prepared outline of all chapters, authored or co-authored six chapters. Textbook is now in 3rd Edition)

Kavanaugh, M.C. and Leckie, J.O., Eds., **Particulates in Water**, American Chemical Society, Advances in Chemistry Series, Vol. 189 (1980). (I was principal organizer of ACS Symposium and co-editor of book; proceedings subject to peer review.)

Technical Articles

Peer Reviewed

T. Zhang, Lowry, G., Kavanaugh, M et al. **"In situ remediation of subsurface contamination: opportunities and challenges for nanotechnology and advanced materials**" Environ. Science: Nano, 6, 1283, 2019.

Mobile, Michael , MarkWiddowson, Lloyd Stewart, Jennifer Nyman, Rula Deeb, Michael Kavanaugh, James Mercer, Daniel Gallagher, **"In-situ determination of field-scale NAPL mass transfer coefficients: Performance, simulation and analysis."** *Journal of Contaminant Hydrology* 187 (2016) 31–46.

Wildman, C.F., D.H. Gandhi, and M.C. Kavanaugh,. **"Iodine Addition to Drinking Water for Perchlorate Mitigation: Engineering Feasibility**," *J.AWWA,* June, 2015.

Suchomel, E.J., M.C. Kavanaugh, J.W. Mercer, and P.C. Johnson, Chapter 2, **"The Source Zone Remediation Challenge,"** in Chlorinated Solvent Source Zone Remediation, Springer. (Edited by B.H. Kueper, H.F. Stroo, C.M. Vogel, and C.H. Ward. 2014.

Ehlers, L., and M. Kavanaugh, 2013. "**Redefining the End Game for Groundwater Remediation**," *Groundwater*, 51, (2), pg.170, March – April.

Hans F. Stroo[1*], Andrea Leeson[2], Jeffrey A. Marqusee[2], Paul C. Johnson[3], C. Herb Ward[4], Michael C. Kavanaugh[5], Tom C. Sale[6], Charles J. Newell[7], Kurt D. Pennell[8], Carmen A. Lebrón[9], Marvin Unger[1], "**Chlorinated Ethene Source Remediation: Lessons Learned."**, Environ. Sci. Technol. 2012, 46, 6438−6447.

Elisabeth L. Hawley, Neven Kresic, Alexandra P. (Sandy) Wright, and Michael C. Kavanaugh **"Assessing the Current and Future Impacts of the Disposal of Chromated Copper Arsenate (CCA)-Treated Wood in Unlined Landfills,"** 2009, *J. Air & Waste Management,* 59: 332-342.

Kavanaugh, M., and Kresic, N., "**Large urban groundwater basins; water quality threats and aquifer restoration",** Chapter 6, in Groundwater Management in Large River Basins, IWA Publishing, 2008.

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Kresic, N., Mikszewski, A., Manuszak, J., and Kavanaugh, M.C., 2007. "**Impact of contaminant mass reduction in residuum sediments on dissolved concentrations in underlying aquifer"**. *Water Science & Technology: Water Supply*, Vol. 7, No. 3 pp 31-39, doi:10.2166/ws.2007.064

Hawley, E., Deeb R., Jacobs, J. and Kavanaugh, M. 2005. "**Treatment Technologies for Hexavalent Chromium"**. Chapter 8. Hexavalent Chromium Handbook. CRC Press.

Stroo, H. F., M. Unger, C. H. Ward, M. C. Kavanaugh, C. Vogel, A. Leeson, J. A. Marqusee, and B. P. Smith. 2003. "**Remediating Chlorinated Solvent Source Zones"**. *Environ. Sci. & Technology*. June 1, 2003 37: 223A-230A.

Deeb, R.A., Dzombak, D., Thies, T., Ellgas, W., and Kavanaugh, M**. ,** 2003, **"The Cyanide Challenge: WERF Researchers Discuss Strategies for Managing this Disinfection By-product"**. *Journal of Water Environment and Technology.*

Deeb, R.A., Sharp, J., Stocking, A., McDonald, S., West, K., Laugier, M., Alvarez, P., Kavanaugh, M., and Alvarez-Cohen, L. 2002**. "Impact of Ethanol on Benzene Plume Lengths: Microbial and Modeling Studies"**. *Journal of Environmental Engineering-ASCE.*

Deeb, R. A., Stocking, A., Alvarez-Cohen, L. and Kavanaugh, M. 2001. **Biodegradation of MTBE and TBA: A Current Review**. Chapter 16. In Diaz, A. and Drogos, D. (Eds.), Exploring the Environmental Issues of Mobile, Recalcitrant Compounds in Gasoline, American Chemical Society Books and Oxford University Press, pp. 228-242.

Deeb, R. A., Flores, A. and Kavanaugh, M. 2001. **Overview of MTBE Remediation and Treatment Strategies.** Chapter 14. In Diaz, A. and Drogos, D. (Eds.), Exploring the Environmental Issues of Mobile, Recalcitrant Compounds in Gasoline, American Chemical Society Books and Oxford University Press, pp. 190-207.

Deeb, R. A., Stocking, A., Alvarez-Cohen, L. and Kavanaugh, M. 2001. "**Biodegradation of MTBE and TBA: A Current Review".** In Diaz, A. and Drogos, D. (Eds.), Exploring the Environmental Issues of Mobile, Recalcitrant Compounds in Gasoline, American Chemical Society Books and Oxford University Press. Chapter 16 *(book chapter).*

Deeb, R. A., Flores, A. and Kavanaugh, M. 2001. "**Evaluation of MTBE Remediation Technologies".** In Diaz, A. and Drogos, D. (Eds.), Exploring the Environmental Issues of Mobile, Recalcitrant Compounds in Gasoline, American Chemical Society Books and Oxford University Press. Chapter 14 *(book chapter).*

Stocking, A.J., Suffet, I.H., McGuire, M., Kavanaugh, M**. "Implications of an MTBE Order Study for Setting Drinking Water Standards."** *J. AWWA* (March 2001).

Stocking, A.J. and Kavanaugh, M., "**Modeling Volatilization of MTBE from Standing Surface Waters,**" *J. Environmental Engineering, ASCE*, (December 2000)

Kavanaugh, M.C., Weinstein, D., "**Alternative Dispute Resolution Techniques**" in Practical Environmental Forensics: Process & Case Studies, by T.J., Sullivan, F.A. Agardy, R.K. Traub, J. Willey & Son (December 2000) (in press).

Stocking, A.J., Deeb, R.A., Flores, A.E., Stringfellow, W., Talley, J., Brownell, R., Kavanaugh, M.C., 2000. **"Bioremediation of MTBE: A Review from a Practical Perspective."** *Biodegradation* 11(2-3):187-201.

Flores, A.E., Stocking, A.J., Ivery, J.J., Thoma, S.M., Kavanaugh, M.C. **"Impact of Small Gasoline Spills and the Treatment of Water Supply from Private Drinking Water Wells."** *Soil, Sediment, and Groundwater*: MTBE Special Issue. (March 2000)

Kavanaugh, M., **"An Overview of the Management of Contaminated Sites in the U.S., Conflict between Technology and Public Policy,"** *Water Science & Technology* 34 (7-8) 275-283 (1996).

Boller, M.A., and Kavanaugh, M.C., **"Particle Characteristics and Headloss Increase in Granular Media Filtration,"** *Water Research*, 29, 4, 11-39-1149 (1995).

MacDonald, Jackie, and Kavanaugh, M., **"Can Contaminated Ground Water be Cleaned Up?"**, *Environmental Science & Technology*, 28 (8),326 (1994).

Rogers, Jean, Telaldi, D, Kavanaugh, M., **"A Screening Protocol for Bioremediation of Contaminated Soil"**, *Environmental Progress*, 12 (2), 146 (1993).

Olsen, R., Kavanaugh, M., **"Can Groundwater Restoration be Achieved?"**, *Water Environment & Technology*, 5 (3), (March 1993).

Amin, H., Ozbilgin, M., LeClaire, J., Kavanaugh, M., et al, **"Groundwater Remediation; Risks and Alternatives,"** *Water Environment & Technology*, 3 (8) (August 1991).

Bouwer, E., Mercer, J., Kavanaugh, M., DiGiano, F., **"Coping with Groundwater Contamination"**, J. WPCF (September 1988).

Ball, W., Jones, M., and Kavanaugh, M., **"Volatile Organics Removal by Packed Tower Aeration"**, *J. WPCF, 56*, 127 (1984).

Kavanaugh, M., Tate, C., Trussell, A., Treweek, G., **"Use of Particle Size Measurements for Water Treatment Plant Process Selection and Control",** in Particulates in Water, edited by Kavanaugh, M., and Leckie, J., Advanced in Chemistry Series, 189 (1980).

Kavanaugh, M., Trussell, A., Cromer, J., and Trussell, R., **"Empirical Kinetic Model of Trihalomethane Formation: Applications to Meet Proposed THM Standard",** *J. AWWA*, 72, 578 (1980).

Kavanaugh, M., and Trussell, R., **"Design of Aeration Towers to Strip Volatile Contaminants from Drinking Water"**, *J. AWWA*, 72, 684 (1980).

Kavanaugh, M**., "Modified Coagulation for Improved Removal of Trihalomethane Precursors"**, *J. AWWA*, 70, 613 (1978).

Kavanaugh, M., Toregas, G., Chung, M., and Pearson, E.A**., "Particulates and Trace Pollutant Removal by Depth Filtration"**, *Progress in Water Technology*, 10, (5/6), 197-215 (1978).

Kavanaugh, M., et al, "**Phosphorus Removal by Post-Precipitation with Fe (III)"**, *J. WPCF*, 50 (2), 216 (1978).

Kavanaugh, M., Zimmerman, U., Vagenknecht, A., **"Determinations of Particle Size Distributions in Natural Waters; Use of Zeiss Micro-Videomat Image Analyzer",** *Schweizerische Zeitschrift fur Hydrologie*, 39, 86 (1977).

Kavanaugh, M., Eugster, J., Weber, T., Boller, J., **"Contact Filtration for Phosphorus Removal"**, *J. WPCF*, 49, (10), 2157 (1977).

Boller, M., and Kavanaugh, M., **"Contact Filtration for Additional Removal of Phosphorus in Wastewater Treatment",** *Progress in Water Technology*, 8, 203-213 (1977).

Kavanaugh, M., **"Optimization of Filtration for Surface Water Treatment",** (in German), *vom Wasser*, 43, (1974).

Non Peer Reviewed Articles or Reports

Mancini, S., Pence, W, Kavanaugh, M, Davidson,M., Sherwood-Lollar, B., "The CSI in Environmental Forensics; Using Compound-Specific Isotope Analysis in Legal Matters," ABA Journal, Natural Resources & Environment, 31(4), Spring, 2017.

Kavanaugh, M, and Rao, S., Editors. "DNAPL Source Remediation: Is there a Case for Partial Source Depletion?", Report prepared for EPA, Office of Research and Development, Dec 2003.

Deeb, R.A., Stocking, A, Kavanaugh, M., "Fate, Transport and Treatment of Ethanol in the Environment", Report prepared by Malcolm Pirnie, Inc. (2002).

Stocking, A., Kavanaugh, M., "Fate, Transport and Treatment of Methanol in the Environment", Report prepared by Malcolm Pirnie, Inc. (2002).

Deeb, R. A., Sue, S. and Kavanaugh, M. "Reliability and Economic Analysis of Packed Tower and Low-Profile Air Strippers and Associated Off-Gas Treatment Processes for Gemoval of MTBE from Drinking Water." National Water Research Institute, Fountain Valley, CA (2001).

Flores, A., Stocking, A., Deeb, R. A., Davidson, J., Creek, D. and Kavanaugh, M. "Evaluation of MTBE Remediation Options." National Water Research Institute, Fountain Valley, CA (2001).

Deeb, R. A., Sue, S., Stocking, A. Spiers, D. and Kavanaugh, M. 2000. Field studies to demonstrate the cost and performance of air stripping for removal of MTBE from groundwater, pp. 95-99. In Proceedings of the 2000 Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection, and Remediation. National Ground Water Association, Westerville, OH.

Stocking, A.J., Eylers, H.E., Wooden, M., Kavanaugh, M.C., "Air Stripping." Treatment Technologies for Removal of MTBE from Drinking Water: Air Stripping, Advanced Oxidation Processes, Granular Activated Carbon, Synthetic Resin Sorbents. Melin, Gina (Ed). MTBE Research Partnership. National Water Research Institute. (January 2000) *(book chapter).*

Flores, A.E., Stocking, A.J., Kavanaugh, M.C., "Synthetic Resins." Treatment Technologies for Removal of MTBE from Drinking Water: Air Stripping, Advanced Oxidation Processes, Granular Activated Carbon, Synthetic Resin Sorbents. Melin, Gina (Ed). MTBE Research Partnership. National Water Research Institute (January 2000) *(book chapter).*

Kommenini, S., Zoeckler, J., Stocking, A.J., Flores, A.E., Kavanaugh, M.C., "Advanced Oxidation Processes: Literature Review." Treatment Technologies for Removal of MTBE from Drinking Water: Air Stripping, Advanced Oxidation Processes, Granular Activated Carbon, Synthetic Resin Sorbents. Melin, Gina (Ed). MTBE Research Partnership. National Water Research Institute (January 2000) *(book chapter).*

Flores, A.E., Stocking, A.J., Kavanaugh, M.C., "The Use of Synthetic Resins Sorbents for Removal of MTBE from Drinking Water." Melin, Gina (Ed). MTBE Research Partnership. National Water Research Institute (December 1999) *(book chapter).*

Stocking, A.J., Koenigsberg, S.., Kavanaugh, M.C. "Remediation and Treatment of MTBE," *Environmental Protection* (A Stevens Publication), pp. 36-41 (April 1999).

Stocking, A.J., Keegan, E., Kavanaugh, M.C. "Literature Review of the Air Quality Benefits Resulting from the Use of Oxygenated Fuels." Malcolm Pirnie, Inc. (March 1999).

Stocking, A.J., Carroll, P., Keegan, E., Kavanaugh, M.C. "Potential Impact of the UST Upgrade Program on MTBE Plume Lengths." Malcolm Pirnie, Inc. (July 1999).

Stocking, A.J., McDonald, S., Woll, B., Kavanaugh, M.C. "Evaluation of the Fate and Transport of Methyl Tertiary Butyl Ether (MTBE) in Gasoline Following a Small Spill." Malcolm Pirnie, Inc. (October 1999).

McNab, W et al., "Historical Case Analysis of Chlorinated Volatile Organic Compound Plumes," Lawrence Livermore National Laboratory, University of California, UCRL-AR-133361 [Kavanaugh, M., contributing author] (March 1999).

Rice, D., McNab W., Johnson, P., Everett L., Kostenburg W., Kavanaugh M., Pelmulder S., Small M., Ragaini R., "Risk-Informed Decision Making at Petroleum Sites," Lawrence Livermore National Laboratory, UCRL-AR-131771 (October 1998).

Stocking, A. J., Deeb, R. A. and Kavanaugh, M. "Evaluation of the Fate and Transport of Ethanol in the Environment." Malcolm Pirnie, Inc., 180 Grand Ave., Ste. 1000, Oakland, CA 94612 (1998).

Kavanaugh, M. et al "Risk-Based Assessment of Approximate Fuel Hydrocarbon Cleanup Strategies for Site 390, Marine Corps Air Station, El Toro, California," Lawrence Livermore National Laboratory, UCRL-AR-129151 (May 1998).

Kavanaugh, M., et al "Risk-Based Assessment of Appropriate Fuel Hydrocarbon Cleanup Strategies for China Lake Naval Air Weapons Station Navy Exchange Gas Station Site," Lawrence Livermore National Laboratory, UCRL-AR-129578 (January 1998).

Kavanaugh, M., "Groundwater Management Strategies at the China Lake Naval Weapons Center", Proceedings, National Water Well Association Annual Meeting (1985).

Kellums, B, Gulas V., Rogers, J., and Kavanaugh, M., "A Screening Protocol for Bioremediation of Contaminated Soil," presented at AIChE Meeting, Los Angeles (October 1991).

Kavanaugh, M.C., Sullivan, M., & Findley, Paul, "Importance of Water Reuse in Water Resource Planning; Water Quality and Economic Issues," Proceedings, Symposium on Management Strategies for Surface Water Resources, Instanbul (November 1991).

Kavanaugh, M.C., Gleason, P., Chieh, James, and Ozbilgin, M., " Use of Solute Transport Models to Evaluate Pump and Treat Technologies; Advantageous and Limitations", paper presented at Hazmat International, Atlantic City (June 1990).

Kavanaugh, M.C., "Disposal Options for Contaminated Groundwater from Hazardous Waste Sites; Technical and Institutional Issues", paper presented to California Water Pollution Control Association annual meeting, Lake Tahoe (April 1990).

Melton, L.Y. and Kavanaugh, M.C., "An Innovative Air Stripping System for Removal of Volatiles from Groundwater at a Municipal Landfill Proposed Superfund Site", paper presented at Hazmacon, San Jose, CA (April 1989).

Amin, H. and Kavanaugh, M.C., "Evaluation of Alternatives for Remediation of Groundwater, City of Burbank Well Field, EPA Superfund Site", paper presented at Hazmacon, San Jose, CA (April 1989).

Gleason, P.J., Kavanaugh, M.C., et al, "Remediation Cost Reduction Through Risk Assessment and Development of Alternative Cleanup Levels", paper presented at Ninth Annual Conference, Superfund '88, Washington D.C. (November 1988).

Ozbilgin, M.M., Bond, L.D., Gleason, P.J., Kavanaugh, M.C., Bartel, T.J., "Applications of Solute Transport Modeling for Evaluation of Remediation Alternatives and Setting of Groundwater Cleanup Levels", paper presented at Ninth Annual Conference, Superfund '88, Washington D.C. (November 1988).

Appleton, A.R., Kavanaugh, M.C., TeKippe, R.J., Westendorf, "Operation and Performance of Granular Activated Carbon Adsorption at the City of Niagara Falls Wastewater Treatment Plant", presented at WPCF Conference, Dallas (October 1988).

Kavanaugh, M., "Water Treatment, An Overview", published in Process Technologies for Water Treatment, Plenum, New York (1988).

Appleton, A.R. and Kavanaugh, M., "Treatment Alternatives for Groundwater Contamination", Proceedings, 16th Mid-Atlantic Industrial Waste Conference (1984).

Kavanaugh, M., et al, "The Potomac Estuary Experimental Water Treatment Plant: A Case Study of Treating Heavily Polluted Source", Proceedings of Second AWWA Water Reuse Symposium (1981).

Kavanaugh, M. and Trussell, R., "Air Stripping as a Treatment Process", Proceedings of Seminar on Organic Chemical Contaminants in Groundwater, Transport and Removal, AWWA (1981).

Kavanaugh, M. and Trussell, R., "Measurement of Turbidity", Proceedings of Water Quality Technology Conference, AWWA (1979).

Kavanaugh, M., and Vagenknecht, A., "Selection of Appropriate Processes for Suspended Solids Removal in Lake Water Treatment (in German), Gas-Wasser-Abwasser, 9, 554 (1975).

Kavanaugh, M., "Media Filtration in Wastewater Reuse", Discussion of paper by W.E. Gates, et al, in Proceedings of Conference on Wastewater Reclamation, Sanitary Engineering Research Laboratory, University of California, Richmond, CA (1971).

Kavanaugh, M., "Computer Simulation of Separations in the Annular-Bed Electrochromatograph", M.S. Thesis, published as a report to the USPHS, December (1963).

INVITED PRESENTATIONS

Kavanaugh, M, May, 2019, "The Legacy Site Challenge: Getting to Closure", G.V. Loganathan Distinguished Lecture Series, Virginia Polytechnic Institute, Blacksburg, VA

Kavanaugh, M, 2018 "Reflections on Sustainable Futures: The Tradeoff Challenge", Henske Lecture, Yale University, Department of Chemical and Environmental Engineering, New Haven, CT

Kavanaugh, M, November 2016, "Reflections on Sustainable Futures Revisited: The Tradeoff Challenge", Elizabeth Rockwell Distinguished Lecture, University of Houston, TX

Kavanaugh, M, May, 2015, "Reflections on Sustainable Futures: The Tradeoff Challenge", Perry McCarty Distinguished Lecture, Stanford University, CA.

Kavanaugh, M., May, 2014, "NRC Report on Future Options for Managing the Nation's Complex Contaminated Groundwater Sites: Implications for the Transition Decision to Long-Term Management", Battelle Conference, Monterey, CA.

Kavanaugh, M., October 2013. "Groundwater Restoration in the U.S.: Lessons Learned and Challenges for Future Management of Complex Sites", The Israel Society of Ecology & Environmental Sciences, The 41st Annual Conference October 8-10, Tel Aviv, Israel.

Kavanaugh, M., June 2013, "Alternatives for Managing the Nation's Complex Groundwater Sites", Keynote, Battelle Bioremediation and Sustainable Environmental Technologies Conference, Jacksonville, FL.

Kavanaugh, M., April 2012, "Trade-offs in Water Quality Management: Risks, Economics and Equity", Abel Wolman Distinguished Lecture, Washington, D.C.., sponsored by the Water Science and Technology Board, National Research Council.

Kavanaugh, M., December 2009, "Diagnostic Tools for Optimizing Site Remediation", Keynote, SERDP/ESTCP Annual Conference, Washington, D.C.

Kavanaugh, M, 2009, "Urban Groundwater Basin Management and Uncertainty: Balancing Risk Reduction and Cost", National Groundwater Association Meeting, Tucson, AZ.

Kavanaugh, M, 2008. "Urban Groundwater Basins: Threats and Mitigation Strategies; An Overview", IWA Conference, Vienna, Austria

Kavanaugh, M., 2007, Keynote Address, "NAPL Source Zone Remediation Challenge: State of the Practice with a focus on Groundwater", California Groundwater Resources Association Meeting, DNAPL-2, Long Beach, CA.

Kavanaugh, M., 2007-2009, "Leadership for Global Enterprises: Environmental Management," presented annually at the Stanford Summer Program for Chinese Executives, Sustainable Development and Global Competitiveness, Stanford, CA.

Kavanaugh, M, 2006., Ernest Gloyna Distinguished Lecturer, Johns Hopkins University, "Environmental Engineering in the 21st Century: Balancing Economic Growth, Risk Reduction and Sustainability," Baltimore, MD.

Kavanaugh, M., 2005, Walter J. Weber Distinguished Lecturer, University of Michigan, "Environmental Engineering in the 21st Century: Balancing Economic Growth, Risk Reduction and Sustainability," Ann Arbor, MI.

Kavanaugh, M., 2005, Keynote Address, "DNAPL Source Remediation; State of the Practice", California Groundwater Resources Association Meeting, DNAPL-1, San Francisco, CA

Kavanaugh, M., 2004 "Emerging Chemical Contaminants: Technical and Institutional Challenges", Keynote address for symposium presented at the annual SERDP meeting, Washington, D.C.

Kavanaugh, M., 2004, "Filtration in Granular Media; Theory and Mechanisms; an Overview", CA-Nevada AWWA, Sacramento, CA.

Kavanaugh, M., 2004, "Emerging Chemical Contaminants: Technical and Institutional Challenges", Arizona State University, Phoenix, AZ.

Kavanaugh, M., 2003. "Emerging and Unregulated Chemical Contaminants: Technical and Institutional Issues" presented at WEFTEC Meeting, AEESP Distinguished Lecture, Los Angeles, CA.

Kavanaugh, M., Deeb, R., Kommenini, S. and Chowdhury, Z. 2001. "An Overview of Drinking Water Treatment Options for Removal of MTBE and Other Oxygenates". MTBE Seminar for Calverton Utilities, January 25, Calverton, NY.

Kavanaugh, M., Deeb, R., Goldstein, K. 2001. "Key Issues for Remediation Strategies at Sites Where Restoration is Technically Impracticable". U.S. Army Environmental Center, January 23-24, Aberdeen, MD.

Deeb, R. and Kavanaugh, M. 2001. Cyanide: Water Quality Challenges. Western States Petroleum Association Meeting, January 9, Martinez, CA.

Deeb, R., Sue, S., Spiers, D. and Kavanaugh, M. 2000. Field Studies to Demonstrate the Cost and Performance of Air Stripping for Removal of MTBE from Groundwater. NGWA/API's Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection and Remediation Conference and Exposition, November 14-17, Anaheim, CA.

Deeb, R., Alvarez-Cohen, L. and Kavanaugh, M. 2000. MTBE and TBA Biodegradation: A Current Review. NGWA/API's Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection and Remediation Conference and Exposition. November 14-17, Anaheim, CA.

Kavanaugh, M. and Deeb, R. 2000. An Overview of the MTBE Issue. Purdue University, Department of Civil and Environmental Engineering, November 14, Lafayette, IN.

Deeb, R. and Kavanaugh, M. 2000. Comparative Evaluation of the Environmental Fate and Transport of EPA-Approved Oxygenates. 16th Annual International Conference on Contaminated Soils, Sediments and Water, October 16-19, Amherst, Mass.

Kavanaugh, M. and Deeb, R. 2000. Alternatives for Treatment and Remediation of MTBE and Other Fuel Additives. National Petrochemical & Refiners Association Meeting, September 10-12, San Antonio, TX.

Deeb, R. and Kavanaugh, M. 2000. Fate and Transport of Ethanol in the Environment and its Potential Effect on BTEX Plumes Lengths. Northern California MTBE & Fuel Oxygenates Committee, April 6, Santa Clara, CA.

Kavanaugh, M., Gulf Coast Hazardous Substance Research Center, "An Overview of the MTBE Issue," Rice University, Texas, September 22, 2000.

Kavanaugh, M., Asilomar Conference of EPA Hazardous Substance Research Centers, Superfund; Keynote speaker "Assessing Success of Applied Research Programs." (July 2000).

Kavanaugh, M., "Emerging Water Quality Issues in Indirect Potable Reuse," presented at Nan Yung Technological University, Singapore, June 2000.

Kavanaugh, M., California Institute of Technology, "Dissolved Organic Carbon in the Sacramento-San Joaquin Delta: Sources and Fate." (May 2000),

Arulanantham, R., Buscheck, T., Kavanaugh, M. C., Stocking, A.J., Instructor and Contributing Author of "Assessment and Management of MTBE Impacted Sites." National Ground Water Education Foundation. Multiple classes taught throughout 1999 and 2000.

Stocking, A.J., Petersen, S.F., Kavanaugh, M.C., "Remediation Technologies: Design, Selection, and Optimization of Recovery Systems for Methyl Tert-Butyl Ether," presented at the Conference on Petroleum Hydrocarbons and Organic Chemicals In Groundwater: Prevention, Detection, and Remediation, November 11-13, 1998.

Kavanaugh, M., "In-Situ Treatment Technologies: New Challenges." Invited Keynote address, 1st International Conference on Chlorinated and Recalcitrant Compounds, Monterey, CA (1998).

Kavanaugh, M., Conference on Urban Economic Development "Brownfields, Challenges and Opportunities," San Diego, CA (March 1998).

Kavanaugh, M., "In-Situ Treatment Technologies: Promises and Limitations," Keynote address, ASCE Annual Conference, Minneapolis, MN (1997).

Kavanaugh, M., "An Overview of NAPL Remediation." Presented at the Workshop on Science and Engineering Challenges in Remediation of Contaminated Soil and Groundwater. University of Washington (May 1997).

Kavanaugh, M., Gordon Research Conference, Water "In-Situ Remediation; Overcoming Mass Transfer Limitations," invited speaker (July 1996).

Kavanaugh, M., USGS Meeting of Groundwater Scientists, "The NRC Report on Alternatives for Groundwater Cleanup," Denver, CO., October 17, 1994.

Kavanaugh, M., Gordon Research Conference, Invited Speaker, "In-Situ Remediation: Technical Limitations," New Hampshire, June 1994.

Kavanaugh, M., Michigan University, Association of Environmental Engineering Professors, Keynote Speaker on "In-Situ Remediation; Research Needs," September 1993.

Kavanaugh, M., Oak Ridge National Laboratory, Workshop on Critical Issues in Federal Facilities Remediation, "Subsurface Remediation: What can be achieved," April 14, 1993.

Kavanaugh, M., Kansas State University, Manhattan Kansas, "World Water Crisis: Fact or Fiction?" Convocation Series, (September, 1990).

Kavanaugh, M., University of California, Berkeley, "University-Industrial Relations, A Consultants Perspective," (March 1990).

Kavanaugh, M., Brown-Boveri Corporation, 11th International Symposium on Specialty Subjects, Baden, Switzerland, Process Technologies for Water Treatment,

"Physico-Chemical Treatment; Process Modeling and Applications," Keynote Address, 1987.

Kavanaugh, M., Technical University of Denmark, "Hazardous Waste Site Management in the U.S.," 1986.

Kavanaugh, M., University of Washington, Seattle, "Groundwater Remediation at an Industrial Facility: Modeling, Aquifer Restoration, and Cleanup Levels," 1987.

Kavanaugh, M., AWWA Water Resources Division, Annual Meeting, Denver, "Groundwater Remediation: Case Studies," 1985.

Kavanaugh, M., University of North Carolina, Chapel Hill, "Strategies for Mitigation of Hazardous Waste Sites," 1985.

Kavanaugh, M., Johns Hopkins University, Department of Geography and Environmental Engineering, "The Potomac Estuary Experimental Water Treatment Plant," 1982.

Kavanaugh, M., Association of Environmental Engineering Professors, Specialty Seminar, AWWA Annual Meeting, "Particulates in Water; Characterization, Fate and Removal," 1981.

Kavanaugh, M., AWWA Sunday Seminar Series, Annual Meeting, "Air Stripping for Control of Volatile Organics," 1980.

Kavanaugh, M., Rice University, Houston, Texas, "Kinetics of Trihalomethane Formation," (1979).

Kavanaugh, M., University of California, Berkeley, "Strategies for the Control of Trihalomethanes," (1978).

Kavanaugh, M., Scandinavian Specialty Conference on Solid/Liquid Separation, Helsingor, Denmark, "Granular Media Filtration: Theory and Practice, a U.S. Perspective," (1978).

Kavanaugh, M., California Institute of Technology, "Particulate Removal and Control of Trace Contaminants by Solid/Liquid Separation Processes," (1977).

Kavanaugh, M., University of Stuttgart, Stuttgart, West Germany, "Wastewater Filtration," (1975).

Kavanaugh, M., NATO Specialty Conference on Filtration, Oxford England, "Kinetics of Granular Media Filtration," (1975).

Kavanaugh, M., Specialty Conference on Particulates in Water, Luzern, Switzerland, "Particulates in Water: An Overview," (1976).

Other Presentations

2017, “Reflections on Sustainable Futures: The Tradeoff Challenges,” presentation at University of Iowa, Iowa City, Iowa.

2015, “The Legacy Site Challenge: Getting to Closure”, University of Toronto, Toronto, Canada.

2010, “Management of Large Contaminant Groundwater Plumes” presentation at University of Iowa, Iowa City, Iowa.

2009, “Assessing the Impacts of CCA-Treated Wood Disposal in Unlined Landfills”, ACS National Conference, Salt Lake City.

2001, “Air Stripping for Oxygenate Removal from Water” Texas American Water Works Association and the Water Environment of Texas. April 4-6, Houston, TX.

2000 “Subsurface Fate and Transport of Ethanol and its Potential Impact on BTEX Bioattenuation”, The Sixth International Battelle Symposium on In Situ and On-Site Bioremediation.,. June 4-7, San Diego, CA.

2000 “Natural Attenuation Versus Active Remediation at MTBE-Impacted Sites”. The Sixth International Battelle Symposium on In Situ and On-Site Bioremediation. June 4-7, San Diego, CA.

2001 Comparative Evaluation of the Use and Environmental Fate and Transport of EPA-Approved Oxygenates”, Air and Waste Management Association’s 94th Annual Conference and Exhibition. June 24-28, Orlando, FL.

2000 Cyanide Formation and its Fate in Complex Effluents and its Relation to Water Quality Criteria”, Water Environment Federation 74th Annual Conference and Exposition. October 13-17, Atlanta, GA.

1996 "An Overview of the Management of Contaminated Sites in the United States: The Conflict Between Technology and Public Policy," International Association of Water Quality, Keynote Speaker Singapore, June

1994 "NRC Report: Final Recommendations," EPA Ground Water Symposium, Oklahoma City,

1993 "Remediation of Contaminated Groundwater: When Technical Realities and Public Policy Collide," MIT, November 1993.

1993 "Accounting for Uncertainty in Site Remediation," Clemson University, South Carolina.

1992 Kavanaugh, M., University of California, Berkeley, "Integrating Uncertainty in the Design of Remedial Systems for Hazardous Waste Site Cleanup," November.

1992 "NRC Committee on Ground Water Remediation: A Status Report," National Water Well Symposium on Ground Water Remediation, Las Vegas.

1991 “Waste Minimization for Smaller Industries," Industrial Liaison Program, University of California, Berkeley, and Ministry of Commerce, Trade and Industry, Symposium on the Environment, Madrid, Spain.

1990 University of Montana, Bozeman, Montana, "Limitations to Pump and Treat Technologies for Remediation of Hazardous Waste Sites," graduate seminar.

1989 Kavanaugh, M., Purdue Industrial Waste Conference, AEEP Seminar on Hazardous Waste Site Remediation, "Ex-Situ Treatment of Contaminated Groundwater," May.

1989 UC Davis Extension, UC Davis, "Phase Separation Processes for Treating Industrial and Hazardous Wastes," February.

1988 Water Pollution Control Federation Annual Meeting, Sunday Seminar, "Case Studies, Groundwater Remediation," seminar on Coping with Groundwater Contamination, Dallas, TX, October.

1988 AWWA Annual Conference, Orlando, "Impact of Hazardous Waste Sites on Water Utilities," June.

1988 AIChE Symposium on Separation Processes, Northern California Section, "Separation Process Options for Groundwater Cleanup," March.

1988 California Water Pollution Control Association, Hazardous and Industrial Waste Conference, Anaheim, CA, "Impacts of Steel Manufacturing Facilities on Groundwater Quality," February.

1987 Louisiana Section, WPCA, "Proposition 65: Impact on Industry”.

1986 University of Karlsruhe, Germany, "Hazardous Waste Site Management in the U.S.”.

1986 University of California, Berkeley: Symposium on Treatment and Disposal of Hazardous Wastes, "Stringfellow Acid Pits: A Unique Example of Hazardous Waste Site Mitigation”.

1985 California WPCA, Annual Meeting, "Groundwater Remediation Alternatives at China Lake Naval Weapons Station”.

1984 National Water Well Association, Annual Meeting, "Evaluation of Groundwater Remediation Alternatives."

1984 California WPCA, Annual Meeting, "Research and Development: Treatment and Disposal of Hazardous Wastes, An Overview".

1983 Third AWWA Water Reuse Symposium, "Indirect Reuse: Results of Potomac Project".

1983 WQTC, Annual Meeting, "Potomac Estuary Experimental Water Treatment Plant: A Case Study of Indirect Reuse".

1983 AWWA Annual Meeting, "Use of Organic Surrogate Parameters for Control of Treatment Processes."

1983 New Jersey Section, AWWA, "Groundwater Treatment Alternatives".

1981 Second AWWA Water Reuse Symposium, "The Potomac Estuary Experimental Water Treatment Plant: A Case Study of Treating a Heavily Polluted Source".

1981 AWWA Annual Meeting, "Air Stripping as a Treatment Process".

1981 Virginia Section, AWWA - Annual Meeting, "Potomac Estuary Experimental Water Treatment Plant: A Case Study of Treating a Heavily Polluted Source"..

1980 AWWA Annual Meeting "Empirical Kinetic Model of THM Formation: Applications to Meet Proposed THM Standard".

1979 Water Quality and Technology Conference (WQTC), "Turbidity Measurements: Theory and Practice".

1979 California-Nevada Section, AWWA, Annual Meeting, "Coagulation for TOC Removal".

1979 American Institute of Chemical Engineers-National Meeting, "Kinetics of THM Formation".

1978 International Association of Water Pollution Research, Stockholm, "Particulate Removal and Control of Trace Contaminants."

1976 Water Pollution Control Federation, Annual Meeting, "Phosphorus Removal by Post-Precipitation with Fe(III)".

1976 EAWAG, Zurich Switzerland, "Fate of Particulates in Eutrophic Lakes".

1974 German Water Chemists Association Meeting, Constance, West Germany, "Optimization of Filtration for Surface Water Treatment".

1974 AWWA Annual Meeting "Modified Coagulation for Improved Removal of Trihalomethane Precursors".

1970 Conference on Wastewater Reclamation, Lake Tahoe, "Discussion of Paper on Granular Media Filtration in Wastewater Reuse."

OTHER RELEVANT INFORMATION

Professional Organizations

Water Environment Federation
American Association for the Advancement of Science
American Academy of Environmental Engineers and Scientists
American Water Works Association
American Institute of Chemical Engineers
American Chemical Society
International Water Association
National Ground Water Association
Association of Environmental Engineering and Science Professors

Languages

German: read, proficient speaking capabilities
Spanish: read, proficient speaking capabilities

Addresses

Residence: (b) (6) (b) (6) (b) (6) (b) (6) (b) (6)
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1111 Broadway St
6th Floor 510.285.2766 (direct)
Oakland, CA 94607 510.316.4727 (cell)
Email: mkavanaugh@geosyntec.com
Skype Address : michael.kavanaugh1940

From:	Richard Belzer
To:	Knott, Steven
Subject:	SACC Nomination
Date:	Wednesday, April 15, 2020 6:07:07 PM
Attachments:	200415 SACC Nomination Package.pdf

Dear Mr. Knott,

Please see the attached PDF.

Regards,

Richard B. Belzer, Ph.D.
Regulation, Risk, Economics & Information Quality
Strategy & Analysis
Email: rbbelzer@post.harvard.edu
Home Page: http://www.rbbelzer.com
Phone: 703-780-1850
Fax: 703-594-4171 f

RICHARD B. BELZER, PHD

PO. Box 319
Mount Vernon, VA 22121

April 15, 2020

Steven M. Knott, MS,
Designated Federal Officer (DFO)
Office of Science Coordination and Policy (7201M)
Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460.

By E-mail to knott.steven@epa.gov

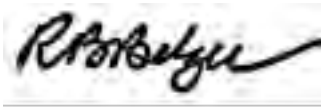
Subject: TSCA Science Advisory Committee on Chemicals (SACC)

I am writing to self-nominate for service on the SACC. I am currently a member of the SAB's Chemical Assessment Advisory Committee (CAAC). Previously I have served on the SAB's Economy-Wide Modeling Panel, and within the last week I was asked (and agreed) to serve on a panel for the Evaluation of Reduced Form Tools for Estimating Air Quality Benefits.

A key field of expertise missing from the announcement is economics. For over 30 years, my primary field of scholarly and practical interest has been the effective integration of human health risk assessment into regulatory benefit-cost analysis. This integration is essential for TSCA rulemaking.

I have attached biographical information most recently provided to EPA in support of my CAAC nomination. Should you have any questions, please contact me at the email address or phone number below.

Regards,



Richard B. Belzer, PhD

2 attachments plus CV

Richard B. Belzer Ph.D.
Regulation, Risk, Economics & Information Quality
Strategy & Analysis Consulting
rbbelzer@post.harvard.edu ☎(703) 780-1850

Attachment 1:
Richard B. Belzer
SAB CAAC

The primary purpose of IRIS toxicological assessments is to inform regulatory risk assessment (the quantification of health risk) and benefits assessment (the quantification and monetization of reductions in health risk resulting from reduced exposure), both of which are needed to inform risk management decision making. Historically, however, IRIS assessments have had little or no utility for these purposes. This structural deficiency may be one reason why the IRIS program has been mired in controversy.

IRIS assessments also have failed to demonstrate adherence to the Agency's Information Quality Guidelines (IQG) (U.S. Environmental Protection Agency, 2002). The IQG requires that IRIS assessments be scientifically objective in substance and presentation. They must be "accurate, reliable, and unbiased," and information therein must be "presented in an accurate, clear, complete, and unbiased manner." The EPA's Peer Review Handbook highlights the IQG and states, "Peer review is a key step in ensuring the quality, objectivity, utility and integrity of the information that EPA disseminates" (U.S. Environmental Protection Agency, 2015). While the purpose of the CAAC is to conduct "formal, independent, external peer review" of draft IRIS toxicological assessments, its reviews generally do not examine whether IQG principles and standards have been satisfied.

I have more than 30 years' experience in the integration of scientific information into benefit-cost analysis, and more than 15 years' experience in information quality. If selected to serve on the CAAC, I will assist the Committee in ensuring that draft IRIS reviews adhere to applicable information quality principles and have the greatest possible utility as inputs to the IQG-compliant risk assessments and benefit-cost analyses on which the Administrator relies for decision-making.

U.S. Environmental Protection Agency. (2002). Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency (EPA/260R-02-008).

U.S. Environmental Protection Agency. (2015). Peer Review Handbook (4th Ed.) (4th ed.). Washington, D.C.: Environmental Protection Agency Science and Technology Policy Council.

Richard B. Belzer Ph.D.
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Strategy & Analysis Consulting
rbbelzer@post.harvard.edu ☎(703) 780-1850

Attachment 2:

Richard B. Belzer, PhD.
SAB CAAC Candidate Bioksetch

Since 2001, Dr. Richard Belzer has been an independent consultant in regulation, risk, economics and information quality. Previously he was a visiting professor of public policy at Washington University in St. Louis and staff economist in the Office of Information and Regulatory Affairs in the Office of Management and Budget. He received his Ph.D. in public policy from Harvard University (1989), Master's in Public Policy (MPP) from the John F. Kennedy School of Government (now Harvard Kennedy School) (1982), and MS and BS degrees in agricultural economics from the University of California at Davis (1979, 1980). Current original research areas include the analysis of intra-test variability in pulmonary function testing and other biomedical data; the development of objective economic indicators to identify adverse human health effects; the improved integration of human health risk assessments into benefit-cost analysis; the analysis of environmental justice ranking schemes; the analysis of patent law and examination practices; estimation of potential cost reductions state Medicaid programs from the substitution of electronic for tobacco cigarettes; and the economic value of subjective quality information in U.S. wine markets. Recent consulting projects have included benefit-cost analyses of California's proposed drinking water standards for hexavalent chromium and 1,2,3-trichloropropane; and the critique of predicted human health impacts and monetized risks attributable to air emissions from new facilities designed to achieve federal regulatory standards. Dr. Belzer is a regular contributor to scholarly professions through journal peer review and service to professional societies. He was elected Treasurer of the Society for Risk Analysis (1998, 2000) and elected Secretary-Treasurer of the Society for Benefit-Cost Analysis (2008, 2010). He earned multiple awards for exemplary performance at OMB, given the SRA's Distinguished Service Award (2003), and was named a Fellow of the Cecil and Ida Green Center for the Study of Science and Society (1995).

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Richard Burton Belzer

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E-Mail: rbbelzer@post.harvard.edu
Web Site: www.rbbelzer.com

Education

Ph.D.	Harvard University, 1989
M.P.P.	Harvard Kennedy School, 1982
M.S.	University of California, Davis, 1980
B.S.	University of California, Davis, 1979

Experience

Independent strategic and technical consulting in regulation, risk, economics, and information quality	2001-present
U.S. Department of Education, Office of Special Education and Rehabilitative Services (SGE)	2018-2020
U.S. Department of Education, Office of Civil Rights (SGE)	2020-2021
U.S. Environmental Protection Agency Science Advisory Board	2020
Member, Reduced-Form Tools Panel (expected)	
Member, Chemical Assessment Advisory Committee	2019-2021
Member, Economy-Wide Modeling Panel	2017-2019
Federalist Society, Regulatory Transparency Project Energy & Environment Working Group	2017-present
R Street Institute	2015-present
Associate Fellow	
Cecil & Ida Green Center for the Study of Science and Society	1995
Senior Fellow	
Nonprofit management	
Regulatory Checkbook	2001-present
Regulatory oversight, scientific peer review	
Neutral Source	2006-present
Blogging platform @ neutralsource.org	
Washington University in St. Louis	1998-2001
Visiting Professor of Public Policy	
Center for the Study of American Business	1998-2001
Regulatory Program Manager	

Office of Information and Regulatory Affairs, Office of Management and Budget 1988-1998
Economist

Public Policy Interests

- Improving the integration of risk assessment into benefit-cost analysis
- Improving the practical utility and reducing the burden of federal information collection requests
- Improving the transparency, reproducibility, and objectivity of information disseminated by government agencies
- Improving the quality of peer review of scientific, economic, and technical work products
- Improving the effectiveness of institutional mechanisms for regulatory oversight
- Improving the net social benefits of regulation

Awards

Society for Benefit-Cost Analysis
Richard O. Zerbe, Jr. Distinguished Service Award, 2017

Society for Risk Analysis
Outstanding Service Award, 2003

Office of Management and Budget
Special Achievement Award, 1990
Division Performance Award, 1991
Division Performance Award, 1992

Affiliations, Memberships, and Professional Service

Society for Risk Analysis (sra.org)
- Elected Treasurer, 1998, 2000
- Executive Committee, 1998-2003
- Specialty Groups
  - Economics and Benefits Analysis
  - Applied Risk Management
  - Occupational Health and Safety
  - Risk Policy and Law

Society for Benefit-Cost Analysis (benefitcostanalysis.org)
- Elected Secretary/Treasurer, 2008, 2010, 2012
- Elected Treasurer, 2014
- Executive Committee, 2009-2016

American Association of Wine Economists (wine-economics.org)

American Water Works Association (awwa.org)

Federalist Society (fedsoc.org)

Testimony

1. U.S. House of Representatives Committee on Science, Space, and Technology. Hearing: *Examining the Underlying Science and Impacts of Glider Truck Regulations.* September 13. (PDF) — 2018
2. U.S. House of Representatives Committee on Science, Space, and Technology. Hearing: *The Environmental Protection Agency's Process for Evaluating and Using Science During Its Regulatory Decision Making Activities*, February 7. (PDF) (Answers to Questions for the Record) — 2017
3. U.S. House of Representatives Committee on Natural Resources, Subcommittee on Energy and Minerals. Hearing: *Examining Deficiencies in Transparency at the Department of the Interior*, May 19. (PDF) — 2016
4. California Environmental Protection Agency, Office of Human Health Hazard Assessment. CalEnviroScreen Academic Workshop, September 7. (PDF) — 2012
5. U.S. House of Representatives, Committee on Science, Space, & Technology, Subcommittee on Investigations & Oversight; and Committee on Small Business, Subcommittee on Healthcare & Technology: *Joint Hearing: How the Report on Carcinogens Uses Science to Meet its Statutory Obligations, and its Impact on Small Business Jobs*, April 25. (PDF) (Answers to Questions for the Record) — 2012

6. U.S. House of Representatives, Committee on Science, Space, and Technology, Subcommittee on Energy and Environment. *Fostering Quality Science at EPA: Perspectives on Common Sense Reform – Day II*, February 3. (PDF) (Answers to Questions for the Record)	2012
7. U.S. Senate, Committee on Environment and Public Works. *Oversight Hearing on Disease Clusters and Environmental Health*, March 29. (PDF) (Answers to Questions for the Record)	2011
8. U.S. House of Representatives, Committee on Government Reform, Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs. *Oversight Hearing on OMB's Draft Report to Congress on the Benefits and Costs of Federal Regulation*, February 25. (PDF)	2004
9. U.S. House of Representatives, Committee on Investigations and Oversight. *Oversight Hearing on Hazardous Waste Rule Making*	1992

Presentations

See listing at http://www.rbbelzer.com/presentations.html.

Publications

Reference	PEER REVIEWED	YEAR
1. Belzer, RB. Comments on the Benefits Assessment Supporting USEPA's *National Primary Drinking Water Regulations: Proposed Lead and Copper Rule Revisions; Notice of Proposed Rulemaking*, 84 Fed. Reg. 61684 February 12. http://bit.ly/2tZSleg		2020
2. Belzer, RB. Achieving Economically Feasible Drinking Water Regulation, *Journal of Benefit-Cost Analysis* (*in press*)	✓	2019
3. Belzer, RB and Lewis, RJ. The Practical Significance of Measurement Error in Pulmonary Function Testing Conducted in Research Settings. *Risk Analysis* 39:10, 2316-2328 (DOI:10.1111/risa.13315)	✓	2019
4. Belzer, RB. Comments on *Increasing Consistency and Transparency in Considering Costs and Benefits in the Rulemaking Process* (ANPRM; Docket ID No. EPA–HQ–OA–2018–0107), August 13. http://bit.ly/39u5v27		2018

	Reference	PEER REVIEWED	YEAR
5.	Belzer, RB. Public Interest Comment on the Food Safety and Inspection Service's Proposed Rule: *Egg Products Inspection Regulations*. George Washington University Regulatory Studies Center, June 12. (HTML)		2018
6.	Belzer RB. Regulatory Impact Analysis for Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits, Working Papers, May 15 (PDF)		2017
7.	Belzer RB. Expected Savings to Medicaid from Substituting Electronic for Tobacco Cigarettes, Policy Study 124, *R Street Institute*. (PDF) (Technical Appendix)		2017
8.	Dudley S, Belzer R, Blomquist G, Brennan T, Carrigan C, Cordes J, Cox LA, Fraas A, Graham J, Gray G, Hammitt J, Krutilla K, Linquiti P, Lutter R, Mannix B, Shapiro S, Smith A, Viscusi WK, and Zerbe R. Consumer's Guide to Regulatory Impact Analysis: Ten Tips for Being an Informed Policymaker, *Journal of Benefit-Cost Analysis*, 2017:1-18. (HTML) (PDF)	✓	2017
9.	Belzer, RB. Comment on *Interim Guidance Implementing Section 2 of the Executive Order of January 30, 2017, Titled 'Reducing Regulation and Controlling Regulatory Costs'* [EO 13711], February 10. http://bit.ly/2UQRmrI		2017
10.	Belzer, RB. The Costs and Benefits of Subjecting Juveniles to Sex-Offender Registration and Notification, Policy Study 41, *R Street Institute*. (PDF)		2015
11.	Belzer, RB. Independent Review of California State Water Quality Control Board Regulatory Impact Analysis for the Proposed 1,2,3-Trichloropropane Primary Drinking Water Standard, April 20. http://bit.ly/2qDXlyA		2017
12.	Belzer, RB. A Review of the California Department of Public Health's Cost--Benefit Analysis in Support of a Proposed Primary Drinking Water Standard for Hexavalent Chromium [Cr(VI)]: Addendum with Third--Party Cost Estimates, December 12. http://bit.ly/2HjnY5g.		2013

	Reference	PEER REVIEWED	YEAR
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14.	Belzer, RB. A Review of the California Department of Public Health's Cost-Benefit Analysis in Support of a Proposed Primary Drinking Water Standard for Hexavalent Chromium (Cr VI), October 9. http://bit.ly/2HqFZP7		2013
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18.	Belzer, RB. Comments on *ICR 0651-0031 ('Patent Processing (Updating)')*, March 29. http://bit.ly/2SF0sVK		2013
19.	Belzer, RB. Comments on January 3, 2013 draft California Communities Environmental Health Screening Tool (CalEnviroScreen), February 1. http://bit.ly/2gDgMH1.		2013
20.	Belzer, RB. Comments on July 30, 2012 draft California Communities Environmental Health Screening Tool (CalEnviroScreen), October 16. http://bit.ly/2fW7QrN. Academic Workshop Slides http://bit.ly/2OP2W2A.		2012
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22.	Belzer, RB. Second Comment and Second Information Quality Act Information Collection Request on U.S. Patent and Trademark Office, *Patent Processing (Updating) [ICR 0651-0031]*; Proposed collection; comment request, 77 Fed. Reg. 16813, May 27. http://bit.ly/2UN0ZaK.		2012

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24. Belzer, RB. First Comment and Information Quality Act Information Collection Request on U.S. Patent and Trademark Office, *Patent Processing (Updating) [ICR 0651-0031]*; Proposed collection; comment request, 77 Fed. Reg. 16813, May 21. http://bit.ly/31PXn9s		2012
25. Belzer, RB. Comments on *The Paperwork Reduction Act: Research on Current Practices and Recommendations for Reform (*Draft Report to the Committee on Administration and Management), by Stuart Shapiro, March 20, 2012. http://bit.ly/2Hlqmc4.		2012
26. Belzer RB. Risk Assessment, Safety Assessment, and the Estimation of Regulatory Benefits, Research Papers. Mercatus Center at George Mason University, Arlington, VA. (PDF)		2012
27. Belzer RB. The Report on Carcinogens: What Went Wrong; What Can Be Done to Fix It, *Issue Analysis*, 2012:1, Competitive Enterprise Institute. (PDF)		2012
28. Belzer, RB. Comments on *Proposed Revisions to the Process for the 13th Report on Carcinogens*, November 30. http://bit.ly/38BevCk.		2011
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43. Belzer, RB. An Analysis of EPA's Information Collection Request Seeking OMB Approval to Impose Mandatory Tier 1 Assay Testing in Support of the Endocrine Disruptor Screening Program, May 21. http://bit.ly/39uc8S0		2009
44. Belzer, RB. Comments on U.S. Patent and Trademark Office, *Information Collection Request (ICR) 0651-00xx [renumbered as 0651-0063] Information Collections and Burden Estimates*, November 17. http://bit.ly/38lcb2p.		2008
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65. Belzer RB, deFur P, Clarke D. Selecting, Implementing, and Tracking Ecological Risk Management Decisions: Necessary Elements of an Effective Decisionmaking Framework, Chapter 5 in *Risk Management: Ecological Risk-Based Decision-Making*, Stahl RG, et al., eds. Pensacola, Fl: Society of Environmental Toxicology and Chemistry, 57-74. (link)	✓	2001
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74.	Belzer RB. CSAB Project on Regulatory Oversight: Study Protocol 1, Appendix B: Evaluative Criteria for Compliance [Evaluative Criteria for Compliance: Regulatory Flexibility Act of 1980, as Amended by the Small Business Regulatory Enforcement, Fairness and Compliance Act of 1996], Center for the Study of American Business, Washington University in St. Louis.		1999
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90. Office of Management and Budget. Regulating Risk: The Cost-Effectiveness of Federal Efforts to Reduce Health and Safety Risks, *Regulatory Program of the United States Government: April 1, 1991 — March 31, 1992*. Washington, D.C.: Office of Management and Budget, 8-16. (PDF)	✓	1991
91. Office of Management and Budget. Current Regulatory Issues in Risk Assessment and Risk Management, *Regulatory Program of the United States Government: April 1, 1990 — March 31, 1991*. Washington, D.C.: Office of Management and Budget, 13-26. (PDF)	✓	1990

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From: Rua, Diego
To: Knott, Steven
Subject: Science Advisory Committee on Chemicals
Date: Monday, April 6, 2020 2:58:22 PM
Attachments: image002.png
Diego Rua cv 01312020.pdf

Hello Steven,
By this email, I'd like to self-nominate for membership in the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC).
Please see copy of my cv attached to this email.
Although not mentioned in my cv, I served as volunteer grant reviewer for the last two EPA STAR Grant programs; i.e. EPA-G2018-STAR-C1 and EPA-G2019-STAR-D1.
Thank you for your time and consideration,

Diego Rua, PhD MBA
Research Biologist
Division of Biology, Chemistry, and Materials Science (DBCMS)
Office of Science and Engineering Laboratories (OSEL)
Center for Devices and Radiological Health (CDRH)
10903 New Hampshire Avenue
Building 64, Room 4074
Silver Spring, Maryland 20993
Phone # 240-402-2454
diego.rua@fda.hhs.gov

Diego Rua, Ph.D., M.B.A.

E-mail: diego.rua@fda.hhs.gov
Phone # (240) 402-2454

SCIENTIFIC SKILLS & EXPERTISE

Perform safety and toxicological assessments. Review toxicological risk assessments for medical devices. Review and conduct pre-clinical and clinical safety/efficacy/in-use studies for cosmetic products, OTC drugs and dietary supplements. Liaise with supporting research labs and act as technical representative in government contracts. Evaluate post-market surveillance adverse event reports and safety trends associated with FDA regulated products. Currently active in the area of alternatives to animal testing in hazard and risk assessments.

HIGHLIGHTS OF PROFESSIONAL EXPERIENCE

’18 – present	**Senior Research Biologist –** CDRH, FDA (*Government)*
’15 – 17	**Lead Interdisciplinary Scientist –** CDER, FDA
’08 – 15	**Biologist/Team Leader -** CFSAN, FDA
’06 – 08	**Program Manager** – Avon Products R&D (Retail/*Personal products industry*)
’03 – 06	**Senior Scientist** – Alticor/Amway (Retail/*Consumer goods industry)*
’02 – 03	**Research Scientist/Group Leader** – Fibrogenex, Inc. (*Start-up Biotech*)
’99 – 03	**Postdoctoral fellow** – University of Chicago (*Academia*)
’94 – 98	**Research & Teaching Assistant** – Wayne State University (*Academia*)
’91 – 93	**Scientist** – Strohtech, Inc (*Biotech*)

EDUCATION

’06 – 09	**Master in Business Administration (MBA),** with a concentration in Strategic Management. Davenport University.
’94 – 99	**Doctor of Philosophy (PhD)** in Biological Sciences, with a concentration in Molecular & Cellular Biology. Wayne State University.
’90 – 91	**Master of Science in Biological Sciences.** Wayne State University.
’86 – 90	**Bachelor of Arts in Physics.** Kalamazoo College.

ACHIEVEMENTS

21 peer-reviewed publications, 1 patent, invited guest speaker

CURRENT APPOINTMENT

’18 Senior Research Biologist – Center for Devices and Radiological Health. Food & Drug Administration (FDA). White Oak, Maryland. (*Government)*
Review scientific information to determine the safety of FDA regulated products/medical devices. Member of the Skin Sensitization and Read-across Working Groups in the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM).

PREVIOUS PROFESSIONAL EXPERIENCE

’15 – 17 Lead Interdisciplinary Scientist – Center for Drug Evaluation & Research. FDA
Review scientific information to determine the safety and efficacy of FDA regulated products/OTC drug products such as sunscreens. Member of the Skin Sensitization Working Group in the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM).

’08 – 15 Biologist/Team Leader - Center for Food Safety & Applied Nutrition, FDA
Produce safety assessments on the use of ingredients in FDA regulated products/cosmetic products and color additives. Respond to citizen’s petitions. Evaluate post-market surveillance adverse event reports. Develop guidelines. Design and supervise FDA-sponsored research on botanical extracts with associated adverse event reports. Center representative to ICCVAM and member of its Skin Sensitization Working Group. Review validation data in support of alternative (non-animal) testing methods.

’06 – 08 Program Manager – Clinical Evaluations. Avon Products R&D. Suffern, New York. (*Public company; AVP; 40,300 employees; Personal products industry*)
Supervised in-house and external clinical safety and/or efficacy studies that supported product development and advertising claims with science, having responsibility over all aspects of study design including: budget, protocol, adherence to GLP/GCPs, and data analysis. Studies involved anti- aging skin care technologies and UVB/UVA sunscreens, as well as medical/cosmetic devices which produced data for 510K submissions. Ensured gathering of proper claim support documentation and reviewed labeling, promotional, and advertising materials. Defended claims through internal and/or external challenges. Managed three supporting scientists and multiple projects in a fast-paced, highly matrixed environment. Initiated and managed relationships with outside contract research organizations (CROs) as well as institutional review boards (IRBs).

’03 - 06 Senior Scientist. Bioassay/Analytical Services. Alticor/Amway. Ada, Michigan (*Private company; worldwide retail sales of US$6.4 billion in 2005; 13,000 employees; nutritional supplements/beverages/personal care/cosmetics/home care products*)
Developed and performed *in vitro* cell-based assays to support R&D’s characterization and formulation of foods, nutritional supplements, beverages and cosmetic products. Implemented new technologies to facilitate the documentation of functional biological activity in natural raw ingredients as well as their safety and the substantiation of claims made in finished products. Managed three supporting scientists and worked regularly in cross-functional teams.

’02 - 03 Research Scientist- Group Leader. Fibrogenex, Inc. Chicago, IL. (*Private company; currently Chifyx http://chifyx.com/; Start-up Biotech*)
Used conditioned media from large-scale culture of mammalian cells to purify native proteins, such as growth factors and morphogens, which have great potential for therapeutic use. Assayed purified samples for biological activity. Managed two supporting scientists.

’99 - 03 Postdoctoral fellow. Center for Molecular Oncology. University of Chicago.
Mentor: Dr Stephen J. Kron. Project: “Establishment and maintenance of polarity states in yeast cells”. Discovered a nuclear export signal (NES) in the mitotic cyclin Clb2p by sequence alignments and structural modeling.

’98 - 99 Research Assistant. Wayne State University. Detroit, Michigan.
Wrote several NIH grant renewals and proposals for my PhD thesis advisor.

’94 - 97 Teaching Assistant. Wayne State University. Detroit, Michigan.
Taught students and prepared experiments for laboratory sections of Microbiology, Genetics and Histology courses. Wrote lab examinations for each course and generated lab grades.

’91 - 93 Scientist. Strohtech, Inc. Detroit, Michigan.
Contributed in a team effort to express the human hemoglobin gene in yeast cells and purify the recombinant gene product from endogenous proteins.

’87 - 88 Internship Technician. The Upjohn Company. Kalamazoo, Michigan.
Set up an Automated Microbiology Identification System (AMBIS) and built up a pathogenic bacteria databank. Trained permanent employees to use the system.

’86 - 90 Undergraduate Teaching Assistant. Kalamazoo College. Kalamazoo, Michigan.
Taught and lead conversation sections of Spanish courses

EDUCATION COMPLETED

’06 - 09 **Master in Business Administration (MBA)** *with distinction* in Strategic Management.
Davenport University. Grand Rapids, Michigan.

’94 - 99 **Doctor of Philosophy (PhD)** in Biological Sciences, with a concentration in Molecular & Cellular Biology. Wayne State University. Detroit, Michigan.
Thesis: "Regulation of Cardiolipin synthesis and the role of this phospholipid in Adriamycin-induced Cardiotoxicity". Thesis advisor: Dr Miriam L. Greenberg.
Contributed to purify the mitochondrial membrane protein cardiolipin (CL) synthase. Developed a novel screen for isolating yeast mutants in biosynthesis of the phospholipid CL. Showed that CL-devoid yeast mutant cells have lower sensitivity to the chemotherapeutic drug adriamycin, which supports a role for CL in the cardiotoxicity of adriamycin. Used this model system to find analogues of adriamycin that are less toxic to mitochondria.

’90 - 91 Master of Science in Biological Sciences. Wayne State University. Detroit, Michigan.

’86 - 90 Bachelor of Arts in Physics. Kalamazoo College. Kalamazoo, Michigan.

SELECTED PRESENTATIONS (total number of presentations: 5)

'13 12th Annual International Conference on the Science of Botanicals, Oxford, MS
“Regulation of cosmetic products in the United States”.

'12 OECD Methods in In Vitro Toxicology, IIVS, Gaithersburg MD “Regulation of the manufacture and safety testing of cosmetics products”

'02 The Cell Cycle Meeting, Cold Spring Harbor Laboratory, Cold Spring Harbor NY and Yeast Genetics and Molecular Biology Meeting, Madison, WI "Blocking Clb2p nuclear export delays mitotic exit and the isotropic switch to promote filamentous growth

PUBLICATIONS

Coelho, S.G., **Rua, D.**, Miller, S.A., Agrawal, A. (2020) Suboptimal UVA attenuation by broad spectrum sunscreens under outdoor solar conditions contributes to lifetime UVA burden. *Photodermatol Photoimmunol Photomed*. 36(1):42-52

Patlewicz, G., Lizarraga, L.E., **Rua, D.**, *et al.* (2019). Exploring current read-across applications and needs among selected U.S. Federal Agencies. *Regul Toxicol Pharmacol.* Aug 106:197-209

Rua, D., Liu X, Wokovich A, Guo C, Keire D. (2019) Particle Size Distribution Analysis of OTC Aerosol or Powder Drug Products with Potential for Inadvertent Inhalation Exposure to Consumers. *J Pharm Sci.* 108(4):1506-1511

Rua, D., Avonto, C., Lasonkar, P., Chittiboyina, A.G., Khan, I.A. (2017) Identification of a compound isolated from German chamomile (*Matricaria chamomilla*) with dermal sensitization potential. *Toxicol Appl Pharmacol.* 318:16-22

Rua, D., Hong, H., Sakkiah, S., Selvaraj, C., Ge, W., Tong, W. (2016) Consensus Modeling for Prediction of Estrogenic Activity of Ingredients Commonly Used in Sunscreen Products. *Int J Environ Res Public Health.* 29;13(10)

Avonto, C., Chittiboyina, A.G.,Wang, M.,Vasquez, Y., **Rua, D.**, Khan, I.A. (2016) In Chemico Evaluation of Tea Tree Essential Oils as Skin Sensitizers: Impact of the Chemical Composition on Aging and Generation of Reactive Species. *Chem Res Toxicol.* 18;29(7):1108-17

Zhou, W., Wang, P.G., Wittenberg, J.B., **Rua, D**., Krynitsky, A.J. (2016) Simultaneous determination of cosmetics ingredients in nail products by fast gas chromatography with tandem mass spectrometry. *J Chromatogr A.* 1446:134-40

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Avonto, C., Wang, Y.H., Avula, B., Wang, M., **Rua, D.**, Khan, I.A. (2015) Comparative studies on the chemical and enzymatic stability of alpha- and beta-arbutin. *International Journal of Cosmetic Science*, Sep 9: 1–7

Chittiboyina, A.G., Avonto, C., **Rua, D.**, Khan, I.A. (2015) Alternative Testing Methods for Skin Sensitization: NMR Spectroscopy for Probing the Reactivity and Classification of Potential Skin Sensitizers. *Chem Res Toxicol.* 21;28(9):1704-14

Wittenberg, J.B., Canas, B.J., Zhou, W., Wang, P.G., **Rua, D.**, Krynitsky, A.J. (2015) Determination of methylisothiazolinone and methylchloroisothiazolinone in cosmetic products by ultra-high-performance liquid chromatography with tandem mass spectrometry. *J Sep Sci.* 38(17):2983-8

Wang,Y.H., Avonto, C., Avula, B., Wang, M., **Rua, D**., Khan, I.A. (2015) Quantitative Determination of α-Arbutin, β-Arbutin, Kojic Acid, Nicotinamide, Hydroquinone, Resorcinol, 4-Methoxyphenol, 4-Ethoxyphenol, and Ascorbic Acid from Skin Whitening Products by HPLC-UV. *J AOAC Int.* 98(1):5-12

Avula, B., Wang, Y.H., Wang, M., Avonto, C., Zhao, J., Smillie, T.J., **Rua, D.**, Khan, I.A. (2014) Quantitative determination of phenolic compounds by UHPLC-UV-MS and use of partial least-square discriminant analysis to differentiate chemo-types of Chamomile/Chrysanthemum flower heads. *J Pharm Biomed Anal.* 88:278-88

Brovelli, E.A., **Rua, D.**, Roh-Schmidt, Chandra, A., Lamont E., Noratto G.D. (2005) Human Gene Expression as a Tool to Determine Horticultural Maturity in a Bioactive Plant (*Echinacea purpurea L. Moench). J Agric Food Chem.* 53(21):8156-61

Williams, F., Cronin, M., Guy, R.H., Rothe, H., **Rua, D.**, Yang, C., Roper, C.S., *et al.* (2013) Threshold of toxicological concern (TTC) task force: a strategy to support application of TTC to dermally applied cosmetic ingredients. *Toxicology Letters* 221:S35

Rua, D., Holzen, T., Glick, B.S., Kron, S.J., Bishop, D.K. (2002) Monitoring changes in the subcellular location of proteins in *S cerevisiae*. *Methods Mol Biol.* 241:299-311

Rua, D., Tobe, B.T., Kron, S.J. (2001) Cell cycle control of yeast filamentous growth. *Current Opinion in Microbiology* 4:720–727

Schlame, M., **Rua, D**., Greenberg, M.L. (2000) The biosynthesis and functional role of cardiolipin. *Progress in Lipid Research* 39(3):257-288

Zhao, M., **Rua, D**., Hajra, Amiya K., Greenberg, M.L. (1998) Enzymatic synthesis of radiolabeled CDP-DG. *Analytical Biochemistry* 258, 48-52

Zhao, M., Schlame, M., **Rua, D**., Greenberg, M.L. (1998) Cardiolipin synthase is associated with a large complex in yeast mitochondria. *J.Biol.Chem.* 273, 2402-2408

Schlame, M., Zhao, M., **Rua, D**., Haldar, D., Greenberg, M.L. (1995) Kinetic analysis of cardiolipin synthase: a membrane enzyme with two glycerophospholipid substrates. *Lipids* 30, 633-40

SELECTED ABSTRACTS (total number of abstracts: 12)

Wang, Y., Wu, Q., Muskhelishvili, L., Davis, K., Tripathi, P., Xiong, R., Rua, D., *et al.* (2019) Evaluating a Method for Assessing Respiratory Toxicity In Vitro. 58th Annual Meeting of the Society of Toxicology.

Avonto, C., Wang, Y.H., Avula, B., Wang, M., **Rua, D**., Khan, I. (2014) Investigation of the Instability of Alpha and Beta-arbutin. 4th Annual FDA Foods and Veterinary Medicine Science and Research Conference.

Smillie, T., Wang, Y.H., Avonto, C., Avula, B., Wang, M., **Rua, D.,** Khan, I. (2013) Stability Evaluation and Quantitative Determination of Skin Whitening Agents from Cosmetic Products by HPLC-UV. 3rd Annual FDA Foods and Veterinary Medicine Science and Research Conference.

Yang, C., Ambrosio, M., Arvidson, K., Cronin, M., Richarz, A., **Rua, D.**, *et al.* (2012) Development of a new TTC (threshold of toxicological concern) database for cosmetics ingredients. SEURAT (Safety Evaluation Ultimately Replacing Animal Testing) Annual Meeting.

Aungst, J., Arvidson, K., **Rua, D.**, *et al*. (2012) Revisiting the TTC approach for cancer assessment: part of a road map of computational methods at FDA CFSAN OFAS. Society of Toxicology Meeting.

Koshkin V., **Rua, D**., and Greenberg M.L. (2001) The Role of Cardiolipin in Mitochondrial Function and Doxorubicin-Induced Toxicity. Yeast Lipid Meeting. Denmark.

Rua, D. and Greenberg, M.L. (1997) Identification of yeast mutants defective in content of the mitochondrial phospholipid cardiolipin. FASEB Journal v11 n9 p.A1202.

PATENTED WORK

- Duvel L., **Rua D**., Chandra A., Fast D., and Missler S. Methods of Using Grape Seed Extract to Stimulate Tyrosinase Expression or Melanin Synthesis. # 2006014

ADDITIONAL TRAINING / SKILLS

Avon Products R&D, Training Courses, 2006 - 2008

- Monitoring clinical studies in the U.S. under legal [21 CFR 50, 56, 312] and guidance (ICHGCP) requirements
- Skin Statistics- basic and applied.
- Supervisor Compliance & Manager Mentoring Programs

FDA, Training Courses, 2008 – present

- Regulatory Compliance for the Personal Care Industry – The Center for Professional Advancement (CfPA)
- Cosmetic GMPs around the world - CfPA
- Ingredients for Cosmetics & Toiletries – CfPA
- Clinical Studies for Claims Substantiation of Cosmetic Products - CfPA
- Quantitative Risk Assessments 1 & 2. University of Maryland, College Park.
- Basic Food & Drug Law course
- Food, Dietary Supplement, and Cosmetic Law and Regulation course
- Contracting Officer Technical Representative (COTR) certification – August 2010
- Reviewer Certification Program, CDRH - 2018

Manuscript reviewer for ***Toxicology Mechanisms and Methods, Toxicology and Applied Pharmacology, and International Journal of Environmental Research and Public Health.***

Reviewer of grants applications submitted to the Alternatives Research & Development Foundation and the Environmental Protection Agency (EPA) Alternatives to Vertebrate Animal Testing Funding Program.

Toxicology Excellence for Risk Assessment (TERA) – February 2011 Dose-Response Assessment Boot Camp

Certified soccer coach and referee – 2009 until present.

Other language skills: Able to read, speak and write proficiently in Spanish.

From: Lisa Marie Nespoli
To: Knott, Steven
Subject: Self-nominate for appointment to the SACC - ID EPA-HQ-OPPT-2020-0135
Date: Thursday, April 2, 2020 10:46:01 AM
Attachments: image001.png
image002.png
image003.jpg
EPA_SACC_Biosketch_LMN.docx
LMN_CV_3_2020.doc
Lisa Marie Nespoli Publication Experience.docx

Dear Steven,

I would like to self-nominate to be considered for appointment to the SACC identification (ID) number EPA-HQ-OPPT-2020-0135. Please see attached my Biosketch, CV, and Publications. If you need any additional information, please let me know.

Thank you in advance for your consideration. Stay safe and healthy.

Sincerely,

Lisa Marie Nespoli

Manager, Product Safety and Stewardship

covestro.com

Office
412-413-4766
Mobile
(b) (6)
E-mail
lisamarie.nespoli@covestro.com

Covestro LLC
1 Covestro Circle
Pittsburgh, PA 15205
Visit our Product Stewardship website:

The processing of personal data is necessary to communicate and provide our services. Read more here: privacy-information.

Name: Lisa Marie Nespoli (www.linkedin.com/in/lisa-marie-nespoli)

Organization: Covestro, LLC (www.covestro.com): 1 Covestro Circle, Pittsburgh, PA 15205
Email address: lisamarie.nespoli@covestro.com
Daytime telephone number: (b) (6) or 412-413-4766

Education: Master of Science Degree in Biology from Duquesne University, Pittsburgh PA and Master of Science Degree in Environmental Science and Management from Duquesne University, Pittsburgh PA, Bachelor of Science Degree in Biology from Allegheny College, Meadville PA.

Expertise: Biology, Chemistry, Chemical Exposure, Environmental Health and Safety; Chemical Risk Assessments, Product Safety, Product Stewardship, Development and Implementation of Technical Policies and Strategies relating to Chemical Safety, Sustainability.

Candidate Biosketch:

Ms. Lisa Marie Nespoli manages Product Safety and Stewardship at Covestro. She has been employed by Covestro since 2010 and manages a group of various science, health and safety experts. She holds a B.S. in Biology from Allegheny College and a M.S. in Biology and M.S. in Environmental Science and Management from Duquesne University. Her Bachelor's thesis was in the area of reproductive toxicology, looking for thyroid and behavioral effects of chemical toxicants on future generations and her Master's thesis was in the area of environmental reproductive toxicity and endocrine disruption. Lisa Marie's primary professional interests are in chemical product safety and stewardship, sustainability and green chemistry, and human health risk assessment. In her corporate role at Covestro, she leads several global teams to provide guidance and expertise on the company's product safety, stewardship, and sustainability initiatives, methods for product prioritization and risk characterization, and informs Covestro's businesses and leadership teams. She was also responsible for developing and implementing global product stewardship core processes and risk characterization procedures for the company. Lisa Marie is known as an expert in product stewardship and sustainability, and has been asked to speak on these topics at numerous venues, including summits on Safer Sustainable Products. Lisa Marie serves in leadership roles on a number of professional and trade associations, such as the American Chemistry Council (ACC), Adhesive and Sealant Council (ASC), the American Coatings Association (ACA), Product Stewardship Society (PSS), and previously Society of Toxicology (SOT) and Society of Environmental Toxicology and Chemistry (SETAC). Prior to joining Covestro, Lisa Marie provided Environmental Consulting expertise for the Federal Aviation Administration with BAE Systems, where she held various health, safety and environmental positions. Ms. Nespoli receives no outside research funding.

Lisa Marie Nespoli

Experienced Product Safety & Stewardship Manager with demonstrated history communicating in the chemicals industry. Strong science background in Biology and Chemistry. Professionally skilled in Product Safety & Stewardship, Regulatory Compliance, Sustainability, and Advocacy.

(b) (6) – (b) (6)
(b) (6) – lisamarie.nespoli@covestro.com LinkedIn Profile

Publication and Presentation Experience:

- "How to Use Polyurethane Coatings Safely." *Coatings Pro Magazine*, 2016. http://www.coatingspromag.com/articles/safety/2016/09/how-to-use-polyurethane-coatings-safely
- "Development of an enzyme-linked immunosorbent assay for vitellogenin of Morelet's crocodile (Crocodylus moreletii)." *Comparative Biochemistry and Physiology, Part C, Toxicology and Pharmacology*, 143: 50-58 (2006).
- "Estrogen Induction of Vitellogenin Protein and mRNA in Tiger Salamanders." Presentation at Society for Integrative and Comparative Biology, 2004.
- "Estrogen Induction of Vitellogenin in Two Species of North American Salamanders." Presentation at Society of Environmental Toxicology/Chemistry, 2003.
- "Analysis of Serum Vitellogenin in Wild-caught Morelet's Crocodile, *Crocodylus moreletii*, from Belize." Presentation at the Society of Environmental Toxicology and Chemistry Annual Meeting, 2003.
    - Paper submitted for publication. Vitellogenin induction in Morelet's crocodiles from contaminated habitats in northern Belize. Environmental Pollution.
- "Estrogen Induction of Vitellogenin in the Tiger Salamander, *Ambystoma tigrinum*: A potential species for field studies of endocrine disruption." Presentation at Society Environmental Toxicology/Chemistry Meeting, 2003.
- "The Effect of Aroclor 1254 on the Thyroxine Levels and Behavioral Development of *Rattus norvegicus* Pups." Presentation at Society of Toxicology Meeting, 2002.

Lisa Marie Nespoli

Experienced Product Safety & Stewardship Manager with demonstrated history communicating in the chemicals industry. Strong science background in Biology and Chemistry. Professionally skilled in Product Safety & Stewardship, Regulatory Compliance, Sustainability, and Advocacy.

(b) (6) – (b) (6)
(b) (6) – lisamarie.nespoli@covestro.com LinkedIn Profile

Relevant Work Experience

COVESTRO/BAYER MATERIALSCIENCE– Pittsburgh, PA

Manager, Product Safety and Stewardship: 2014 – Present

- Represents Covestro on all product health and safety issues, including developing and strategically directing product safety and stewardship activities. Lead industry wide product stewardship, advocacy and research efforts, evaluate implications of pending US National and State legislative and regulatory changes and inform. Chairs American Chemistry Council Aliphatic Diisocyanates Panel and Product Stewardship Committee, participates on Product Stewardship Society, American Coatings Association, Adhesive & Sealant Council.
- Responsible for oversight and implementation of global corporate product stewardship programs for Covestro. This includes internal and external implementation of key processes, including auditing responsibilities and cross-functional teams.
- Responsibility for managing 4-5 direct reports (product safety representatives) responsible for all business units including oversight and direction of their daily work, goals, and development.
- Participate in many congressional and regulatory visits to reinforce product safety, stewardship, and sustainability in the chemical industry.
- 2019, 2018, 2017, 2016 Winners of the American Chemistry Council Responsible Care® Product Safety Award which recognizes member organizations that have excelled at driving continuous improvement in chemical product safety and stewardship.

BAYER MATERIALSCIENCE– Pittsburgh, PA

Product Safety Representative: 2010 – 2014

- Prepare Material Safety Data Sheets and hazard warning labels for CAS business unit
- Assure compliance with Occupational Safety and Health Administration (OSHA), Department of Transportation (DOT), and Environmental Protection Agency (EPA) regulations as they apply to BMS products and their uses
- Partner with business units from a product safety perspective, such as with new product launches and ongoing product stewardship issues and activities
- Respond to customer questions by phone, in writing, and in person for CAS business unit
- Serve as BMS representative on trade association panels, including the ACC Product Stewardship Panel and the ACC Nanotechnology Panel
- Review, evaluate, and create 8(e) documentation for all BMS Eco-Toxicology Studies for the NAFTA region.
- Manage the transition of eco-toxicology information to SAP for inclusion on SDSs.
- Manage the Global Product Strategy goals and objectives for the NAFTA region.
- Support other business units with similar activities when needed

CECITY, INC. – Pittsburgh, PA

Project/Relationship Manager: 2007 – 2010

- Develop new business relationships as well as cross-marketing of services to over 100 exiting clients to achieve revenue growth and maximize operating capabilities, profitability, and strategic focus
- Won three contracts totaling nearly $50,000 in revenue and assisted on many others
- Develop proposals for customers by leading and coordinating the effort of collecting and integrating the scope, schedule, cost estimates, resource availability, and deliverables of contributing internal groups and vendors
- Educate customers of CECity's products, services, and technology offerings
- Attend conferences and meetings as a company spokesperson
- Supervise, manage, and communicate production of flash-based multi-media, website learning portals, and on-line continuing education projects for medical clients
- Manage product team of 7 people and 20 clients to successfully deliver continuing education activity on time, schedule, and budget
- Plan, organize, and run kickoff, implementation, and status review meetings with internal team and clients

BAE SYSTEMS – Washington, DC

Environmental Compliance Professional with Recent Experience in Environmental Protection and NEPA/EDDA Compliance

Project Coordinator: 2006 –2007

- Manage Federal Aviation Administration's (FAA) ASR-11 radar program team (4 implementation teams of 5-10 people per team plus subcontractors) to successfully deliver program goals at over 70 radar sites
- *Recipient,* Spot award for excellence in achieving milestones and implementing process improvements on the ASR-11 radar program
- Implement program processes according to FAA requirements; mitigate team conflict and communication problems; motivate teams to work together in the most efficient manner; review status reports of ASR-11 program teams and address issues
- Supervise, manage, communicate, monitor, and evaluate program processes and schedules; identify, suggest, and implement corrective actions during construction/operation of radar tower; and plan, organize, and run program management and status review meetings
- Track and share lessons learned with ASR-11 team members; identify opportunities for program/team improvement and make constructive changes

Environmental Scientist, Systems Analyst: 2004 – 2006

- Develop, review, and manage compliance with National Environmental Policy Act (NEPA), Environmental Due Diligence Audit (EDDA), and FAA rules and regulations for each radar system siting
- U.S. Fish & Wildlife Service certified approved biologist to work with Tiger Salamanders
- Provide environmental and compliance guidance for aviation surveillance, navigation, and communications activities and programs; plan and implement environmental, health, and safety policies/procedures and reporting in compliance with local, state, and federal rules and regulations
- Evaluate radar system impacts on human health, visual resources, natural resources, and threatened and endangered species
- Prepare press releases, environmental presentations, threatened/endangered species presentations, and briefing materials for/to Government personnel
- Solicit vendor proposals and procure subcontractor contracts for biological, cultural, wetlands, and other studies; assist with project management, contract administration, and subcontractor oversight by preparing status reports and task tracking documents

United States Environmental Protection Agency – Wheeling, WV. Intern: 2003

- Participated in activities of EPA liaison with state government, attended West Virginia senate meetings, worked on renovation of small Brownfield areas, Green buildings, and Phase I and II site assessments.

Education

Duquesne University – Pittsburgh, PA

Master of Science in Biology: 2003

- *Thesis,* "Regulation of Vitellogenin and Other Serum Proteins by Estrogen and Xenobiotic Estrogens in Salamanders"
- *Recipient,* Assistantship in the Biological Sciences Assistantship Program
- *Recipient,* Scholarship to present at The Society of Toxicology Annual Meeting

Master of Science in Environmental Science and Management: 2003

- *Recipient,* Bayer 2002/2003 Graduate Research Fellowship Recipient in Environmental Science and Management
- *Recipient,* Scholarship to present at The Society of Environmental Toxicology and Chemistry Meeting

Allegheny College – Meadville, PA

Bachelor of Science in Biology: 2001

- *Thesis,* "Effect of Aroclor1254 on Thyroxine Levels & Behavioral Development of *Rattus norvegicus* Pups"
- Minors in Chemistry, Economics, and Pre-Health Discipline

Relevant Skills

Computer Skills

- SAP, Microsoft Tools (Word, Excel, Project, Publisher, Power Point, Outlook), Adobe (Acrobat, Illustrator, Photoshop, Reader), Endnote, StatPlot, PubMed, BLAST, FAST-A, ClustalW, Internet Explorer, Basic HTML.

Laboratory Skills

- Coomassie Protein Assay, Gel Electrophoresis (SDS-PAGE and Native), Immunoblotting (Western and Sequencing), Periodic Acid Schiffs Test, Enzyme-linked Immunosorbent Assay (ELISA), Chromatography (Diethylaminoethyl (DEAE) and Gel Filtration), Liver Homogenization, Lyophilization and Dialysis, Animal Care Protocols (Salamanders and Rats), Toxicity Testing.

Professional Memberships and Educational and Volunteer Experience

- Product Stewardship Society – 4 Years
- American Chemistry Council – 10 Years
- American Coatings Association – 10 Years
- Adhesives and Sealants Council – 10 Years
- Society for Chemical Hazard Communication – 5 Years
- United Way Steering Committee Representative – 5 Years
- Biology Department – Duquesne University, Pittsburgh, PA. Teaching Assistant – 2 Years
- Friends of Youth – Meadville, PA. Tutor/Volunteer, – 2 Years
- Society of Environmental Toxicology and Chemistry – 3 Years
- Juvenile Diabetes Volunteer and Corporate Spokesperson – 3 Years
- American Red Cross Volunteer – 3 Years

Publication and Presentation Experience Available as Separate Document

From:	Ottinger, Mary Ann
To:	Knott, Steven
Subject:	Self-Nomination for TSCA SACC
Date:	Sunday, April 19, 2020 3:40:03 PM
Attachments:	image001.png EPA TSCA SACC.pdf Ottinger_MaryAnn_CV 4-20-2020.pdf MAO_Biosketch 4-20-2020.pdf

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Dear Dr. Knott,

Please find my materials attached for consideration as a Member of the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC). These materials include my letter containing contact information, curriculum vitae, and biographical sketch with the requested information.

I will be happy to provide any additional information. Thank you for your time and consideration of my nomination.

Sincerely,

Mary Ann
MARY ANN OTTINGER, PH.D.
Professor of Endocrinology and AAAS Fellow
Department of Biology and Biochemistry
University of Houston
Houston, TX 77204-2015
713.743.8886
maotting@central.uh.edu

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UNIVERSITY of HOUSTON

Dr. Mary Ann Ottinger
Science and Research Bld 2
3445 Cullen Blvd, Rm 221 E
Houston, TX 77204-2014
maotting@central.uh.edu

Steven M. Knott, MS
Designated Federal Officer (DFO)
Office of Science Coordination and Policy (7201M)
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460
knott.steven@epa.gov
April 20, 2020

Dear Mr. Knott:

I submit my materials for consideration for appointment to the Toxic Substances Control Act (TSCA), Science Advisory Committee on Chemicals (SACC). These materials include my curriculum vitae and biographical sketch which contain information about my expertise, educational background, current and previous positions and experience, and recent service to agencies and professional organizations. I apply for this appointment because the work of TSCA-SACC is critical for sustainability of human health and our environment as we face today's and future challenges. As summarized below, I am an academic researcher and educator, with extensive experience serving on national advisory and review panels and on international committees. My areas of expertise include effects of exposure to endocrine disrupting chemicals, comparative mechanisms in physiological and behavioral responses, ecotoxicology and lifespan effects environmental chemical exposure. Further, I've organized and participated in a number of workshops and professional meetings that span a range of topics pertinent to assessing the risk and effects from chemical exposures at varied life stages. Most recently, I am a member of the Planning Committee and Participant for the upcoming NASEM Aging/Environmental Health Workshop for the Emerging Science for Environmental Health Decisions scheduled for this June.

As a faculty member in the Department of Animal and Avian Sciences at the University of Maryland, College Park (UMD), I was actively involved in teaching, research and as a resource for Extension activities in our College of Agriculture and Natural Resources. I served on a number of committees and groups focused on the complex challenges facing the Chesapeake Bay. Together with colleagues at Patuxent Wildlife Center, we conducted studies of ospreys with assessment of offspring health and assessment of contaminant exposure in various regions of the Bay. Finally, my research over the past 25 years on the effects of environmental endocrine disruptors included studies for the Hudson Bay Trustees on effects of PCB mixtures. These studies are now published in peer-reviewed journals and serve as a resource for researchers, agencies, and policy makers.

I moved to the University of Houston seven years ago, where I served as Associate Vice President/Associate Vice Chancellor for Research for 4 ½ years. My administrative responsibilities provided an excellent opportunity for me to learn about manufacturing industries, state and regional environmental issues, management of coastal ecosystems, energy systems, and impact of environmental stressors on human health, including risk of cancer. Currently, I am an active member of the Gulf of Mexico Avian Monitoring Network, including co-authoring a chapter on health metrics as part of a monitoring program document for use by coastal managers. I am also participating in a Gulf of Mexico Research Initiative aimed at developing a methodology to assess vulnerability of aquatic wildlife to petrochemicals.

Taken together, I hope that my record provides evidence for the breadth and depth of my interdisciplinary research, with the skills and experience to effectively serve as a valuable member of TSCA-SACC. I do not have any financial conflicts of interest and am willing and ready to commit the time for the thorough review of materials provided to the committee. I am enthusiastic about the opportunity to serve on TSCA-SACC and will be available to participate in the committee meetings.

Thank you for your consideration.

Yours truly,

MARY ANN OTTINGER, PH.D.
Professor of Endocrinology and AAAS Fellow
Department of Biology and Biochemistry
Former Associate Vice Chancellor for Research, UH System and
Associate Vice President for Research, UH

MARY ANN OTTINGER
Professor of Endocrinology, Department of Biology and Biochemistry, University of Houston

Mailing Address: 3455 Cullen Boulevard, Science and Research Building 2, Room 342, Houston, TX 77204-5001; Office: 221 E; phone: 713-743-8886; email: **maotting@central.uh.edu**

(A) PROFESSIONAL PREPARATION

Institution	Major/Area	Degree	Date
University of Maryland, College Park, MD	Zoology	B.S.	1972
University of Maryland, College Park, MD	Ethology, Endocrinology, Ecology	M.S.	1974
University of Maryland, College Park, MD	Behavioral Neuroendocrinology	Ph.D	1977

APPOINTMENTS

Professor, Dept. Biology & Biochemistry, University of Houston	2013-present
AVC/AVP for Research, University of Houston, Houston, TX	2013-2017
Emeritus Professor, University of Maryland, College Park, MD	2014-present
Affiliate Professor, ESSIC, University of Maryland, College Park, MD	2011-2016
Deputy Cooperative Interactions & Grantsmanship, (50%), ARS, USDA	2011-2013
ADVANCE Professor/Fellow, UMD, NSF ADVANCE Grant	2011-2015
AVP for Research, University of Maryland, College Park, MD	2008-2011
Interim Associate Dean, The Graduate School, UMCP	2007-2008
Guest Researcher; Gerontology Research Center, NIA, NIH, Baltimore, MD.	2005-2007
Adjunct Research Professor, ONPRC, Portland, OR	2003-2007
Sabbatical and IPA, Gerontology Research Center, NIA, NIH, Baltimore, MD.	2002-2005
Research Associate, National Zoo, Smithsonian Institution, Washington, D.C.	1998-2017
Professor, University of Maryland, College Park, MD	1997-2013
Sabbatical, Dept. Physiology, U Maryland School of Medicine, Baltimore, MD	1991-1992
Associate Program Director, Psychobiology Program, NSF, Washington, D.C.	1986-1987
Assistant to Full Professor, University of Maryland, College Park, MD	1978-1997
Postdoctoral Fellow; Guest Researcher NIMH, Bethesda, MD	1977-1980

(B) SELECTED PROFESSIONAL SERVICE

1997-2005	OECD Working Group on Avian Reproductive Toxicity Testing
2003-2004	Peer Review Panel, Public Hearing for EPA Ecological Risk Assessment for the Housatonic River
2010-present	AAAS--Affiliated Scientific Societies Representative for PSA/FASS to Section O Committee
2012	National Science Foundation Proposal Review Panel for Modulation II in the Neural Systems Cluster, Arlington, VA, March.
2012	National Institute on Aging of the National Institutes of Health Alzheimer's Disease SBIR Study Section/Scientific Review Panel (ETTN A 50), Baltimore, MD, July.
2012	National Institute on Aging of the National Institutes of Health Study Section/ Scientific Review Panel; ETTN 11: Drug Discover for Aging, Neuropsychiatric and Neurologic Disorders Small Business, New Orleans, LA, October.
2012	Special Emphasis Panel/Scientific Review Group 2013/01 ZES1 LKB-K (PO) 1: NIH/NIEHS Centers for Children's Environmental Health and Disease Prevention Research Centers. Baltimore, MD, November.
2012-present	American Association for Aging Research (AFAR) Scientific Advisory Review Committee

2013	National Institute on Aging of the National Institutes of Health Study Section/ Scientific Review Panel; ZRG1 ETTN M (11): Drug Discover for Aging, Neuropsychiatric and Neurologic Disorders, Small Business, Chevy Chase, MD, February.
2013	National Institute on Aging Special Emphasis Panel/Scientific Review 2013/05 ZAG1 ZIJ-5 (MI1) Panel: Comparative Physiology, March.
2014-19	Panel Member: ZRG1 ETTN-A (11) small business panel on Drug Discovery for Aging, Neuropsychiatric and Neurologic Disorders
2015	U.S. Environmental Protection Agency (EPA) Science to Achieve Results (STAR) Graduate Fellowship Review Panel
2017	Special Emphasis Panel/Scientific Review Group 2017/05 ZRG1 MDCN-G (05) M meeting
2017; 2018	NIH National Institute on Aging (NIA). Review committees for U19 proposals

(C) SELECTED PEER-REVIEWED PUBLICATIONS REFLECTING PERTINENT EXPERTISE (OF 185 RESEARCH PUBLICATIONS; 5 EDITED JOURNAL ISSUES; 25 BOOK CHAPTERS; 2 BOOKS)

1. Carro, T, K Dean, **MA Ottinger**. (2013). Effects of an environmentally relevant polychlorinated biphenyl (PCB) mixture on embryonic survival and cardiac development in the domestic chicken. *Environ Toxicol Chem.* 32(6): 1325-31.
2. Lazarus RS, BA Rattner, PC McGowan, RC Hale, NK Karouna-Renier, RA Erickson, **MA Ottinger**. (2016). Chesapeake Bay fish-osprey (Pandion haliaetus) food chain: Evaluation of contaminant exposure and genetic damage. *Environ Toxicol Chem.* 35(6): 1560-75.
3. Dean KM, LD Baltos, AM Marcell, MEB Bohannon, AN Iwaniuk, **MA Ottinger**. (2017). Uptake of radiolabeled 3,3',4,4'-tetrachlorobiphenyl into Japanese quail egg compartments and embryo following air cell and albumen injection. *Environ Toxicol Chem* 37(1): 126-135.
4. Carro T, MK Walker, KM Dean, **MA Otttinger**. (2017). Effects of *in ovo* exposure to 3,3'4,4' tetrachlorobiphenyl (PCB 77) on heart development in tree swallow (*Tachycineta bicolor*). *Environ Toxicol Chem* 37(1): 116-125.
5. **Ottinger MA**, Lavoie ET, Bohannon MEB, Marcel AM, Tschiffely AE, Duffy KB, McKernan M, Tillitt DE, Lipton J, Dean KM. Embryonic effects of an environmentally relevant PCB mixture in the domestic chicken. (2018). Environ Toxicol Chem; 37(10): 2513-25222; Jun 27. Doi: 10.1002/etc.4218. [Epub] PMID: 29947098.
6. Dean KM, Marcell AM, Baltos LD, Carro T, Bohannon MEB, **Ottinger MA**. (2019). Comparative lethality of *in ovo* exposure to PCB 126, PCB 77 and two environmentally relevant PCB mixtures in Japanese quail (*Coturnix japonica*). Environ Toxicol Chem: 38(12): 2637-2650; Article DOI: 10.1002/etc.4578.

CURRICULUM VITAE

I have read the following and I certify that this curriculum vita is a current and accurate statement of my professional record.

Signature Mary Ann Ottinger Date 04-20-2020

I. PERSONAL DATA

Mary Ann Ottinger,
Professor, Department of Biology and Biochemistry, University of Houston, Houston, TX 77204;
and Emeritus Professor of Endocrinology and AAAS Fellow
Department of Animal and Avian Sciences, University of Maryland, College Park, Maryland 20742

EDUCATIONAL BACKGROUND

Doctor of Philosophy	1977	Univ. of Maryland, Zoology (Endocrinology, Ethology)
Master of Science	1974	Univ. of Maryland, Zoology (Ethology, Endocrinology, Ecology)
Bachelor of Science	1972	Univ. of Maryland, Zoology
NSF Summer Program	1967	Southern Illinois University (Ecology, Genetics)

ACADEMIC EMPLOYMENT HISTORY

2013-present	Professor	Department of Biology and Biochemistry, University of Houston, Houston, TX
2013-2017	Associate Vice President/Associate Vice Chancellor for Research, University of Houston	Houston, TX
2014-2018	Member, NIEHS Center	IBT, Texas A&M, Houston, TX
2014-present	Emeritus Professor	University of Maryland, College Park, MD
2013-2014	Research Professor	University of Maryland, College Park, MD
2012-2015	Member, CBT, IBBR	University of Maryland, College Park, MD
2012-2015	Affiliate Professor, ENST	University of Maryland, College Park, MD
2011-2014	Affiliate Professor, Earth System Science Interdisciplinary Center (ESSIC)	University of Maryland, College Park, MD
2011-2013	Deputy Coordinator for Cooperative Interactions and Grantsmanship (50%-year 1; 25%-year 2)	Agricultural Research Service, USDA, George Washington Carver Bld., Beltsville, MD
2011-2012	ADVANCE Professor and Fellow	UMD, NSF ADVANCE Grant
2008-2011	Associate Vice President for Research Compliance and Policy	Division of Research, University of Maryland, College Park, MD
2007-2008	Interim Associate Dean	The Graduate School, University of Maryland, College Park, MD (80%)
2005-2007	Guest Researcher Coordinator of Reproductive Studies	Laboratory of Experimental Gerontology (LEG), Nathan Shock Gerontology Research Center (GRC), National Institute on Aging (NIA), National Institutes of Health (NIH), Baltimore, MD
2003-2007	Adjunct Research Professor	Oregon National Primate Research Center, Portland, OR

2003-2005	IPA/Coordinator Reproductive Studies	LEG, GRC, NIA, NIH (25%)
2002-2003	Sabbatical Leave	LEG, GRC, NIA, NIH
1998-2014	Research Associate (Adjunct faculty)	Department of Zoological Research, National Zoological Park, Smithsonian Institution, Washington, D.C.
1997-2013	Professor (20% Instruction; 80% Research)	Department of Animal and Avian Sciences, Univ. of Maryland, College Park, MD
1989-1997	Professor (25% Instruction; 75% Research)	Department of Poultry Science, University of Maryland, College Park, MD
1991-1992	Sabbatical Leave	Department of Physiology, University of Maryland School of Medicine, Baltimore, MD
1988-1989	Acting Deputy to the Vice Chancellor and Dean	University of Maryland, College of Agriculture, College of Life Science (50%)
1986-1987	Associate Program Director	Psychobiology Program, (50%) National Science Foundation, Washington, D.C.
1983-1989	Associate Professor	Department of Poultry Science, University of Maryland, College Park, MD
1978-1983	Assistant Professor	Department of Poultry Science, University of Maryland, College Park, MD
1977-1980	Postdoctoral Fellow; Guest Researcher	Neuropsychology Laboratory, National Institute of Mental Health, Bethesda, MD; mentor: Dr. Pat Goldman
1972-1977	Teaching Assistant Graduate Fellow (1976-77)	Department of Zoology, University of Maryland, College Park, MD; mentor: Dr. Howard Brinkley

II. RESEARCH, SCHOLARLY, AND CREATIVE ACTIVITIES

A. BOOKS

i. BOOK EDITOR OR CO-EDITOR

1. Aspects of the Endocrinology of Birds: Practical and Theoretical Implications (Scanes, C.G., M.A. Ottinger, A. Kenny, J. Balthazart and J. Phillips, eds.). Texas Tech University Press. 1982.
2. Progress in Molecular Biology and Translational Science Metabolic Aspects of Aging. Volume One Hundred and Fifty Five (Ottinger, MA, ed). Academic Press, An imprint of Elsevier, London UK. 2018.

ii. BOOK CHAPTERS

1. Ottinger, M.A., and J.A. Doerr (1982). Effects of mycotoxins in avian reproduction. In: Aspects of the Endocrinology of Birds: Practical and Theoretical Implications (Scanes, C.G., M.A. Ottinger, A. Kenny, J. Balthazart and J. Phillips, eds.). Texas Tech. University Press, pp. 217-229.
2. Ottinger, M.A. (1983). Sexual behavior and endocrine changes during reproductive maturation and aging in the avian male. In: Hormones and Behavior in Higher Vertebrates (Balthazart, J., E. Prove and R. Gilles, eds.). Springer Verlag Press, pp. 350-367.
3. Ottinger, M.A. (1989). The brain-pituitary-gonad axis in homeotherms. In: Comparative Aspects of the Development, Maturation and Senescence of Neuroendocrine Systems (Scanes, C.G., and M. Schriebman, eds.). Academic Press, pp. 135-153.
4. Ottinger, M.A., R. Ricklefs and J. Bahr (1991). Birds. In: National Institute on Aging, NIH, Workshop on Alternative Animal Models for Research on Aging (Hazard, D.G., H.R. Wagner and C.E. Finch, eds.). Exper. Gerontology 26: 411-439.
5. Ottinger, M.A., N. Thompson, Y. Fan, G.C. Panzica, C. Viglietti-Panzica and Q. Li (1997). Gonadotropin-releasing hormone (cGnRH-I) and neuropeptide systems reflect endocrine and behavioral changes during reproductive aging. In: Perspectives in Avian Endocrinology (Harvery, S., and R.J. Etches, eds.). J.W. Arrowsmith, Ltd., Bristol. pp. 91-100.
6. Panzica, G.C., F. Garcia-Ojeda, C. Viglietti-Panzica, N. Aste, and M.A. Ottinger (1997). Role of

testosterone in the activation of sexual behavior and neuronal circuitries in the senescent brain. In: Brain Plasticity: Development and Aging, (Filogamo, G., A. Vernadakis, F. Gremo, A.M. Privat and P.S. Timiras, eds.). Pellum Press, New York, pp. 273-287.

7. Ottinger, M.A. (1998). Male reproduction: Testosterone, gonadotropins, and aging. In: Functional Endocrinology of Aging (Mobbs, C.V., and Hof, P.R., eds). Karger Press. Vol. 29:105-126.
8. Ottinger, M.A., G.C. Panzica and C. Viglietti-Panzica (2001). Lifetime dynamics in neuroendocrine and behavioral responses: The role of gonadal steroids. In: The Comparative Physiology Aging in Animals and Humans: From cell to organism (Bolis, C.L., ed.) CD.
9. Ottinger, M.A., and F.S. vom Saal (2002). Impact of environmental endocrine disruptors on sexual differentiation in birds and mammals. In: Hormones and Behavior in Higher Vertebrates (Pfaff, D., A. Arnold, A. Etgen and R. Rubin, eds.). Academic Press. Volume 4, 325-383.
10. Ottinger, M.A., M.J. Quinn, Jr., E. Lavoie, M.A. Abdelnabi, N. Thompson, J. Hazelton, M. McKernan, J.M. Wu, P.F.P. Henry, C. Viglietti-Panzica and G.C. Panzica (2005). Neuroendocrine and behavioral consequences of embryonic exposure to endocrine disrupting chemicals. Functional Avian Endocrinology (Dawson, A., and P.J. Sharp, eds.). Narosa Publishing House, New Delhi, India. pp. 271-285.
11. Ingram, D.K., R. de Cabo, R.H. Anson, M.A. Ottinger, M.R. Lane, G.S. Roth and J.A. Mattison (2005). Caloric restriction in nonhuman primates: Impact on aging, disease, frailty. In: Longevity and Frailty (Carey et al., eds.). Springer Verlag Berlin. pp. 39-56.
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13. Holmes, D.J., and M.A. Ottinger (2006). Domestic and wild bird models for the study of aging. In: P. Michael Conn. ed. Handbook of Models for Human Aging. Amsterdam: Elsevier, pp 351-366.
14. Ottinger, M.A., J.A. Mattison, M.B. Zelinski, J.M. Wu, S. Kohama, G.S. Roth, M.A. Lane and D.K. Ingram. (2006). The rhesus macaque: A biomedical model for human health issues, aging, and cognition. In: P. Michael Conn. ed. Handbook of Models for Human Aging. Amsterdam: Elsevier, pp 457-468.
15. Ottinger, M.A., E. Lavoie, K. Dean, B. Sitzmann, M.J. Quinn, Jr. (2010). Endocrine disruption and senescence: Consequences for reproductive endocrine and neuroendocrine systems, behavioral responses and immune function. In H. Tilson and J. Harry. ed. Neurotoxicology, 3rd edition. Informa Healthcare, In press. New York, NY.
16. Ottinger, M.A. and K. Dean. (2010). Hormones, behavior, and endocrine disruption in vertebrates. In J. Moore and M. Breed, eds; J. Wingfield, section ed. Encyclopedia of Animal Behavior. Academic Press (Elsevier), Oxford, UK.
17. Ottinger, M.A., K. Dean, M. McKernan, M.J. Quinn, Jr. (2011). Endocrine disruption in birds. In D.O. Norris and K. H. Lopez, eds. Hormones and Reproduction in Vertebrates. Vol 4. Elsevier Press, Oxford UK, San Diego, CA. Chapter 9: pp 239-260.
18. Ottinger, M.A., M. Bohannon, L. Carpenter, T. Carro, J. Rochester, K. Dean. Actions of Toxicants and Endocrine Disrupting Chemicals in Birds (2014). In. C.G. Scanes, Sturkie's Avian Physiology, Sixth Edition. Elsevier Press, San Diego, CA., chapter 41; pp 979-1001.
19. Ottinger, M.A., K. Duffy, A. Schlappal, B. Sitzmann, J. Wu, D. Zimmer. (2015). Chapter 311. Reproductive Aging. In: D.J. Holmes, Section Editor, Aging and Gerontology, Encyclopedia of Human Biology, 3rd Edition, M.I. Simon and J.N. Abelson (Eds) Elsevier Press, San Diego, CA. pp. 1-12.
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21. Ellison, PT and MA Ottinger (2014). A Comparative Perspective on Reproductive Aging, Reproductive Cessation, Post-Reproductive Life, and Social Behavior. In Sociality, Hierarchy, Health Comparative Biodemography. National Academies of Science Press. Eds. M Weinstein and MA Lane. pp. 315-338.
22. Bohannon, MEB and MA Ottinger. (2018). Polychlorinated biphenyls: Sources, Fate, Effects on Birds and Mammals, and Mechanisms of Action. In: Reference Module in Earth Systems and Environmental Sciences. Encyclopedia of the Anthropocene. Volume 5. Elsevier Inc., London. Eds. DA DellaSala and MI Goldstein. pp. 207-213.

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24. Ottinger, M.A. A Comparative Approach to Metabolic Aspects of Aging: Conserved Mechanisms and Effects of Calorie Restriction and Environment. In: Progress in Molecular Biology and Translational Science Metabolic Aspects of Aging. Volume One Hundred and Fifty Five (Ottinger, MA, ed). Academic Press, An imprint of Elsevier, London UK. 2018.
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iii. GUEST EDITOR: SPECIAL ISSUES

1. Ottinger, M.A., R.E. Ricklefs and C.E. Finch (2003). Proceedings of the 2nd Symposium on Organisms with Slow Aging (SOSA-2). Experimental Gerontology 38(7), July.
2. Ottinger, M.A. (2004). Effects of Endocrine Disrupting Chemicals on Avian Species. Special Issue of Poultry and Avian Biology Reviews 16(1).
3. Panzica, G.C., C. Viglietti-Panzica and M.A. Ottinger (2005). Action of Environmental Estrogens on Neural Circuits and Behavior. Special Issue of Brain Research Bulletin 65(3), April.
4. Holmes, D.J., and M.A. Ottinger (2005). Biology of Aging in Avian Species. Special Issue of the American Aging Association Journal Vol. 27.
5. Ottinger, M.A. Special Issue of Avian Biology Research: International Symposium on Avian Endocrinology, Volume 7 (1): 2014.

iv. ARTICLES HIGHLIGHTING OUR RESEARCH

Maryland Research magazine: Value-Added Eggs. *Maryland Research*. Spring 2002, vol. 11(2), p 11.

B. ARTICLES in REFEREED JOURNALS

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2. Ottinger, M.A., and H.J. Brinkley (1979). The ontogeny of crowing and copulatory behavior in male Japanese quail *(Coturnix coturnix japonica*). Behavioral Processes 4:43-47.
3. Ottinger, M.A., and H.J. Brinkley (1979). Testosterone and sex-related physical characteristics during the maturation of the male Japanese quail (Coturnix coturnix japonica). Biology Reproduction 20:905-909.
4. Soares, J.H., Jr., M.R. Swerdel and M.A. Ottinger (1979). The effectiveness of the vitamin D analog 1-OH-D_3 in promoting fertility and hatchability in the laying hen. Poultry Science 58:1004-1006.
5. Ottinger, M.A., and J.A. Doerr (1980). Early influence of aflatoxin upon sexual maturation in male Japanese quail. Poultry Science 59:1750-1754.
6. Doerr, J.A., and M.A. Ottinger (1980). Delayed reproductive development resulting from aflatoxicosis in juvenile Japanese quail. Poultry Science 59:1995-2001.
7. Ottinger, M.A., and M.R. Bakst (1981). Peripheral androgen concentrations and testicular morphology in embryonic and young male Japanese quail. General Comparative Endocrinology 43:170-177.
8. Clarke, R.N., T.J. Sexton and M.A. Ottinger (1982). Effects of holding temperature and storage time on respiratory rate, motility, and fertility of chicken and turkey semen. Poultry Science 61:1912-1917.
9. Ottinger, M.A., W.M. Schleidt and E. Russek (1982). Daily patterns in courtship and mating behavior in the male Japanese quail. Behavioral Processes 7:223-233.
10. Ottinger, M.A., M. Masson and C.S. Duchala (1983). Age-related reproductive decline in the male Japanese quail. Hormones Behavior 17:197-207.

11. Balthazart, J., M. Schumacher and M.A. Ottinger (1983). Sexual differences in the Japanese quail: Behavior, morphology, and intracellular metabolism of testosterone. General Comparative Endocrinology 51:191-207.
12. Ottinger, M.A. (1983). Short term variation in serum luteinizing hormone and testosterone in the male Japanese quail. Poultry Science 62:908-913.
13. Ottinger, M.A. (1983). Hormonal control of reproductive behavior in the avian male. Poultry Science 62:1690-1699.
14. Novotny, E.A., E.S. Raveche, S. Sharrow, M.A. Ottinger and A.D. Steinberg (1983). Analysis of thymocyte sub-populations following treatment with sex hormones. Clinical Immunology and Immunopathology 28:205-217.
15. Clarke, R.N., M.R. Bakst and M.A. Ottinger (1984). Morphological changes in chicken and turkey spermatozoa incubated under various conditions. Poultry Science 63:801-805.
16. Duchala, D.S., M.A. Ottinger and E. Russek (1984). The developmental distribution of monoamines in the brain of male Japanese quail. Poultry Science 63:1052-1060.
17. Balthazart, J., R. Turek and M.A. Ottinger (1984). Altered brain metabolism of testosterone is correlated with reproductive decline in aging quail. Hormones Behavior 18:330-345.
18. Proudman, J.A., C.G. Scanes, H. Opel and M.A. Ottinger (1984). Comparison of two avian LH radioimmunoassay procedures by measurement of changes during the ovulatory cycle of turkey and broiler hens. Poultry Science 63:1269-1275.
19. Balthazart, J., and M.A. Ottinger (1984). 5 ß-reductase activity in the brain and cloacal gland of male and female embryos in the Japanese quail *(Coturnix coturnix japonica*). Journal Endocrinology 102:77-81.
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21. Ottinger, M.A., E. Adkins-Regan, J. Buntin, M.-F. Cheng, T. DeVoogd, C. Harding and H. Opel (1984). Hormonal Mediation of Reproductive Behavior. J. Experimental Zoology 232:605-616.
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23. Rattner, B.A., R.N. Clarke and M.A. Ottinger (1986). Depression of plasma luteinizing hormone concentration in quail by the anticholinesterase insecticide parathion. Comparative Biochemistry and Physiology 83C:451-453.
24. Gorham, S.L., and M.A. Ottinger (1986). Sertoli cell tumors in Japanese quail. J. Avian Diseases 30:337-339.
25. Ottinger, M.A., and J. Balthazart (1986). Altered endocrine and behavioral responses with reproductive aging in male Japanese quail. Hormones Behavior 20:83-94.
26. Clarke, R.N., J.A. Doerr and M.A. Ottinger (1986). Relative importance of dietary aflatoxin and feed restriction on reproductive changes associated with aflatoxicosis in the maturing white leghorn male. Poultry Science 65:2239-2245.
27. Clarke, R.N., J.A. Doerr and M.A. Ottinger (1987). Age-related changes in testicular development and reproductive endocrinology associated with aflatoxicosis in the male chicken. Biology Reproduction 36:117-124.
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29. Ottinger, M.A., and J. Balthazart (1987). Brain monoamines and sexual behavior in Japanese quail: Effects of castration and steroid replacement therapy. Behavioral Processes 14:197-216.
30. Ottinger, M.A., and B.K. Follett (1987). Circulating levels of luteinizing hormone and androgen in mature male Japanese quail over 24 hours. Poultry Sciences 66:1411-1413.
31. Adkins-Regan, E., and M.A. Ottinger (1988). Profiles of plasma androgens in quail following testosterone injection at two different times of day. General Comparative Endocrinology 69:246-251.
32. Soares, J.H., Jr., and M.A. Ottinger (1988). Potential role of 1, 25 dihydroxycholecalciferol in egg shell calcification. Poultry Science 67:1322-1328.
33. Ruff, M.D., M.A. Abdelnabi, R.N. Clarke, M. Mobarak and M.A. Ottinger (1988). Effects of coccidiosis on reproductive maturation of male Japanese quail. Avian Diseases 32:41-45.

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35. Clarke, R.N., and M.A. Ottinger (1989). Factors related to decreased testosterone concentrations in the peripheral circulation of the maturing male chicken (*Gallus domesticus*) fed aflatoxin. Animal Reproduction Science 18:25-34.
36. Alston-Mills, B., Q. Li and M.A. Ottinger (1989). Production of monoclonal antibodies against avian LHRH-I. *In Vitro* Cellular Developmental Biology 25(10): 934-938.
37. Ottinger, M.A., and J.A. Mench (1989). Reproductive behaviour in poultry: Implications for artificial insemination technology. British Poultry Science 30:431-442.
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39. Watson, J.T, M. Abdelnabi, S. Wersinger, M.A. Ottinger and E. Adkins-Regan (1990). Circulating estradiol and the activation of male and female copulatory behavior in Japanese quail (*Coturnix japonica*). General Comparative Endocrinology 77:229-238.
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181. Ottinger MA, Lavoie ET, Bohannon MEB, Marcel AM, Tschiffely AE, Duffy KB, McKernan M, Tillitt DE, Lipton J, Dean KM. Embryonic effects of an environmentally relevant PCB mixture in the domestic chicken. (2018). Environ Toxicol Chem; 37(10): 2513-25222; Jun 27. Doi: 10.1002/etc.4218. [Epub] PMID: 29947098.
182. Dean KM, Marcell AM, Baltos LD, Carro T, Bohannon MEB, **Ottinger MA**. (2019). Comparative lethality of *in ovo* exposure to PCB 126, PCB 77 and two environmentally relevant PCB mixtures in Japanese quail (*Coturnix japonica*). Environ Toxicol Chem: 38(12): 2637-2650; Article DOI: 10.1002/etc.4578
183. Duffy KB, Ray B, Lahiri DK, Tilmont EM, Tinkler GP, Herbert RL, Greig NH, Ingram DK, Ottinger MA, Mattison JA. (2019). Norepinephrine levels via DSP4 treatment on amyloid-β pathology in female rhesus macques (*Macaca mulatta*). J. Alzheimers Dis. 68(1): 115-126. Doi: 3233/JAD-180487.
184. Fairbrother A, Muir D, Solomon KR, Ankley GT, Rudd MA, Boxall ABA, Adams WJ, Apell JN, Armbrust KL, Blalock BJ, Bowman S, Campbell LM, Cobb GP, Connors KA, Dreier DA, Evans, MS Henry CJ, Hoke RA, Houde M, Klaine SJ, Klaper RD, Kullik SA, Lanno RP, Meyer C, **Ottinger MA**, Oziolor E, Petersen EJ, Poynton HC, Rice PJ, Rodriguez-Fuentes G, Samel A, Shaw JR, Steevens JA, Verslycke TA, Vidal-Dorsch DE, Weir SM, Wilson P, Brooks BW. (2019). Towards Sustainable Environmental Quality: Priority Research Questions for North America. Environ. Toxicol. Chem. 38(8): 1606-1624. DOI: 10.1002/etc.4502.
185. Lynch, Maureen A., Youngflesh Casey, Agha Nadia H., **Ottinger Mary Ann**, Lynch Heather J. (2019). No correlation found between tourism and the stress hormone corticosterone in Gentoo penguins on the Antarctic Peninsula. Polar Biology **https://doi.org/10.1007/s00300-019-02518-z**.

C. MONOGRAPHS, REPORTS, AND EXTENSION PUBLICATIONS

1980-1987	Representative of American Society of Zoology to the Endocrine Society Public Relations Committee with Annual and interim reports to the society.
1980	Peer Reviewer, SEA-ARS Reproduction Workshop. Report submitted to Dr. Roger Gerrits, National Research Program Leader, SEA-ARS.
1983	Interim and Final Progress Report to Delmarva Poultry Industry on research grant entitled "Effects of Feed Restriction on Broiler Breeders."
1990	Section Chair and co-author of workshop report for National Institutes of Aging entitled "Workshop on Animal Models in Aging."
1996	Report of CSRS Review Team for the Department of Dairy and Poultry Science, University of Florida, Gainesville.

1997 Report of the Society Structure Committee for FASS.

2000 Report of the CSRS Review Team for the School of Veterinary Medicine, Cornell University, Ithaca, NY.

2000 Report of the CSRS Review Team for the Department of Poultry Science, North Carolina State University, Raleigh, NC, including a report for a separate review of Graduate Research Programs (Additional report by Hargis and Ottinger to Dean of the Graduate School).

2003 Report CSRS Review Team to the Provost and Graduate School Dean on "Review of Graduate Program: Poultry Science Department", Texas A & M University, College Station, TX.

2004 Final Report for research project entitled "Comparative Responses of Japanese Quail and Northern Bobwhite Quail in a Two-Generation Test Design."

2005 Final Report for research project entitled "Development of an Embryo Bioassay for Detection of Endocrine Disrupting Chemicals; Effects of Estradiol and Trenbolone."

2006 Broiler Production and the Environment: 2006. pp.19-20; Editors: R. Angel and W. Powers.

2007-2018 Twelve reports for the Hudson River Trustees for each of the completed studies on the Effects of PCBs in Avian Species

D. REVIEWS AND WORKSHOPS FOR PROFESSIONAL ORGANIZATIONS AND AGENCIES

1990 Workshop (2 days) on Embryonic Development and Hatchability, Patuxent Wildlife Research Center, Organizer; Notes prepared and distributed to coordinate with lectures. Laurel, Maryland. April.

2000 Scientific expert review for "Estrogenicity and endocrine distribution", by Task Group comprised of Safe, S., W. Foster, J. Lamb, R. Newbold, G. van.der.Kraak. Reviewers: Orme, T.W., M.A. Ottinger. CAST (Council for Agricultural Science and Technology) Issue Paper. pp 1-12.

2003 Avian Workgroup of the OECD: organized meeting at the Society of Toxicology and Chemistry Annual Meeting (with Dr. Kris Brugger, Dupont Corp.) and prepared a report of the deliberations from this meeting for Avian Toxicity Testing Protocol for Detection of Endocrine Disrupting Chemicals. To be submitted to the OECD as part of the workgroup report.

2004 Meeting of the Avian Reproduction Toxicity Testing Expert Group; Third meeting on Endocrine Disruption in Birds (EDB3). Brugger, Ottinger, and other members of the OECD Avian Expert Working Group.

2009 "Mechanisms of Reproductive Behavior"—Commentary for the session as part of the Workshop on Reproductive Aging, Center for Population and Health, Georgetown University, Washington, DC; sponsored by the National Institutes on Aging, NIH.

2019 Participant-Petrochemical Vulnerability Ranking Methodology Workshop—specialist in avian biology and toxicology. Sponsored by the Gulf of Mexico Research Initiative funding to University of Arizona, Baylor University and Old Dominion University; June 16-21.

2020 Organizer for symposium entitled: 'Convergent Science: Combating Africa's Wildlife Crisis' at the American Association for the Advancement of Science Annual Meeting, February 14, 2020.

2020 Planning Committee and Participant in the NASEM Aging/Environmental Health Workshop for the Emerging Science for Environmental health Decisions. Workshop scheduled for June 9-10, 2020.

E. INVITED TALKS AND OTHER PROFESSIONAL PAPERS PRESENTED

i. INVITED TALKS

1978 "Testosterone and the Ontogeny of Sexual Behavior in the Male Quail," Department of Neuropsychology, National Institutes of Mental Health, Bethesda, MD.

1979 "Reproduction and Nutritional Studies with Broiler Breeders" (M.A. Ottinger and J.H. Soares, Jr.), Delmarva Poultry Industry Committee, Salisbury, MD.

1979 "Ethology: Terminology and Application," Ethology Discussion Seminar, UMCP.

1979 "The Broiler Breeder: Nutritional and Reproductive Studies" (J.H. Soares, Jr. and M.A. Ottinger), Eastern Shore Hatchery Committee Meeting, Salisbury, MD.

1980 "Research in Behavioral Endocrinology," USDA, Beltsville, MD.

1980 "Progress in Broiler Breeder Research at the University of Maryland," Hatchery Short Course, Salisbury, MD.

1980 "Effect of Mycotoxins on Avian Reproductive Endocrinology," Second International Symposium on Avian Endocrinology Conf., Benalmadena, Spain.

1980 "Effects of Diet on Endocrine Parameters in the Broiler Breeder," Second International Symposium on Avian Endocrinology Conf., Benalmadena, Spain (co-authored with J.H. Soares, Jr.).

1980 "Broiler Breeder Research," Delmarva Poultry Industry representatives, Salisbury, MD.

1981 "An Update on Broiler Breeder Research at the University of Maryland," Eastern Shore Hatchery Association, Salisbury, MD.

1981 "Behavioral Endocrinology of Japanese Quail," Department of Biology, George Mason University.

1981 "Current Research on Restricted Feeding in Broiler Breeders and the Long Term Effects on Reproductive Performance," (co-author J.H. Soares, Jr.), Merck Broiler and Broiler Breeder Seminar, Salisbury, MD.

1982 "Hormones and Behavior in the Avian Male," in Symposium on "The Avian Male," Annual Meeting of the Poultry Science Association, Davis, CA.

1982 "Hormones and Behavior in Higher Vertebrates," presented at the International Symposium on Hormones and Behaviour in Higher Vertebrates, Bielefeld, West Germany.

1983 "Breeder Nutrition and Management Research," Delaware Hatchery Short Course, Salisbury, MD.

1983 "Endocrine and Neuroendocrine Factors Affecting Male Reproductive Behavior in the Japanese Quail," Seminar at the School of Life and Health Sciences, University of Delaware, Wilmington, DE.

1985 “Morphologic Testicular Changes and Neoplasms in Aging Japanese Quail: Relationship to Caged Pet Birds,” S.L. Gorham and M.A. Ottinger. Presented by S.L. Gorham to Northeastern Conference on Avian Diseases, Columbia, MD.

1985 “Catecholamine and Androgen Changes in the Japanese Quail with Age,” lecture in course entitled “Perspectives on the Biology of Aging,” UMCP.

1985 “Hormonal and Behavioral Correlates of Aging,” seminar in Biopsychology Seminar Series, UMCP.

1986 “Animal Care for Domestic Species”, Campus workshop, UMCP.

1987 “The Brain-Pituitary-Gonad Axis in Homeotherms,” Annual Meeting of the American Society of Zoologists, New Orleans, LA.

1987 “Behavioral Endocrinology of Japanese Quail,” Rockefeller University, Millbrook, NY.

1988 “Neuroendocrine Alterations with Sexual Differentiation in the Avian Embryo,” April, Department of Pediatrics, University of Maryland School of Medicine, Baltimore, MD.

1988 “Neuroendocrine Aspects of Aging in the Male Japanese Quail,” November, Institute on Aging, National Institutes of Health, Bethesda, MD.

1989 “Neuroendocrine Regulation of Reproductive Endocrinology in Birds,” Molecular and Cellular Biology Program Seminar, UMCP.

1989 “The Japanese Quail Model for the Study of Age-Related Reproductive Senescence,” NIH, Bethesda, MD.

1990 “Endocrine and Behavioral Aspects of Reproduction: Differentiation, Development and Aging,” April, Cornell University, Ithaca, NY.

1991 “Basic Mechanisms in Aging” for the REU Faculty Seminar Series, UMCP.

1991 “How to Meet Your Congressman,” Workshop sponsored by the American Society of Animal Science (ASAS) for the mid-year meeting of the Executive Boards of ASAS and Poultry Science Association, Bethesda, MD.

1991 “Issues in Poultry Science” for the Annual Meeting of the Poultry Science, Symposium organizer and speaker, Champaign, IL.

1992 “Fundamental Neuroendocrine Changes During Aging” for the Molecular and Cellular Biology Program, UMCP.

1992 “Reproductive Aging: Endocrine and Neuroendocrine Characteristics” for Eli Lilly Company, Greenfield, Indiana.

1992 “Cellular Mechanisms Involved in Neuroendocrine Alterations during Aging” for Center for Marine Biotechnology (COMB), Univ. of Maryland, Baltimore, MD.

1993 “Is Aging the Opposite of Maturation?” REU Faculty Seminar Series, UMCP.

1994 “Reproductive Processes in Birds,” Regional Meeting of Zoo Curators, Oklahoma City, OK.

1994 "Biological Rhythms and Lifetime Productivity in Poultry," at Symposium on "The Importance of Biological Rhythms for the Agriculture Industry" sponsored by NSF and the Center for Biological Timing, Northwestern University, meeting held at the Science and Technology Center, VA.

1995 "Physiology of the Egg Tract," Delmarva Hatchery & Breeder Flock Management Short Course, Georgetown, DE.

1995 "Alternative Forms and Function of Gonadotropin Releasing Hormone," Conference on Reproductive Behavior, Boston, MA.

1995 "Avian Reproduction," Association of Avian Veterinarians, Philadelphia, PA.

1995 "Aging in the Avian Species," Association of Avian Veterinarians, Philadelphia, PA.

1995 "A Neuroendocrine Approach to an Age-Old Question: Are Old Birds Tired or Are they Simply Refractory?" Biology Department, Catholic University of America, Washington, D.C.

1995 "Dynamic Changes in the cGnRH-I System Reflect Endocrine and Behavioral Components of Reproduction," in a symposium entitled "Avian Biology," Annual Meeting of the American Society of Zoologists, Washington, D.C.

1996 "Physiological and Biochemical Development of the Chick Embryo," Delmarva Hatchery & Breeder Flock Management Short Course, Georgetown, DE.

1996 "Male Reproduction and Aging," Hunter College, New York, NY.

1996 "Tales of Aging Birds," NACS Seminar Series, UMCP.

1996 "Presidential Address" to the Poultry Science Association at the Annual Meeting, Louisville, KY.

1996 "Neuroendocrine Regulation of Avian Reproductive Biology and Aging," University of Tennessee, Knoxville, Tenn.

1997 "Lifetime Changes in the GnRH System in Birds," North Carolina State University, Raleigh, NC.

1997 "The Japanese Quail Model for Toxicity Testing," EPA Contaminants Division, Washington, D.C.

1998 "Neuroendocrine and Behavioral Components of Reproductive Aging in Poultry," Symposium on Reproduction and Aging, Lelystad, The Netherlands.

1998 "Male Menopause: Fact or Fiction", National Institute on Aging, NIH Bethesda, MD.

1998 "The Avian Model for Study of Neuroendocrine Elements in Aging," 13th International Conference of Comparative Physiology, Sicily, Italy.

1998 "An Avian Model System: Applications to Study the Effects of Aging and Environmental Chemicals," FDA, Washington, D.C.

1998 "Tales of Aging Birds," University of Maryland Chapter of Sigma Xi Society, College Park, MD.

1999 "Endocrine Disruptors and Effects on Avian Systems" Workshop on Steroids, Hormones and Brain Function, Breckenridge, CO.

1999 "Neuroendocrine Effects of Environmental Chemicals in Avian Systems", CBL, Solomons, MD.

1999 "The Status of the Federation of Animal Science Societies," Poultry Science Association Annual Business Meeting, Fayetteville, AR.

1999 "Regulation of the GnRH-I System in Japanese Quail," Roslin Institute, Roslin Scotland.

1999 "An Overview of Endocrine Effects from Environmental Chemicals," SETAC Workshop on Harmonized Approaches to Avian Effects Assessment, Woudschoten, The Netherlands.

1999 "Environmental Endocrine Disruptors: Effects on Birds," Veterinary Medicine Seminar, College Park, MD.

1999 "Mechanisms of Endocrine Toxicity for Endocrine Disrupting Chemicals in Avian Species and Regulatory Avian Reproduction Test Guidelines," Platform talk, Society for Environmental Toxicology and Chemistry 20th Annual Mtg, Philadelphia, PA.

1999 "Behavioral Implications of Contaminant Exposure: Neuroendocrine Mechanisms," International Symposium on Environmental Endocrine Disruptors, Kobe, Japan.

2000 "Interactions of Enkephalin and Norepinephrine in the Regulation of GnRH," Center for Studies in Reproduction Research Forum, University or Maryland Medical School, Baltimore.

2000 "Aging and the Avian Brain: What Can We Learn from other Model Systems?" Workshop on Steroids, Hormones and Brain Function, Breckenridge, CO.

2000 "Effects of Environmental Chemicals on Birds," Department of Biological Resources Engineering, UMCP.

2000 "Behavioral Consequences of Embryonic Exposure to Endocrine Disrupting Chemicals," Society for Behavioral Neuroendocrinology Annual Meeting, Madrid, Spain.

2000 "Lifetime Reproduction: Endocrine and Behavioral Components," XXI World's Poultry Congress, Montreal, Canada.

2000 "Dynamic Changes in Opioid Peptide Regulation of GnRH: Life Cycle Changes," The Laboratory of Neuroendocrinology, The Brain Research Institute, University of California Medical School, Los Angeles.

2000 "Aging in Short Lived Birds" in the Workshop of Slowly Aging Organisms, sponsored by the Gerontology Center, University of Southern California and National Institute on Aging.

2000 "Avian Models for Studies of Aging and Environmental Contaminants," Bioscience Research/Technology Review Day, University College, MD.

2000 "Lifetime Reproduction in Poultry," Animal and Avian Sciences Seminar, UMCP.

2000 "The Japanese Quail as an Avian Model for Testing Endocrine Disrupting Chemicals: Endocrine and Behavioral End Points," 21st Annual Meeting of the Society for Environmental Toxicology and Chemistry, Nashville, Tenn.

2000 "A One Generation Test in Japanese Quail and Relevant End Points," Meeting of the OECD Work Group on Toxicity Testing, Nashville, Tenn.

2001 "The Japanese Quail as an Avian Model for Testing Endocrine Disrupting Chemicals," Environmental Endocrine Disruptors, Tsuba, Japan.

2001 "Establishing Reliable End Points in Assessing the Effects of Endocrine Disrupting Chemicals in the Japanese Quail", International Workshop on Endocrine Disrupting Chemicals, Waseda, Japan.

2001 "Reproductive Consequences of EDCs in Birds: What do Laboratory Effects Mean to Field Species?" Meeting of the Region/ORD Workshop on Endocrine Disruptors, Atlanta, GA.

2001 "Reproductive Consequences of EDCs in Birds: What do Laboratory Effects Mean to Field Species?" 21nd Annual Meeting of the Society for Environmental Toxicology and Chemistry, Baltimore.

2001 "Aging of the reproductive axis in short- and long-lived species," 54th Annual Gerontology Society Scientific Meeting, Chicago, IL.

2002 Discussant, Comparative Biology of Aging Workshop, National Institute on Aging, NIH, Bethesda.

2002 "Assessing the Effects of Embryonic Exposure to Methoxychlor," EPA Grantees Meeting, Research Triangle Park, NC.

2002 "The Two-Generation Avian Test: Comparison of Japanese and Bobwhite Quail," Society of Toxicology and Chemistry, Salt Lake City, UT.

2002 "Assessing Endocrine Disrupting Chemicals in Quail," Satellite Symposium to the 5th International Symposium on Environmental Endocrine Disruptors, Hiroshima, Japan.

2003 "Establishing Appropriate Measures for Monitoring Aging in Birds: Comparing Short and Long Lived Species," Symposium on Slowly Aging Organisms-II, Los Angeles, CA.

2003 "The Japanese Quail Model for Studying Aging and the Effects of Environmental Chemicals", Laboratory of Experimental Gerontology, National Institute on Aging, Gerontology Research Center, Baltimore, MD.

2003 "Assessing the Consequences of Embryonic Exposure to Methoxychlor; Neuroendocrine and Behavioral Effects," Satellite Symposium on Environmental Chemicals; International Symposium on Neuroendocrinology and Behavior, Torino, Italy.

2003 "Utilizing Comparative Models in Studying Aging," Department of Physiology, Howard University Medical School, Washington, DC.

2003 "Neuroendocrine Measures in Assessing Effects of Environmental Chemicals and Aging in the Japanese Quail Model," Department of Biological Sciences, University of Idaho, Moscow, Idaho.

2003 "Estrogenic Endocrine Disrupting Chemicals Impair Reproductive Neuroendocrine and Behavioral Responses in Japanese Quail," invited platform speaker in the Neuromodulation Session, Society of Toxicology and Chemistry Annual Meeting, Austin, TX.

2004 "Transfer of Soy Isoflavones into the Eggs of Japanese Quail (*coturnix japonica*)," Invited Keynote Speaker, The 3rd International Symposium on Egg Nutrition for Health Promotion, Banff, Alberta, Canada.

2004 "Effects of Endocrine Disrupting Chemicals in the Japanese Quail," 8th International Symposium on Avian Endocrinology, Scottsdale, Arizona.

2004 "What Can We Learn from Avian Models?" National Institutes on Aging Summer Interns Research Seminar Series, Baltimore, MD.

2004 "The Actions of Endocrine Disrupting Chemicals in Poultry," Invited Keynote Speaker, 5th International Congress on Food Animal Endocrinology, Budapest, Hungary.

2004 "Reproductive Aging in Birds," Seventh International Symposium on the Neurobiology and Neuroendocrinology of Aging, Bregenz, Austria.

2004 "Neuroendocrine Regulation of Avian Reproduction during Development and Aging," invited platform presentation at the Society for the Study of Reproduction meeting, Vancouver, British Columbia.

2004 "Findings from Two-Generation Dietary Tests in Japanese and Northern Bobwhite Quail," presented to the OECD Expert Group on Avian Toxicity Testing, Portland, OR

2004 "Effects of Endocrine Disrupting Chemicals in the Quail Model System," presentation to the review of EPA STAR grants, Research Triangle Park, December.

2005 "Examining the Biology of Reproductive Aging and the Effects of Environmental Chemicals in an Avian Model," Department of Biology, Wake Forest University, Winston Salem, NC.

2005 "The Perimenopause Transition: What to Do?" Presentation at the University of Maryland Health Fair, UMCP, June.

2005 "The Japanese Quail Model: Neuroendocrine and Behavioral Responses to Environmental Contaminants," Symposium on Reproductive Behavior and Environmental Pollutants, Centre for Reproductive Biology in Uppsala, Stockholm, Sweden. September 15-16.

2006 "Which Goes First: The Ovary or the Brain?" presented to the Department of Physiology, University of Maryland Medical School, Baltimore, MD, February.

2006 "Ovarian Aging and Hypothalamic Neuroendocrine Systems" Howard University School of Medicine Featured Speakers Symposium, Washington, DC. May.

2006 "Effects of EDCs in Birds" in the Mid-Atlantic Regional Water Program of USDA CSREES symposium entitled "Endocrine Disruptors—What We Know & What We Don't, Frederick, MD. November 16.

2007 "Lutein and Soy Isoflavones: Efficacy of Supplements and Data from Comparative Animal Models" in Symposium held at the Winter Conference on Brain Research. January.

2007 "EDC Effects on Different Organisms: Consequences of Embryonic Exposure—Timing is everything!" in the Open Forum entitled Endocrine Disrupting Chemicals: The ABCs or EDCs; Sponsored by the Mid-Atlantic Water Program, Chesapeake Research Consortium, and Metropolitan Washington Council of Governments. Frederick, Md. February.

2007 "Opportunities in International Collaboration for Graduate Trainees" in the NSF sponsored workshop held at the 4th International Meeting on Steroids and the Nervous System, Torino, Italy. February.

2007 "Neuroendocrine and Behavioral Effects of Embryonic Exposure to Endocrine Disrupting Chemicals in Birds"; platform presentation at the 4th International Meeting on Steroids and the Nervous System, Torino, Italy. February.

2007 "Endocrine Disrupting Chemicals in Avian Species: Does Mechanism of Action Matter?" to the Directorate of Toxicology, U.S. Army Center for Health Promotion and Preventive Medicine, Aberdeen, MD.

2007 "What Do EDC Effects in Birds Mean for Biomedicine?" in the Conference on New Chemical Bodies: Biomonitoring, Body Burden, and the Uncertain Threat of Endocrine Disruptors; a Gordon Cain Conference sponsored by the Chemical Heritage Foundation, Philadelphia, PA. May

2007 "Linkages with Agencies and Training Opportunities for Undergraduate and Graduate Students" in symposium entitled "Thinking Outside the Box" ; Federation of Animal Science Societies Symposium, San Antonio, TX. August.

2007 "Overview of Dioxin-like Compounds, PCB, and Pesticide Exposures Associated with Sexual Differentiation of Neuroendocrine Systems, Fluctuating Asymmetry, and Behavioral Effects in Birds" in the special Symposium on "Common Effects Endpoints for Persistent Toxic Substances in Human and Ecological Epidemiology" at the Society for Environmental Toxicology and Chemistry meeting, Milwaukee, WI. November.

2007 "Comparative Effects of Embryonic Exposure to EDCs on the Gonadotropin Releasing Hormone System in Japanese Quail" in session entitled "Emerging Issues and Approaches in Avian Toxicology" at the Society for Environmental Toxicology and Chemistry meeting, Milwaukee, WI. November.

2008 "Comparative Biology of Aging: Interfaces with Endocrine Disruption in Birds and Mammals" Seminar at the Chesapeake Biological Laboratory, Solomons, MD, March.

2008 "Aging Meets Endocrine Disruption: Establishing Likely Physiological Targets and Potential Effects" Seminar to the Animal and Avian Sciences Department, March.

2008 "Is the Gonadotropin Releasing Hormone System Vulnerable to Endocrine Disruption?" Invited talk at the International Symposium on Avian Endocrinology, Leuven, Belgium, July.

2008 "EDCs and Lifelong Fitness: Discerning Critical Impacts" Platform talk at the Society of Toxicology and Chemistry Congress 2008, Sydney, Australia, August.

2009 "Life Cycle Assessment—presentation at the 19th Society of Experimental Toxicology and Chemistry (SETAC) Europe Annual Meeting; representative of the SETAC North America Technical Committee to the International Committee, Goteborg, Sweden, May.

2009 Commentary for the National Institute on Aging sponsored Workshop on Reproductive Aging, Georgetown University, Washington, DC, June.

2009 "Avian Models for Neuroplasticity and Endocrine Aging" National Institute on Aging Workshop, Bethesda, MD, July.

2009 "Effects of Endocrine Disrupting Chemicals on Birds; or Why Don't the Birds Sing"? University of Minnesota, Minneapolis, MN, December.

2010 "Non-human Primate Model for Study of Cognitive and Endocrine Aging" In: Symposium entitled Revealing Elusive Neural Circuits Using Comparative Approaches presented at the Winter Conference on Brain Research, Breckenridge, CO January.

2011 "Research Compliance and Ethics for Animal Experimentation" in the Responsible Conduct of Research Workshop (4 presentations in 2011 at campus workshops).

2011 "Research Compliance Office: Programs for the Campus Community" ORAA Training Program, UMD.

2011 "Trip to Antarctica" presented to the Gym Fellows, School of Public Health, March.

2011 "Role of Endocrine Hormones in Vertebrate Aging" invited presentation at the American Association on Aging (AGE); Raleigh, NC June.

2011 'Neuroendocrine Measures of Impact in Birds: A Lifetime of Exposure' invited presentation at the North American Society of Comparative Endocrinology; Ann Arbor, MI July.

2011 'CoFarm: Mission, Membership, Activities, and Current Status' to the Coalition of Agricultural Societies; August, Washington DC.

2011 'Impact of EDCs in Birds: A Lifetime of Exposure' presentation to the Fish and Wildlife Service at Agency Headquarters; projected by webinar to national FWS area offices; Washington, DC September.

2011 'Effects of E-quinols on Alzheimer's Disease' poster presentation at the NIA's 3rd Alzheimer's Disease Translational Research Investigators' Meeting; NIH Campus, Bethesda MD September.

2011 'Workshops and Initiatives within the ADVANCE Program' presentation to Extension Faculty meeting September.

2011 'The ADVANCE Program' presentation to the Counseling Center Faculty and Staff, UMD, October.

2011 'The ADVANCE Program' presentation to UME Administrative Team October'ADVANCE Program Initiatives' presentation to UME Nutrition and Education Faculty meeting.

2011 'Sustainability of Wildlife Populations: Ripples and Outcomes of Lifetime Exposure to Environmental Chemicals' presentation to ESSIC faculty and staff, December.

2012 ADVANCE Winter Workshop for Associate to Full Professors: 'My Experiences in Balancing Work-Home Demands'. UMD, January.

2012 'Assessing Effects of Environmental Chemicals on Neuroendocrine Systems: Potential Mechanisms and Functional Outcomes'. Platform Talk; International Symposium on Avian Endocrinology. Gifu, Japan, June.

2012 'Research, Ethics, and Professional Practice' Family and Consumer Sciences Program Retreat, Annapolis, MD, May.

2012 'Wildlife Endocrinology Seminar: Endocrine Disruptors and Birds. US EPA Office of Pesticide Programs Seminar Series on Wildlife Endocrinology. Arlington, VA. August.

2012 'Risks and Rewards; Assessing Impacts of Endocrine Disruptors'. The Fels Institute for Cancer Research and Molecular Biology, Department of Biology, Temple University School of Medicine, Philadelphia, September.

2013 'Sustainability of Wildlife Populations with Exposure to Environmental Chemicals: Life Stage Vulnerabilities, Molecular and Systemic Responses. Simon Fraser University, Vancouver, British Columbia, CA. January.

2013 'Establishing adverse outcome pathways in endocrine disruption in birds', Society for the Study of Reproduction Annual Meeting, Montreal, CA, July.

2013 'Impacts of embryonic exposure to PCBs on heart development in Japanese quail. Society for Environmental Chemistry and Chemistry Annual Meeting, Nashville, TN, November.

2014 'Gender Benders and Aging: When is the GnRH System Vulnerable?' The Winter Conference on Brain Research, Steamboat Springs, Colorado, January.

2014 'The Japanese Quail Two Generation Test' Society of Environmental Toxicology and Chemistry Focused Topic Meeting, Raleigh, NC, February.

2014 'Comparative Impacts of Endocrine Disrupting Chemicals over the Life Cycle' Department of Biology and Biochemistry, University of Houston, Houston, TX. March.

2014 'A Comparative Perspective on Reproductive Aging, Reproductive Cessation, Post-reproductive Life, and Social Behavior'. (authored with Peter T. Ellison), Committee on Advances in Biodemography: Cross-Species Comparisons of Social Environments, Social Behaviors, and Their Effects on Health and Longevity: A Workshop. National Academies of Science, Washington, DC, April.

2014 'Aging and the Environment: Lessons Learned from Birds and Primates' Texas A&M Reproductive Biology Forum, College Station, TX, October 24.

2014 'Gender Benders and Aging: When is the GnRH System Vulnerable?' Winter Conference on Brain Research. Steamboat Springs, CO, January

2015 'Neurobology of Aging: Insights from Primate Studies and Comparative Biology' Baylor College of Medicine Huffington Center on Aging, Houston, TX, April.

2016 'Complex Mixtures: Multidimensional Exposures and Making Sense of Effects Across Organisms'. pre-meeting Symposium in honor of Dr. Louis Guillette, workshop to the Gulf of Mexico Oil Spill & Ecosystem Science Conference Tampa, FL, 2/1/2016.

2016 'Multidisciplinary Research' Hilton College Seminar, University of Houston, September.

2017 'Complex Chemical Mixtures and Environmental Challenges in a One-Health Context'. Louisiana State University, Baton Rouge, LA. September 29.

2017 'Collaborations in Research Opportunities at UH, Regionally and Beyond!' Keynote Speaker for the Women's Luncheon—Collaboration in Research—hosted by Deans Oliver and Tart. University of Houston, October 10.

2017 'Complex Chemical Mixtures in the Environment: The Challenge of Evaluating Potential Risk'. Baylor University Department of Environmental Science Fall 2017 Seminar Series, Waco, TX, October 11.

2018 'One Health and Vulture Populations—Widening the View. SESYNC (National Socio-Environmental Synthesis Center), Annapolis, MD.

2018 'Sustainability of Wildlife in South Africa: Approaches and Technology' Presentation to the U.S. Department of State Bureau of Intelligence and Research May 14, 2018.

2018 'The Interdependence of One Health and Vulture Populations' Raptor Research Foundation Annual Meeting: Skukuza, South Africa, November 14, 2018.

2019 'Measures of Fitness in Avian Populations as a Measure of One Health' with coauthors Peggy Lindner, Shishir Shah, Jennifer Murrow. Urban Wildlife Annual Meeting, June 2019.

2019 'Interacting Environmental Stressors Impact Wildlife-Human-Ecosystem Health' Invited platform speaker for the Society of Experimental Toxicology and Chemistry Spotlight Session for '50 Years of SETAC Science: Past, Present, and Future'.

2020 'One Health is Convergent Science: The Human-Wildlife-Animal Health Nexus. Platform talk in Symposium entitled: 'Convergent Science: Combating Africa's Wildlife Crisis' at the American Association for the Advancement of Science Annual Meeting, February 14, 2020.

ii. ARTICLES IN CONFERENCE PROCEEDINGS

1. Soares, J.H., Jr. and M.A. Ottinger (1980). Current broiler breeder research at the University of Maryland. Proc. Delmarva Hatching and Breeder Flock Management Short Course, pp. 44-46.
2. Soares, J.H., Jr. and M.A. Ottinger (1980). Controlling feed intake for optimal reproductive efficiency in broiler breeders. Maryland Poultryman, pp. 1-3.
3. Soares, J.H., Jr., M.A. Ottinger, P. Laurans and J.T. Allen (1981). Effects of nutrient restriction on broiler breeder reproduction. Proc. MD Nutrition Conference, pp. 15-18.
4. Soares, J.H., Jr., T. Byerly and M.A. Ottinger (1983). Current University of Maryland Research on the Nutrition of Broiler Breeders. Proc. MD Nutrition Conference, pp. 18-21.
5. Ottinger, M.A., and J.H. Soares, Jr. (1983). Breeder nutrition and management research. Proc. Delmarva Hatchery Short Course.
6. Byerly, R.C., J.H. Soares, Jr., and M.A. Ottinger (1984). Severe vs. moderate restrictions of feed intake: Effects of body weight, egg production, energetic efficiency and male development of broiler breeders. Proc. of XVII-World's Poultry Congress and Exhib., Helsinki, Aug. 8-12, 1984.
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227. Bennett, R., K. Brugger, M.A. Ottinger and L. Touart (2004). Review of issues and objectives for developing an avian endocrine testing protocol. Interactive Poster Session, Society of Toxicology and Chemistry 25th Annual Meeting and 4th SETAC World Congress, Meeting Program, p. 52.
228. Ottinger, M.A., J. Hazelton, M. Quinn, Jr., N. Thompson, L. Mann, A. Barton, M.Abdelnabi, E. Lavoie, J. Beavers and M. Jaber (2004). Findings from two-generation tests in Japanese and Northern bobwhite quail. Society of Toxicology and Chemistry 25th Annual Meeting and 4th SETAC World Congress, Meeting Program, p. 52.
229. Quinn, M.J., Jr., E.T. Lavoie and M.A. Ottinger (2004). Trenbolone acetate suppresses vocalization in Japanese quail chicks. Society of Toxicology and Chemistry 25th Annual Meeting and 4th SETAC World Congress, Meeting Program, p. 83.
230. Lavoie, E.T., M.J. Quinn, Jr., and M.A. Ottinger (2004). Effects of site and timing of egg injection on the Japanese quail embryo. Society of Toxicology and Chemistry 25th Annual Meeting and 4th SETAC World Congress, Meeting Program, p. 83.
231. Lavoie, E.T., M.J. Quinn, Jr., M. McKernan, M.A. Abdelnabi and M.A. Ottinger (2004). Assessment of an embryo dose range finding protocol in Japanese quail: Sensitivity to estradiol. Society of Toxicology and Chemistry 25th Annual Meeting and 4th SETAC World Congress, Meeting Program, p. 59.
232. Pollack, S.J., D. Fisher, L. Yankos and M.A. Ottinger (2004). Aromatase activity in male and female adult fathead minnows (*Pimephales promelas*) exposed to poultry litter. Society of Toxicology and Chemistry 25th Annual Meeting and 4th SETAC World Congress, Meeting Program, p. 72.
233. McKernan, M.A., M.J. Quinn, Jr., E.T. Lavoie and M.A. Ottinger (2004). Aromatase enzyme as an endpoint for embryonic exposure to methoxychlor in Japanese quail (*Coturnix japonica*). Society of Toxicology and Chemistry 25th Annual Meeting and 4th SETAC World Congress, Meeting Program, p. 52.
234. Quinn, M.J., Jr., and M.A. Ottinger (2004). Androgen active contaminants disrupt development of the bursa of Fabricius: A possible mechanism of immunosuppression in birds? Society of Toxicology and Chemistry 25th Annual Meeting and 4th SETAC World Congress, Meeting Program, p. 83.
235. Wu, J., M. Zelinski-Wooten, E. Tilmont, A. Handy, J. Mattison, M.A. Lane, G.S. Roth, M.A. Ottinger and D.K. Ingram (2004). Ovarian function and incidence of endometriosis on long-term calorie restriction. Gerontology Society of America Annual Meeting. Washington, DC.
236. Ottinger, M.A., M. Mobarak and M.A. Abdelnabi (2005). Effects of moderate and severe calorie restriction on avian species. Winter Brain Conference, Breckenridge, CO.

237. Ottinger, M.A., K. Chen, M.A. Abdelnabi, N. Thompson, C. Viglietti-Panzica and G.C. Panzica (2005). Catecholamine systems reflect aging while remaining neuroplastic in an avian model. American Aging Association Annual Meeting, Oakland, CA. June.
238. Wu, J.M., M.A. Ottinger, A.M. Hobbs, E.M. Tilmont, T.E. Thompson, J.A. Mattison, G.S. Roth, M.A. Lane, D.K. Ingram and M.B. Zelinski-Wooten (2005). Effects of long-term moderate calorie restriction (CR) on ovarian function in rhesus monkeys. American Aging Association Annual Meeting, Oakland, CA. June.
239. Wu, J.M., M.A. Ottinger, A.M. Hobbs, E.M. Tilmont, T.E. Thompson, J.A. Mattison, G.S. Roth, M.A. Lane, D.K. Ingram and M.B. Zelinski-Wooten (2005). Benefits of calorie restriction (CR) on ovarian response to exogenous gonadotropins and preimplantation embryonic development in old rhesus monkeys. Society for the Study of Reproduction Annual Meeting. Quebec, Canada. July.
240. Ottinger, M.A., M.J. Quinn, Jr., E. Lavoie, M. McKernan, N.E. Thompson, A. Barton and M.A. Abdelnabi (2005). Embryonic exposure to environmental endocrine dirsuptors impairs adult reproductive behavior and hypothalamic neuroendocrine systems. Society for the Study of Reproduction Annual Meeting. Quebec, Canada. July.
241. Wu, J.M., D.L. Takahasi, M.S. Lawson, F. Pau, J.A. Mattison, D.K. Ingram, G.S. Roth, M.A. Roth, M.A. Ottinger and M.B. Zelinski-Wooten (2005). Predicting follicular response to controlled ovarian stimulation (COS) in rhesus monkeys. American Society of Primatologists Annual Meeting. Portland, OR, August.
242. Ottinger, M.A., M.J. Quinn, Jr., E. Lavoie, N. Thompson, M.A. Abdelnabi, C. Viglietti-Panzica, E. Mura and G.C. Panzica (2005). Neuroendocirne and behavioral consequences of embryonic exposure to endocrine disrupting chemicals. Avian Brain Conference, Budapest, Hungary. August.
243. Bauer, R.A., K.M. Pelican, D.E. Wildt, M.A. Ottinger and J.G. Howard (2005). Oral progestogen, altrenogest, provides short-term inhibition of ovarian activity in the domestic cat. Society for the Study of Reproduction Annual Meeting. Quebec, Canada. July.
244. Ottinger, M.A., M.J. Quinn, Jr., E. Lavoie, N. Thompson, M. Abdelnabi, C. Viglietti-Panzica and G.C. Panzica (2005). The Japanese quail model: Neuroendocrine and behavioral responses to environmental contaminants. Abstracts for the Symposium on Reproductive Behavior and Environmental Pollutants, Centre for Reproductive Biology in Uppsala, Stockholm, Sweden.
245. Sitzmann, B.D., D.R. Lemos, M.A. Ottinger and H.F. Urbanski (2005). Expression of clock-related genes in the rhesus macaque pituitary gland. Society for Neuroscience Society Annual Meeting, Washington, D.C.
246. O'Neil, J.N., P.R. Mouton, Y. Tizabi, M.A. Ottinger, D.L. Lei, D.K. Ingram and K.M. Manaye (2005). Quantification of catecholaminergic neurons in locus coeruleus of aged dtg APP/PS1 mice. Society for Neuroscience Society Annual Meeting, Washington, D.C., November.
247. Panzica, G.C., E. Mura, C. Barale, M.J. Quinn, Jr., N.E. Thompson, C. Viglietti-Panzica and M.A. Ottinger (2005). Embryonic exposure to estrogenic and androgenic endocrine disrupting chemicals alters male quail sexual behavior and vasotocin system. Society for Neuroscience Society Annual Meeting, Washington, D.C., November.
248. Ottinger, M.A., N.E. Thompson and K. Tsutsui (2005). Aging of the GnRH and gonadotropin inhibitory hormone systems differs in photoperiod regulation of the reproductive axis. Society for Neuroscience Society Annual Meeting, Washington, D.C., November.
249. Lavoie, E.T., M.J. Quinn, Jr., and M.A. Ottinger (2005). The avian embryo "bioassay" for evaluating reproductive and immune disruption. Society for Toxicology and Chemistry Annual Meeting. Baltimore, November.
250. M.A. Ottinger, M. Quinn, Jr., E. Lavoie, M. McKernan, N. Thompson, A. Barton and M. Abdelnabi (2006). Embryonic exposure to endocrine disrupting chemicals impairs male sexual behavior and impacts neuroendocrine systems. Winter Conference on Brain Research Abstracts, Steamboat Springs, CO.
251. Sitzmann, B.D., D.R. Lemos, L.L. James, M.A. Ottinger and H.F. Urbanski (2006). Rhythmic expression of core clock genes in the rhesus macaque (*Macaca mulatta)* pituitary gland. International Congress on Neuroendocrinology Abstracts, Pittsburgh, PA.
252. Panzica, G.C., M.A. Ottinger and C. Viglietti-Panzica (2006). Xenoestrogens and xenoandrogens: Actions on avian vasotocin system. International Congress on Neuroendocrinology Abstracts, Pittsburgh, PA.

253. Ottinger, M.A., E. Lavoie, N. Thompson, K. Whitehouse, M. Barton, A. Barton, M. Abdelnabi, M. McKernan, S. Pollack, B. Sitzmann and M. Quinn, Jr. (2006). Comparative effects of estrogenic, androgenic endocrine disruptors, and atrazine on behavior and neuroendocrine systems in quail. International Congress on Neuroendocrinology Abstracts, Pittsburgh, PA.
254. Wu, J.M., D.L. Takahashi, M.S. Lawson, J.A. Mattison, G.S. Roth, M.A. Lane, D.K. Ingram and M.A. Ottinger (2006). Ovarian reserve tests (ORTS) and their utility in predicting response to controlled ovarian stimulation (COS) in rhesus monkeys (*Macaca mulatta*). AGE, Boston, MA.
255. McKernan, M.A., B.A. Rattner, B.K. Ackerson and M.A. Ottinger (2006). Potential effects of egg orientation during incubation on toxicity of environmental contaminants to avian embryos. Int. Wildlife Society Abstracts, Alaska.
256. Ottinger, M.A., E. Lavoie, N. Thompson, K. Whitehouse, M. Barton, B. Sitzmann and M. McKernan (2006). Reproductive effects of embryonic exposure to atrazine in quail. Society for the Study of Reproduction Annual Meeting Abstr. Omaha, NE.
257. Sitzmann, B.D., M.B. Zelinski, B.S. Pukazhenhi, J.A. Mattison, D.K. Ingram, G.S. Roth and M.A. Ottinger (2006). Impact of caloric restriction and age on semen parameters in rhesus monkeys (*Macaca mulatta*). Society for the Study of Reproduction Annual Meeting Abstr. Omaha, NE.
258. Bauer, R.A., K.M. Pelican, B.S. Pukazhenthi, A.E. Crosier, M.A. Ottinger, D.E. Wildt and J.G. Howard (2006). Progesterone priming with altrenogest eliminates spontaneous ovulation and increases sensitivity to exogenous gonadotropins in the cat. Society for the Study of Reproduction Annual Meeting Abstr. Omaha, NE.
259. Zelinski, M.B., J.M. Wu, M. Lawson, D. Takahashi, M.A. Ottinger, and D.K. Ingram (2006). The rhesus monkey as a model for the study of ovarian aging and the perimenopausal interval. Serono Symposium, "Clinical Frontiers in Human Reproduction—Models in Primate Research", Toronto, March.
260. Manaye, K.F., D. Lei, J.N. O'Neil, T. Xu, Y. Tizabi, M.A. Ottinger, D.K. Ingram and P.R. Mouton (2006). Stereological analysis of astrocytes proliferation across gender in hippocampus and amygdaloid complex of dtg APP/PS1 mice. Soc. for Neuroscience Abstr. Atlanta, GA
261. Ottinger, M.A., I. Merchenthaler, G.E. Hoffman, P.R. Mouton, J.N. O'Neil, K.M. Manaye, K. Duffy, G. Tinkler and D.K. Ingram (2006). Estradiol receptors in brain regions of aged female dtg APP/PS1 mice. Soc. for Neuroscience Abstr. Atlanta, GA
262. Tinkler, G.P., K. Duffy, P.R. Mouton, D.K. Ingram and M.A. Ottinger (2006). Central noradrenergic depletion increases microglial activation in the hippocampus of triple-transgenic APP/PS1/*tau* mice. Soc. for Neuroscience Abstr. Atlanta, GA.
263. O'Neil, J.N. P.R. Mouton, Y. Tizabi, M.A. Ottinger, D.L. Lei, D.K. Ingram and K.M. Manaye (2006). Quantification of catecholaminergic neurons in the locus coeruleus of aged dtg APP/PS1 mice. Soc. for Neuroscience Abstr. Atlanta, GA
264. Xu, T., J.N. O'Neil, D. Lei, L. Liao, Y. Tizabi, M.A. Ottinger, D.K. Ingram, P.R. Mouton, and K.F. Manaye (2006). Stereological analysis of arginine—vasopressin neurons in the PVN and SON of dtg APP/PS1 mice. Soc. for Neuroscience Abst., Atlanta, GA.
265. Passinetti, G.M., W. Qin, M. Chachich, M. Lane, G. Roth, R. De Cabo, M.A. Ottinger, J. Mattison, and D. Ingram (2006). Caloric restriction attenuates Alzheimer's disease type amyloid neuropathology in rhesus monkeys (*Macaca mulatta*). Soc. for Neuroscience Abst., Atlanta, GA.
266. Pollack, S.J., J. D. Salierno, M.A. Ottinger, A. Kane (2006). Alterations in courtship behaviors, breeding success, and secondary sex characteristics in male fathead minnows, *Pimephales promelas*, exposed to 17α -estradiol ethinylestradiol. Society for Environmental Toxicology and Chemistry annual meeting abst., Montreal,Canada.
267. Ottinger, M.A., E. Lavoie, N. Thompson, K. Whitehouse, M. Barton, M. Abdelnabi, S. Pollack, B. Sitzmann, M. McKernan, M. Quinn, Jr. (2006). Comparing effects of estradiol and atrazine in an avian bioassay. Society for Environmental Toxicology and Chemistry annual meeting abst., Montreal,Canada.
268. McKernan, M.A., B. Rattner, B.K. Ackerson, M.E. Barton, K.S. Schoen, R.C. Hale, M.A. Ottinger (2006). Comparative toxicity of polybrominated flame retardants in avian embryos. Society for Environmental Toxicology and Chemistry annual meeting abst., Montreal,Canada.

269. Ottinger, M.A., E. Lavoie, N. Thompson, K. Whitehouse, M.Barton, M. Abdelnabi, M. Quinn, Jr. (2006). Different mechanisms yield similar effects of EDCs in a quail embryo bioassay. Society for Environmental Toxicology and Chemistry annual meeting abst. Montreal, Canada.
270. Ottinger, M.A., E. Lavoie, N. Thompson, A. Barton, K. Whitehouse, M. Barton, M. Abdelnabi, M.Quinn, Jr., G. Panzica, C. Viglietti-Panzica (2007). Neuroendocrine and behavioral effects of embryonic exposure to endocrine disrupting chemicals in birds. 4th International Meeting on Steroids and the Nervous System, Torino, Italy.
271. Sitzmann, B.D., J.A. Mattison, D.K. Ingram, G.S. Roth, M.A. Ottinger, and H.R. Urbanski (2007). Impact of moderate calorie restriction on pituitary gene expression in adult male rhesus macaques (Macaca mulatta). 40th Annual Meeting of the Society for the Study of Reproduction. San Antonio, TX.
272. Ottinger, M.A., N.E. Thompson, and K. Tsutsui (2007). Is aging similar to reproductive photorefractoriness; Insights from age-related changes in GnRH and GnIH. 40th Annual Meeting of the Society for the Study of Reproduction. San Antonio, TX.
273. Aitken-Palmer, C., R. Hou, D.E. Wildt, M.A. Ottinger, R.E. Spindler, and J. Howard (2007). Giant panda sperm tolerate cryopreservation at rapid freezing and thawing rates. 40th Annual Meeting of the Society for the Study of Reproduction. San Antonio, TX.
274. Ottinger, M.A., E. Lavoie, and M. Quinn, Jr. (2007). Evaluating reproductive and immune consequences of endocrine disrupting chemicals in an avian bioassay. Federation of Animal Science Society, San Antonio, TX.
275. Ottinger, M.A. (2007). Linkages with agencies and training opportunities for undergraduate and graduate students. Federation of Animal Science Societies Symposium, San Antonio, TX.
276. McKernan, M.A., B.A. Rattner, B.K. Ackerson, M.E. Barton, K.S. Schoen, R.C. Hale, and M.A. Ottinger (2007). Comparative toxicity of polybrominated flame retardants in avian embryos. Marine, Estuarine, and Environmental Sciences Annual Colloquium.
277. McKernan, M.A., B.A. Rattner, B.K. Ackerson, M.E. Barton, K.S. Schoen, R.C. Hale, and M.A. Ottinger (2007). Comparative toxicity of polybrominated flame retardants in avian embryos. Chesapeake-Potomac Regional Chapter of the Society for Environmental Toxicology and Chemistry Annual Meeting.
278. McKernan, M.A., B.A. Rattner, and M.A. Ottinger (2007). Sublethal responses of avian embryos exposed to polybrominated diphenyl ether flame retardants. Society for Environmental Toxicology and Chemistry annual meeting abst., Milwaukee, WI.
279. Ottinger, M.A., E. Lavoie, M. Abdelnabi, and M. Quinn, Jr. (2007). Overview of dioxin-like compounds, PCB, pesticide exposures associated with sexual differentiation of neuroendocrine systems, fluctuating asymmetry, and behavioral effects in birds. Soc. Envir. Toxicology Chemistry, Milwaukee, WI.
280. Ottinger, M.A., N. Thompson, M. Barton, K. Whitehouse, M. Quinn, Jr., and E. Lavoie (2007). Comparative effects of embryonic exposure to EDCs on the gonadotropin releasing hormone system in Japanese quail. Society for Environmental Toxicology and Chemistry annual meeting abst., Milwaukee, WI.
281. Lavoie, E.T., M.E. Barton, H.K. Whitehouse, N. Thompson, and M.A. Ottinger (2007). Comparison of lethality after in ovo exposure to PCB 126 and a PCB mixture in chickens, quail, tree swallows, and American kestrels. Society for Environmental Toxicology and Chemistry annual meeting abst., Milwaukee, WI.
282. Bohannan, M.E.B., T.E. Porter, E.T. Lavoie, M.S. Byerly, and M.A. Ottinger (2007). Establishing a profile of gene expression in avian species exposed to PCBs. Society for Environmental Toxicology and Chemistry annual meeting abst., Milwaukee, WI.
283. Sitzmann, B.D., V.T. Garyfallou, J.A. Mattison, D.K. Ingram, G.S. Roth, M.A. Ottinger, and H.R. Urbanski (2007). Impact of moderate calorie restriction on pituitary gene expression in adult male rhesus macaques (Macaca mulatta). Society for Neuroscience Annual Meeting, San Diego, CA.
284. Schlappal, A.E., K.B. Duffy, W.N. Jefferson, G.J. Harry, R.R. Newbold, and M.A. Ottinger (2007). Effect of neonatal genistein exposure on hypothalamic catecholamine system. Society for Neuroscience Annual Meeting, San Diego, CA.
285. Ottinger, M.A. and D.K. Ingram (2008). Your aging brain: The monkey on your back. Winter Conference on Brain Research, Snowbird, UT.

286. Mure, E., V. Sacchi, N. Thompson, M.A. Ottinger, G.C. Panzica, and C. Viglietti-Panzica (2008). Multigenerational study on methoxychlor effects on the vasotocin system in bobwhite quail. Society for Behavioral Neuroendocrinology Annual Meeting, Netherlands.
287. Schafer, A.M., A. M. Wells-Berlin, M.A. Ottinger, M. C. Perry (2008). Nutrient and energy acquisition by Harlequin ducks foraging for an exotic crab, *Carcinus maenas*, and a native crab, *Hemigrapsus oregonensis*. 3rd North American Sea Duck Conference, Quebec, Canada, August.
288. Ottinger, M.A., N. Thompson, M. Quinn, Jr., (2008). Is the gonadotropin releasing hormone system vulnerable to endocrine disruption? International Symposium on Avian Endocrinology, Leuven, Belgium, August.
289. Ottinger, M.A., EDCs and Lifelong Fitness: Discerning Critical Impacts" Platform talk at the Society of Toxicology and Chemistry Congress 2008, Sydney, Australia, August.
290. Dean, K., E. Lavoie, M. Bohannon, T. Carro, K. Davani, K. Duffy, M. Quinn, Jr., A. Schlappal, M. Strauss, N. Thompson, K. Whitehouse, M.A. Ottinger (2008). Avian egg lethality studies: Dealing with vehicle effects. Society of Toxicology and Chemistry Congress 2008, Sydney, Australia, August.
291. Bohannon, M.E. B., T.E. Porter, E.T. Lavoie, M.B. Byerly, M.A. Ottinger (2008). Establishing a profile of gene expression in avian species. Poster; Society of Toxicology and Chemistry Congress 2008, Sydney, Australia, August.
292. Ottinger, M.A., N. Thompson, M. Bohannon, E. Lavoie, K. Davani, M. Strauss, A. Schlappal, K. Dean (2008). Comparative effects of PCBs on the gonadotropin releasing hormone system. Society for Neuroscience Annual Meeting, Washington, D.C.
293. Bohannon, M., T.E. Porter, E.T. Lavoie, M.B. Byerly, M.A. Ottinger (2008). Establishing a profile of gene expression in avian species exposed to PCBs. Platform talk; Society of Environmental Toxicology and Chemistry Annual Meeting, Tampa FL, November.
294. Carro, T. (2008). Comparative effects of PCBs on heart weight and morphology in *Tachycineta bicolor.* Society of Environmental Toxicology and Chemistry Annual Meeting, Tampa FL, November.
295. Ottinger, M.A., T. Carro, M. Bohannon, A. Schlappal, K. Duffy, A. Schafer, K. Davani, M. Strauss, N. Thompson, E. Lavoie, K. Dean (2008). Lethality of PCB mixtures on avian embryo development Society of Environmental Toxicology and Chemistry Annual Meeting, Tampa FL, November.
296. Duffy, K.B., M. A. Ottinger, D.K. Ingram, J. A. Mattison (2008). Use of noradrenergic neurotoxin DSP-4 in development of a nonhuman primate model of idiopathic Alzheimer's disease. Society for Neuroscience Annual Meeting, Washington, D.C., November
297. Schafer, A.M., A.M. W Wells-Berlin, M.A. Ottinger, and M.C. Perry. (2008). Nutrient and Energy Acquisition by Harlequin Ducks Foraging for an Exotic Crab, *Carcinus maenas*, and a Native Crab, *Hemigrapsus oregonensis*. Plenary presentation at the Third North American Sea Duck Conference, Quebec, November 10-14.
298. Rattner, B.A., M.A. McKernan, R.C. Hale, M.A. Ottinger (2009). Toxicity and biotransformation of polybrominated biphenyl ethers in avian embryos. Society of Toxicology Meeting,, Baltimore, April.
299. Ottinger, M.A., Y. Zohar, G.Fraley, R. Ramachandran (2009). GnRH and GnIH: To reproduce or to eat! Winter Conference on Brain Research, Copper Mountain, CO, January.
300. Eisenreich, K., K. Dean, M.A. Ottinger, and C. Rowe (2009). Glandular thyroxine concentrations in the common snapping turtle in response to BDE-47 and BDE-99 via embryonic and dietary exposure. Society of Environmental Toxicology and Chemistry Annual Meeting. New Orleans, November.
301. Carro, T., K. Dean, T. Loeffler, and M.A. Ottinger (2009). Effects of PCB 77 on heart weight and morphology in *Tachycineta bicolor* hatchlings. Society of Environmental Toxicology and Chemistry Annual Meeting. New Orleans, November.
302. Barton, M.E., K.M. Dean, K. Davani, and M.A. Ottinger (2009). Induction of cytochrome P450 ethoxyresorufin-O-dealkylase (EROD) activity in hatchling tree swallows and bluebirds: Comparison of PCB-dosed and environmentally exposed hatchlings. Society of Environmental Toxicology and Chemistry Annual Meeting. New Orleans, November.
303. Bohannon, MEB, TE Porter, ET Lavoie, MS Byerly, and MA Ottinger (2009). Establishing a profile of gene expression in avian species exposed to PCBs. Society of Toxicology Annual Meeting, Baltimore, MD, April.

304. Leopold, A, J. Beavers, R. Bennett, P. Edwards, M. Jaber, P. Mineau, MA Ottinger, M Quinn, T. Springer, and M. Wada. (2010). Evaluation of endocrine effects in birds: a case for a targeted, life-stage and endpoint specific approach. SETAC EU, Seville, Spain, May.
305. Holloway, H., K. Duffy, Y. Li, MA. Ottinger, and N. Grieg (2010). GLP-1 receptor stimulation reduces amyloid beta peptide accumulation and cytotoxicity in cellular and animal models of Alzheimer's disease. Winter Conference on Brain Research, Breckenridge, CO, January.
306. Ottinger, MA. (2010). Revealing elusive neural circuits using comparative approaches. Winter Conference on Brain Research, Breckenridge, CO, January.
307. Carro, T. and M.A. Ottinger. (2010). Effects of an environmentally relevant 58 congener PCB mixture on heart weight and morphology in *Gallus gallus domesticus* hatchlings. Society of Toxicology Annual Meeting, Portland, OR, November.
308. Dean, K, M. Bohannon, T Carro, A. Marceau, N. Thompson, D. Cacela, J. Lipton, and M. A. Ottinger. (2010). Effects of specific PCB congeners and PCB mixtures on embryonic Japanese quail. Society of Toxicology Annual Meeting, Portland, OR, November.
309. Schlappal, A., R. Schuh, and MA Ottinger. (2011). Effects of estrogen-derived compounds in a muring model of Alzheimer's disease. Society of Toxicology Annual Meeting, Washington DC, March.
310. Carro, T and MA Ottinger (2011). Effects of PCBs on embryonic cardiac development in *Gallus gallus domesticus*. Society of Toxicology Annual Meeting, Washington, DC, March.
311. Duffy, KB, MO Hardesty, DK Ingram, MA Ottinger, JA Mattison (2011). Amyloid distribution and inflammatory response in adult and aged squirrely monkeys with decreased levels of norepinephrine following repeated injections of DSP-4. Society for Neuroscience Annual Meeting, November, Washington, DC.
312. Schlappal, AE, R Schuh, L Prokai, MA Ottinger (2011). Effects of estradiol-quinol on cognitive performance in a murine model of Alzheimer's disease. Society for Neuroscience Annual Meeting, November, Washington, DC.
313. Ottinger, MA and K Dean (2011). PCB concentrations in tree swallows (*Tachycineta bicolor*) eggs collected from the Upper Hudson River varies within a season and between years. Society for Environmental Toxicology and Chemistry Annual Meeting, Boston MA, November.
314. Carro, T and MA Ottinger (2011). Effects of an environmentally relevant PCB mixture on embryonic heart development at HH20 in *Gallus domesticus* (Domestic chicken). Society for Environmental Toxicology and Chemistry Annual Meeting, Boston MA, November.
315. Bohannan, MEB, TE Porter, L Ellestad, and MA Ottinger (2011). Differential expression of liver regulatory genes with embryonic PCB exposure. Society for Environmental Toxicology and Chemistry Annual Meeting, Boston MA, November.
316. Ottinger, MA (2011). Role of Endocrine Hormones in Vertebrate Aging. Annual meeting of the American Aging Association. Raleigh, NC June.
317. Ottinger, MA, ME Bohannon, T Carro, L Carpenter, and K Dean (2011). Neuroendocrine measures of EDC impact in birds: A lifetime of exposure. Annual Meeting of the North American Society for Comparative Endocrinology, Ann Arbor, MI, July.
318. Schlappal, A, MA Ottinger, R Schuh (2012). *In vitro* effects of mutant APP and PS1 on mitochondrial function in hippocampal N2a cells. Society of Toxicology Annual Meeting, San Francisco, CA, March.
319. Ottinger,MA, T Carro, M Bohannon, L Carpenter, KM Dean (2012). Assessing effects of environmental chemicals on neuroendocrine systems: Potential mechanisms and functional outcomes. International Symposium on Avian Endocrinology. Gifu, Japan, June.
320. Ottinger, MA, KM Dean, T Carro, M Bohannon, L Baltos (2012). Assessing effects of endocrine disrupting chemicals: functional outcomes of exposure to mixtures. Society for the Study of Reproduction Annual Meeting. State College, PA, August.
321. Ottinger, MA. (2012). Endocrine disruptors and birds. US EPA Webinar Seminar Series on Wildlife Endocrinology, Arlington, VA, August.
322. Duffy, KB, R Balmiki, KL Debomoy, DK Ingram, N Grieg, JA Mattison, MA Ottinger (2012). Altered amyloid-β precursor protein (APP) processing and localization in rhesus macaques (*Macaca mulatta*)

with decreased levels of norepinephrine. Society for Neuroscience Annual Meeting, New Orleans, LA, October.

323. Schlappal, R Schuh, L Prokai, MA Ottinger (2012). Effects of estradiol-quinol on cognitive performance in a murine model of Alzheimer's disease. Society for Neuroscience Annual Meeting, New Orleans, LA, October.
324. Bohannon MEB, K Dean, MA Ottinger (2012). EROD activity in wild and laboratory birds with embryonic exposure to environmentally relevant PCB mixtures as an assessment of biomarkers of exposure. Society for Experimental Toxicology and Chemistry Annual Meeting, Long Beach, CA, November.
325. T Carro, KM Dean, LD Baltos, MA Ottinger (2012). Effects of embryonic exposure to PCBs on heart development in avian laboratory species. Society for Experimental Toxicology and Chemistry Annual Meeting, Long Beach, CA, November.
326. Lazarus, RS, BA Rattner, PC McGowan, RC Hale, MA Ottinger (2012). Contaminant exposure, food web transfer and potential effects to ospreys nesting (*Pandion haliaetus*) in Chesapeake Bay regions of concern. Society for Experimental Toxicology and Chemistry Annual Meeting, Long Beach, CA, November.
327. Ottinger, MA, T Carro, M Bohannon, L Balthos, KM Dean (2012). Comparing effects of complex mixtures versus single PCBs: Functional outcomes of exposure in field and lab studies. Society for Experimental Toxicology and Chemistry Annual Meeting, Long Beach, CA, November.
328. Lazarus RS, BA Rattner, PC McGowan, VS Blazer, RC Hale, BW Brooks, B Du, and MA Ottinger. (2012). Contaminant exposure, food web transfer and potential health effects on fish and osprey (*Pandion haliaetus*) in Chesapeake Bay. SETAC-CPRC Annual Meeting. University of Maryland, College Park. April 23-24, 2012.
329. Lazarus, RS, BA Rattner, PC McGowan, VS Blazer, RC Hale, B Brooks, B Du, and MA Ottinger. (2012). Contaminant exposure food web transfer and potential health effects on fish and ospreys (*Pandion haliaetus*) in Chesapeake Bay. USGS Chesapeake Bay Science Workshop. Reston, VA. March 14-15.
330. Ottinger, MA, M Bohannon, L Blatos, A Schlappal, KM Dean (2013). Time for a Change! An endocrine disruption index to predict neural impacts of xenoestrogens. Winter Conference on Brain Research, Breckenridge, Colorado, January.
331. Ottinger, MA. (2014). The Japanese quail two generation test. Society of Environmental Toxicology and Chemistry Focused Topic Meeting, Raleigh, NC, February.
332. Abstracts for 2015-2020 not provided.

G. TECHNICAL REPORTS/DISCLOSURES/ELECTRONIC DATA BASES

1. Li, Q., B. Alston-Mills and M.A. Ottinger. A Monoclonal Antibody for GnRH, 1989.
2. Hargrove, T., and M.A. Ottinger. Technique for the Manipulation and Transfer of Avian Blastodermal Cells, 1995.
3. Rattner, B.A., R.M. Erwin, L.J. Garrett, T.E. Shallenberger, M.A. Ottinger, J.L. Pearson and A. Walz. Applying a bioassessment and monitoring framework for public lands and trust resources along the Atlantic coast. Biomonitoring of Environmental Status and Trends (BEST) 1998.
4. Rattner, B.A., N.H. Golden, J.L. Pearson, J.B. Cohen, L.J. Garrett, M.A. Ottinger and R.M. Erwin. "Biological and ecotoxicological characteristics of terrestrial vertebrate species residing in estuaries" in Biomonitoring of Environmental Status and Trends Web Site for Terrestrial Vertebrate Ecotoxicological Data: http://www.pwrc.usgs.gov/resshow/rattner/bioeco/preamble.htm 1998.
5. Ottinger, M.A., M. Guisti, S. Rankin and D. Donoghue. Beneficial Effects of Products Containing Enhanced Dietary Isoflavones, 2001.
6. GenBank Accession #AF541922 for Japanese Quail Thyroid Stimulating Hormone, Beta Subunit, 2002.
7. Ottinger, M.A. and K. Dean. Provisional patent application for the technology entitled "Avian Egg Injection Vehicle" LS-2008-077, 2009.

H. INTERNATIONAL COLLABORATIONS and POST DOCTORAL FELLOWS

i. INTERNATIONAL COLLABORATIONS

Dr. Jacques Balthazart, University of Liege, Liege, Belgium. Dr. Balthazart spent 4 months in my laboratory in 1982 with periodic collaborations to present.

Dr. Mahmoud Abdelnabi, Assiut University, Egypt. We had a NARP funded grant for 1992-95 and Dr. Abdelnabi was a visiting scientist in my lab from fall 1998-2005.

Drs. GianCarlo Panzica and Carla Viglietti-Panzica, University of Torino, Italy. Ongoing collaboration from 1993-present with funding from NATO and other cooperative funding sources both in the U.S. and Europe.

Drs. Susumu Ishii and Kaoru Kubakawa, Waseda University, Japan. Collaborations on aging and hormone receptors in the testes and pituitary gland, 1993-1998.

Drs. Ian Dunn and Peter Sharp, Roslin Institute, Roslin, UK. We are collaborating on molecular mechanisms regulating the GnRH-I system. I studied at their laboratory as an OECD Fellow in 1999.

Drs. Masura Wada, Tokyo University, and Kiyoshi Shimada, Kyoto University, Japan. We serve on the OECD expert working group on endocrine disruption in birds and collaborate on research projects in this area.

Dr. Krister Halldin, Karolinska Institute, Stockholm Sweden. We have collaborated on technical approaches to ascertain the effects of endocrine disrupting compounds at various stages of the life cycle.

ii. POST-DOCTORAL FELLOWS/RESEARCH ASSOCIATES/VISITING SCIENTISTS

1991-1994 Dr. Paulette Levantine

1996-1997 Dr. Rikki Solow

1998-2005 Dr. Mahmoud Abdelnabi

2001-2002 Dr. Michael Ruscio
2002-2005 Dr. Pamela Epperson, collaboration on NIH program project grant with C. S. Carter.

2003-2007 Dr. Emma Lavoie

2006-2007 Dr. Gregory Tinkler, collaboration with National Institute on Aging

2007-2012 Dr. Karen Dean

I. CONTRACTS and GRANTS (PI unless otherwise noted)

1978 Merck Teaching Grant for Improvement of Instruction, $3,000.

1978 Biomedical Research Support Grant for Equipment. University of Maryland, $12,000.

1979-81 Cooperative Agreement with Poultry Physiology Lab, USDA. Project: “Improving the Reproductive Efficiency of Turkeys by Artificial Insemination”, $10,500.

1980 Delmarva Poultry Industry Research Support for Project: “Reproduction and Nutrition of the Broiler Breeder: The Influence of Nutrient Intake and Social Environment and Their Effects on Reproductive Performance,” (co-investigators: J.H. Soares, Jr. and M.A. Ottinger), $11,160.

1980-83 Cooperative Agreement with Poultry Physiology Lab, USDA. Project: “Development of Physiological, Behavioral, and Production Criteria for Assessment of Welfare of Turkey Breeder Hens,” $25,000.

1981-82 Merck, Sharp, and Dohme-gift for research in broiler breeders (co-investigators: M.A. Ottinger and J.H. Soares, Jr.), $10,000.

1981-82 Delmarva Poultry Industry Research Support for Project: “Studies on Regulation of Feed Intake and Social Environment on Reproduction, Behavior, and Endocrine Status of the Broiler Breeder” (co-investigators: M.A. Ottinger and J.H. Soares, Jr.), $6,600.

1982 Funding from Division of Agriculture and Life Science to help support Dr. Jacques Balthazart, University of Liege, Liege, Belgium as a visiting scientist in our laboratory, $5,000.

1982 Travel grant from the Poultry Science Association for Symposium entitled “The Avian Male,” $1,000.

1982-85 National Science Foundation Grant entitled “Hormones and Behavioral Development in an Altricial Bird” (co-investigators: Elizabeth Adkins-Regan and Mary Ann Ottinger). Subcontract to University of Maryland from Cornell University, $7,327.

1983-84 Biomedical Research Support Award for project: “Neuroendocrine Parameters in the Aging Bird,” $2,200.

1984 Travel grant from the Poultry Science Association for Symposium entitled “Neurohumoral and Environmental Interactions Determining Avian Reproductive Behavior,” $1,000.

1984-86 Cooperative Agreement from United States Department of Agriculture entitled “Effects of Coccidiosis on Reproductive Hormone Levels in Male Quail,” $3,000.

1985-86 Biomedical Research Support Award for project: “The Role of Monoamines during Differentiation and Aging of the Reproductive System,” $2,500.

1986-87 America - Mideast Educational and Training Services, Inc. grant support for graduate student (M. S. Mobarak) research entitled “Effects of Feed Restriction on Reproductive Performance of Male Birds,” $2,000.

1986-87 Biomedical Research Support Award for project: “Role of Luteinizing Hormone Releasing Hormone in the Modulation of Reproductive Behavior,” $3,500.

1987-91 Collaboration with Dr. C.S. Carter-Porges on National Science Foundation grants for “Hormones, Behavior, and Reproductive Strategies,” hormone assay costs, $10,000.

1988 Travel grant from the Poultry Science Association for symposium entitled “Application of Biotechnology to Understanding the Avian Embryo,” $1,500.

1987-88 Biomedical Research Support Award for project: “LHRH and Its Effects in Hormonal and Behavioral Aspects of Reproduction,” $3,500.

1988-90 United States Department of Agriculture (Reproduction Program) Competitive Grant to support research entitled “The Aging Neuroendocrine System and Reproductive Failure,” $81,635.

1988-92 United States Fish and Wildlife Cooperative agreement (Patuxent Wildlife Research Center) for research on early embryo development and culture, $45,000.

1989-90 MAES competitive grant for research project on *in situ* hybridization techniques in investigation of the avian reproductive system. Project in collaboration with Drs. B. Alston-Mills and D. Foster (Ohio State Univ.), $25,000.

1990-91 Gudelsky Foundation competitive grant for research in culture, cloning and biology of the early avian embryo, $15,000.

1991-92 MAES competitive grant for development of molecular biology techniques and applications to the avian reproductive system. (Collaboration with Dr. Doug Foster, University of Minnesota), $26,000.

1992 University of Maryland Graduate School Semester Award for sabbatical leave, $8,000.

1992-95 National Agricultural Research Program (USDA bilateral agreement with Egypt) competitive grant to support research on the “Reproductive Biology of the Dandarwi Chicken and Stress” (co-PI: Dr. Mahmoud Abdelnabi), $400,000.

1992-95 NATO Collaborative Research Grant (co-PIs: Drs. GianCarlo Panzica and Carla Viglietti-Panzica) on “Structural Sex Differences in the Brain: Influence of Gonadal Steroids and Behavioral Correlates,” $7,160.

1992-97 United States Department of Agricutlure-National Research Initiative competitive grant (Reproductive Biology Program) to support research entitled “Neuroendocrine Mechanisms and Reproductive Senescence,” $212,000.

1994-95 Collaborative Research Grant (Pregetto Bilaterale: Torino-College Park) with Dr. GianCarlo Panzica entitled “Neuroendocrine Mechanisms and Reproductive Aging,” $6,000.

1995-97 MAES competitive grant for research on “Photorefractoriness in the Turkey Hen” (co-PIs: Dr. John Proudman and Dr. Gregg Ball), $43,000.

1995-97 Department of Interior Cooperative Agreement for studies on the reproductive biology of cranes and hormone measurements in avian embryos, $23,500.

1996-98 NATO Collaborative Research Grant (co-PIs: Drs. GianCarlo Panzica and Carla Viglietti-Panzica) on “Structural Sex Differences in the Brain: Influence of Gonadal Steroids and Behavioral Correlates,” $7,160.

1996-99 Department of Interior graduate student research assistantship to assist in a database on contaminants, $42,000.

1997-01 Department of Interior graduate research assistantship for database expansion and web page development on “Assessment of Contaminant Exposure and Effects in Terrestrial Vertebrates Residing in North and Mid-Atlantic Coast Estuarine Ecosystems,” $29,084.

1997-98	Department of Interior graduate research assistantship to work on "Data Summary and Evaluation of the Relative Sensitivity and Suitability of Various Terrestrial Vertebrate Species for Contaminant Monitoring of Estuaries," $25,260.
1997-2000	Environmental Protection Agency Competitive Grant, entitled "Critical Stages in Sublethal Exposure to Endocrine Disrupting Chemicals in Quail Model Systems," $263,428.
1999	OECD Research Fellowship, from the Co-operative Research Programme for "Investigations of Environment and Diet on Age-Related Neurobiological Changes," Roslin Institute, Roslin, Scotland, FRF 7,200.
1999-2000	MAES Competitive Grant investigating "Maternal Deposition of Estrogenic Chemicals into Eggs," $20,000, conducted with Co-PI: Dan Donoghue, FDA.
1999-2003	Department of Interior graduate research assistantship for research on "Trend Analysis on Contaminant Exposure and Effects in Terrestrial Vertebrates Residing in Atlantic, Pacific, and Gulf Coast Estuarine Ecosystems," $89,161.
1999-2001	National Science Foundation Grant "The GnRH System in Birds: Ontogeny of Function and Neuroregulation," $59,940.
1999-2004	MAES Competitive Grants to investigate effects of dietary soy phytoestrogens on vitellogenin and neuroendocrine systems in striped bass, $115,000. Conducted with Co-PI: Curry Woods.
2000-01	United States Geological Service funding for conducting hormone assays in kestrals exposed to endocrine disrupting chemicals, $5,000.
2000-2005	National Institutes of Health Program Project, "Developmental Consequences of Oxytocin," subcontract of approximately $70,000/year ($350,000). Role: CoPI; PI: Sue Carter-Porges.
2001-2003	Cooperative agreement from Environmental Protection Agency for project entitled "Comparison of Bobwhite and Japanese Quail Responses to Endocrine Disrupting Chemicals in a Two Generation Study," conducted with co-PI: Mark Jaber, Wildlife International, Inc. $222,000.
2002-03	Co-PI with M.M. Guisti on JIFSAN grant entitled "Evaluation of the Potential Toxicity of Soybean Isoflavones in Development and Aging $44,000.
2002	Spring Semester Award, Graduate School, University of Maryland, $7,000.
2002-3	Agroecology Center Grant entitled "Assessing Contaminants in Manure and Consequences of Exposure." M.A. Ottinger, D. Fisher, K. Staver, and K. Dzantor. $128,000 for project.
2002-05	IPA for sabbatical leave to the Laboratory of Experimental Gerontology, National Institute on Aging, Gerontology Research Center, NIH, Baltimore, MD; 25% time in 2003-2005.
2002-07	National Institutes of Health R01 grant entitled "Ovarian Aspects of Caloric Restriction in Macaques," subcontract of $45,000/year (total=$270,000). Role—Co-PI; PI: Mary Zelinski-Wooten.
2003-06	Battelle Labs contract for "Establishing an Embryonic Test for Environmental Endocrine Disrupting Chemicals." $233,500.

2004-05 Incentive Grant from the Soybean Association for preparing a NIH proposal on effects of soy in a mouse model of Alzheimer's disease, $10,000.

2007 Incentive Grant from the Soybean Association for preparing a NIH-RO1 grant proposal on benefits and toxicology of phytoestrogens in a mouse model of Alzheimer's Disease, $10,000.

2009-12 National Institutes of Health R21 grant entitled "Effects of E-Quinols on Neural Disease". Award from the National Institute on Aging. PI: $357,201 (National Institutes of Health grants AG031387) conducted with co-PI Lazlo Prokai.

2012 Battelle Contract for Avian Hormone Assays; PI with Tom Porter. $300,000.

2012 Multi-State Project funding for project # S-1047 from NIFA through UMD Agriculture Experiment Station; $10,000

2012-13 A Complex Biologic for the Treatment of Alzheimer's Disease. IBBR-UMD Joint Seed Grant Program: PIs: Danna Zimmer, Mary Ann Ottinger, and Rosemary Schuh. $75,000.

2005-19 Fish and Wildlife Service and Hudson Bay Trustees contract for studies on effects of PCBs on wildlife in the Hudson River Environs. Funding was for laboratory studies in Japanese quail and field studies in tree swallows, blue birds, and for studies on captive colonies of American kestrals, and owls. Funds supported a postdoctoral fellows, graduate students, undergraduate assistants, technician and operating costs for the research conducted in the Ottinger laboratory on the field and lab experiments and analyses; preparing and publishing associated manuscripts. $1.5M

J. SPECIAL RECOGNITION and AWARDS

1976-77 University of Maryland Graduate Fellow.

1986 Certificate of Appreciation for Service as Division Officer, American Society of Zoologists.

1987-present Gamma Sigma Delta Honorary Society.

1987 Feature Article in "Discovery" (Volume 2(8), p.3, 1987), the National Science Foundation monthly newsletter entitled "The Secret to Balancing Careers and Family: Organization," written by Sonya Mallinoff.

1990 Certificate of Appreciation for service on the Poultry Science Association Board of Directors.

1993 Award for Service as Secretary, American Society of Zoologists.

1996 Award for Service as President of the Poultry Science Association.

1997 University of Maryland Chapter of Sigma Xi Annual Research Award

1997 Award in recognition of service as Past President of the Poultry Science Association.

1997 Appointed to OECD Working Group on Avian Reproductive Toxicity Testing; nominated by the US EPA.

1999	Alumni Award for Research, University of Maryland College of Agriculture and Natural Resources Alumni Association.
1999	OECD Fellowship to study molecular endocrine techniques at the Roslin Institute, Roslin, Scotland, UK.
1999	Award in recognition of service as President of the Federation of Animal Science Societies.
2000-2006	Nominated to and Member of the Board of Directors, Rachel Carson Council.
2000	Helene C. Cecil Award for Leadership, Poultry Science Association.
2000	Invited platform speaker; 2nd Annual Bioscience Research/Technology Review Day, University of Maryland.
2002	Certificate of Teaching Excellence, Undergraduate Studies, UMCP.
2003	Outstanding Service Award, Eleanor Roosevelt High School Science and Math Technology Program for mentoring students for their Research Practicum and internships.
2003-2004	Peer Review Panel and Public Hearing for the EPA Ecological Risk Assessment for the Housatonic River Area; January, 2004.
2004	Chosen to represent all of the avian research supported by EPA—STAR Grants for the review of extramural programs of EPA—ORD, Durham, NC.
2005	Gamma Sigma Delta (National Capitol Area Chapter) Research Award of Merit.
2005	Fellow, Poultry Science Association.
2011-12	Advance Professor, University of Maryland, College Park.
2011	Gordon Cairns Award, College of Agriculture and Natural Resources, UMD
2011	Award for Service, Division of Research, UMD
2012	Honoree, 5th Annual University-Wide Celebration of Scholarship and Research
2012	Leadership Fellow, Advance Program, University of Maryland, College Park
2012	Fellow, Society for the Study of Reproduction
2013-14	Steering Committee on Advances in Biodemography: Cross-Species Comparisons of Social Environments, Social Behaviors, and Their Effects on Health and Longevity Workshop
2014	Elected as Fellow to the American Association for the Advancement of Science

K. REVIEWING ACTIVITIES for PROFESSIONAL JOURNALS

i. EDITORAL BOARDS

1987-1994	Advisory Board of Critical Reviews in Poultry Biology
1990-1995	Associate Editor, Journal of Poultry Science.

1992-1995	Editorial Board, Domestic Animal Endocrinology.
1994-2001	Editorial Board, General and Comparative Endocrinology
1995-2008	Co-editor, Poultry and Avian Biology Reviews
1997-2001	Associate Editor, Journal of Poultry Science, Physiology Section
1999-2005	Editorial Board, Proceedings of Experimental Biology and Medicine
2004-2018	Editorial Board, AGE; the publication of the American Aging Association
2005-2008	Editorial Board, Domestic Animal Endocrinology
2005-2011	Editorial Board, Animal Reproduction Science, Netherlands
2005-2011	Editorial Board, Journal of Environmental Toxicology and Chemistry
2006-present	Editorial Board, Japanese Journal of Poultry Science
2008-present	Co-Editor; member of Editorial Board, Journal of Avian Biology Research
2009-2014	Editorial Board of Biology of Reproduction
2017-2019	Editorial Board of Frontiers in Endocrinology
2020-	Editorial Board of Frontiers in Aging

ii. SCIENTIFIC PEER REVIEWER FOR PROFESSIONAL JOURNALS:

Behavioral Processes	Growth
Developmental Neuroscience	Hormones and Behavior
Journal of Experimental Zoology	The Auk
Trends in Neurosciences	Neuroscience and Biobehavioral Reviews
Zoo Biology	Reproduction, Nutrition, and Development
Regulatory Peptides	Pharmacology, Biochemistry, and Behavior
Journal of Wildlife Management	Biology of Reproduction
Endocrinology	Growth, Development and Aging
Comparative Biochemistry and Physiology	Learning and Motivation
Molecular Reproduction and Development	Environmental Health and Toxicology
Journal of Agricultural and Food Chemistry	Environmental Toxicology and Chemistry
AGE	Journal of Gerontology

III. INSTRUCTION and ADVISING

A. COURSES TAUGHT (does not include ANSC 799 and ANSC 899, Research which has been taught every semester for my graduate students).

Fall, 1978-Spring 1994 (Physiology of Reproduction)	ANSC 661	3 credit hours, lecture and laboratory; taught 11 semesters

Spring, 1980-Spring, 1984 (Hatchability)	ANSC 462	1 credit hour, lecture and laboratory, taught 3 semesters
Spring, 1984-Summer, 1987 (Special Problems)	ANSC 399	1-4 credits, taught 4 semesters
Fall, 1987 (Graduate Special Problems)	ANSC 499	2 credits
Spring, 1988, Spring 1991 (Behavioral Endocrinology)	ZOOL 627	3 credit hours
Spring, 1990-Spring 1993 (Neuroethology)	ZOOL 328N	3 credit hours
Spring, 1993, Fall 1993 (Physiology of Mammalian Reproduction)	ANSC 446	3 credit hours
Spring, 1993 (Animal Physiology)	ANSC 212	6 lectures
Fall, 1993 (graduate student seminar)	ANSC 698C	1 credit hour
Spring, 1994, 1996, 1998	ANSC 661	3 credits, 10 students/semester
Spring, 1997, 1999, 2000, 2001	MEES 608F	1 credit seminar
Spring, 1997 (Special problems)	ANSC 699	2 credits, 1 student
Spring, 1998 (Current topics in Animal Sciences)	ANSC 489	3 credits, 1 student
1995-present (Masters Thesis Research)	MEES 799	1-3 credits for my students as appropriate.
Fall, 1999-Fall and Spring 2000 (Internship-Environmental Science)	ENSP 386	2-3 credits, 2 students/semester
Spring 1999, 2000, 2001; Fall & Spring 2002 (Gemstones Seminar)	GEMS 386	2 credits, 9-12 students/semester

1995-2017 (Research Credits/semester for my graduate students)

Masters Degree Research	ANSC 799; MEES 799 (1-2 credits)
Ph.D. Dissertation Research	ANSC 898; 899; MEES 898; 899; NACS 898; 899 (1-6 credits)

Spring, 2001 (Dept Seminar)	ANSC 608	1 credit, 14 students
Every Fall, 1994-2005	ANSC 446	3 credit hours, team taught with M. Varner; enrollment 35-50 students/semester
Fall, 2006	ANSC 608O/498O/MEES 608O; 2 credit seminar entitled "Aging and Environmental Influences"	
Fall, 2012	ANSC 386C	2 credit hours, Teaching Assistant/intern
Fall, 2012	ANSC 386	3 credit hours, 2 students, internship

Fall, 2012	ANSC 446	3 credit hours, enrollment 45 students
Spring, 2013	ANSC 386	2-3 credit hours, 2 students, internship
Spring, 2013	ENST 499C	3 credit hours, 4 students; South Africa ecology

B. OTHER TEACHING ACTIVITIES

i. GUEST LECTURES

1986	Diagnostic Laboratory Procedures ANSC 663, Advanced Nutrition Laboratory.
1987	Poultry Embryonic Development and Incubation. Lectures and Laboratory, Spring.
1990	Behavioral Endocrinology. Lecture given in Environmental Physiology Course, Spring.
1991	Endocrinology of Mammals and Birds. Lecture in Poultry Management Course, Spring.
1993	Steroidogenesis. Lecture in Biology of Reproduction Course, Spring.
1993	Reproductive Biology. Lecture in Poultry Management, Spring.
1993	Endocrinology of Domestic Species. Four lectures in Applied Animal Physiology, Spring.
1993	Reproductive Aging and Neuroendocrine Mechanisms/Sexual Differentiation. ZOOL 627, Fall.
1994-1996	Poultry Management. Lecture in Endocrinology, Spring.
1994-1996	Animal Physiology lectures.
1996	Avian Systems - lecture in ENBE 484
1996	Lab ANSC 477
1997, 1999	Commercial Poultry Management lecture on Avian Endocrinology.
1998	Lectures in Zoology 426, Endocrinology
1998	Panel discussion and guest in ENVP 102 and AGNR 105.
2000, 2001	Lecture on Sexual Differentiation and EDCs, Hormones and Behavior (ZOOL 628)
2000	Endocrinology (ANSC 688I).
2006	Lectures in ANSC 420 (capstone)
2006	Seminar—Behavior, Evolution, Ethology, and Systematics Graduate Program
2012	Lecturer-NACS 728 Selected Topics in Neuroscience and Cognitive Science

ii. MENTORING UNDERGRADUATES AND UNDERGRADUATE SUMMER SCHOLARS

1980-2013 My lab routinely (1-2 students per year) has undergraduate student research or internships for research experience, which are often for course credit. These students gain experience working with animal research and selected laboratory analyses and write a paper at the end of their course. More recently, we have had students who work with us as interns and then continue to work with us for 1-2 years on undergraduate work-study programs and as summer employees.

2005-06 Victor Leslie, an undergraduate at Tuskegee University participated in the Summer Research Fellows program sponsored by the College of Chemical and Life Sciences. I was his mentor for his 6 week research experience in my laboratory. Victor presented a poster entitled "Effects of Transgenic and Non-Transgenic Methods on Spermatogenesis in Rats." The Fellowship Program, which is part of the Graduate Partners Program, offers outstanding undergraduates from partner institutions an opportunity to participate in research projects mentored by UMCP faculty. Tia Dixon, also an undergraduate at Tuskegee University participated in the Summer Research Fellows program in 2006. Her poster, entitled "Effects of Age on Semen Parameters in Rhesus Macaques (*Macaca mulatta*)" was presented on July 20th on the Program Presentation Day.

2006 Tiffany Chao, an undergraduate at University of Michigan was selected as a summer scholar by the Neuroscience and Cognitive Science (NACS) Summer Intern Program, which funds the

student to gain research experience for 9 weeks. Tiffany's presentation entitled "Effects of Perinatal Soy Isoflavones on the Tyrosine Hydroxylase System in the Mouse" was presented on August 11th at the NACS Research Day. In 2012, Tiffany also won an award for Distinguished Teaching Assistant

2006 Krisztina Larson won a competitive UMCP Undergraduate Summer Scholars Award. This is a highly prestigious award and she has been continuing the research that she has been doing as an intern during 2005-06.

2005-2007 Kasen Whitehouse is an intern and undergraduate work-study student. He was selected for a summer fellowship with the Smithsonian Institution, working at the Chinese Panda Reserve.

2011 GEMSTONES: Review and Examiner for TEAM FISH Senior Thesis

2012 Anna Schlappal was awarded a Hodos Dissertation Fellowship for Fall, 2012

2012 GEMSTONES: Reviewer and Examiner or TEAM BLAZE Senior Thesis

2012 Tiffany Carro and Kara Duffy were honored as a Distinguished Teaching Assistant for their achievements.

2013 GEMSTONES: Review and Examiner for TEAM BASS

iii. HOWARD HUGHES UNDERGRADUATE RESEARCH FELLOWS

1994-96 Joon Kim

1996-97 Jessica Fields

iv. GEMSTONES MENTOR

1999-2002 I mentored a GEMSTONES team in the area of environmental and wildlife studies. Their project was entitled "Counteracting Development through Environmental Education and Stormwater Management." They called their team the Environmental Education and Outreach Team. The members of this team have successfully gone on in their careers; many of them have now completed Medical and other professional schools.

v. MENTOR FOR ELEANOR ROOSEVELT HIGH SCHOOL RESEARCH PROJECTS AND INTERNS

1992-2009 I mentored over a dozen students from Eleanor Roosevelt High School for their Research Practicum. The student interns spend the year in my lab (½ day 4 days/week for the school year). They learn laboratory techniques and are assigned to a specific experiment, which they write up in their Research Practicum course and present their data at the Science Fair. Two of my students have gone on to win honors at the Regional Science Fair (see below).

1999-2000 Elizabeth Humphries; Kemeka Henry (both 2nd in their category at the Regional Science Fair)

2016 Jennifer Reiss, summer internship at Bird Life South Africa, Johannesburg, South Africa. Project on lead shot effects on vultures and other birds of prey and on lead residue in game meat.

C. ADVISING: OTHER THAN RESEARCH DIRECTION

1980-88 Biology Program advisor for students with area of emphasis in Animal Science.

1991 Research project advisor for student (Channel Ragland) in Neuroscience Training Program.

1991 Laboratory Research Rotation for Molecular and Cellular Biology Program: Catherine Schaefer.

1997-2003 ENVP, Wildlife Resources and Conservation Specialization Advising (12-25 students/semester)

1997-2008 Animal Science Undergraduate Advising (10-18 students per semester)

D. SUPERVISION of GRADUATE STUDENT RESEARCH

i. MASTERS DEGREE

Cynthia Duchala - Developmental Distribution of Monoamines in the Developing Japanese Quail Brain (Coturnix japonica). Completed - Fall, 1981.

Robert Clarke - The Effect of Temperature and Storage Time on the Respiratory Rate, Morphology, Motility and Fertility of Chicken and Turkey Semen. Completed - Spring, 1981.

Elizabeth Novotny - Effects of Sex Steroids on Mammalian and Avian Cells Involved in the Immune Response. Completed - Fall, 1981.

Andrew Yersin - The Effect of Age on the Ovulatory Cycle and Egg Production in the Laying Hen. Completed - Fall, 1985.

Cindy Rawlings - Hormonal Regulation of Reproductive Behavior during Maturation and Aging in Male Japanese Quail. Completed - Spring, 1988.

Qichang Li - Development of a Monoclonal Antibody Against Avian LHRH. Completed - Spring, 1989.

Deborah Connell - Effects of Lead Exposure on Reproductive Endocrinology. Completed - Fall, 1990.

Jodi Carlson - Oocyte Development: Microscopic and Cellular Characteristics. Completed - Summer, 1993.

Stephanie Vann - Effects of Toxic Agents on Mallard Ducks. Completed - Spring, 1996.

Jennifer Pearson - Age Related Differences in Reproductive Success: Increase in Reproductive Effort or Increase in Experience? Completed - Fall, 1996.

Denise Holsberger - Assessment of Ejaculate Quality and Sperm Characteristics in Turkeys: Sperm Mobility Phenotypes is Independent of Time. Completed - Spring, 1998.

Sabrina McGary - The Effects of Embryonic Exposure to Methoxychlor and Vinclozlin on cGnRH-I Content and Reproductive Behavior in Japanese Quail. Completed - Fall, 1998.

Daniel Day - The Toxicity of Lead-Contaminated Sediment to Mute Swans. Completed Fall, 1998.

Kehong Chen - Interactions of Norepinephrine and Enkephalin in cGnRH-I Release *in Vitro* in Japanese Quail. Completed - Fall, 1998.

Melissa Catena - Interactions of the Thyroid and Reproductive Systems of Japanese quail. Completed - Summer, 1999.

Karen Wolf - Reproductive Inefficiency and the Influence of Age in Male Black-Footed Ferrets (*Mustela nigripes).* Completed - Fall, 1999.

Sara Pollock - Effects of Dietary Genistein on Striped Bass. Completed - Fall, 2001.

Julie Hazelton - Neuronal Activation Following Cohabitation in the Prairie Vole (*Microtus orchrogaster*). Completed - Summer, 2003.

Pamela Toschik - Osprey Populations and Measures of Contamination in the Delaware Bay. Completed - Fall, 2004.

Karen Demott – Impact of Reconstructed Wetlands on the Tree Swallow (*Tachycineta Bicolor*). Completed – Spring 2006.

Allegra Schafer –Nutrient and Energy Acquisition by Harlequin Ducks Foraging for an Exotic Crab, *Carcinus Maenas,* and a Native Crab, *Hemigrapsus Oregonensis.* Completed—Spring, 2008.

Leah Carpenter—Utilizing Social Networks Analysis in the Characterization of African Ungulate Social Structure. Completed—Fall, 2010. Co-Advised with Katerina Thompson.

Mark McBride—The Development and Testing of Three Techniques for Attaching Solar-Powered Satellite Transmitters on Surf Scoters. Completed November, 2014. Co-advisor Dr. Alicia Berlin, Patuxent Wildlife Research Center.

ii. DOCTOR of PHILOSOPHY

Robert Clarke - Effect of Dietary Aflatoxin on Reproduction in Male White Leghorn. Completed Spring, 1985.

Cynthia Duchala - The Effect of Lesions of Hippocampus on the Onset of Sexual Maturation in Japanese Quail. Completed - Fall, 1985.

Mahmoud Abdelnabi - Neurochemical and Hormonal Correlates of Sexual Differentiation in the Brain of the Japanese Quail. Completed - Summer, 1990.

Mohamed Mobarak - Effect of Dietary-Endocrine Interaction on Reproduction in Male Japanese Quail. Completed - Fall, 1990.

Tim Hargrove - Developmental Biology of the Preoviposition Avian Embryo. Completed - Fall, 1993.

Qichang Li - Regulation of the GnRH System in Japanese quail (*Coturnix japonica*). Completed - Fall, 1993.

Budhan Pukazhenthi - Role of Sperm Membrane Phosphotyrosine Proteins on Sperm Function in Domestic and Nondomestic Felids. Completed - Spring, 1996.

Yu Fan - Opioid Peptides and Noradrenergic System Regulate cGnRH-I in Avian Species. Completed - Fall 1996.

Paula Henry - Effects of PCBs on Reproductive Endocrine Responses in Japanese Quail. Completed - Spring 2002.

Anita Walz - Landscape Characteristics and Biodiversity of Fauna in Varied Environments. Completed - Fall, 2002.

Katey Pelican - Hormonal Regulation of Ovarian Function in Cats and Use of Assisted Reproductive Technologies. Completed - Fall, 2002.

Nancy Golden - Effects of Lead in Black Crowned Night Herons on Reproductive Success. Completed - Spring, 2003.

Michael Quinn - Effects of Androgen Active Endocrine Disrupting Chemicals in Japanese Quail. Completed - Spring, 2005.

Julie Wu – Effects of Moderate Calorie Restriction on Ovarian Function and Decline in Rhesus Monkeys. Completed - Spring, 2006.

Brandon Sitzmann – Effects of Aging and Moderate Calorie Restriction on the Reproductive Axis of the Male Rhesus Macaque (*Macaca mulatta*). Completed – Spring, 2007.

Rose Bauer – Priming with Progestin Altrenogest before Ovulation Induction Mitigates Adverse Effects on Reproductive Morphology and Function in the Cat (*Felis catus*). Completed – Fall, 2007.

Alicia Wells – Foraging values of Mulinia lateralis and Ischadium recurvum: energetics effects of surf scoters wintering in the Chesapeake Bay. Completed – Spring, 2008.

Moira McKernan –The Use of Air Cell Injections in Avian Egg, and the Toxicity of Polybrominated Diphenyl Ethers (DE-71) in Four Species of Birds. Completed—Fall, 2008.

Copper Aitken-Palmer—Assessment of Male Giant Panda Seasonal Reproduction, Sexual Maturity, and Sperm Comparative Cryopreservation. Completed—Fall, 2010. Co-Advisor JoGayle Howard, Center for Species Survival, Smithsonian Conservation Biology Institute, National Zoological Park

Tiffany Carro – The Effects of Polychlorinated Biphenyls (PCBs) on Avian Cardiac Development. Completed—Summer 2012. Co-Advisor Lisa Taneyhill.

Heather DeCaluwe – Characterization and Control of Aggression and Reproduction in the Male Clouded Leopard (*Neofelis nebulosa*). Co-Advisor JoGayle Howard, Center for Species Survival, Smithsonian Conservation Biology Institute, National Zoological Park. Completed Spring, 2012

Kara Duffy – Development of Alzheimer's-like Pathology in Non-Human Primates with Reduced Levels of Norepinephrine; completion Fall, 2012.

Anna Schlappel – Efficacy of Estrogen Treatment in a Murine Model of Alzheimer's Disease; Ph.D. Candidate – defense November 20, 2012 Co-Advisor Rosemary Schuh, University of Maryland School of Medicine

Meredith Bohannon –Effects of PCB Exposure on Hepatic Gene Expression and Enzyme Activity in Avian Species. Co-Advisor Tom Porter Completed Spring, 2014.

Rebecca Lazarus—Contaminant Exposure, food Web Transfer and Potential Effects on Ospreys (*Pandion haliaetus*) in Chesapeake Bay. Co-Advisor Barnett Rattner, Patuxent Wildlife Center, USGS. Completed December 2015.

Tricia Rowlison—Investigating Sperm Maturation During Epididymal Transit in the Domestic Cat for the Creation of Assisted Reproductive Technologies. Co-Advisor Pierre Comizzoli, Center for Species Survival, Smithsonian Conservation Biology Institute. Completed December 2018.

iii. OTHER GRADUATE STUDENT COMMITTEES

Masters Degree Students—67 Committees

Ph.D. Degree Students—61 Committees

iv. STUDENT COMMITTEES OUTSIDE the UNIVERSITY of MARYLAND

(note: I have served on a number of MEES Graduate Student Committees at other campuses of the University of Maryland, including the Center of Marine Biotechnology [IMET), Chesapeake Biological Laboratory, University of Maryland Baltimore County. In addition, I have served on Ph.D. Committees at the University of Maryland Medical School in Baltimore.)

1985	Outside reviewer and external examiner for Ph.D., Urs Andreas Leuscher, University of Guelph.
1988-94	Committee member for Kathy Ogilvie, University of Delaware.
1998-2005	Outside Examiner for Ph.D. students of Dr. Cheryl Harding, Hunter College, NY, NY.
2007	External Examiner, Jessica Head's Ph.D. Committee, University of Ottawa, Ottawa Canada, September
2013	External Examiner, Margaret Eng's Ph.D. Committee, Biology Department, Simon Fraser University, Vancouver, BC Canada January
2018-2020	Committee Member, Allison Narizzano, Program in Toxicology, University of Maryland College School of Medicine and Army Public Health Center, Aberdeen Proving Ground, MD

IV. SERVICE to the UNIVERSITY

A. DEPARTMENT COMMITTEES/COLLEGE COMMITTEES

1979-80	Agriculture Council on Faculty Plan of Organization.
1981	Agriculture Council.
1981	Dean's Committee on merger.
1981-86	Faculty Supervisor, Animal and Incubator Facility for Poultry Science Department.
1982-83	Departmental Committee for planning Annual National Poultry Science Association Meeting.
1986	Search Committee-Assistant to the Vice President of Agriculture.

1987	Committee for Recommendation of Awards for College of Agriculture and Natural Resources Fellowships.
1987	Co-organizer of the “Grantsmanship” Seminar held November 12, 1987.
1987-88	Department Promotion and Tenure Committee.
1990	Promotion and Tenure Committee, College of Agriculture and Natural Resources.
1990	Biology Enhancement Committee, College of Agriculture and Natural Resources and College of Life Sciences.
1990-91	Chair and Member, Agriculture and Extension Education Department Promotion and Tenure Committee.
1991	Promotion and Tenure Committee for Dr. Bryan Johnson, Associate Agriculture Experiment Station Director.
1992	Agriculture Experiment Station Committee on Watershed Ecology.
1992	Molecular Cell Biology Program Director Nominating Committee.
1992-93	College of Agriculture and Natural Resources Promotion and Tenure Committee.
1992-93	Search Committee for Chair of Poultry Science Department.
1993	Dean's Committee for the Reorganization of the College of Agriculture and Natural Resources.
1993-94	Molecular and Cellular Biology Program: First Year Advisory Committee.
1993	College of Agriculture and Natural Resources representative to USDA-Beltsville Agricultural Research Center Facility Committee.
1993	Agriculture Faculty Excellence Award in Extension Selection Committee.
1993	Committee for development of the reorganization plan for the College of Agriculture and Natural Resources.
1993-95	College of Agriculture and Natural Resources Programs, Courses, and Curricula Committee.
1993-96	Steering Committee, Environmental Science Program.
1995-96	Graduate Education Committee.
1995-96	Department Transition Committee.
1995-	Transgenics Animal Facility Committee.
1996-97	Department of Animal and Avian Sciences Awards Committee.
1996-98	Faculty Advisory Committee, Dept. of Animal and Avian Sciences. Chair, 1997-98.

1996-97	Supervisor, Avian Animal Facility, UMCP.
1997-98	Chair, Department of Animal and Avian Sciences Promotion and Tenure Committee for Associate Professors.
1998-02	Awards Committee, Department of Animal and Avian Sciences (Chair 2001, 2002)
2000-01 & 2003-05	Salary Committee, Department of Animal and Avian Sciences, Chair, 2001
2000-02	Periodic Review Committee, Department of Animal and Avian Sciences
2000-2002	College of Agriculture and Natural Resources Appointments, Promotion, and Tenure Committee; Co Chair 2002.
2001-02	Chair, Search Committee for 2 tenure track positions in transgenics and bioinformatics.
2004-05	Chair, Teaching Evaluation Committee for the Department of Animal and Avian Sciences.
2004-07	Adjunct Professors Committee for the Department of Animal and Avian Sciences.
2004-06	Periodic Review of Faculty Committee; Chair 2005-06.
2005	Chair, Search Committee for Undergraduate Coordinator Administrative Assistant
2006	Member, Faulty Search Committee for Behavior and Neuroendocrinology tenure track position
2006	Committee for the 5-year review of Dr. Samal, Associate Dean and Chair, Veterinary Medicine
2006	Chair of the organizing committee for symposium entitled "Success in Science, Scholarship, and Business" A Symposium on Women in Agriculture" in celebration of the 150th anniversary of the University of Maryland.
2011	Departmental Periodic Review Committee for Professors
2012	Chair, Department APT Committee—Full Professors

B. DIVISION COMMITTEES (until organizational change in University in 1986)

1981-82	Program, Curricula and Courses Committee.
1984	Ad hoc Committee on FY 84 Faculty Salary Comparisons.
1984-86	Division Council.
1984-87	General Biological Sciences Curriculum Committee.
1985	Agriculture and Life Sciences Recruiting Committee.

C. CAMPUS COMMITTEES or CAMPUS PROGRAMS

1980-present	Faculty of Neuroscience Program, Cognitive and Behavioral Neuroscience Program).
1980-present	Faculty of Marine, Estuarine, Environmental Sciences present Program.
1980-88	Advisor for Biology majors with Animal Science emphasis (average 45-55 students) and member of Biological Science Coordinating Committee.
1981-present	Regular Member of the Graduate Faculty, November, 1981.
1981-86	Chair, Campus Animal Care Committee
1983-84	Member, Adjunct Committee on Research.
1983-94	Marshal for University Graduation.
1984-86	Faculty Council.
1984-85	Lab Animal Care Director Search Committee.
1985-86	Chair, Committee of IACUC for writing the writing and adoption of the UMCP Guide.
1987-89	Biological and Chemical Safety Committee.
1987-91	Radiation Safety Committee.
1987-91	Neuroscience Center Steering Committee.
1988-89 & 1993-94	Admissions Committee of the Marine Estuarine Environmental Science Program.
1988-91	Senator to the Campus Senate for the Department of Poultry Science.
1989-90	Chair, Curriculum Committee of the Neuroscience Center.
1990-91	Member, Faculty Senate Executive Committee.
1991	Member, REU Summer Program Steering Committee.
1994	Speaker, Career Night for the Natural Resources Management Program.
1994	Chair, Agriculture Faculty Excellence Award in Research Selection Committee.
1994	Promotion and Tenure Committee for Emeritus Faculty.
1996	Campus Environmental Science Undergraduate Curriculum Committee
1996-97	Curriculum Steering Committee, Environmental Science and Policy Undergraduate Degree Program
1996-97	Graduate Program Review Committee.
1997-99	Molecular and Cellular Biology Program Steering Committee.

1998	Graduate Program Review Implementation Committee.
1998	NACS Graduate Program Degree Requirements Committee.
1999-2001	NACS Graduate Admissions Committee
2000	Committee on Neuroscience Hires
2000-03	Graduate School Fellowship Committee
2000-03	Research Council to the Graduate School Dean
2003	Committee for selection of the recipient of the University Medal.
2005-07	eRA (Electronic Research Grant Submissions and Grants Administration) Committee for Office of Research Administration, University of Maryland-College Park
2005-06	Committee of Former IACUC Chairs for preparation of campus for AALAC accreditation
2005-07	Neural and Cognitive Sciences Steering Committee
2004-07	Campus Promotion and Tenure Review Committee
2006-09	Speaker, New Faculty Orientation Symposium, UMCP September
2007-08	Campus Program, Courses, and Curricula Committee
2007-08	Campus Committee on Learning Outcomes
2007-08	Committee on the COEUS/KUALI Transition—Student Records
2007-08	Faculty Senate Academic Procedures and Standards Committee
2008-2011	Biological and Chemical Safety Committee Member—also responsible for administrative support
2008-2011	Institutional Biological Safety Committee Member
2009-11	Radiation Safety Committee Member
2009-11	University Sustainability Council—representative of the Division of Research
2011-2013	President's Commission on Women's Issues
	Selection Committee-2012 Woman of the Year
2011	China Task Force: Subcommittee on Institutional Collaborations, Including College Infrastructure and Physical Presence in China
2012-2013	Sustainable Food Working Group; UMD Dining Services
2012-2013	Chair, Department Promotion and Tenure Committee for Associate to Full Professor

2012-2013 Member and Associate Chair, College Promotion and Tenure Committee

2013 Chair, College Promotion and Tenure Committee

D. ADMINISTRATIVE DUTIES FOR THE COLLEGE, UNIVERSITY, AND AGENCIES

1986-1987 Associate Program Director, Psychobiology Program, (50% time for 1 year), National Science Foundation,Washington, D.C.

1988-89 Acting Deputy to the Vice Chancellor of Agricultural Programs for the University of Maryland and to the Dean of the College of Agriculture and Natural Resources at University of Maryland, College Park. Responsibilities included working with the Vice Chancellor and Dean's Administrative team on a variety of projects, including routine administrative functions, drafting and editing materials for presentation to the campus, university system, and to the Maryland Legislature. Responsibilities included organization and materials for meetings of the Vice Chancellor's Advisory Council and representing the College on campus committees.

1988 Chair and Member of Search Committee, Associate Dean of Finance for the College of Agriculture and Natural Resources.

1988 Search Committee, Associate Dean of Instruction for the College of Agriculture and Natural Resources.

1988-89 Co-Chair, Annual Report of Agricultural Programs at the College Park campus and University System, University of Maryland (2 reports).

1989-90 Chair, Maryland State Committee for Animal Care of Production Species (organized through the State of Maryland Department of Agriculture).

1993-95 University of Maryland, College Park representative to the Faculty Advisory Council of the Maryland Higher Education Commission.

1995-96 ESCOP/ACOP Leadership Development Course for national programs in Colleges of Agriculture and Experiment Stations for Land Grant Universities.

1996-97 Supervisor and Facility Supervisor, Animal Care Personnel for avian wing, Animal and Avian Science Department.

2003-2007 Coordinator, Primate Reproductive Biology Research Projects with ONPRC
Responsibilities as part of my sabbatical at the Laboratory of Experimental Gerontology, National Institute on Aging, NIH. Duties involved coordination of research on endocrine aging, effects of calorie restriction, and age-related changes in neural systems. Yearly presentations made on these projects to the Science Advisory Committee on progress of our research.

2007-2008 Interim Associate Dean of the Graduate School for Academic Affairs
Duties include administration of issues pertaining to academics and graduate programs. Administrative responsibilities also include competitions and awards for faculty awards, including Creative and Performing Arts (CAPA), General Research Board (GRB), and graduate student awards including the Goldhaber Travel Awards, Wiley Dissertation Awards, and other Graduate School Fellowships. Additional duties involve working with the Graduate Council committees, Academic Affairs, representing the Graduate School on Faculty Senate committees, College Coordinators Group, Course Evaluation Advisory Group, Kuali, Working Group, Research

Development Council, Undergraduate Learning Outcomes Committee, OPS Review Committee and Chair of the Subcommittee on For Credit Academic Programs. Other duties include specific projects and research as needed for the Graduate School.

2008-2011 Associate Vice President for Research Compliance and Policy
Duties included oversight of the Institutional Research Board, Institutional Animal Care and Use Committee, Conflict of Interest, and other areas of research compliance. Additional responsibilities included administration of limited submissions funding opportunities and conduct of campus competitions for campus nominations for these awards, interfacing with other units that have complementary functions including Academic Affairs, and cooperating with other administrative units on campus or off campus as needed. Also responsible for coordinating the campus application for accreditation by the Association for the Assessment and Accreditation of Laboratory Animal Care International (AAALAC).

Accomplishments:

Established the Research Compliance Office containing functional processes for IRB, IACUC, and COI. The RCO provides resources to the campus community and to administration by education, oversight of regulatory compliance requirements, and being a consolidated resource for research compliance. Web sites were established to provide guidance and information and to direct any questions to the appropriate staff members. The Office of Research Compliance also oversees grant congruency for awards and we have established processes to streamline transactions and paperwork necessary for reducing time at the time of award.

Limited submissions to agencies and foundations has become a structured program with listing and hot links for RFAs pertinent to UM researchers and scholars. Tables listing the limited submission opportunities are separated according to 'science', 'arts and humanities', and post doctoral fellowships'. A campus peer review selection process has been institutionalized, including deans and directors integrated into the final selection decision. This has established a transparent selection process and web site for up to date information.

The application for AAALAC accreditation was filed in December, 2010; campus received a sight visit in June, 2011 and we were granted full accreditation by the AAALAC Board in October, 2011. This was regarded as highly successful because we were fully accredited in our first attempt in more than 20 years.

Partnerships with federal agencies and institutions:
I co-chaired the Federal Demonstration Partnership's Animal Care Subcommittee (2009-2011) and am a member of the FDP Compliance Steering Committee. Demonstrations are under discussion, which are designed to identify ways to reduce administrative and PI burden are underway. In addition, I am a member of the FDP Faculty Steering Committee that represents the faculty component of the organization.

I worked with Rae Grad to establish an MOU with the Smithsonian Institution. I administer our UM-SI Seed Grant Program for the first two cycles of the program. There has been intense interest at both UM and the Smithsonian and last year's awardees are already garnering additional joint funding for their projects. Seed grants funded

A Non-Funded Cooperative Agreement with the USDA-Beltsville Agricultural Research Center was established to provide an overarching platform to enhance and expand upon many years of collaborations among our researches. New and existing teams interact in joint workshops and

workgroups. I serve on the Steering Committee for our first UMD-BARC Joint Symposium that was held on October 20, 2011.

A MOU was signed with Patuxent Wildlife Center (USGS). I serve on an interagency workgroup to address the Executive Order for the Chesapeake Bay. I am a member of a writing committee that is producing a white paper that addresses the current status of the Chesapeake Bay. These efforts will build on our ongoing and new collaborations and lead to more interactive programs and internships for our students.

2011-2013 On October 31st, I became Deputy Coordinator for Cooperative Interactions and Grantsmanship, Agricultural Research Service (ARS), USDA, George Washington Carver Center, Beltsville, MD. This was a new section, based in the Office of Technology Transfer at ARS Headquarters. We established a website with a wide range of resources, including up to date funding opportunities available to ARS researchers, webinars and other information to help investigators formulate, write proposals, and respond to reviews. I worked directly with National Program Leaders at ARS to identify mission related areas in which ARS researchers may apply for extramural funding. We began interactive webinars for ARS scientists across the country to provide information on funding opportunities and to hear about issues and ways we can be of help.

Further duties involved establishing teams in the areas of nutrition and climate. I worked with the National Program Leaders, Nutrition Centers, researchers, and Headquarters staff to coordinate these specific initiatives. The linkages with the University of Maryland and our agency partners in the Chesapeake region continue to grow and develop and it is critical to coordinate our collective activities. This effort has provided an excellent platform to facilitate these growing interactions.

2013-2017 On September 1st, I became the Associate Vice Chancellor/Associate Vice President for Research at the University of Houston. This position had a range of duties that focus on building research capacity on the main campus and in the University of Houston System through coalescing teams of researchers with common interests across a range of disciplines. The focus was on large interdisciplinary proposals and funding opportunities that fit the expertise of our faculty researchers. We provided the infrastructure and training to expand our regional and global collaborations and partnerships with other institutions, agencies, foundations and corporations to enhance our research portfolio. Some specific activities at the regional and state levels included:

a. Gulf Coast Consortium—member—2014-2017; Chair of the Oversight Committee 2017
b. University Advisory Committee (UAC), Cancer Prevention Research Initiative of Texas (CPRIT)—2014-2-17; Chair UAC—2015-2017; preparation of Annual Reports and Testimony to the State Legislative Oversight Committee for CPRIT—2015, 2016, and 2017.
c. Member and representative for UH on TEAM Houston for regional transportation, led by Houston METRO—2016-2017; interface with the Texas Innovation Alliance
d. University District Partnership with TSU on AV technology—2016-2017
e. Houston Exponential Connectivity Committee—2018-2019

V. MEMBERSHIP in PROFESSIONAL ORGANIZATIONS

Phi Sigma Society
Society for Neuroscience
Poultry Science Association
Endocrine Society
Society for Behavioral Neuroendocrinology
Sigma Xi
University of Maryland Alumni Society
Society for the Study of Reproduction
FASS - Federation of Animal Science Societies
American Aging Association
Gerontology Society of America
American Association for the Advancement of Science

VI. PROFESSIONAL ACTIVITIES OUTSIDE the UNIVERSITY

A. REVIEWING ACTIVITIES for AGENCIES/UNIVERSITIES

1980	SEA-AR Reproduction Workshop. Peer Reviewer. Clay Center, Nebraska.
1981-82	Ad hoc grants reviewed for Delmarva Poultry Industry.
1982-present	Ad hoc reviewer for the following agencies: National Science Foundation (Regulatory Biology, Conservation Biology, Psychobiology, and Neurobiology). Ad hoc reviewer for National Institutes of Health.
1984	Ad hoc reviewer for USDA Competitive grants (Reproductive present Biology Program).
1987	NSF Review Committee for Career Development Grants for Women.
1988-91	Ad hoc Reviewer, BARD program, USDA.
1989	Panel Member: NSF Training Grants program.
1990	Panel Member: Animal Reproduction Program of the USDA Competitive Grants Office.
1991-present	Ad hoc Reviewer, USDA/NRI (Reproductive Biology, Growth and Development Programs).
1991	Ad hoc Reviewer, Maryland Industrial Partnerships grants.
1992	Ad Hoc Member, NINDS (National Institutes of Health) Tenure and Promotion Committee.
1993-	NIH Consultant File.
1993-96	Ad hoc Reviewer, Smithsonian Fellowships (pre- and post-doctoral).
1994-97	Ad hoc Reviewer, International Human Frontier Science Program.
1995	Member of the Department of Dairy and Poultry Science Review Team for the University of Florida.
1995	Proposal Review for New Hampshire Agriculture Experiment Station.
1996	NIH Reverse Site Visit Review Panel for Program Project Grant.
1997	USDA National Research Initiative Review Panel for Small Business Innovative Research Programs.
1997, 1999	Evaluation Panels for Research Physiology positions in the Growth Biology Laboratory, USDA-BARC.
1997	Pre-review for site visit for UMAB NIH program project grant.
1997	Patuxent Wildlife Center Review/Workshops, 1) Contaminants and 2) Crane Survival Program.
1999-2001	Ad hoc reviewer, Human Frontier Science Program.

2000	Reviewer for the M.J. Murdock Charitable Trust.
2000	Chair, CSRS Review Team for the School of Veterinary Medicine, Cornell University, Ithaca, NY.
2000	Member, CSRS Review Team for the Department of Poultry Science, North Carolina State University, Raleigh, NC, including a separate review of Graduate Research Programs by myself and Dr. Billy Hargis to the Graduate Dean).
2001	Ad hoc reviewer, Roslin Research Center Grant for UK Funding.
2001	Member, Program Project Grant Review Panel for NIEHS, Research Triangle Park, October.
2003	Chair, Review Team for the review of the Graduate Program of the Poultry Science Department, Texas A & M University, College Station, TX.
2003	Member, National Institutes of Health Special Emphasis Review Panel, ZRG1 BBBP-6 (01).
2005	Ad-hoc Reviewer—National Institute of Mental Health Study Section, (ZDNA1 MXS-M), National Institutes of Health.
2004-05	Member, Search Committee for Biologist positions at Patuxent Wildlife Research Center, Laurel, MD.
2005-06	National Science Foundation Proposal Review Panel: Behavioral Neuroscience and Neuroendocrinology, October and March, Arlington, VA.
2006-2008	Science Advisory Committee (SAC) for Dr. Keybreten Manaye, Howard University Medical School, Washington DC. The SAC advises Dr. Manaye on her research, which is part of a NIH grant to minority institutions.
2008	Search Committee for ANRI Director, USDA-BARC.
2008	National Science Foundation Panel on Organism-Environment Interactions, Fall Panel, Arlington, VA; October.
2009	National Institute on Aging of the National Institutes of Health Study Section—Special Emphasis Panel for review of a Comparative Center on Aging Program Project Grant Proposal, November.
2010	National Institute on Aging of the National Institutes of Health Study Section—Special Emphasis Panel for review of a Comparative Center on Aging Program Project Grant Proposal, August.
2011	Reviewer: EOL Rubenstein Fellows applications for the Smithsonian Institution
2011	National Institute of Environmental Health Sciences of the National Institutes of Health Special Emphasis Review Panel for Conference Grant Proposals, November.
2012	National Institute of Environmental Health Sciences of the National Institutes of Health Special Emphasis Panel/Scientific Review Group ZES1 TN-D; Stem Cells and Environmental Influences, Research Triangle Park, NC, February.

2012 National Science Foundation Proposal Review Panel for Modulation II in the Neural Systems Cluster, Arlington, VA, March.

2012 National Institute on Aging of the National Institutes of Health Alzheimer's Disease SBIR Study Section/Scientific Review Panel (ETTN A 50), Baltimore, MD, July.

2012 National Institute on Aging of the National Institutes of Health Study Section/ Scientific Review Panel; ETTN 11: Drug Discover for Aging, Neuropsychiatric and Neurologic Disorders Small Business, New Orleans, LA, October.

2012 Special Emphasis Panel/Scientific Review Group 2013/01 ZES1 LKB-K (PO) 1: NIH/NIEHS Centers for Children's Environmental Health and Disease Prevention Research Centers. Baltimore, MD, November.

2012-present American Association for Aging Research (AFAR) Scientific Advisory Review Committee

2013 National Institute on Aging of the National Institutes of Health Study Section/ Scientific Review Panel; ZRG1 ETTN M (11): Drug Discover for Aging, Neuropsychiatric and Neurologic Disorders, Small Business, Chevy Chase, MD, February.

2013 National Institute on Aging Special Emphasis Panel/Scientific Review 2013/05 ZAG1 ZIJ-5 (MI1) Panel: Comparative Physiology, March.

2014-19 Panel Member: ZRG1 ETTN-A (11) small business panel on Drug Discovery for Aging, Neuropsychiatric and Neurologic Disorders

2015 U.S. Environmental Protection Agency (EPA) Science to Achieve Results (STAR) Graduate Fellowship Review Panel

2017 Special Emphasis Panel/Scientific Review Group 2017/05 ZRG1 MDCN-G (05) M meeting

2017; 2018 NIH National Institute on Aging (NIA). Review committees for U19 proposals

B. PROFESSIONAL ORGANIZATIONS: ACTIVITIES and COMMITTEES

1980 Organizer/Chair, Roundtable Conference "Nutrition and Endocrine Interactions Affecting Reproduction" at the 2nd International Symposium on Avian Endocrinology. Benalmadena, Spain.

1980 Session Chairman. Eastern Regional Conference on Comparative Endocrinology (American Society of Zoologists).

1981 Poultry Research Program Steering Committee for the Northeast Region.

1981 Session Chair, Poultry Science Association Annual Meeting.

1981 Steering Committee for "Conference on Animal Behavior in Agriculture," University of Maryland, Spring, 1982.

1982	Section Chair, Physiology Section for the Program Committee; Annual Meeting of the Poultry Science Association, Davis, California.
1982-87	Representative of American Society of Zoologists to the Endocrine Society's Public Affairs Committee.
1982-94	Graduate Student evaluations for Student Award at the Annual Meeting of the Poultry Science Association.
1982	Organizer of Symposium entitled “The Avian Male,” presented at the annual meeting of the Poultry Science Association, Davis, California.
1983	Organizer and speaker in Roundtable Symposium entitled “Hormones and Behavior” conducted during the International Symposium on Avian Endocrinology, 1984 Rutgers University.
1983	Public Affairs Committee, American Society of Zoologists.
1983	Session Chair, Comparative Endocrinology at American Society of Zoologists Annual Meeting.
1984	General Program Chairman and Chair of the Program Committee for the 1984 Annual Meeting of the Poultry Science Association, Guelph, Canada.
1984	Organizer of Symposium entitled “Neurohumoral and Environmental Interactions Determining Avian Reproductive Behavior” for Annual Meeting of Poultry Science Association.
1985	Organizer of Panel Discussion entitled “Political Influence and Scientific Policy” (co-organizer with L.H. Mantel) for Public Affairs Committee, American Society of Zoologists for Annual meeting of the Society, December, 1985.
1984-88	Research Committee, Poultry Science Association, Chair 1986-88.
1984-88	Public Affairs Committee, American Society of Zoologists.
1984-86	Secretary, Division of Comparative Endocrinology for the American Society of Zoologists.
1985-86	Local Organizing Committee, Annual Meeting of the American Society of Zoologists.
1986	Invited participant in the Animal Research Emphasis Conference, Lexington, Kentucky.
1986	National Science Foundation's Program Manager's Seminar.
1987-88	Organizer of Symposium entitled “Application of Biotechnology to Understanding the Avian Embryo” for the annual meeting of the Poultry Science Association for 1988.
1987-89	Intersociety Research Priority Task Force, representing the Poultry Science Association.
1988-92	Poultry Science Association Long Range Planning Committee.
1989-91	Director on the Executive Board of the Poultry Science Association. Additional responsibilities as a Director included the following: Member, Constitution Committee Board liaison to AAALAC, AIBS, and PSA Research Committee.

1989-91	Poultry Science Association to CoFARM.
1990-92	Member, Gamma Sigma Delta Membership Committee.
1990	Chair, Physiology Session, Southeastern Poultry Science Society Meeting, Atlanta, GA.
1991, 92	Testimony to the House of Representatives Subcommittee on Agriculture Appropriations presenting the view of COFARM (representing a coalition of Agricultural Societies).
1991-94	Representative of the Poultry Science Association Board to: National Academy of Science Board on Agriculture CoFARM Steering Committee
1991-92	Steering Committee, FAIR '95.
1991	Organizer of Symposium for the 1991 Poultry Science Association Meeting entitled: Issues in Poultry Science: Current and Future Directions.
1991-94	Secretary, American Society of Zoologists.
1992	Chair, Session on Fertilization and Development in Symposium entitled "Current Advances in Reproduction," Fayetteville, Arkansas.
1992	Member, Steering Committee for Joint Meeting of the Board on Agriculture (National Academy of Science) and Professional Scientific Societies.
1992	Co-organizer, 2 sessions of the V International Avian Endocrinology Symposium.
1992	Co-editor of papers from V International Avian Endocrinology Symposium published in a special issue of "Reviews in Poultry Biology"
1992-2000	Member, International Committee for the Avian Endocrinology Symposia.
1993-94	Public Affairs Committee, Society for the Study of Reproduction.
1993-94	Second Vice-President, Poultry Science Association. Other responsibilities included: Policy Manual Coordinator, Liaison to the Animal Care Committee, Ad Hoc Ancillary Scientists Committee, Purina Mills Teaching Award Committee, and Membership Committee. Representative of PSA on CoFARM Steering Committee.
1994	Organizer, Roundtable Symposium on "Reproduction and Aging in Field Birds" for the International Ornithology Congress, Vienna, Austria. August.
1994-95	1st vice-President, Poultry Science Association. Other responsibilities: Constitution Committee, liaison to 7 committees, Finance Committee representative to CoFARM.
1995-2000	Scientific Program Committee for World Poultry Congress in 2000.
1995	Organizer, 3 day symposium (32 speakers) entitled "Avian Biology" held at the annual meeting of the American Society of Zoologists, December 27-30, 1995.

1995-96	Co-Organizer and Chair of Session on Hormones and Behavior in Birds (VI International Symposium on Avian Endocrinology).
1995-96	President, Poultry Science Association. Other responsibilities - Steering Committee for FASFAS meeting, 2001. Steering Committee CoFARM, representative of PSA at national meetings on Agriculture (NAS), Finance Committee, liaison to 5 committees.
1996	Member Steering Committee of the Societies Federation Committee.
1996	International Program Committee, VII International Symposium on Avian Endocrinology.
1996-97	Joint Animal Sciences Societies Board of Directors.
1996-2000	Steering Committee for International Avian Endocrinology meeting.
1996-98	Organizing committee member for FAIR 2001 Meeting.
1996-97 1997	Society Structure Committee, PSA representative. Past President, Poultry Science Association Other responsibilities: Chair of Nominations Committee, CoFARM Steering Committee and liaison to 4 committees.
1997-2000	Federation of Animal Science Societies Board of Directors.
1998	President-Elect, Federation of Animal Science Societies.
1998-99	President, Federation of Animal Science Societies.
1998-03	OECD Ad Hoc Expert Panel on Test Guidelines for Avian Reproduction Testing
2000	Organizer, Symposium on Aging and Neuroendocrine Systems for Workshop on Steroids, Hormones and Brain Function, Breckenridge, CO.
2000-2003	OECD Working Group on Avian 2-generation Test Guidelines.
2003-2007	Organizing Committee for the annual “Workshop on Steroid Hormones and Brain Function”, Breckenridge, CO.
2003	Co organizer of a session on the Effects of Endocrine Disrupting Chemicals on Avian Species for the Society of Environmental Toxicology and Chemistry Annual Meeting (co-organized with Dr. Kris Brugger, Dupont Inc), Austin, TX.
2004	Co-Organizer and Co-Chair for Session entitled “Effects of Endocrine Disrupting Chemicals: From Lab to Field” for the 8th International Symposium on Avian Endocrinology, Scottsdale, AR.
2004	Organizer and Chair for Session entitled “Estrogen and Progesterone: Magic Elixir or Caustic Cocktail or Brain Aging?” at Winter Conference on Brain Research, Copper Mountain, CO.
2004-2005	Program Chair for “Workshop on Steroid Hormones and Brain Function”, March 2005

2004	Co-Organizer for Interactive Poster Session (with Drs. Kristine Brugger and Leslie Touart), SETAC Annual Meeting, November, Portland, OR.
2005	Organizer and Chair for session on Primate Aging and Calorie Restriction, Gerontology Society of America, November.
2005-2008	Program Committee—Society for the Study of Reproduction
2006	Organizer and Chair for session entitled "Insights into Reproductive Aging Gained from Primate Studies" held at the Society for the Study of Reproduction annual meeting, July.
2006	Speaker, CSREES Grantsmanship Workshop entitled "Writing Winning Grants" to assist early career faculty, Washington DC, September 6-7.
2006-2008	Chair, Committee on Reproduction and the Environment (CORE)—Society for the Study of Reproduction
2006-2008	International Scientific Committee—Avian Endocrinology Symposium
2007	Organizer of Session entitled "Are Supplements a Panacea for the Brain? at the Winter Conference on Brain Research, UT.
2007	Organizer—Mini-Symposium entitled "Cross Species and Long-Term Consequences of Endocrine Disrupting Chemicals at the Annual Meeting of the Society for the Study of Reproduction
2007	Program Committee and Section Chair for Environment and Reproduction sessions, Annual Meeting of the Society for the Study of Reproduction
2008	Program Committee and Section Chair for Conservation and Reproduction sessions, Annual Meeting of the Society for the Study of Reproduction.
2008	Organizer and Chair for session entitled "Your Aging Brain: The Monkey on Your Back" held at the Winter Conference on Brain Research.
2008	Co-organizer and Chair for the session entitled "Ecotoxicology and Endocrine Disruption" at the International Symposium on Avian Endocrinology, Leuven Belgium.
2008	Co-organizer of 5 sessions for the Society of Environmental Toxicology and Chemistry International Congress 2008 and Chair of 2 sessions, Sydney, Australia.
2009	Organizer of Session entitled "GnRH and GnIH: To Live or Eat!" for the Winter Conference on Brain Research, CO
2009	Organizer and co-Chair of Session entitled "EDCs: Individual and Population Level Responses" for the 19th Society of Environmental Toxicology and Chemistry Europe Annual Meeting.
2009	Official Representative for the Society for the Study of Reproduction to the Endocrine Society Endocrine Disruptors Forum, Washington DC, June.

2010	Co-Organizer and co-Chair of two sessions at the Winter Conference or Brain Research, Breckenridge, CO, January.
2008-12	Member, International Scientific Committee for the International Symposium for Avian Endocrinology
2009-2018	Federal Demonstration Partnership; attendee and member of the Faculty Committee 2009-11-Co-Chair, Animal Subjects Subcommittee; member Research Compliance Committee 2010-12-Faculty Steering Committee
2010-2018	Member, Society for Environmental Toxicology and Chemistry (SETAC) Technical Committee (reviews proposals for the technical program; shepherds external reviews for agencies on toxicological issues; interfaces with all the SETAC Committees) 2012-member of the Peer Review Committee to develop guidelines for external peer review
2010-present	Committee Member of the American Association for the Advancement of Science (AAAS) Committee on Agriculture and the Environment; representative of the Poultry Science Association
2010-13	Chesapeake Bay Programs Goal Implementation Team (GIT) for Habitat Restoration 2011-13 Chesapeake Bay Programs Goal Implementation Team (GIT) for Habitat Restoration Steering Committee 2012-writing committee: Toxic Contaminants Report Action Committee—writing a white paper in response to the Executive Order 13508: Chesapeake Bay Protection and Restoration
2011-12	Co-organizer and Co-Chair for Session at the International Symposium on Avian Endocrinology entitled: 'Neuroendocrine Function and Hormones'
2011-2015	Member of the Southeastern Universities Research Association (SURA) Coastal Ecosystems Research Committee 2011: PI: NSF SRN Proposal submitted through SURA entitled 'Forecasting the Impact of Climate Change on Food Production: Connecting Terrestrial and Coastal Marine Ecosystems'. 2012: Steering Committee preparing a NSF Coastal SEES Proposal
2012	Attendee and Session Chair, FAIR 2012 (Federation of Animal Science Societies (FASS) Forum on the Future Needs of Animal Agriculture
2012	FASS Representative-to the National Advisory Council for Human Genome Research meeting, Bethesda, MD, February
2012-	SETAC—Chair, Science Committee (2012-14), Senior Resource Group, Co-Chair Focused Topic Meeting on Complex Mixtures and Metals held September 6-8, 2017.
2014-2020	NIH Review Panel; Standing Member: ZRG1 ETTN-A (11) small business panel on Drug Discovery for Aging, Neuropsychiatric and Neurologic Disorders
2017	NIA/NIH Panel Special Emphasis Panel/Scientific Review Group 2017/05 ZRG1 MDCN-G (05) M meeting
2018	NIH National Institute on Aging (NIA). Two review panels: one for a U19 application and the other for a U54 proposal

2018 RFA-AG-19-002 (RO3) Review Meeting October 19.

2018 Society Research Administrators International Learning Institute: Micro-credentialing Program Module X: Research Development. Reviewer and contributor to the development of this module

2019 NIA/NIH Panel Special Emphasis Panel/Scientific Review Group for Neurodegenerative Diseases, Pain, and Neurology. 2017/05 ZRG1 MDCN-G (05) March, 2019

2017-2020 Member, Smithsonian Science Education Center Ad Hoc Committee on Higher Education

VII. COMMUNITY SERVICE

1979-80 NSF Women's Science Roster.

1981 United Way Campaign - Departmental Representative.

1983 Lifetime Member of the University of Maryland Alumni Association.

1983-85 Woodstream Community Communications Committee.

1987 Invited lecture entitled “Current Research in Hormones and Behavior” at Banneker Senior High School as part of the program for National Science and Technology Week, April 7, 1987.

1989-present Science Fair Judge, Eleanor Roosevelt High School.

1990 Advisory Panel for Accokeek Foundation project on the Ecosystem Farm.

1992-2010 Mentored for Research Practicum Project for Roosevelt Student.

1993 Moderator, Maryland Junior Science and Humanities Symposium.

1994-1998 St. Matthias School Board.

1998 Interview for AAAS radio show entitled, “Why Does This Happen?”

2003-05 Mentor-Trainee luncheons held at the Society for the Study of Reproduction Annual Meeting.

2003-04 Eleanor Roosevelt High School Grad Night Committee and volunteer for fund raising events.

2005 Interviewed by the Swedish News Agency; “Science in the News” program on the impact of endocrine disrupting chemicals on wildlife.

2006 Lecturer, Winter Brain Conference Outreach to the Public Schools, 6th grade.

Elliot B. Gordon, PhD, DABT
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Princeton Junction, NJ 08550
609-936-1977
(b) (6) (Cell)
SoundScience@comcast.net

Curriculum Vitae

Date: April 2020

EDUCATION

Cornell University, BS, Biochemistry, 1964
Adelphi University, MS, Biology, 1968
New York University, PhD, Biology, 1973
Mercer County Community College, AAS, Advertising Design, 2009

PROFESSIONAL CERTIFICATION

Certified in General Toxicology, the American Board of Toxicology, 1980.
Re-Certified by the American Board of Toxicology: 1985, 1990, 1995, 2000, 2005, 2010, 2020.

American Council on Exercise (ACE) Certification T206810, 5/31/2017; Expiration: 5/31/2021.
ACE Weight Management Specialist Program, CEP92809, 8/31/2018.

PROFESSIONAL EXPERIENCE

Principal Toxicologist, Elliot Gordon Consulting, LLC, 55 Lillie Street. Princeton Junction, NJ. 2005 - Present.

Authorized Agent, TDA Research, Inc. Wheat Ridge, CO. Pesticide applications, US EPA. 2009 – Present. US EPA Registration 85797-1 *Handheld Electrochemical Decon Apparatus*, 7/23/2015.

Authorized Agent, Pinturas Dequimsa, Libramiento Noroeste No. 1013, Parque Industrial Ciudad Mitras, Garcia N.L. 66023, Mexico, 2019. US EPA 94830-x.

Corporate Toxicologist, Makhteshim-Agan of North America Inc., New York, NY.
1986 - 2005. 551 Fifth Avenue, Suite 1100, New York, NY 10176.

Director of Toxicology, Bioassay Systems Corporation, Woburn, MA.
1983 - 1985.

Manager, Toxicology Laboratory, FMC Corporation, Princeton, NJ. 1981 - 1982.

Senior Toxicologist, Mobil Oil Corporation, Princeton, NJ. 1979 - 1981.

Senior Toxicologist, Litton Bionetics, Inc, Kensington, MD. 1976 - 1979.

Manager, Bioassay Research, Frederick Cancer Research Center (FCRC), Frederick, MD. 1974 -1976

Senior Toxicologist, Bioassay Research, FCRC, Frederick MD. 1973-1974.

AWARDS

Founders Day Award, New York University, 1973.
US Public Health Service Pre-Doctoral Fellowship 1968-1972.

PROFESSIONAL AFFILIATIONS

Society of Toxicology (SOT).
American College of Toxicology (ACT).
Mid-Atlantic Chapter, Society of Toxicology (MASOT).
American Association for the Advancement of Science (AAAS).
Roundtable of Toxicology Consultants.

MILITARY EXPERIENCE

Commander, USNR, 1105 (Retired) Active Duty 1964-1966: USS Cheboygan County (LST-533), Little Creek, VA. Deployed to the Canal Zone, 1964-1965. Naval Station, Kodiak, Alaska, 1965-1966.

US Naval Reserve 1966-1990. Reserve Units: Mobile Inshore Undersea Warfare Unit 3-2, Sandy Hook, NJ. Coastal Defense Unit, Governor's Island, NY. Readiness Command Two, Washington, DC.

ACE CERTIFIED PERSONAL TRAINER

American Council on Exercise (ACE- Certified Professional T206810, 5/31/2017). Recertification 12/4/2018 (Expiration 5/31/2021)
ACE Weight Management Specialist Program, 8/31/2018

PROFESSIONAL ACTIVITIES

Elliot Gordon Consulting, LLC. May 2005 - present, I have been involved in human risk assessments; study management, authoring technical reports and regulatory activities.

Human Health & Policy Steering Group, CropLife America, 2017 - 2019.

Long Range Planning Committee, Agriculture Handler Exposure Task Force (AHETF), 2015-2019.

Membership Committee, American College of Toxicology, 2014 – 2018.

Advisory Board Member, Endocrine Policy Forum, 2016-2018.

Editorial Board member, *Toxicology Mechanisms and Methods* (formerly *Toxicology Methods*), Informa Health Care, ISSN: 1537-6516. 1990 – Present,.

Chairman, American Crop Protection Association Toxicology Roundtable, 1999 - 2001.
Vice-Chair, 1997 – 1999.

Rebuttal to EPA's draft risk assessment for diazinon. The inappropriate use of the FQPA 10x safety factor for human risk assessment was submitted to EPA (2017).

Reclassification of the fungicide Folpet. I contributed to the IPCS Framework analysis for folpet that convinced the U.S. EPA folpet was not likely to cause cancer in humans due to its use as a fungicide (US EPA Memorandum dated October 13, 2010).

Reclassification of the fungicide Captan. I contributed to the science arguments that lead the US EPA to change the cancer classification of captan from a B2 to not likely at environmental dose levels (FedReg 69 (*226*):68357-68360, November 24, 2004).

Coordination of FIFRA 6(a)(2) Incident Reporting. I reviewed adverse effects incident reports for ADAMA and prepared summary data for quarterly cumulative reports to U.S. EPA.

Restricted Reentry Interval. I authored the scientific argument that showed agricultural workers were at essentially zero risk for systemic effects of captan due to the near instantaneous degradation of captan in human blood. Australia lifted their REI for this fungicide, based on this argument.

Analysis for Reduced Risk Insecticide. I provided scientific argument supporting the reduced risk status for Novaluron, an Insect Growth Regulatory (IGR), based on its limited toxicological effects.

Endocrine Disruption Weight of Evidence Document. I co-authored a Weight of Evidence paper on the endocrine disruption potential of Diazinon, based on data from the Endocrine Disruption Screening Program (EDSP) assays and other Scientific Relevant Information (OSRI).

Assisted in Draft Assessment Report (DAR) preparation for Rapporteur Member State (RMS) for Captan and Folpet. I presented arguments supporting the removal of the R40 (risk of irreversible effects, e.g., cancer) and R63 (risk of adverse effects to the unborn, e.g., teratogenicity) risk phrases to the Italian RMS.

Occupational Risk Assessment for Clethodim for Canadian authorities. I conducted PHED based risk assessments for liquid pour mixer/loader and open cab applicators of clethodim.

SDS and LHAMA Certification for Art Materials. I wrote MSDSs for oil acrylic, and water-based artists' paints and then converted these to Safety Data Sheets, based on the Global Harmonized System of Classification and Labeling of Chemicals (GHS). I reviewed art materials for chronic health hazards under the Labeling of Hazardous Art Materials Act (LHAMA) (Public Law 100-695).

Risk Assessment for Cadmium use as a Pigment in Art Materials. The risk associated with insoluble cadmium pigments (hexavalent cadmium) in oil, acrylic and watercolors was characterized.

Agricultural Exposure Task Forces. I participated in the Technical and Administrative Committees for the Spray Drift Task Force (SDTF), Agricultural Reentry Task Force (ARTF), Outdoor Residential Exposure Task Force (ORETF), and the Agriculture Handler Exposure Task Force (AHETF). I was Administrative Chair of the AHETF, 2004-2007.

Chairman, Poster Session #134-1412, Pesticide: Toxicology. 51st Annual Meeting of the Society of Toxicology, San Francisco, CA, March 13, 2012.

Chairman, Poster Session 41, Safety Evaluation. 38th Annual Meeting of the Society of Toxicology, New Orleans, LA, March 17, 1999.

Chairman, Platform Session III, Risk Management and Regulatory Issues, Seventh Annual Meeting of the American College of Toxicology, Sheraton Society Hill, Philadelphia, PA, November 16-19, 1986.

Chairman, Symposium, "Rodent Bioassays and Human Risk Assessment: Science or Science Fiction?" Presented at the 15th Annual Meeting of the American College of Toxicology, October 24, 1994, Williamsburg, VA.

Speaker, Chemical Producers and Distributors meetings on "Sound Science and Sound Science Policy" at the US EPA (2001, 2002), and recent cancer classification efforts at EPA (2004).

Agricultural Exposure Task Forces (member) SDTF (Spray Drift Task Force)
ARTF (Agricultural Reentry Task Force)
ORETF (Outdoor Residential Exposure Task Force) AHETF (Agricultural Handler Exposure Task Force)

Book Chapters

Gordon, Elliot, (2020). Chapter 23: *Pesticide Toxicology*. In: *Toxicology for the Health and Pharmaceutical Sciences*, CRC Press, Taylor & Francis Group, Antonio Pena-Fernandez, Mark E. Evans, and Marcus S. Cooke, Editors, publication pending.

Gordon, Elliot, (2019). Chapter 9: *Agricultural Chemicals: Risk Assessment and Risk Management.* In: *Regulatory Toxicology*, Third Edition, CRC Press, Taylor & Francis Group, Shayne Gad, Editor. pp. 197-217.

Gordon, Elliot and Linda A. Malley, (2014). *Toxicology Studies Conducted for Pesticides and Commodity Chemicals.* Chapter 26 in *The Role of the Study Director in Nonclinical Studies, Pharmaceuticals, Chemicals, Medical Devices, and Pesticides*. Editor: William J. Brock; Associate Editors Barbara Mounho and Lijie Fu. John Wiley& Sons, Hoboken, New Jersey; pp. 465-483.

Arce, G. T., Gordon, E. B., Cohen, S. M., and Singh, P. (2010). *Genetic Toxicology of Folpet and Captan*. Critical Reviews in Toxicology, Volume 40(6), 546-574.

Gordon, E. B. (2010). *Captan and Folpet*. *In* "Hayes Handbook of Pesticide Toxicology" (R. Krieger, ed.), pp. 1915-1949. Elsevier.

Gordon, Elliot (2001). *Captan and Folpet*. Chapter 79, Handbook of Pesticide Toxicology Second Edition, Volume 2, Agents. Robert I. Krieger, Editor. Academic Press, San Diego, pp. 1711-1742.

Publications

Strupp, C., Banas, D. A., Cohen, S. M., Gordon, E., Jaeger, M., and Weber, K. 2012. *Relationship of Metabolism and Cell Proliferation to the Mode of Action of Fluensulfone- Induced Mouse Lung Tumors: Analysis of Their Human Relevance Using the IPCS Framework*. Toxicological Sciences 128(1):284-294.

Gordon, E., Cohen, S. M., and Singh, P. (2012). *Folpet-inducted Short Term Cytotoxic and Proliferative Changes in the Mouse Duodenum. Toxicology Mechanisms and Methods,* Volume 22(1), 54-59.

Cohen, S. M., Gordon, E. B., Singh, P., Arce, G. T., and Nyska, A. 2010. *Carcinogenic Mode of Action of Folpet in Mice and Evaluation of Its Relevance to Humans*. Critical Reviews in Toxicology, Volume 40(6), 531-545.

Gordon, E. 2010. *Establishment of the Human Studies Review Board (HSRB*). In: Non-Dietary Human Exposure and Risk Assessment, Lunchick C, Krolski M, eds., pp. 7-21. American Chemical

Society Symposium Book Series, Washington, DC.

Gordon, Elliot (2008). *Stewardship Program Maintains an Important Tool.* Basin Business Journal (815 West Third Avenue, Moses Lake, WA), January 31, 2008.

Gordon, Elliot (2007). *Captan: Transition from 'B2' to 'not likely.' How pesticide registrants affected the EPA Cancer Classification Update*. Journal of Applied Toxicology 27: 519-526.

Gordon, E. (2002). *Human Data and Pesticide Risk Assessment*. Inveresk Research Regulatory Affairs Bulletin, Number 89, December 2002.

Gordon, Elliot B., Mobley, Scott C., Ehrlich, Tali, Williams, Michael (2001). *Measurement of the reaction between the fungicides captan or folpet and blood thiols.* Toxicology Methods, 11:209-223.

Bernard, Bruce and Gordon, Elliot: *An evaluation of the common mechanism approach to the Food Quality Protection Act: Captan and four related fungicides, a practical example*. Int. J. of Toxicology (2000) 19(1):43-61.

Reddy, G., Muni, I.A., Gordon, E.B., Goodband, J.B., Mayhew, D.A., and Bausum., H.T.: *Acute Toxicity Evaluation of Brass Powder.* J Am Coll Toxicol, Vol 15, Suppl 1, pp. S12-S14, 1996.

Reddy, G., Gordon, E.B., Muni, I.A., Goodband, J.B. and Bausum, H.T.: *Acute Toxicity Evaluation of 1-acetyl-3,4,7-trinitro-1,3,4,7-octahydrotetrazocine*. J Am Coll Toxicol, Vol 15, Suppl 1, pp. S15-S16, 1996.

Reddy, G., Gordon, E.B., Muni, I.A., Goodband, J.B. and Bausum, H.T.: *Acute Toxicity Evaluation of CI Solvent Green 3/ CI Solvent Yellow 33 Mix*. J Am Coll Toxicol, Vol 15, Suppl 1, pp. S17-S18, 1996.

Nyska, A., Waner, T., Scolnik, M. Pirak, M, Kuehnberg, W. and Gordon EB.: *Quantitative Evaluation of Chlortoluron-Induced Splenic Hemosiderosis by Means of and Image Analyzer*. Vet. and Human Tox.: 31(3), June 19, 1989.

Parker, C.M.: Patterson, D.R.; Gelder, G.A.; Gordon, E.B.; Valario, M.G.; Hall, W.C.: *Chronic Toxicity and Carcinogenicity Evaluation of Fenvalerate in Rats.* J. Tox and Enviro Health 13:83-97, 1984.

Gordon, E.B.: *Creating a Functional Toxicology Vivarium*. Lab Animal 11(1): 42-46, January/February 1982.

Study Reports

1973-1979. Contributing scientist for over 25 chronic bioassays in rats and mice of test materials selected by the National Cancer Institute. Frederick Cancer Research Center, Frederick, MD (21) and Litton Bionetics, Kensington, MD (4).

Studies in which I was *Principal Investigator* include:
NTP (1982). *NTP Technical Report on the Carcinogenesis Bioassay of Caprolactam (CAS No. 105-60-2) in F344 Rats and B6C3F1 Mice (Feed Study)*. National Cancer Institute National Toxicology Program PO Box 12233, Research Triangle Park North Carolina 27709 and Bethesda, Maryland 20205, U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health. Report no. NTP-80-26 NIH Publication No. 81-1770, March 1982.

NTP (1982b). *NTP Technical Report on the Carcinogenesis Bioassay of Bisphenol A (CAS No. 80-05-7) in F344 Rats and B6C3F1 Mice (Feed Study)*. National Cancer Institute National Toxicology Program PO Box 12233, Research Triangle Park North Carolina 27709 and Bethesda, Maryland 20205, U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health. Report no. NTP-80-35 NIH Publication No. 82-1771. NTP Technical Report Series No. 215, March 1982.

NTP (1983). *NTP Technical Report on the Carcinogenesis Bioassay of Melamine (CAS No. 108-78-1) in F344 Rats and B6C3F1 Mice (Feed Study).* National Cancer Institute National Toxicology Program PO Box 12233, Research Triangle Park North Carolina 27709 and Bethesda, Maryland 20205, U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health. Report no. NTP-81-86 NIH Publication No. 83-2501. NTP Technical Report Series No. 245, 173 Pages, March 1983.

I was the Toxicologist for: NTP (1979). *Bioassay of Methyl Parathion (CAS No. 298-00-0) for Possible Carcinogenicity*. National Cancer Institute National Toxicology Program PO Box 12233, Research Triangle Park North Carolina 27709 and Bethesda, Maryland 20205, U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health. Report no. NCI-CG-TR-157, NIH Publication No. 79-1713. NTP Technical Report Series No. 157, 126 Pages, March 1982.

In addition to the reports prepared as Study Director, below, various other reports, while employed at contract laboratories or industry were prepared (listing available as a separate Confidential Document).

Study Director

Williams, M. and Gordon, E.B.: *The Stability of Captan and Folpet in Whole Blood*. Study No.: 10238, Horizon Laboratories, Inc., December 2, 1999.

Williams, M. and Gordon, E.B.: *The Stability of Captan in Whole Blood*. Study No.: 10237, Horizon Laboratories, Inc., October 7, 1999.

Gordon, E.B., Williams, M. and David, B.V.: *Magnitude of the Residue: Dicofol Residues in Black and Green Tea, Brewed Tea and Instant Tea.* Study Number MAA-91-C, July 29, 1992.

Gordon, E.B. and Hassan, N.: *One-year Storage Stability of Triflurex Technical.* Study Number MANA 93-1, January 7, 1997.

Gordon, E.B. 1984*: 90-Day Subchronic Oral Toxicity Test in Rats. Test material: Troysan Polyphase.* BSC Study Number 11787. May 11, 1984.

Gordon, E.B. 1984. *13-Week Toxicity Test in Dogs, Sch 32481*. BSC Study Number 11568. February 25, 1984.

Gordon, E.B. 1984. *14-Day Subchronic Intravenous Toxicity of M0108 and MO107 in Normal Dogs.* BSC Study Number 11690. July 18, 1984.

Gordon, E.B. 1984. *12-Week Dosed Feed Toxicity Test in Rats. Test Material: Sch 32481*. BSC Study Number 16605. February 13, 1984.

Gordon, E.B. 1983. *30-Day Toxicity Study of WIN 41,464-6 Dentifrice Formulation in Beagle Dogs*. BSC Study Number 11683. October 12, 1983.

Presentations

2019. *Roundup: Fact or Fiction*. Is glyphosate a human carcinogen. Toxicology Roundtable, October 13-16, 2019, Grand Geneva Resort, Lake Geneva, WI.

2018. *The Art of the Regulatory Deal*. Toxicology Roundtable, October 15, 2018.

2016. Epidemiology weighs in on traditional pesticide risk assessment, October 10, 2015. *Agency disconnect: how dye approved by FDA for foods and drugs cannot automatically be listed as an inert pesticide ingredient by EPA*, October 11, 2015. Toxicology Roundtable, Tan-Tar-A Resort, Lake of the Ozarks, MO.

2015. *Weight of Evidence: Endocrine Disruption*. Toxicology Roundtable, October 16, 2015. Toxicology Roundtable, The Cove of Lake Geneva, 111 Center Street, Lake Geneva, WI.

2014. Reception/Learning Lounge*: "It's your hormones, Baby!"* Informal presentation at the CropLife America & Rise Annual Spring Conference, Crystal Gateway, Crystal City, VA. Co-

presenter: Daniel Goldstein.

2013. *Endocrine Disruption - The other ED*. Toxicology Roundtable.

2013. Symposium 8: *Endocrine Disruption Screening—Status of the US EPA and EU Programs: State of the Science and Slate for the Future*. Annual Meeting, American College of Toxicology, San Antonio, TX. November 4, 2013.

Elliot Gordon, Chair (Endocrine Screening Program: Background);
Susan Borghoff, Co-chair (Tier I Assays: Retrospective Performance Evaluation);
Sue Marty, (Case Study: Integration of the EDSP data with other data for a WoE approach;
Mary Manibusan (EPA Regulatory Update on the EDSP); and
Christian Strupp (History and present regulatory issues in Europe).

2012. *Comparative Sensitivity of Neonate and Adult Sprague-Dawley Rats to Cholinesterase Inhibition due to Diazoxon*. E. Gordon, D. P. Myers, P. Singh, D. R. Stannard, and C. Strupp. Society of Toxicology 51st Annual Meeting, San Francisco, CA, March 13, 2012.

2008. *The Rabbit is not an Appropriate Developmental Toxicity Test System for Bacteriostatic Compounds such as Folpet.* Society of Toxicology 47th Annual Meeting, Seattle, WA. Gordon, E. B., Neal, B., and Ehrlich, T., March 18, 2008.

2007. *The Rabbit is not an Appropriate Developmental Toxicity Test System for Bacteriostatic Compounds such as Captan.* Society of Toxicology 46th Annual Meeting, Charlotte, NC. Gordon, E. B., Neal, B., and Ehrlich, T., March 26, 2007.

2003. *The lack of mutagenicity for THPI (Tetrahydrophthalimide) in bacterial point mutation assays.* Poster Presentation (# 1010), Society of Toxicology 42nd Annual Meeting, Salt Lake City, Utah. E.B. Gordon, J. Kinzell and Y.J. Guo. March 11, 2003.

2000. *The Bioavailability of Captan in Human Blood*. Poster presentation (# 875), Society of Toxicology 39th Annual Meeting, Philadelphia, PA. E.B. Gordon, S. A. Mobley, S-L Lee, and M. Williams, March 21, 2000.

1999. *Mutagenicity of Captan and Folpet.* Poster Presentation (#1538), 38th Annual Meeting, Society of Toxicology, New Orleans, LA, March 17, 1999.

1998. *Cancer Risk Assessment for Captan.* Poster Presentation, ICTVIII, July 1998. 1998. *Cancer Risk Assessment for Folpet.* Poster Presentation, ICTVIII, July 1998.
1998. *Common Mechanism of Toxicity: Folpet and Captan.* E.B. Gordon. Poster Presentation (#777), 37th Annual Meeting, Society of Toxicology, Seattle, WA, March 2, 1998.

1994. *Effect of Particle Size and Concentration of PCMM on Acute Inhalation Toxicity of Folpet Technical.* N. Ali, S. Cracknell, I. Friedman, Z. Paster and E.B. Gordon. Poster Presentation (#1662), 33rd Annual Meeting, Society of Toxicology, Dallas TX, March 17, 1994.

1992. *Aquatic Risk Associated with the Fungicide Folpet.* E.B. Gordon. Poster Presentation (#295), Risk Assessment I, 31st Annual Meeting, Society of Toxicology, Seattle, WA, February 24, 1992.

1991. *Acetylcholinesterase (AChE) Depression in CD Rats Fed Two Diazinon Batches for Six Weeks*. E.B. Gordon and A. Broadmeadow. 30th Annual Meeting Society of Toxicology, Dallas, TX. February 1991.

1991. *Lack of Bioaccumulation of Folpet in Bluegill Sunfish.* E.B. Gordon, D. Burgess and J.J. Heitkamp. 12th Annual Meeting, American College of Toxicology, Savannah, GA. October 22, 1991.

1990. *Comparative Fate and Effects of Folpet Following Short Term Oral Administration in Mice and Rats.* E.B. Gordon, I. Friedman, L.F. Chasseaud, A.R. Waller and P. Bracha. 29th Annual Meeting, Society of Toxicology, Miami Beach, FL. February 14, 1990.

1989. *Automatic Image Analysis of Splenic Hemosiderin Deposition in Rats.* E.B. Gordon, W. Kuehnberg, A. Nyska, T. Waner, A. Zuckerman and M. Scolnik. 28th Annual Meeting Society of Toxicology, Atlanta, GA. March 2, 1989.

1986. *Maximum Tolerated Dose Selection and Its Relevance to Oncogenic Findings: Captan, A Case Study.* E.B. Gordon and P. Bracha presented at Toxicology of Pesticides course, NATO Advanced Study Institute - ASI and Fondazione Giovanni Lorenzini, Riva del Garda, Italy, October 6-15, 1986.

1980. *Eye Opacity in Fischer Rats induced by fluorescent Light Exposure during Two Year Chronic Studies*. Gordon, E.B.; Fritz, J.; Clinton, J.; Cardy, R.; Djurickovic, S.: AALAS National Meeting, October 7, 1980.

1980. *Decreased Cockroach Population with the use of ROATEL Traps.* AALAS National Meeting. Gordon, E.B.; Shifflett, D.W. October 7, 1980.

1976. *Twin-shell Feed Blending Kinetics.* Gordon, E.B.; Riggs, C.; Hzieh, J.Z.; Thibault, L.; Decker, D. Fourth Annual NCI Carcinogenesis Collaborative Conference, February 1976.

1976. *Absorption Study of Hair Color Yellow Number 3 in the Rat.* Costlow, R.D. and Gordon, E.B. Fourth Annual NCI Carcinogenesis Collaborative Conference, February 1976.

1976. *Maximum Test Dose (MTD) Determination.* Gordon, E.B.; McNitt, K.; Riggs, C. Fourth Annual NCI Carcinogenesis Collaborative Conference, February 1976.

1975. *Estimating the Maximum Tolerated Dose in Carcinogenesis Bioassays Using Computerized Data Handling and Analysis*. Gordon, E.B.; Riggs, C.; Bostian, P.; Ulland, B.M.; Callahan, L. Fourteenth Annual Meeting Society of Toxicology, May 1975.

1973. Platform session: *Effects of p-hydroxypropiophenone on binding and metabolism of p-dimethylaminoazobenzene (DAB) in rat liver.* Gordon, E.B.; Van Duuren, B.L.; Sivak, A. Sixty-

Fourth Annual Meeting of the American Association for Cancer Research, Inc., Atlantic City, NJ, April 1973.

Lectures

Are Immunotoxicity Tests Likely to Affect EPA's Risk Assessment? 62nd Annual Toxicology Roundtable, Cape May, NJ. September 25-28, 2011.

The Challenge of Integrating the 11 Endocrine Disruptor Screening Program Tests into a Cogent WOE Document. 62nd Annual Toxicology Roundtable, Cape May, NJ. September 25-28, 2011.

Toxicology Risk Assessment Principles presented to the New Jersey Institute of Technology *Site Remediation* class, February 2007 and April 2008.

Toxicology under FIFRA Regulations presented at the Fall Symposium of the Roundtable of Toxicology Consultants, Bethesda, MD, August 27, 2005.

Sound Science and Sound Science Policy, presented to the Chemical Producers and Distributors Association (CPDA), 2000 and 2001, Alexandria, VA.

Cancer Classification at the US EPA, presented at the Chemical Producers and Distributors Association (CPDA), Hilton Hotel, Crystal City, VA, February 4, 2004.

Regulatory Toxicology, a three-day course presented to the staff of Makhteshim Chemical Works (MCW), Beer Sheva, Israel and Agan Chemical Manufacturers, Ashdod, Israel at MCW, February 3-5, 2003.

Toxicology of Aroma Chemicals, presented to the regulatory and marketing staff of Agan Aroma and Fine Chemicals, Ashdod, Israel, October 23, 2003.

The reclassification of chemicals at EPA, presented to the Toxicology Round Table, October 7, 2003, Cape May, NJ.

Additional Experience

Risk assessments were written for a variety active ingredient. These include the organophosphates: azinphos methyl, chlorpyrifos, and diazinon; the fungicides: captan, folpet and imazalil; the herbicides: trifluralin, prometon; and, the miticide: dicofol.

Management of the toxicology program at Bioassay Systems, including technicians, analytical chemistry, clinical chemistry, animal caretakers and pathology. Test species included rats, mice, rabbits and dogs. Studies included acute, subchronic and chronic studies, teratology, two-generation rat, canine infusion and canine oral toxicity. Test articles studied included the National Toxicology Program's suspect carcinogens, industrial compounds and pharmaceuticals.

Managed a nine-room toxicology laboratory in Somerville, NJ for FMC. Standard Operating Procedures were written, technicians were trained and the facility and staff were validated with a series of test materials. Final reports were prepared for submission to the EPA or FDA.

Organized and managed the vivarium operations for acute toxicology studies at Mobil Oil Corporation. In addition, inhalation, chronic and subchronic studies were monitored at contract laboratories. Position papers were written for Mobil products.

Principal Investigator for an NCI sponsored bioassay program at the Rockville, Maryland facility of Litton Bionetics. In addition, I was study director for tests that included a delayed neurotoxicity study in the hen, three-generation rat reproduction study, dominant lethal test, and acute studies.

At the Frederick, Maryland Frederick Cancer Research Center, I was Project Manager / Toxicologist. I initially conducted 42 subchronic studies in rats and mice and selected the dose levels for the chronic studies, in conference with NCI scientists. After promotion to Project Manager, I coordinated the efforts of three pathologists and a technical staff of forty people.

CONTINUING EDUCATION

2019: *Analyzing Risk Principles, Concepts, and Applications*. 2/11/2019 - 2/14/2019, Harvard T.H. Chan School of Public Health, Longwood Campus, Boston, MA.

2014 *Epidemiology for Toxicologists: What the Numbers Really Mean*. March 23, 2014, 53rd Annual meeting of the Society of Toxicology, Phoenix, AZ.

2012 *Innate Immunity and its Relevance to Toxicology*. PM 09, March 11, 2012. Wendy J. Greenbern and Jacintha M. Shenton. 51st Annual meeting of the Society of Toxicology, San Francisco, CA.

2010 *Segment-Specific Renal Pathology for Non-Pathologist.* March 7, 2010. Debie Hoivik and Susan G. Emeigh Hart. 49th Annual Meeting for the Society of Toxicology, Salt Lake City, UT.

2009 *Immunology for Toxicologists.* March 15, 2009. Raymond Pieters and Ian Kimber. 48th Annual Meeting of the Society of Toxicology, Baltimore, MD.

2008 *Introduction to Pathology for Toxicologists and Study Directors*. Barbara Mounho, Pat Haley, Sarah Hale, Ken Schafer, Paul Howroyd and Dianne Creasy. 47th Annual Society of Toxicology Annual Meeting and ToxExpo, Washington State Convention and Trade Center, Seattle, WA. March 16, 2008.

2008 *Epidemiology for Toxicologists: Introduction*. Richard Parent, Geary Olsen, J. Michael Sprafka, and Matthew P. Longnecker. 47th Annual Society of Toxicology Annual Meeting and ToxExpo, Washington State Convention and Trade Center, Seattle, WA. March 16, 2008.

2005 *Immunology for Toxicologists*. March 6, 2005. Ian Kimber and Dori Germolec, Chairpersons. 44th Annual Meeting of the Society of Toxicology, New Orleans, LA.

2005 *Development and Interpretation of Toxicokinetic Data for Risk and Safety Assessment.* March 6, 2005. John Lipscomb and Jos Bessems, Chairpersons. 44th Annual Meeting of the Society of Toxicology, New Orleans, LA.

2003 *Emerging Toxicology and Risk Assessment Issues for Pesticide Registrants*. February 24 - 28, 2003, ChemReg, Pesticide.Net, Lake Ridge, VA.

1998 *Effective Risk Communication: Avoiding the Pitfalls*. 37th Annual Meeting of the Society of Toxicology. B.D. Beck and M. Dourson, Co-Chairs, March 1, 1998.

1998 *Overview of Uncertainty Analysis*. 37th Annual Meeting of the Society of Toxicology. E. Faustman and R.B. Connolly, Co-Chairs, March 1, 1998.

1997 *Workshop on Statistics and Carcinogenicity*. 18th Annual meeting, American College of Toxicology, S. Gad, J.K. Haseman, and A. Thakur, November 9, 1997.

1997 *Mathematical Modeling in Toxicology and Risk Assessment*. 18th Annual meeting, American College of Toxicology, J. S. Ultman, November 9, 1997.

1997 *Epidemiology for Toxicologists: II. Methodology.* 36th Annual Meeting, Society of Toxicology, Cincinnati, OH, March 9, 1997.

1995 *International Perspectives on Health Risk Assessment.* The International Congress of Toxicology - VII, Seattle, Washington. Elaine M. Faustman, Chair; Torbjorn Malmfors, Gilbert S. Omenn, Ian F. Purchase, Helmut Greim and Paul Slovic, July 2, 1995.

1995 *Ecotoxicology: Responses, Biomarkers and Risk Assessment*. Society of Toxicology 34th Annual Meeting. Judith T. Zelikoff and Robert W. Luebke, Chair people, 5 March 1995.

1995 *Basic Applications in Risk Assessment.* Society of Toxicology 34th Annual Meeting. C. Richard Cothern and Dennis J. Paustenbach, Chair people, 5 March 1995.

1994 *Toxicokinetics: Study Design and Data Analysis.* Society of Toxicology 33rd Annual Meeting. Glenn F. Rush and John F. Newton, Chair people, 13 March 1994.

1994 *Sensory System Toxicology*. Society of Toxicology 33rd Annual Meeting, Laurence D. Fechter, Chairperson, 13 March 1994.

1993 *New Risk Assessment Methods.* American College of Toxicology 14th annual meeting, New Orleans, LA. October 3, 1993.

1993 *Analyzing Risk: Science, Assessment and Management.* Harvard School of Public Health. Boston, MA. September 28 - October 1, 1993.

1982 *Basic Concepts of Immunotoxicology.* Society of Toxicology 21st Annual Meeting, Boston, MA. February 22, 1982.

1983 *Practical Statistics for the Toxicologist.* Society of Toxicology Annual Meeting, Las Vegas, Nevada. March 7, 1983

1983 *Male Reproductive Toxicity.* Society of Toxicology 22nd Annual Meeting, Las Vegas, Nevada. March 7, 1983

1992 *Liver Toxicology*. Society of Toxicology 31st Annual Meeting, Seattle, WA.

1992 *Pesticide Regulation in the '90s.* McKenna & Cuneo and Technology Sciences Group Inc, Washington, DC. September 14-15, 1992.

1991 *Environmental Toxicology.* Society of Toxicology 30th Annual Meeting, Dallas, TX.

1991 *Risk Communication: Problems, Perceptions and Practice*. Society of Toxicology 30th Annual Meeting, Dallas, TX.

1988 *Immunotoxicology Update.* Society of Toxicology 27th annual Meeting, Dallas TX. February 15, 1988.

1988 *Respiratory Tract Toxicology by Classes of Agents.* Society of Toxicology 27th Annual Meeting, Dallas TX. February 15, 1988.

1988 *General Principles in Toxicology and Pathology*. Boston University School of Medicine, Boston, MA. August 15-19, 1988.

1987 *Clinical Chemistry of Laboratory Animals.* Society of Toxicology 26th Annual Meeting, Washington, DC. February 23, 1987.

1987 *In Vitro Toxicology Testing.* Society of Toxicology 26th annual Meeting, Washington, DC. February 23, 1987.

1986 *Quantitative Methodology for Cancer Risk Assessment.* Society of Toxicology 25th Annual Meeting, New Orleans, LA. March 3, 1986.

1986 *Environmental Toxicology.* Society of Toxicology 25th Annual Meeting, New Orleans, LA. March 3, 1986.

1986 *Toxicology of Pesticides; Experimental, Clinical and Regulatory Perspectives.* Riva del Garda, Italy. NATO Advanced Study Institute - ASI and Fondazione Giovanni Lorenzini, under the auspices of Assessorato Agricoltura e Foreste della Regione Lombardia. October 6-15, 1986.

1985 *Inhalation Toxicology.* Society of Toxicology 24th Annual Meeting, San Diego, CA. March 18, 1985.

1985 *Renal Toxicology.* Society of Toxicology 24th Annual Meeting, San Diego, CA. March 18, 1985.

1984 *Selection of Tests for Assessment of Hepatotoxicity.* Society of Toxicology 23rd Annual Meeting, Atlanta, GA. March 12, 1984.

1984 *Current Concepts and Mechanisms of Carcinogenesis*. Society of Toxicology 23rd Annual Meeting, Atlanta, GA. March 12, 1984.

1980 *Mid-America Toxicology Course.* Curtis Klaassen, Director, Kansas City, MO. April 21- 26, 1980.

1975 *Principles and Procedures of Industrial Toxicology*. Wayne State University, Detroit, MI. October 27-31, 1975.

1975 *Radioisotopes in Biology.* Hood College, Biology 353 (42 Lecture hours), Dr. David J. Goodenough, Frederick, MD. January - May 1975.

1974 *Concepts in Toxicology*. Center for Professional Advancement, Course Director John F. Reinhard, Woodbridge, NJ. June 24-25, 1974.

1973 *Inhibition of Butter Yellow Carcinogenesis in the Rat Liver by p-Hydroxypropiophenone.* PhD Thesis, Department of Environmental Medicine, New York University, Sterling Forest, NY. Andrew Sivak and Henry I. Hirshfield, Advisors, January 19, 1973.

1968 *Cell cycle alteration in the newt,* Triturus viridescens*, following the administration of tritiated thymidine*. Masters Thesis, Adelphi University, Garden City, NY. Raymond Grillo, Advisor.

Additional Interest / Qualifications:

Photography, Graphic Design, and Copywriting.
Runner - 42 Marathons, 1984 – 2008 (including 6 Boston marathons).
- 6 Half-Marathons, 2012-2018, Philadelphia, PA (post aortic dissection, 2009).

Cornell Alumni Admissions Ambassador Network (CAAAN). Meetings with Cornell applicants.

Websites:

Regulatory toxicology: http://ebgfox.wixsite.com/elliot-gordon

Photography: http://ebgfox.wixsite.com/gordon-photography/portraits

From: soundscience
To: Knott, Steven
Subject: Self-nomination to the SACC
Date: Tuesday, April 7, 2020 10:22:45 AM
Attachments: Gordon CV 2020 04.pdf
SACC Self Nomination 04 07 2020.pdf

Dear Steven,

My application letter and CV are attached.

Best regards,
Elliot
--
Elliot Gordon, PhD, DABT
Elliot Gordon Consulting, LLC
55 Lillie Street, Princeton Junction, NJ 08550
609-936-1977; cell: (b) (6)
SoundScience@comcast.net

April 7, 2020

Steven Knott
Designated Federal Officer: SACC

Subject: Docket identification: EPA-HQ-OPPT-2020-0135.
Self-Nomination to the Toxic Substances Control Act (TSCA) Scientific Advisory Committee on Chemicals (SACC).

By email: knott.steven@epa.gov

Dear Steven,

I am self-nominating myself for selection to TSCA's SACC. A copy of my *curriculum vita* is attached.

The 3/20/20 Federal Register notes, in the Selection Criteria, EPA "will consider the differing perspectives and breadth of collective experience needed to address EPA's charge to the SACC" as well as:

- Background and experiences that would contribute to the diversity of scientific viewpoints on the committee, including professional experiences in government, labor, public health, public interest, animal protection, industry, and other groups, as the EPA Administrator determines to be advisable (*e.g.,* geographical location; social and cultural backgrounds; and professional affiliations);

- Skills and experience working on committees and advisory panels including demonstrated ability to work constructively and effectively in a committee setting;

- Absence of financial conflicts of interest or the appearance of a loss of impartiality;

- Willingness to commit adequate time for the thorough review of materials provided to the committee; and

- Availability to participate in committee meetings.

I address each of these Selection Criteria below.

Background and experiences

I have been working as a toxicologist since 1972. My initial position was with the Frederick Cancer Research Center (FCRC) in Frederick, MD. At the time, we were conducting cancer studies in mice and rats. Our protocols were "the best" at the time, although we have made considerable progress since then.

I was honored to host the second Administrator of EPA, Russell Train, to our facility.

After FCRC, I worked at a variety of Contract Research Organizations (CROs) as well as pesticide manufacturers. In this capacity I was Study Director for a variety of OPP required tests, manager for groups of technicians, and author of numerous risk assessment documents.

As the Authorized Agent for TDA research, Colorado, I prepared and submitted a registration package for their Handheld Electrochemical Decon Apparatus. This device is designed to neutralize anthrax spores in the event of a bioterrorist attack. We were successful in obtain registration 85797-1.

Since 2005 I have been an independent toxicology consultant. Included in my routine tasks was the handling of FIFRA 6(a)(2) incident reports. In this regard I contacted persons who had reported adverse effects and compiled summary reports for the Agency.

Skills and experience

I worked closely with the Agency in developing data to support the reclassification of the fungicide, captan. In this capacity we initially had a third party review our database and submitted our data and conclusions to the Agency. The Agency agreed with our conclusions and reclassified captan from B2 (probable human carcinogen) to Not Likely when used according to the Label.

My C.V. notes book chapters authored, peer reviewed manuscripts published and experience gained in my employment positions.

Absence of financial conflicts of interest

I have no financial conflicts of interest to declare.

Willingness to commit adequate time for the thorough review of materials provided to the committee

My independent consulting has essentially concluded (some projects may come up, but I am effectively retired); thus, I have adequate time to the thorough review of materials provided to the committee.

Availability to participate in committee meetings.

I live in Princeton Junction, NJ. My home is a ten-minute walk to an Amtrak station; thus, travel to DC is easily accomplished. During my tenure at CropLife, representing ADAMA, I made regular trips to DC.

Best regards,

Elliot Gordon

ANDREW PAWLISZ, B.SC., M.SC., D.A.B.T.

Senior Toxicologist

Affiliation: Trihydro Corporation, Laramie, WY

Expertise: Ecological and human health risk assessment; environmental and regulatory toxicology; contaminants of emerging concern; chemical hazard assessment; public health risk communication

Education: B.Sc., University of Guelph; M.Sc., McGill University

Experience Summary: Andrew is currently a senior toxicologist at the Trihydro Corporation headquartered in Laramie, Wyoming. He has over 20 years of experience in regulatory compliance, human and ecological risk assessment, mammalian toxicology, assessment of toxicity, persistence, and bioaccumulation, mathematical modeling (including QSARs) and statistics, risk evaluations under TSCA/ REACH/ CEPA, and systematic categorization and hazard assessment of chemicals under various national and international schema. He has served as the TSCA subject matter expert in consulting and industry for over a decade and has completed multiple projects in compliance with the legacy, as well as the Reformed TSCA. As the corporate TSCA compliance officer and a toxicologist for a major oil&gas company, Andrew assisted with TSCA regulatory compliance, new substance PMNs, SNURs, SNUNs, CDRs, Active/Inactive TSCA Inventories, product classification under GHS, participation in industry associations, and commenting on reformed TSCA rulemaking activities.

Panel Experience: Andrew has participated on various Interstate Technology & Regulatory Council (ITRC) work groups charged with developing guidance on environmental toxicants, as well as specialty chapters within the Society of Toxicology (SOT) and Society of Environmental Toxicology and Chemistry (SETAC). Andrew participated on the Texas Commission on Environmental Quality (TCEQ) work group supporting the development of Texas Risk Reduction Program (TRRP) guidance on assessing exposure to ecological receptors. He was also an affiliate of the TSCA industry member committees established by the American Petroleum Institute (API) and the American Fuel and Petrochemical Manufacturers (AFPM).

Trihydro Corporation ◦ 1252 Commerce Dr, Laramie, WY 82070 ◦ apawlisz@trihydro.com ◦ 307.745.7474

ANDREW PAWLISZ, B.SC., M.SC., D.A.B.T.

Senior Toxicologist

CERTIFICATIONS

- Diplomate of the American Board of Toxicology (DABT)
- European Registered Toxicologist (ERT)
- Wetland Professional in Training (WPIT)
- ERAIL
- SafeLand
- Incident Management Training
- CSX, CN, CPR, BNSF, UP safety training
- TWIC

EDUCATION

McGill University:
M.Sc./1993/Biology

University of Guelph:
B.Sc./1990/Biology

AREAS OF EXPERTISE

- Toxicology and ecotoxicology
- Risk assessment
- Public health
- Chemical safety
- Hazard analysis
- Environmental regulations
- Risk communication
- Exposure assessment
- Mathematical modeling

BIO

Andrew has over 20 years of experience in regulatory compliance, human and ecological risk assessment, mammalian toxicology, assessment of toxicity, persistence, and bioaccumulation, mathematical modeling (including QSARs) and statistics, risk evaluations under TSCA/ REACH/ CEPA, and systematic categorization and hazard assessment of chemicals under various national and international schema. He has served as the TSCA subject matter expert in consulting and industry for over a decade and has completed multiple projects in compliance with the legacy, as well as the Reformed TSCA. As the corporate TSCA compliance officer and a toxicologist for a major oil&gas company, Andrew assisted with TSCA regulatory compliance, new substance PMNs, SNURs, SNUNs, CDRs, Active/Inactive TSCA Inventories, product classification under GHS, participation in industry associations, and commenting on reformed TSCA rulemaking activities.

EXPERIENCE

COMPPREHENSIVE TSCA SUPPORT| U.S. REFINERIES | US

Subject Matter Expert

The refining sector in the United States has significant TSCA compliance obligations, some of which were enhanced due to the implementation of the Reformed TSCA. CDR reporting, risk evaluations, fees, and CBI rules have directly impacted the regulated community and the effects are mounting as new regulations are taking full effect, while many companies struggling to understand how the new rules apply to them. Mr. Pawlisz is actively supporting several U.S. refineries from multiple organizations in terms of providing comprehensive TSCA rule guidance, interpretation, and compliance.

TSCA CDR, IR, I/E, PMN SUPPORT | PHILLIPS 66 | US&UK

TSCA Compliance Officer

Mr. Pawlisz served as the TSCA Compliance Officer for P66 responsible for company-wide compliance with chemical data reporting (CDR), Inventory Reset (IR) reporting, import/export (I/E) notifications, Inventory listing, and pre-manufacture notices (PMNs). This function necessitated extensive coordination and planning of production data gathering, exemption implementation, and reporting to EPA. Twelve refineries, midstream, and petrochem were subject to annual recordkeeping. Externally, he was a voting member on API's TSCA and Exposure Assessment, as well as AFPM's TSCA groups, each assisting with TSCA interpretation and implementation, as well as providing comments on draft rules.

SELECTED PUBLICATIONS

- **Pawlisz, A.** et al. 2020. TSCA DELVE articles on methylene chloride, 2020 CDR, enforcement, fees rule, risk evaluations. www.Trihydro.com
- **Pawlisz, A.** and Denise Roesh. 2019. TSCA Updates - Developments in 2019/2020& Outlook Beyond. AFPM Environmental Conference, October 28, 2019.
- **Pawlisz, A.** et al. 2019. 4C Conference Workshop Panelist. Per- and Polyfluoroalkyl Substances (PFAS): Latest Developments in Analysis, Risk Evaluation, Remediation, and Regulations. 4C Conference, February 6, 2019.
- **Pawlisz, A.** et al. 2019. AFPM PFAS Workshop Panelist. PFAS in the Refining and Petrochemical Sectors. AFPM Environmental Conference, October 27, 2019.
- Moore, D.R.J, **Pawlisz, A.** et al. 2016. Ecological risk assessment for mink and short tailed shrew exposed to PCBs, dioxins, and furans in the Housatonic River area. IEAM 12:174.
- **Pawlisz, A.V.,** et al. 2016. Integrated ecological/human conceptual exposure model for hydraulic fracturing. SETAC focused meeting, Denton, TX.
- **Pawlisz, A.V.** 2016. Risk assessment of honey bee products potentially exposed to acrylonitrile. 55th SOT Conference, New Orleans, LA.
- **Pawlisz, A.V.** 2015. Alkylated Polycyclic Hydrocarbons in Fish. 35th SETAC Conference, Salt Lake City, UT.
- Steevens, J.A., **Pawlisz, A.,** et al. 2005. A methodology for deriving tissue residue benchmarks for aquatic biota: A case study for fish exposed to 2,3,7,8 tetrachlorodibenzo-p-dioxin and equivalents. IEAM 1:142.
- **Pawlisz, A.** 1999. Evaluation of thermal loads from the paper industry. NCASI Report.
- **Pawlisz, A.** 1999. Assessment of risks associated with bald eagle exposure to dioxins. NCASI Technical Bulletin.

TSCA INVENTORY | GLOBAL ENERGY | CORPORATE

CAS Determination for Petroleum Stream

The client approached Mr. Pawlisz on a CAS issue for a particular petroleum stream in support of TSCA Inventory compliance/new product notification. The product was manufactured at a US facility but not previously reported under TSCA due to administrative misinterpretation of the reporting rules. Mr. Pawlisz devised a successful strategy of identifying a matching CAS number for an equivalent product that was already listed on the TSCA Inventory, thereby clearing the company of the potential notice of violation and fines.

TSCA NEXUS | CHEVRON | SANTA MARIA, CA

PCB Nexus Strategy

The regulation of polychlorinated biphenyls typically falls under TSCA. As such, federal government has primacy over contaminated sites where they occur above certain de minimis concentrations. A PCB-impacted site in California was historically subject to control by state agencies and the local US FWS office, which resulted in deadlocked interests between Chevron's real estate divestiture and agencies desire to create endangered species habitat. Mr. Pawlisz was tasked with devising a reset strategy that would invoke federal nexus over the site so that PCB remediation and property disposal could proceed under the USEPA lead.

GHS SUPPORT | PHILLIPS 66 | US&GLOBAL OPERATIONS

GHS Product Stewardship Toxicologist

Under the Global Harmonized System, US and several other nations have implemented a prescribed system for chemical hazard classification applicable to workplaces and consumer goods. This system is often evident in safety Data Sheets (SDS) that are required by law in US by OSHA. Mr. Pawlisz supported the global compliance team and SDS authors by conducting hazard evaluation and classification of P66 chemicals and products, inclusive of evaluating California's Proposition 65 applicability.

TSCA IMPORT CERTIFICATIONS | MIECO | NORTH AMERICA

TSCA Compliance Specialist

Mr. Pawlisz assisted an importer with determination of the TSCA applicability and certification requirements for certain hydrocarbon streams shipped from international suppliers.

TSCA SUPPORT | AVINTIV | NORTH AMERICA

Regulatory Toxicologist

Mr. Pawlisz provided support to a plastics manufacturer to determine TSCA applicability of the overall chemical process at several facilities. He ensures regulatory compliance and reporting.

FINGERPRINTING ANALYSIS SITE CLOSURE | PHILLIPS 66 | COMMERCE CITY, CO

Subject Matter Expert

A jet fuel spill along a railroad ROW in Commerce City, CO triggered response, remediation, and risk mitigation actions culminating in the removal of the greatest amount of mass of hydrocarbon possible without the disturbance of a critical railroad ROW. Additional cleanup of residual hydrocarbons was accomplished with in-situ chemical oxidation methods. However, environmental media testing revealed stubborn concentrations of polycyclic aromatic hydrocarbons (PAH) in soil and groundwater above Colorado's standards. As such, regulatory agency ordered P66 to continue remediation and monitoring. Mr. Pawlisz was asked by P66 R&M to evaluate PAH data and develop a site closure solution. Subsequent PAH fingerprinting analysis revealed that the majority of the leftover hydrocarbons were of pyrogenic rather than petrogenic origin, as such, not related to the spill. A petition with the results was submitted to the CO DEQ. Although this was a rare approach and agency was hesitant, an unconditional site closure was granted subsequent to a comprehensive presentation of the underlying science and site results by Mr. Pawlisz.

ECOLOGICAL RISK ASSESSMENT FOR A FORMER AMMONIA PLANT | PHILLIPS 66 | CACTUS, TX

Author and Senior Lead

A former ammonia plant in Cactus, TX originated in 1942 as a munitions chemical plant that generated anhydrous ammonia and fuel-related compounds through 1982. As part of site assessment and remediation planning, an ecological risk assessment (ERA) was conducted to determine areas of the site where chemicals of (ecological) concern (COCs), consisting of nitrogen compounds (ammonia, nitrate, nitrite, and four species of nitrobenzenes), polychlorinated biphenyls (PCBs), metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, and silver), and total petroleum hydrocarbons (TPH) need remediation/risk management measures. The ERA report was submitted to the TCEQ and used to design remediation strategy.

FORMER REFINERY | CHEVRON | ARDMORE, OK

Risk Assessor/Toxicologist/Assistant Project Manager

Mr. Pawlisz was actively involved in conducting investigative and risk assessment activities at a site of a former oil refinery in Ardmore, Oklahoma. The refinery has been decommissioned in late 1930s, but hydrocarbon impacts persist. Unique challenges associated with this project include the weathered nature of the product as well as the environmental justice issues of local residents. Mr. Pawlisz was responsible for periodic site inspection, exposure media sampling, landowner communications, risk assessment, interaction with regulators, and senior oversight and peer review. This project was a trailblazer for helping to establish current DEQ risk-based closure policy and guidance documentation.

FORMER REFINERY | CHEVRON | MUSKOGEE, OK

Risk Assessor/Toxicologist/Assistant Project Manager

Mr. Pawlisz has conducted investigative and risk assessment activities at a site of a former oil refinery in Muskogee, Oklahoma. This legacy site has since been largely developed, but former impacts to soil, surface waters, and groundwater have not fully been investigated and assessed. Mr. Pawlisz provided senior-level project oversight to ensure that exposure media sampling, geotechnical borings, and other subsurface investigations yield adequate and sufficient data to support a risk assessment.

RISK-BASED CLOSURE STRATEGY DEVELOPMENT AND IMPLEMENTATION | ANADARKO | ENID, OK

Project Manager

Original lead architect of a successful proposal for risk-based closure strategy at a former Champlin Refinery operated from 1916 to 1983. The main products of the refinery were leaded gasoline, unleaded gasoline, diesel fuel, and heating oil. Based on the Site history, primary impacts would most likely be associated with residual hydrocarbons in soil and groundwater. The main objective of the proposed strategy and its subsequent implementation was to obtain regulatory site closure for various Areas of Interest (AOIs) at the Site. The main purpose of the proposed work was the development of a comprehensive, integrated, risk-based strategy that best fits Site-specific conditions and offers the greatest likelihood of regulatory success. The main advantages of the positive implementation of the proposed strategy included the elimination/reduction of operation and maintenance (O&M), monitoring, compliance, and liability.

HUMAN AND ECOLOGICAL RISK ASSESSMENT| CONOCOPHILLIPS | SAN JUAN, NM

Lead Risk Assessor

An integrated Human Health Risk Assessment (HHRA) and Ecological Risk Assessment (ERA) were prepared for an exploration pad, which experienced an accidental release of natural gas condensate. A series of Site investigation and soil removal actions were completed, including the collection of soil samples for the analysis of hydrocarbon constituents to support the HHRA and ERA. The objective of the HHRA/ERA was to utilize the existing State and Federal risk assessment guidance to determine the potential for adverse effects on various receptors post-spill and subsequent to cleanup operations at the Site. The results of the HHRA and ERA were conclusive in that any remaining hydrocarbons in Site soils do not pose any reasonable probability of injury or detriment to public health, fresh waters, animal or plan life, or property, or unreasonably interfere with public welfare or use of the property, currently or in future. A risk-based site closure with constituent residual allowances was granted by the Bureau of Land Management despite there being no precedents or allowances for such closures in earlier BLM orders other than the requirement to clean up to background/detection levels.

GAS CONDENSATE RELEASE TRIAL | UNIT PETROLEUM | POLK COUNTY, TX

Expert Witness

A release of saltwater and condensate in Polk County, Texas onto a property within a cow pasture has allegedly poisoned a number of livestock causing mortalities. The plaintiff has retained counsel and a veterinarian to claim significant damages against the client. Mr. Pawlisz was retained by internal counsel as an expert to support defense of this suit. He has provided written toxicological opinions as well as depositions. Trial date is pending.

BOSSIER REFINERY | GSH | BOSSIER CITY, LA

Risk Assessor

A community built on the footprint of a former refinery in Louisiana experienced high concentrations of benzene in indoor air. Working with state and federal regulators, Mr. Pawlisz designed a sampling program that would support a statistical determination of the number of indoor air samples required to demonstrate that sufficient data are present to perform a risk-based determination whether the community is adversely impacted or not. To this end, Visual Sample Plan (VSP) software application was applied to determine the sufficient number and location of environmental samples so that the results of statistical tests performed on the resulting data have the required confidence for decision making. The primary objective is to ensure that enough data are available to statistically (and with a high level of confidence) compare the mean concentration of benzene in indoor air, as represented by a 95% upper confidence limit (UCL) on the mean of current conditions data, to a fixed threshold. Indoor air quality data analysis revealed that, with 95% confidence, that the mean benzene concentration in indoor air across the site do not exceed the established threshold of 10 volumetric parts per billion (ppbv).

LEWIS FARMS | CHEVRON | KY

Human Health Risk Assessor

Mr. Pawlisz performed an USEPA-led human health risk assessment at a former refinery in Kentucky. The assessment relied on default, as well as site-specific input parameters. Due to the local guidelines and statues, the risk assessment was performed exactly to the Superfund standards.

BIOACCUMULATION OF PFOS | 3M | NORTH AMERICA

Toxicologist

Fluorinated hydrocarbons have found commercial application in a myriad of consumer products. Once thought as innocuous, fluorinated compounds are increasingly singled out as harmful to the environment in terms of persistence and adverse effects. On behalf of a major chemicals manufacturer, Mr. Pawlisz was tasked with reviewing the bioaccumulation data to determine the accuracy of Environment Canada's (EC) conclusions on the bioaccumulation potential of PFOS. The results showed that the BCF estimate in literature was misinterpreted due to a simultaneous accumulation of a related substance (PFOA) and subsequent metabolism to PFOS. This conclusion allowed the client to successfully argue that EC's conclusions were incorrect.

FIFRA SUPPORT | MJT | NORTH AMERICA

Toxicologist

Mr. Pawlisz was retained by a retailer to support pesticide registration under the USEPA FIFRA program. The project included regulatory support, toxicological reviews, product testing and design, and registration.

STYRENE RELEASE | CP | EDMONTON, AB

Toxicologist

A breach of a tank car causes a release of significant quantities of styrene onto soil. As part of the subsequent spill response activities, Mr. Pawlisz assisted the response team with developing a site-specific fact sheet, which summarized the physicochemical, fate and transport, toxicity, degradation rates, and material compatibility of styrene.

RADIATION ASSESSMENT | KCS | LAREDO, TX

Senior Toxicologist

A railroad border inspection facility in Laredo, TX uses an x-ray device to inspected incoming cargo. Certain KCS workers operating the trains issued a health claim that they were injured by the equipment to the point that they developed cancer. Mr. Pawlisz was assisting with gathering actual radiation exposure data and preparing a toxicological assessment to support the railroad company.

ACRYLONITRILE DERAILMENT | CSX | KNOXVILLE, TN

Lead Toxicologist

Mr. Pawlisz provided direct toxicology support to the client, incident command, media, and community during a major derailment involving acrylonitrile. Approximately 5,000 residents were evacuated due to the noxious fumes in ambient air. Moreover, local groundwater became impacted necessitating a water drinking advisory. Multiple concerns were raised regarding the safety of indoor air, food, livestock products, and garden produce. Mr. Pawlisz led the development of media and community health statements, emergency physician reference guides, food risk assessments, and indoor air assessment plans.

WORKPLACE AND RESIDENTIAL EXPOSURE CONFIDENTIAL

Toxicologist

An organized labor group has filed a health claim that workplace airborne exposure to certain substances unduly impacts health of the workers and their families. Monetary compensation was demanded of the employer and a lawsuit was filed. Mr. Pawlisz was retained by a major ore processor to design and implement a toxicity evaluation program.

FLY ASH DERAILMENT | CP | BANFF, AB

Senior Toxicologist

A derailment in Banff National Park in Canada led to a release of fly ash into a creek supporting salmon fishery. Due to the highly sensitive area, Parks Canada and Environment Canada requested very conservative cleanup goals for metals, some above local background levels. Mr. Pawlisz provided support in terms of establishing more pragmatic, risk-based cleanup levels, performing analysis of data, and facilitating regulatory interaction.

DILBIT DERAILMENT | CN | GOGAMA, ON

Senior Toxicologist

Two consecutive derailments of crude oil in northern Ontario, Canada have caused releases to aquatic environments of pristine freshwater creeks and lakes. Impacts have affected ecological communities and sparked community concerns regarding health effects associated with drinking water and eating fish. Mr. Pawlisz was tasked with developing environmental assessment plans, assessing environmental media data, writing toxicological opinion letters, conducting ecological and human health risk assessments, and guiding the fish sampling program to address the community concerns.

CRUDE OIL AND LPG DERAILMENT | CN | NB

Senior Toxicologist

A freight train hauling crude oil and liquefied petroleum gas through central New Brunswick derailed causing a large fire. As a result, workers in the immediate work areas and receptors in the surrounding community were potentially impacted by airborne petroleum

constituents and soot. Mr. Pawlisz assisted with occupational and community health expertise during the response, investigation, and remediation activities. Air samples were collected for volatile petroleum constituents to assess exposure and the potential for adverse impacts on human health.

CONFIDENTIAL

Risk Assessor

Mr. Pawlisz assisted with the risk component of a post-remediation Evaluation and Residual Risk Statement (LER Document). The document summarized the past and recent assessment and remediation measures designed to address environmental impacts associated with the historical operation of a former chemical facility in Illinois. The purpose of the LER Document was to demonstrate that sources of known impacts have been thoroughly assessed and remediated/excavated, where practicable, and any potential risks associated with commercial/industrial worker exposure were eliminated.

GM | MICHIGAN

Risk Assessor

Mr. Pawlisz assisted with developing risk-based screening levels for volatile constituents at a contaminated site in Michigan. The assessment focused on the vapor intrusion pathway and commercial receptors.

MAJOR INSURANCE COMPANY

Risk Assessor

A diesel fuel release impacted soil and groundwater surrounding a commercial building in Arkansas. Subsequently, building occupants made health and odor complaints invoking the event as the cause. Mr. Pawlisz assisted with indoor air quality data collection, risk assessment, risk communication, and vapor intrusion investigation.

MAJOR PETROCHEMICAL DISTRIBUTOR | HOUSTON, TX

Toxicologist

A tank containing lubricant olefin sulfide was damaged while being offloaded from a cargo ship at the Port of Huston, TX. The resulting leak had the potential to expose workers in the immediate work areas and the surrounding port complex to airborne emissions from this event. Mr. Pawlisz assisted with occupational health air monitoring and toxicology support while the spill was being addressed via emergency response and cleanup.

DODECANOL DERAILMENT | UP | LAWTELL, LA

Risk Assessor

An unusual chemical, dodecanol, was released in large quantities to a swamp in central Louisiana causing damage to the ecological community. Given its unique nature, screening levels were not available to gauge the potential for risk to other receptors. Mr. Pawlisz assembled the available toxicological data and derived a set of screening values using the state's guidelines and methods.

HOUSTON SHIP TERMINAL | MARATHON, TX

Risk Assessor

A site on the bank of the Houston Ship Channel in Texas contained legacy impacts from oil and gas operations. Once of the constituents of interest, 1-methylnaphthalene, was the key risk driver to ecological receptors. As part of remedial planning, Mr. Pawlisz derived a site-specific, aquatic life Surface Water Risk-Based Exposure Limit for 1-methylnaphthalene in saltwater. This value was intended to supplement the existing screening level for freshwater environments and fill the corresponding data gap (on site-specific basis), which was not available from the Texas Commission on Environmental Quality. Both values were used to assess potential impacts on ecological receptors at the site.

CONFIDENTIAL

Risk Assessor

A contaminated site in Pennsylvania was subject to a human health risk assessment. However, screening level data gaps prevented its completion. Mr. Pawlisz assisted in developing screening levels for some of the key site constituents including meta-phenol sulfonic acid, para-phenol sulfonic acid, benzene sulfonic acid, meta-benzene disulfonic acid, and 2,4,3 trihydroxydiphenylether.

HUSKY LEAD PROJECT | HUSKY | BC, CANADA

Toxicologist

A fuel terminal in British Columbia contained a large tank containing tetraethyl lead concentrate that needed to be demolished. Give the hazardous nature of the contaminant, Mr. Pawlisz was asked to assist with providing toxicology and risk assessment support to plan, execute, and confirm the successful removal of the chemical and the associated structures.

CONFIDENTIAL

Toxicologist

A mine in Northwest Territories underwent a cyanide tank and piping decommissioning. Mr. Pawlisz assisted with the review of air monitoring data, establishing exposure reduction work practices and controls, and selection of personal protective equipment be implemented during the decommissioning activities to ensure worker safety.

DEVILS SWAMP | CH | BATON ROUGE, LA

Human Health Risk Assessor

Mr. Pawlisz performed a human health risk assessment at a site in Louisiana where PCBs impacted sediment, fish, and crayfish. Although the assessment was performed according to the USEPA guidance, many of the exposure parameters (fish and shellfish consumption rates in particular) were based on site-specific considerations. The results of the risk assessment will be used to manage the current fish consumption advisory and future remediation activities.

PLASTIC PELLETS DERAILMENT | CP | ONTARIO, CANADA

Toxicologist

Microplastics in the environment are becoming a cause of concern to many regulators. As part of due diligence, spill response, and community concerns, a major transportation client has requested Mr. Pawlisz to draft a toxicological opinion on the potential impacts of polyethylene micropelletets on the ecological and human health. A large quantity of pellets was released into Lake Superior in northern Ontario as a result of a train derailment. Pellets subsequently dispersed over a wide area along shorelines of the lake and nearby islands. Made of polyethylene, a well-recognized inert polymer that has many critical and sensitive applications, including direct contact with food and in surgical devices, by itself, the pellets are unlikely to have direct toxic effects should the pellets be ingested or touched by human or ecological receptors. However, although toxicologically inert, the pellets may impart physical effects under certain exposure conditions. Also, degradation and embrittlement to microparticles will make the pellets dispersed in various exposure media, especially sediment. There is research indicating that microplastics may be vector for common pollutants that adhere to polyethylene surfaces.

MAJOR TRANSPORTATION COMPANY | ONTARIO, CANADA

Toxicologist

Silica dust exposure and toxicity is gaining increased attention as this constituent is shown to be more potent than previously thought. One of the silica dust projects involved occupational monitoring and risk assessments of railroad personnel performing track maintenance activities in Minnesota (Site). The exposure route evaluated was that of direct inhalation of silica dust, specifically the respirable fraction of quartz. Observations and exposure data gathering were conducted while workers were performing their regular duties. At the client's request, Mr. Pawlisz prepared a site-specific air quality monitoring program for silica dust, as well as a risk assessment.

HOWARD STATION | KOCH | KANSA CITY, KS

Risk Assessor

An oil facility in Kansas impacted soil and groundwater with petroleum hydrocarbons. Mr. Pawlisz worked directly with the state regulators to derive risk-based, site-specific cleanup levels for total petroleum hydrocarbons. As part of this activity, Mr. Pawlisz assisted the regulators with updating corresponding science and toxicology in local guidance documentation.

CONFIDENTIAL

Risk Assessor

The risk assessment of a former nitrate and ammonia plant in west Texas revealed screening level data gaps for four methylated nitrobenzenes, 1,3-dimethyl-2-nitrobenzene, 1,2-dimethyl-3-nitrobenzene, 1,2-dimethyl-4-nitrobenzene, and 1,3-dimethyl-5-nitrobenzene. Using toxicological data obtained from a comprehensive literature search, Mr. Pawlisz derived safe cleanup levels for soil to be used to complete the risk assessment and remediation activities.

MAJOR PETROLEUM DISTRIBUTOR

Toxicologist

Air monitoring and integrated sampling activities were performed at a gasoline terminal in Wisconsin to assess the potential for adverse effects associated with emissions from charcoal filtration beds. Mr. Pawlisz was involved in assessing the potential for risks to on-site employees and off-site residents. The primary risk drivers included volatile organic compounds (benzene).

IRON ORE DERAILMENT | BNSF | GAINESVILLE, TX

Risk Assessor

A train derailment in northern Texas caused a release of large quantities of iron ore (Hematite) into a local community and near a freshwater stream. Human and ecological risk assessments were performed by Mr. Pawlisz to assess the impacts of this event on the environment and the community. The analytical results were combined with fate (iron oxide is insoluble in water and not mobile in soil) and mode of action/toxicological information on hematite to draw a risk conclusion that the residual concentrations of iron in soil post-remediation are not of concern to human and ecological receptors. Unconventional Site closure was obtained.

BROMINE HOUSE FIRE | MAJOR RETAILER

Toxicologist

Mr. Pawlisz provided toxicology support to assess the potential for adverse health effects related to a house fire in Mississippi involving consumer spa bromine granules. As part of the assessment, surface wipe samples were collected from representative locations inside the residence to identify products of combustion. The sampling results were used to characterize residual contaminants collected on surfaces and complete a risk assessment. Decomposition products of the granules included bromine and chlorine, as well as oxides of nitrogen and carbon. As a result, the residents were potentially exposed to these airborne hazards during fire. Bromine and chlorine are considered acute toxins of the central nervous system and inhalation exposures of these halogens typically leads to reactivity with mucous membranes in the respiratory system.

GEORGIA WAREHOUSE FIRE

Toxicologist

A fire at an industrial facility in Georgia that manufactures cleaning sprays, disinfectants, insect repellents, and other aerosol products impacted air quality on and off site. Mr. Pawlisz provided toxicology as well as community and occupational risk support while real-time air monitoring and sampling were under way. Specifically, air monitoring and risk assessment services were performed to ensure the protection of health and safety of workers and community members located near areas potentially impacted by recognized health hazards (i.e., airborne chemical hazards, particulate matter, etc.). Continuous real-time air monitoring was performed for volatile organic compounds, and particulate matter to determine the potential exposure levels. Air monitoring data were matched to specific mitigation events to aid in the clarification of transient departures above the established risk-based health limits.

CANADIAN ARMY BASE | NEWFOUNDLAND

Risk Assessor

A human health risk assessment conducted at a former army base in Newfoundland contained a number of screening level data gaps for key metal, organochlorine, and cyclic hydrocarbon constituents. Mr. Pawlisz used his expertise in the development of environmental quality guidelines to fill the data gaps. This task consisted to querying toxicological literature for endpoint effect concentrations and formulating conservative screening levels according to Canadian protocols.

DIESEL DERAILMENT | CN | NORTHERN ONTARIO

Risk Assessor

A train derailment in northern Ontario caused a release of diesel into a watershed, including a lake supplying potable water to a local community. Mr. Pawlisz provided risk assessment and toxicological support, as well as helped to design a comprehensive air and water quality monitoring program to ensure appropriate assessment of the type and extent of potential adverse impacts on lake biota and the nearby community.

DISTILLATE DERAILMENT AND FIRE | CP | SASKATCHEWAN

Risk Assessor

Mr. Pawlisz provided community and occupational health assessments during the response and remediation activities relating to a train derailment and fire in Saskatchewan. The event caused two railcars containing petroleum distillates to breach and explode. Exposure levels to airborne volatile organic compounds, hydrogen sulphide, sulphur dioxide, carbon monoxide, particulate matter, and respirable dust were monitored continuously using real-time and integrated monitoring equipment. The resulting data were used to prepare a risk assessment and community monitoring plan.

GLC ASSESSMENT | MAJOR CHEMICAL MANUFACTURER | ONTARIO

Risk Assessor

A Maximum Ground Level Concentration (Maximum GLC) assessment was prepared in support of Certificate of Approval (Air) for a major chemical manufacturer in Ontario. The reason for the assessment was to evaluate the potential for adverse effects of dimthylformocarbothialdine (Dazomet). The assessment included a summary of relevant physical and chemical properties, air quality guidelines from multiple regulatory/advisory agencies, summary of any occupational and community exposure limits, review of toxicological studies that were used in assessing the acceptability of the exposure limits, and a risk statement.

AMMONIA IMPACTS | MAJOR AGRICULTURAL SUPPLIER | IOWA

Risk Assessor

Water quality and risk assessment for a community potentially impacted by contamination by ammonia, nitrite, and nitrate from an agricultural supplier facility in Iowa. The site has residential wells located to the south and southeast of the former facility and could potentially draw groundwater impacted by high levels of nitrogen compounds. Mr. Pawlisz assessed exposure media data (soil and groundwater), formulated a Conceptual Exposure Model to identify the potential receptors, pathways, and routes of exposure, estimated receptor exposure levels based on historical and current concentrations, and formulated an estimate of risk.

FIFRA SUPPORT | BERENSON | NORTH AMERICA

Toxicologist

Mr. Pawlisz was retained by a major US distributor of antimicrobial hardware to aid in product registration under the USEPA FIFRA program. The project included regulatory support, extensive toxicological reviews, product testing and design, and registration.

FIFRA SUPPORT | CONFIDENTIAL | NORTH AMERICA

Toxicologist

FIFRA enforcement support to a sealant manufacturer. Mr. Pawlisz has provided counsel to a US sealant manufacturer that was served with a non-compliance notice by the USEPA regarding product label antimicrobial claims. Working directly with the USEPA antimicrobial division, Mr. Pawlisz was able to revise the product label to suit the FIFRA requirements.

PMRA SUPPORT | MICROPAK | CANADA

Toxicologist

Mr. Pawlisz has provided guidance and support to an off-shore manufacturer of an antimicrobial product intended for use in Canada. The services offered included toxicity review, critical review of toxicological information, preparation of application dossiers, and interaction with Environment Canada.

MCHM SPILL | AIG | CHARLESTON, WV

Toxicologist

Sampling, investigation, risk assessment, and toxicology support for the methyl-cylohexanone (MCH) spill in Charleston, WV. Mr. Pawlisz provided direct toxicological support to the plant operator and the insurance agency during the January 2014 MCH spill affecting the drinking water supply of the entire community. Work included water sampling, monitoring, visual inspections, and interaction with stakeholders.

NICKEL MONITORING | CP | TORONTO, ON

Toxicologist

Air exposure assessment of railroad workers working with nickel concentrate at a Canadian Pacific (CP) Railroad site, Scarborough, Ontario. Mr. Pawlisz was contacted by CP to conduct a real-time ambient air monitoring/risk assessment study on railroad maintenance workers performing cutting and welding operations on cars with residual levels of nickel concentrate. Monitoring was established in worker's breathing zones and logged constituents included nitrogen oxide, sulfur dioxide, oxygen saturation, explosive limits, particulate matter, and aerosols. The resulting data were subjected to a site-specific risk assessment to devise a risk management and protective equipment plans.

PIPELINE RELEASE | SHELL | PASADENA, TX

Risk Assessor

A petroleum release at a crude oil pipeline has led to health concerns due to fugitive emissions of benzene and other hydrocarbon constituents, especially given the proximity of the release to a residential community. Mr. Pawlisz was tasked with developing alert and action levels for the protection of the community and industrial receptors. Real-time air quality monitoring data are collected 24/7 and subject to bi-daily critical review and toxicological synopsis by Mr. Pawlisz.

PIPELINE RELEASE | SUNOCO | CHESTER, TX

Risk Assessor

A crude oil release from a pipeline has impacted several miles of a freshwater stream. Mr. Pawlisz performed an initial assessment and developed a sampling plan to gauge remediation progress and residual impacts on ecological and human receptors.

GAS STATION RISK ASSESSMENTS | SHELL | CALIFORNIA

Risk Assessor

Mr. Pawlisz provided toxicology and risk assessment support at several operating and former gas service stations located along California's coastal regions from San Francisco to San Diego. Environmental work was related to leaks and spills as they affect receptors via direct and vapor intrusion pathways.

LEAD INVESTIGATION | RACER | ANDERSON, IN

Risk Assessor

At a former GM site where manufacturing operations have resulted in lead impacts to soil and ambient dusts, Mr. Pawlisz has developed an assessment strategy to ensure that cleanup is conducted in a manner that is economical, yet protective of human health and the environment.

SODA ASH DERAILMENT | UP | CISCO, TX

Project Manager

A release of soda ash, lime, cutting oil, and methanol to a natural stream feeding a lake with a public water supply for the City of Cisco, TX triggered a multi-agency response and oversight. Due Mr. Pawlisz's risk assessment and toxicology background, he was entrusted by UPRR to successfully navigate the liability and exposure components while managing the emergency response, assessment, remediation, and restoration components. Within days of the initial release, all concerns regarding human health, ecological heath, NRDA, and assessment/remediation activities were addressed to agency's satisfaction causing them to vacate the site. Remediation activities have been completed and restoration activities are under way. An unprecedented, risk-based regulatory closure under the 180-day spill rules was granted.

GOM MC252 | BP | FLORIDA AND ALABAMA

Waste and Cleanup Inspector

On April 20, 2010, an oil exploration platform, DeepWater Horizon, located approximately 41 miles off the Louisiana coast, exploded causing a release of 185 million gallons of crude oil into the Gulf of Mexico (GOM). By July 4, 2010, surface oil came on shore in Louisiana, Mississippi, Alabama, and Florida. On July 15, 2010, the leak was stopped and the well was officially sealed on September 19, 2010. However, miles of coastal areas continue to undergo intensive cleanup efforts. Mr. Pawlisz's role was to ensure environmental compliance of cleanup crews and BP's contractors working in marshes, beaches, and vessel/equipment decontamination sites in Florida and Alabama. Tasks included daily inspections of impacted areas along the GOM, interaction with cleanup crews, BP contractors, BP personnel, Unified Command Center, regulators, and community, as well as preparation of status reports. Additional tasks included waste management, coordination, and inspection of waste staging and disposal areas. Mr. Pawlisz was also directly responsible for working with stakeholders to immediately address any non-compliance issues.

POTASH DERAILMENT | BNSF | LAMPASAS, TX

Risk Assessor

A rail car derailment has led to a release of industrial quantities of potash fertilizer into a railroad right of way. Mr. Pawlisz was retained by the BNSF to conduct a risk assessment of this product in terms of human and ecological health. Although generally regarded as non-toxic, potash and the associated salt constituents may have the potential to adversely affect biota, especially given the quantities released. However, the product is very soluble and readily dissipates with each rain event. Mr. Pawlisz's role was to demonstrate to the client and the regulatory agency (TCEQ) that any residual risks at this time are relatively low.

DIESEL RELEASE | NATURE CONSERVANCY | LEWISTON, IL

Risk Assessor

Mr. Pawlisz has been retained by Nature Conservancy to assess the nature and extent of diesel oil constituents at a former agricultural property. As part of this effort, Mr. Pawlisz calculated risk based, safe levels of key constituents (mainly PAHs) in soil for the purpose of site remediation and cleanup.

ECOLOGICAL RISK ASSESSMENT | CONFIDENTIAL | CUMBERLAND, RI

Risk Assessor

Mr. Pawlisz was engaged by a major client to manage screening and baseline level ecological risk assessments for a contaminated site near Cumberland, RI. Given the prolonged and difficult risk assessment/remediation history at the site, Mr. Pawlisz needed to undertake extensive negotiations with the USEPA and the trustees to reach consensus as to the scope and the technical content of the assessment, while keeping the project costs to a minimum. As a result of these negotiations, the stakeholders and the client were able to agree on a path forward.

BERYLLIUM SITE | LOCKHEED MARTIN | TALLEVAST, FL

Assistant Manager

Mr. Pawlisz was responsible for the day to day management of staff and materials at an industrial site contaminated with commercial solvents. In addition to designing and executing soil sampling plans, drinking water source investigations, vapor intrusion testing, and managing various permits, Mr. Pawlisz was also required to handle community issues/concerns in a highly volatile and adversarial neighborhood. One of the successfully argued points made by Mr. Pawlisz was that the soil originating from the site was not contaminated with PAHs beyond the levels associated with urban environments, and that past exposure at the site did not lead to adverse effects on human health. A Site Assessment Report for this location was recently accepted by the Florida Department of Environmental Protection. As a result, this project transitioned into the remediation stage.

CAPACITOR FACILITY | CONFIDENTIAL | LONGWOOD, FL

Risk Assessor

Mr. Pawlisz was retained by a major national holding company to design and manage a Baseline Human Health Risk Assessment (HHRA) of a former capacitor property located in Longwood, Florida. The assessment focused on evaluating risks associated with various solvents detected in groundwater beneath the facility buildings. The risk assessment efforts at this facility were summarized in a formal report and submitted to the USEPA for review.

WETLAND RISK ASSESSMENT | SJRWMD | APOPKA, FL

Risk Assessor

Mr. Pawlisz was requested by the one of the major water management districts in Florida to prepare a series of Ecological Risk Evaluations for newly acquired agricultural properties. The ecological evaluations were intended to determine whether the background concentrations of pesticides and metals, combined with the restoration activities, may have significant ecological implications on threatened and endangered (T&E) species. An initial evaluation step included a screening assessment where sediment, soil, or fish tissue samples were compared to published risk based benchmarks. Based on the results of the screening evaluations, more comprehensive ecological risk evaluations were performed for T&E ecological receptors using a bioaccumulation based exposure model and the available sediment, soil, or fish tissue data for the chemicals of interest. The results were presented as formal reports and conference proceedings.

ANNISTON SUPERFUND SITE | SOLUTIA | ANNISTON, AL

Risk Assessor

Mr. Pawlisz was tasked by a major client to respond to the USEPA's request for a comprehensive assessment of human and ecological risks related to the operation of a chemical facility in the Snow Creek and Choccolocco Creek watersheds. The constituents of interest included PCBs and 11 metals. The screening and baseline assessment focused on specific operable units within each watershed and were concerned with the distribution and transport of the constituents of interest relative to the potential for exposure to human and ecological receptors. The screening step of the investigation has been completed by Mr. Pawlisz.

SPRINGFIELD SUPERFUND SITE | CONFIDENTIAL | SPRINGFIELD, MA

Risk Assessor

A plastics and resins manufacturing plant in Springfield, MA has been linked to releases of PAHs and PCBs to Bircham Bend Brook. Prompted by the USEPA and MA DEP, the owner of the production facility was required to perform a screening level environmental risk assessment to determine whether the facility related chemicals may have any adverse ecological effects and whether further investigation is needed. Mr. Pawlisz designed and performed a screening assessment following USEPA's eight step as well as MA DEP's guidance for executing ecological risk assessments.

RED PIGMENT EVALUATION | CLARIANT | NORTH AMERICA

Toxicologist

A major manufacturer of pigments required assistance in evaluating the potential for human health risk associated with exposure to plastic consumer products containing inadvertently synthesized PCBs. Mr. Pawlisz's role was to provide exposure assessment where the PCB laced pigment was tracked from the manufacturer to end products in a conceptual exposure model. Where a potential for exposure existed and end product concentrations of PCBs were high enough to be of concern, a detailed human health risk assessment was undertaken. Two such potential exposure scenarios were identified: children's exposure to carpet and general population's exposure to food wrap. However, despite highly conservative exposure assumptions, no cancer risk or non-cancer hazards were identified and the USEPA accepted the presented arguments.

DIOXIN BENCHMARKS | USACE | NORTH AMERICA

Risk Assessor

There is a need for benchmarks for interpreting the potential for adverse ecological effects resulting from bioaccumulation of contaminants from dredged material. There are few numerical guideline values, however, that are available for use in making these assessments. The traditional benchmarks are no more than single point estimates. The described project secured by Mr. Pawlisz and funded by the US Army Corps of Engineers, involved the derivation of benchmarks as distributions rather than as single point estimates. The product of this task was successfully used at a number of contaminated sites.

HOUSATONIC SUPERFUND SITE | USEPA | NEW YORK

Risk Assessor

Mr. Pawlisz was involved in the risk assessment of the Housatonic River Superfund Site contaminated with PCBs released by the General Electric Company via their activities in the production and overhaul of electrical transformers. The purpose of the assessment was to characterize and quantify the current and potential risks posed to biota exposed to these contaminants.

Mr. Pawlisz role was to assess the risks to the mammalian and avian receptors at the site using probabilistic approaches.

CALCASIEU SUPERFUND SITE | USEPA | LAKE CHARLES, LA

Risk Assessor

Mr. Pawlisz was involved in a risk assessment project on the Calcasieu Estuary near Lake Charles, Louisiana. The estuary encompasses several lakes, rivers, and bayous, all contaminated to some degree with metals, organochlorines, and petrochemicals. The project required Mr. Pawlisz to provide his expertise in the design and implementation of a baseline risk assessment, which was being conducted as part of a remedial investigation and feasibility study of the Calcasieu Estuary.

CARBOFURAN REASSESSMENT | SYNGENTA | NORTH CAROLINA

Risk Assessor

The USEPA's exposure and risk model was critically reviewed by Mr. Pawlisz for logical and coding flaws. The original code was amended to fix errors and to make it applicable to realistic exposure scenarios. This project also involved reviewing carbofuran toxicity studies as well as documenting the life history information for various target birds to devise several case studies and multiple exposure scenarios.

DIOXINS IN EAGLES | NCASI | NORTH AMERICA

Risk Assessor

While the numbers of bald eagles in the US are on the rise, the populations in Maine continue to suffer losses possibly due to the dioxin emissions from pulp mills. To determine the likelihood of this scenario, Mr. Pawlisz was asked by the P&P industry to provide an extensive review of data on toxicity, transport, fate, contamination, and life history of eagles. A Monte Carlo simulation using a dietary intake model was used to provide a range of possible intake rates given the known and assumed input variables. The analysis revealed that it is unlikely that the effluent levels of dioxins pose a threat to eagles. More likely, it is the diet composed of highly contaminated fish eating birds consumed during eagles' overwintering stage along the coast of Maine that poses a much greater danger to the birds.

MERCURY TRANSPORT | NCASI | NORTH AMERICA

Risk Assessor

Many of the New England states experience mercury contamination. Even though the main source is the atmospheric deposition of mercury transported over long distances, effluent and forestry regulations view the mobilized mercury as a new source. A project led by Mr. Pawlisz was undertaken to determine the effects of forestry practices (e.g., planting, cutting, transporting, and chipping) on the mobilization, overland transport, fate, and toxicity of mercury.

BIOACCUMULATION MODELS | NCASI | NORTH AMERICA

Risk Assessor

There are many methods for calculating bioconcentration and bioaccumulation factors. Each method has its advantages and disadvantages and each method gives a slightly different estimate. Given the importance of precise and correct BCFs and BAFs in estimating exposure and risk, Mr. Pawlisz was tasked with reviewing the existing methods and providing guidance on using various approaches.

WATER QUALITY GUIDELINES | EC | HULL, QC

Risk Assessor

The Canadian Water Quality Guidelines serve as references for estimating risks to biota and for determining cleanup levels. Mr. Pawlisz has authored or co-authored guidelines for chromium, deltamethrin, chlorinated amines, toluene, ethylbenzene, and cadmium. Each guideline required exhaustive searches and review of toxicological and environmental literature. Although the actual derivation process used a standard protocol, the final approval and publishing of the guideline was complicated requiring much interaction and coordination among the stakeholders.

From: Andrew Pawlisz
To: Knott, Steven
Subject: TSCA SACC Nomination - Andrew Pawlisz, DABT
Date: Monday, April 20, 2020 10:41:37 AM
Attachments: image003.png
image004.png
image005.png
image006.png
image007.png
image002.jpg
image009.png
Pawlisz_TSCA_Nomination_April_2020.pdf

Good Moring Steven,
This note is to express my interest in being considered as a candidate to the TSCA Science Advisory Committee on Chemicals (SACC).
I am submitting this nomination after being recommended to so by Jag Sethuraman (Chief of Staff - EPA Region 8), Alfred Basile (EPA Region 8 Science Advisor/Science Liaison to ORD), and Tom Fisk (Environmental Manager - Sinclair Wyoming Refining Company).
My extended resume and additional details regarding the information requested in the Federal Register Notice (85 FR 16094) are summarized in the enclosed attachment.
The highlighted risk evaluation and chemical safety areas of expertise gained over the past 20 years include ecological and human health risk assessment, toxicology, and exposure assessment while working for government, industry, and research organizations.
I am looking forward to participating in the nomination process.
Best Regards,
Andrew

Andrew Pawlisz, D.A.B.T.
Program Specialist/Senior Toxicologist

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From:	Clougherty,Jane
To:	Knott, Steven
Subject:	TSCA SACC nomination
Date:	Friday, April 3, 2020 1:10:29 PM
Attachments:	Jane Clougherty CV 3.22.20.rtf

Dear Dr. Knott –

I am writing to self-nominate for the Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals (SACC).

I am an air pollution exposure scientist and epidemiology, with specific expertise in socioeconomic determinants of population susceptibility to chemical exposures.

A brief biosketch and contact information is below, and CV attached here.

Very sincerely,

- Jane

Jane E. Clougherty, MSc ScD is an Associate Professor at the Drexel University Dornsife School of Public Health, Department of Environmental and Occupational Health. Dr. Clougherty completed her doctorate and post-doctoral training at the Harvard School of Public Health, worked at New York City Department of Health and Mental Hygiene from 2008-2010, and was faculty at the University of Pittsburgh Graduate School of Public Health from 2010-2016.

An interdisciplinary Environmental Health Scientist, Dr. Clougherty's research focuses on the combined health effects of chronic social stressors and air pollution exposures. To that end, she has designed and implemented a number of studies on intra-urban variation in air pollution and source apportionment. She is Principal Investigator on several EPA- and NIH-funded studies, including an R01 using geographic information systems (GIS)-based methods to examine how social and environmental exposures may alter the efficacy of pharmaceutical interventions for asthma in clinical trials, a Health Effects Institute (HEI)-funded grant on the combined effects of community stressors and multiple pollutant exposures on cardiovascular events, and an R01 on extreme temperature and children's health.

Jane E. Clougherty, MSc ScD
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JANE ELLEN CLOUGHERTY, MSc ScD

Updated March 2020

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STATEMENT of PURPOSE

My work focuses on the interactions among chronic social stressors (e.g., poverty, violence) and chemical exposures (esp. air pollution) in shaping urban community health. To that end, I have developed epidemiologic frameworks to quantify the role of chronic stressors in modifying pollutant impacts on health, and have designed and managed large air monitoring networks for several U.S. and international cities.

EDUCATION and TRAINING

Harvard School of Public Health — ScD -- June 2006
Exposure, Epidemiology, and Risk Program — Boston, MA USA
Department of Environmental Health
Also completed curriculum in Society, Human Development, and Health

McMaster University — MSc -- December 1998
Department of Geography — Hamilton, Ontario, Canada
Emphasis in Environmental Health Sciences

University of Chicago — AB -- June 1997
Department of Economics and Environmental Studies Program — Chicago, IL USA
General and Departmental Honors

PROFESSIONAL PRIMARY APPOINTMENTS

Associate Professor (with tenure) / Director of Exposure Science — August 2016 – December 2016
University of Pittsburgh — Pittsburgh, PA USA
Graduate School of Public Health
Department of Environmental and Occupational Health

Assistant Professor/ Director of Exposure Science — October 2010 – July 2016
University of Pittsburgh — Pittsburgh, PA USA
Graduate School of Public Health
Department of Environmental and Occupational Health

Senior Research Scientist — September 2008 – September 2010
New York City Department of Health and Mental Hygiene — New York, NY USA
Department of Environmental Health
Bureau of Environmental Surveillance and Policy

Post-Doctoral Research Fellow — June 2006 – September 2009
Harvard School of Public Health — Boston, MA USA
Department of Environmental Health
in collaboration with Yale University School of Medicine

SECONDARY APPOINTMENTS/ OTHER AFFILIATIONS

Affiliate — February 2017 – Present
Drexel University Urban Health Collaborative (UHC) — Philadelphia, PA USA

Visiting Scientist — June 21, 2018 - Present
Air Quality Research Center (AQRC) — Davis, CA USA
University of California at Davis

Visiting Scientist — July 2015 – Present
New Zealand National Institute — Auckland, New Zealand
for Water and Atmospheric Research (NIWA)

Research Associate — September 2009 – September 2010
Harvard School of Public Health — Boston, MA USA
Department of Environmental Health

Visiting Scientist — June 2006 – September 2008
Auckland University of Technology — Auckland, New Zealand
Faculty of Health and Environmental Sciences

Senior Research Associate — January 2001 – June 2001
Environomics, Inc. Environmental Consultants — Bethesda, MD USA

Program Manager, Research Associate — January 1999 – January 2001
Center for Neighborhood Technology — Chicago, IL USA
Energy, Economics, and Air Quality

ECO Associate/ Intern — April 1997 – August 1997
Environmental Protection Agency Region V Headquarters — Chicago, IL USA
Division of Wastes, Pesticides, and Toxics
Environmental Justice Team

Academic Coordinator — July 1996 – August 1997
University of Chicago Environmental Studies Academic Program — Chicago, IL USA

Medical Advocate, Speakers Bureau — June 1994 – June 2001
Rape Victim Advocates — Chicago, IL USA

MEMBERSHIP and ACTIVITY in PROFESSIONAL and SCIENTIFIC SOCIETIES

2016 – Present	Associate Editor, *Environmental Health Perspectives*
2004 – Present	International Society for Exposure Science (ISES)
2012 – Present	Board Member, Elected Academic Councilor, Academic Mentor
2014 - Present	Board Liaison to ISES Publications Committee
2013– Present	Editorial Review Board, *Journal of Exposure Science and Environmental Epidemiology (JESEE)*
2017 - Present	Quarterly Newsletter Editorial Committee
2004 - Present	International Society for Environmental Epidemiology (ISEE), Member
2015 – Present	International Society for Exposure Science (ISES) Tri-State, Member

2015 – Present	National Academy of Sciences, Engineering, and Medicine [formerly Institutes of Medicine (IOM)] Department of Veterans Affairs Scientific Committee on the Burn Pits Registry
2010 – 2012	American Thoracic Society (ATS) Environmental and Occupational Health Assembly, member
2019 - present	International Society for Urban Health (ISUH), member
2019 - present	American Association of Geographers (AAG), member
2020 - present	American Heart Association (AHA), Professional member

HONORS and AWARDS

University of Chicago:

1994 – 1996	Dean's List
1996	Herst Award for Outstanding Academic Achievement and Social Service
1996	Halperin Academic Scholarship
1997	Maroon Key Honor Society
1997	General Honors (University-wide)
1997	Departmental Honors (Economics)
1997	Contributed to National Press Award Outstanding Feminist Writing (First Place): *Chicago Free Press*
1997	Fulbright Scholarship (IEE/CIES): U.S.- Canada
2000	Chicago Foundation "Tomorrow's Leaders Today" Awardee

Harvard University:

2002	Joint Center for Housing Studies Research Award
2007	Harvard School of Public Health, Committee on Educational Policy: Letter of Commendation for outstanding teaching, by student evaluations Advanced Topics in Women, Gender, and Health
2005	*International Society for Environmental Epidemiology (ISEE):* New Investigator Award -- Outstanding Abstract for Oral Presentation Johannesburg, South Africa
2005	American Lung Association (ALA) Lung Health Dissertation Grant
2009 - 2012	National Institute for Occupational Health Sciences (NIOSH/CDC) K-01 Award
2010	*Environmental Health Perspectives (EHP)*: Reviewers of the Year 2010

University of Pittsburgh:

2011	Central Research Development Fund (CRDF) Faculty Award
2011	Center for Social and Urban Research (UCSUR) Manners Faculty Development Award
2013	Nominee: Dr. James L. Craig Endowed Excellence in Education Award, a student-nominated award for outstanding teaching
2013	Featured article in Pitt Public Health Magazine: "The Devil in Diesel"

International Society for Exposure Science (ISES):

2012	Sally Liu Award for Outstanding New Investigator
2012	- ISES Elected Academic Councilor

2012	City of Pittsburgh Proclamation for Public Service in citywide air monitoring
2017	American Rhinologic Society, 1st place poster award: Mady LJ et al., "Air Pollution and Chronic Rhinosinusitis: Are There Modifiable Risk Factors for Disease Expression"
	Drexel University:
2017	Faculty Scholarly and Creative Activity Award
2018	Urban Health Collaborative (UHC) Pilot award
2019	Faculty Summer Research Award
2019	Social Sciences Research Community (SSRC) Travel Award

PUBLICATIONS

Peer-reviewed Publications

1. Levy JI, Welker-Hood LK, Clougherty JE, Dodson RE, Steinbach S, Hynes HP. Lung function, asthma symptoms, and quality of life for children in public housing in Boston: a case-series analysis. *Environmental Health*. 2004; 3 (1):13. PMCID: PMC544563. PMID: 15585065.
2. Clougherty JE, Levy JI, Hynes HP, Spengler JD. A longitudinal analysis of the efficacy of environmental interventions on asthma-related quality of life and symptoms among children in urban public housing. *Journal of Asthma*. 2006; 43 (5):335-43. PMID: 16801137.
3. Levy JI, Baxter LK, Clougherty JE. The air quality impacts of road closures associated with the 2004 Democratic National Convention in Boston. *Environmental Health*. 2006; 5:16. PMCID: PMC1482694. PMID: 16729881.
4. Levy JI, Brugge D, Peters JL, Clougherty JE, Saddler SS. A community-based participatory research study of multifaceted in-home environmental interventions for pediatric asthmatics in public housing. *Social Science & Medicine*. 2006 Oct; 63 (8):2191-203. PMID: 16781807.
5. Clougherty JE, Eisen EA, Slade MD, Kawachi I, Cullen MR. Predictors of hypertension and heart disease among white- and blue-collar employees in the Alcoa Aluminum Manufacturing Cohort. *Occupational and Environmental Medicine*. 2007; 64:31.
6. Clougherty JE, Levy JI, Kubzansky LD, Ryan PB, Suglia SF, Canner MJ, Wright RJ. Synergistic effects of traffic-related air pollution and exposure to violence on urban asthma etiology. *Environmental Health Perspectives*. 2007 Aug; 115 (8):1140-6. PMID: 17687439.
7. Baxter LK, Clougherty JE, Laden F, Levy JI. Predictors of concentrations of nitrogen dioxide, fine particulate matter, and particle constituents inside of lower socioeconomic status urban homes. *Journal of Exposure Science & Environmental Epidemiology*. 2007 Aug; 17 (5):433-44. PMID: 17051138.
8. Baxter LK, Clougherty JE, Paciorek CJ, Wright RJ, Levy JI. Predicting residential indoor concentrations of nitrogen dioxide, fine particulate matter, and elemental carbon using questionnaire and geographic information system based data. *Atmospheric Environment*. 2007 Oct; 41 (31):6561-6571. PMCID: PMC2760735. PMID: 19830252.
9. Clougherty JE, Wright RJ, Baxter LK, Levy JI. Land use regression modeling of intra-urban residential variability in multiple traffic-related air pollutants. *Environmental Health*. 2008; 7:17. PMCID: PMC2397396. PMID: 18485201.
10. Clougherty JE, Houseman EA, Levy JI. Examining Intra-Urban Variability in $PM_{2.5}$ Constituents for Source Apportionment, using GIS and Constrained Factor Analysis. *Atmospheric Environment*. 2009; 43:5545-5555.
11. Clougherty JE, Eisen EA, Slade MD, Kawachi I, Cullen MR. Workplace status and risk of hypertension among hourly and salaried aluminum manufacturing employees. *Social Science & Medicine*. 2009 Jan; 68 (2):304-13. PMCID: PMC2659853. PMID: 19027215.
12. Clougherty JE, Kubzansky LD, Spengler JD, Levy JI. Ancillary benefits for caregivers of children

with asthma participating in an environmental intervention study to alleviate asthma symptoms. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*. 2009 Mar; 86 (2):214-29. PMCID: PMC2648883. PMID: 19184446.
13. Clougherty JE, Kubzansky LD. A framework for examining social stress and susceptibility to air pollution in respiratory health. *Environmental Health Perspectives*. 2009; 117 (9):1351-8. PMCID: PMC2737009. PMID: 19750097.
14. Clougherty JE. A growing role for gender analysis in air pollution epidemiology. *Environmental Health Perspectives*. 2010; 118 (2):167-76. PMCID: PMC2831913. PMID: 20123621.
15. Clougherty JE, Rossi CA, Lawrence J, Long MS, Diaz EA, Lim RH, McEwen B, Koutrakis P, Godleski JJ. Chronic social stress and susceptibility to concentrated ambient fine particles in rats. *Environmental Health Perspectives*. 2010 Jun; 118 (6):769-75. PMID: 20194079.
16. Clougherty JE, Eisen EA, Slade MD, Kawachi I, Cullen MR. Gender and sex differences in job status and hypertension. *Occupational and Environmental Medicine*. 2011. 68 (1):16-23. PMID: 20864467.
17. Clougherty JE, Houseman EA, Levy JI. Source apportionment of indoor residential fine particulate matter using land use regression and constrained factor analysis. *Indoor Air*. 2011. 21 (1):53-66. PMID: 20887392.
18. Ross Z, Kheirbek I, Clougherty JE, Ito K, Matte T, Markowitz S, Eisl H. Noise, air pollutants and traffic: continuous measurement and correlation at a high-traffic location in New York City. *Environmental Research*. 2011 Nov; 111 (8):1054-63. PMID: 21958559.
19. Clougherty JE, Kheirbek I, Eisl H, Ross Z, Pezeshki G, Gorczynski J, Johnson S, Markowitz S, Kass D, Matte T. Intra-urban spatial variability in wintertime street-level concentrations of multiple combustion-related air pollutants: The New York City Community Air Survey (NYCCAS). *Journal of Exposure Science & Environmental Epidemiology*. 2013 May-Jun;23(3):232-40. doi: 10.1038/jes.2012.125. Epub 2013 Jan 30.
20. Tunno BJ, Shields KN, Lioy P, Chu N, Kadane JB, Parmanto B, Pramana G, Zora J, Davidson C, Holguin F, Clougherty JE. Understanding intra-neighborhood patterns in fine particulate air pollution using mobile monitoring in Braddock, PA. *Environmental Health*. 2012; 11 (76).
21. Ross Z, Ito K, Johnson S, Yee M, Pezeshki G, Clougherty JE, Savitz D, Matte T. Spatial and temporal interpolation of air pollutants in New York City: exposure assignment for use in a birth outcomes study. *Environmental Health*. 2013; 12 (51). *(Highly accessed)*
22. Rabinowitz PM, Galusha D, Dixon-Ernst C, Clougherty JE, Neitzel RL. The dose-response relationship between in-ear occupational noise exposure and hearing loss. *Occupational & Environmental Medicine*. 2013; 70 (10):716-21.
23. Matte T, Ross Z, Kheirbek I, Eisl H, Johnson S, Gorczynski J, Kass D, Markowitz S, Pezeshki G, Clougherty JE. Monitoring intra-urban spatial patterns of multiple combustion air pollutants in New York City: Design and Implementation. *J Expos Sci Environ Epidemiol*. 2013 23(3):223-31. doi: 10.1038/jes.2012.126.
24. Felix JD, Elliott EM, Gish T, Maghirang R, Cambal L, Clougherty JE. Examining the transport of ammonia emissions across landscapes using nitrogen isotope ratios. *Atmos Environ*. 2014. 95: 563-570.
25. Savitz DA, Bobb J, Carr JL, Clougherty JE, Dominici F, Elston B, Ito K, Ross Z, Yee M, Matte TD. Ambient fine particulate matter, nitrogen dioxide, and term birth weight in New York City. *Am J Epidem*. 2014. 179(4):457-66. doi: 10.1093/aje/kwt268.
26. Shmool JLC, Kubzansky LD, Ito K, Dotson-Newman O, Spengler JD, Shepard P, Clougherty JE. Spatial correlations across community social stressors and outdoor air pollution in New York City: A GIS-based approach for social-environmental epidemiology. *Environ Health*. 2014; 13:91. *(Highly accessed)*
27. Shmool J, Michanowicz AR, Cambal L, Tunno BJ, Eisl H, Gorczynski JE, Howell J, Gillooly SE, Roper C, Tripathy S, Chubb L, Holguin F, Shields KN, Clougherty JE. Saturation sampling for spatial variability in multiple air pollutants across an inversion-prone metropolitan area of complex

terrain. *Environ Health*. 2014; 13 (28). doi: 10.1186/1476-069X-13-28.
28. Tunno BJ, Michanowicz AR, Shmool JLC, Kinnee E, Cambal L, Tripathy S, Gillooly SE, Roper C, Chubb L, Clougherty JE. Spatial variation in inversion-focused measures of fine particulate matter and elemental carbon in Pittsburgh, PA. *J Expos Sci Environ Epidemiol*. 2016; 26, 385–396; doi:10.1038/jes.2015.59.
29. Sheffield PE, Shmool JLC, Zhou J, Clougherty JE. Ambient ozone exposure and children's acute asthma in New York City: A Case-Crossover Analysis. *Environ Health* 2015; 14(25). doi: 10.1186/s12940-015-0010-2. PMCID: PMC4373115. *(Highly accessed)*
30. Talbott E, Arena V, Rager JR, Clougherty JE, Michanowicz, AR, Sharma RK, Stacy SL. Fine Particulate Matter and the Risk of Autism Spectrum Disorder. *Environ Res* 2015. 140: 414-420. DOI: 10.1016/j.envres.2015.04.021.
31. Savitz DA, Elston B, Bobb J, Clougherty JE, Dominici F, Ito K, Johnson S, McAlexander T, Ross Z, Shmool JL, Matte T, Wellenius G. Ambient fine particulate matter, nitrogen dioxide, and hypertensive disorders of pregnancy in New York City. *Epidemiol*. 2015. 26(5):748–757.
32. Shmool JL, Yonas MA, Newman OD, Kubzansky LD, Calloway C, Joseph E, Parks A, Shepard P, Clougherty JE. Identifying perceived neighborhood stressors across diverse communities in New York City. *Am J Comm Psych.* 2015. doi: 10.1007/s10464-015-9736-9.
33. Tunno BJ, Cambal L, Dalton R, Tripathy S, Howell J, Michanowicz AR, Shields KN, Holguin F, Lioy P, Clougherty JE. Indoor air sampling for multiple pollutants in industrial communities in Pittsburgh. *Sci Tot Environ.* 2015. 536:108-15. doi: 10.1016/j.scitotenv.2015.06.117.
34. Shmool JL, Bobb JF, Savitz DA, Matte TD, Johnson S, Elston B, Ito K, Ross Z, Dominici F, Clougherty JE. Area-level socioeconomic deprivation, nitrogen dioxide exposure, and term birth weight in New York City. *Environ Res* 2015; 142: 624-632.
35. Tunno BJ, Michanowicz AR, Shmool JL, Kinnee E, Tripathy S, Cambal L, Dalton R, Clougherty JE. Spatial patterning in $PM_{2.5}$ constituents under an inversion-focused sampling design across an urban area of complex terrain. *J Expos Sci Environ Epidemiol.* 2016 26(4):385-96.
36. Roper C, Tunno B, Cambal L, Chubb L, Clougherty JE, Mischler S. Characterization of ambient and extracted $PM_{2.5}$ collected on filters for toxicology applications. *Inhalation Toxicology 2015.* 27(13). doi:10.3109/0898378.2015.1092185.
37. Johnson S, Bobb JF, Ito K, Savitz DA, Elston B, Shmool JLC, Dominici F, Ross Z, Clougherty JE, Matte TD. Ambient fine particulate matter, nitrogen dioxide, and preterm birth in New York City. *Environ Health Perspect* 2016. 124(8) DOI:10.1289/ehp.1510266.
38. Michanowicz AR, Shmool JLC, Cambal L, Tunno B, Gillooly S, Olson Hunt JM, Tripathy S, Naumoff Shields K, Clougherty JE. Incorporating line source dispersion into a land use regression model for predicting NO_2. *Transport Res Part D: Transp and Environ.* 2016. 43: 181-91.
39. Payne-Sturges DC, Korfmacher KS, Cory-Slechta DA, Jimenez M, Symanski, Shmool JLC, Dotson-Newman O, Clougherty JE, French R, Levy JI, Laumbach R, Rodgers K, Bongiovanni R, Scammell MK. Engaging communities in research om cumulative risk and social stress-environment interactions: Lessons learned from EPA's STAR Program. *Environmental Justice.* 2015, 8(6): 203-212.
40. Shmool JLC, Kinnee E, Zhou J, Sheffield PE, Clougherty JE. Spatio-temporal ozone variation in a case-crossover analysis of childhood asthma hospital visits in New York City. *Environmental Research.* 2016 May;147:108-14. doi: 10.1016/j.envres.2016.01.020.
41. Péter S, Holguin F, Wood LG, Clougherty JE, Raederstorff D, Antal M, Weber P, Eggersdorfer M. Nutritional solutions to reduce risks of negative health impacts of air pollution. *Nutrients.* 2015; 7(12):10398-416. doi:10.3390/nu7125539.

42. Michanowicz DR, Shmool JLC, Tunno B, Tripathy S, Gillooly S, Kinnee E, Clougherty JE. A hybrid land use regression / AERMOD framework for predicting intra-urban variation in $PM_{2.5}$ *Atmospheric Environment.* 2016; 131:307-15. doi:10.1016/j.atmosenv.2016.01.045.
43. Tunno BJ, Dalton R, Cambal L, Holguin F, Lioy P, Clougherty JE. Indoor Source Apportionment in Urban Communities near Industrial Sites. *Atmospheric Environment* 2016; 139: 30-36. doi:10.1016/j.atmosenv.2016.04.039.
44. Ito K, Johnson S, Kheirbek I, Clougherty JE, Pezeshki G, Ross Z, Eisl H, Matte T. Intra-urban variation of fine particle elemental concentrations in New York City. *Environmental Science & Technology* 2016. 50(14):7517-26. doi: 10.1021/acs.est.6b00599.
45. Gillooly SE, Shmool JLC, Michanowicz DR, Bain DJ, Cambal LK, Shields KN, Clougherty JE. Framework for using deciduous tree leaves as biomonitors for intraurban particulate air pollution in exposure assessment. *Environmental Monitoring and Assessment 2016.* 188(8), 1-23. doi: 10.1007/s10661-016-5482-1
46. Tunno BJ, Shmool JLC, Michanowicz DR, Tripathy S, Chubb LG, Kinnee E, Cambal L, Roper C, Clougherty JE. Spatial variation in diesel-related elemental and organic $PM_{2.5}$ components during workweek hours across a downtown core. *Sci Total Environ 2016; 573:27-38. doi: 10.1016/j.scitotenv.2016.08.011*.
47. Roper, C, Chubb LG, Cambal L, Tunno B, Clougherty JE, Fattman C, Mischler SE. Association of inflammatory markers with $PM_{2.5}$ components: Importance of characterizing filter-based $PM_{2.5}$ following extraction. *Water Air Soil Pollut*. 2017 Jan; 228: 43. doi: 10.1007/s11270-016-3219-y. PMCID: PMC5628506. PMID: 28989204.
48. Reid CE, Clougherty JE, Shmool JLC, Kubzansky LD. Is all urban green space the same? A comparison of the health benefits of trees and grass in NYC. *Int J Environ Res Public Health* 2017; 14, 1411; doi:10.3390/ijerph14111411
49. Hubbell BJ, Kaufman A, Rivers L, Schulte K, Hagler G, Clougherty JE, Cascio W, Costa D. Understanding Social and Behavioral Drivers and Impacts of Air Quality Sensor Use. *Sci Tot Environ 2017; 621: 886-894.:https://doi.org/10.1016/j.scitotenv.2017.11.275*.
50. Paterson, J, Iusitini L, Tautolo E-S, Taylor S, Clougherty J. Pacific Islands Families (PIF) Study: Housing and psychological distress among Pacific mothers. *Aust N Z J Public Health. 2018 Apr;42(2):140-144. doi: 10.1111/1753-6405.12717. PMID: 28898499.*
51. Mady LJ LJ, Schwarzbach HL, Moore JA, Boudreau RM, Tripathy S, Kinnee E, Dodson ZM, Willson TJ, Clougherty JE, Lee SE. Air pollutants may be environmental risk factors in chronic rhinosinusitis disease progression. *Int Forum Allergy Rhinol*. 2018 Mar; 8(3):377-384. doi: 10.1002/alr.22052.
52. Shmool JLC, Johnson IL, Dodson ZM, Keene R, Gradeck R, Beach SR, Clougherty JE. Developing a GIS-Based Online Survey Instrument to Elicit Perceived Neighborhood Geographies to Address the Uncertain Geographic Context Problem, *The Professional Geographer. 2018* doi: 10.1080/00330124.2017.1416299.
53. Erqou S, Clougherty JE, Olafiranye O, Magnani JW, Aiyer A, Tripathy S, Kinnee E, Kip KE, Reis S. Particulate Matter Air Pollution and Racial Differences in Cardiovascular Disease Risk. *Arteriosclerosis, Thrombosis, and Vascular Biology 2018;* 38:935–942. PMID: 29545240. PMCID: PMC5864550. DOI: 10.1161/ATVBAHA.117.310305.
54. Sheffield PE, Herrera MT, Kinnee EJ, Clougherty JE. Not so little differences: Variation in hot weather risk to young children in New York City. *Public Health 2018;* 161:119-126. doi: https://doi.org/10.1016/j.puhe.2018.06.004. PMID: 29960726.
55. Reid CE, Kubzansky LD, Li JY, Shmool JLC, Clougherty JE. It's not easy assessing greenness: A

comparison of NDVI datasets and neighborhood types and their associations with self-rated health in New York City. *Health Place*. 2018 Sep 21;54:92-101. doi: 10.1016/j.healthplace.2018.09.005. *PMID: 30248597. DOI: 10.1016/j.healthplace.2018.09.005.*

56. Tunno BJ, Michanowicz AR, JLC Shmool, Tripathy S, Kinnee E, Cambal L, Chubb L, Roper C, Clougherty JE. Spatial patterns in rush-hour vs. work-week diesel-related pollution across a downtown core. *Int J Environ Res Pub Health.* 2018 Sep 10;15(9). pii: E1968. doi: 10.3390/ijerph15091968. PMID: 30201856. PMCID: PMC6164514.
57. Tunno BJ, Tripathy S, Kinnee E, Michanowicz AR, JLC Shmool, Cambal L, Chubb L, Roper C, Clougherty JE. Fine-Scale Source Apportionment Including Diesel-Related Elemental and Organic Constituents of $PM_{2.5}$ across Downtown Pittsburgh. *Int J Environ Res Pub Health*. 2018. 15, 2177. doi:10.3390/ijerph15102177. PMID: 30301154. PMCID: PMC6210746.
58. Payne-Sturges DC, Scammell MK, Levy JI, Cory-Slechta DA, Symanski E, Shmool JLC, Laumbach R, Linder S, Clougherty JE. Methods for Evaluating the Combined Effects of Chemical and Nonchemical Exposures for Cumulative Environmental Health Risk Assessment. *Int J Environ Res Pub Health* 2018, 15(12), 2797; https://doi.org/10.3390/ijerph15122797.
59. Tunno BJ, Longley I, Somervell E, Edwards S, Olivares G, Gray S, Cambal L, Chubb L, Roper C, Coulson G, Clougherty JE. Separating spatial patterns in pollution attributable to woodsmoke and other sources, during daytime and nighttime hours, in Christchurch, New Zealand. *Environ Res.* 2019, 171:228-238.
60. Schinasi L, Quick H, Clougherty JE, De Roos AC. Greenspace and infant mortality in Philadelphia, PA. *Journal of Urban Health*. 2019. 96(3):497-506. https://doi.org/10.1007/s11524-018-00335-z.
61. Burris HH, Lorch S; Kirpalani H; Pursley DM; Elovitz MA; Clougherty JE. Racial disparities in preterm birth in the US; a biosensor of physical and social environmental exposures. Archives of Disease in Childhood. 2019;104(10): 931-935. http://dx.doi.org/10.1136/archdischild-2018-316486. PMID: 30850379. PMCID: PMC6732250.
62. Tripathy S, Tunno BJ, Michanowicz DR, Kinnee E, Shmool JLC, Gillooly S, Clougherty JE. Hybrid land use regression modeling for estimating spatio-temporal exposures to $PM_{2.5}$, BC, and metal components across a metropolitan area of complex terrain and industrial sources *Science of the Total Environment. 2019. 673:54-63. https://doi.org/10.1016/j.scitotenv.2019.03.453.*
63. Longley I, Tunno B, Somervell E, Edwards S, Olivares G, Gray S, Coulson G, Cambal L, Roper C, Chubb L, Clougherty JE. Assessment of Spatial Variability across Multiple Pollutants in Auckland, New Zealand. *Int J Environ Res Public Health* 2019. 16(9):1567. PMID: 31060269. PMCID: PMC6539388. DOI: 10.3390/ijerph16091567.
64. Sheffield PE, Kinnee EJ, Shmool JLC, Clougherty JE. Violent crime and socioeconomic deprivation in shaping asthma-related pollution susceptibility: a case-crossover design. *J Epidemiol Community Health. 2019;73:846–853. doi:10.1136/jech-2018-211816.*
65. Burns CJ, LaKind JS, Mattison DR, Alcala CS, Branch F, Castillo J, Clark A, Clougherty JE, Darney SP, Erickson H, Goodman M, Greiner M, Jurek AM, Miller A, Rooney AA, Zidek A. A Matrix for Bridging the Epidemiology and Risk Assessment Gap. *Global Epidemiology. 2019. https://doi.org/10.1016/j.gloepi.2019.100005.*
66. Gillooly SE, Tripathy S, Michanowicz, Shmool JLC, Bain D, Tunno B, Cambal L, Clougherty JE. Evaluating deciduous tree leaves as biomonitors for ambient particulate matter pollution in Pittsburgh, PA, USA. *Environ Monit Assess. 2019;191:711.*
67. Humphrey JL, Reid CE, Kinnee EJ, Kubzansky LD, Robinson LF, Clougherty JE. Putting co-exposures on equal footing: an ecological analysis of same-scale measures of air pollution and social factors on cardiovascular disease in New York City. *Int J Environ Res Public Health.* 2019,

16(23), 4621; https://doi.org/10.3390/ijerph16234621.

Invited Review Papers

1. Clougherty JE, Souza K, Cullen MR. Work and its role in shaping the social gradient in health. *Annals of the New York Academy of Sciences*. 2010 Feb; 1186:102-24. PMID: 20201870.
2. Clougherty JE, Shmool JL, Kubzansky LD. The role of non-chemical stressors in mediating socioeconomic susceptibility to environmental chemicals. *Current Environ Health Reports*. 2014: 1(4): 302-313. doi: 10.1007/s40572-014-0031-y.

Editorials/ Letters to the Editor

1. Clougherty JE, Kubzansky LD. Traffic-Related Air Pollution and Stress: Effects on Asthma. *Environ Health Perspect*. 2008; 116 (9): A376-A377. doi: 10.1289/ehp.11863.

Invited Book Chapters

1. Clougherty JE. Efficacy of environmental interventions on asthma-related quality of life. In: Preedy V, Watson RR, editors. *Handbook of Disease Burdens and Quality of Life Measures*. p 3073-3083. New York: Springer, 2009.
2. Clougherty JE, Levy JI. Psychosocial and Chemical Stressors. In: Rider C, Simmons JE, editors. *Mixtures Toxicology and Risk Assessment*. Springer, 2018. ISBN 978-3-319-56232-2.

Government and Institute Research Reports

1. Levy JI, Clougherty JE, Baxter LK, Houseman EA, Paciorek CJ, HEI Health Review Committee. Evaluating heterogeneity in indoor and outdoor air pollution using land-use regression and constrained factor analysis. Health Effects Institute (HEI) Research report. 2010 Dec. PMID: 21409949.
2. Johnson S, Kheirbek I, Pezeshki G, Jacobson JB, Kass D, Freed A, Strickland CH, Eisl HM, Gorczynski J, Benson A, Camacho A, Werbe-Fuentes J, Haviland-Markowitz J, Munoz R, Tilles A, Vanderpool S, Markowitz S, Clougherty JE, Matte T, Ross Z, Kitson H, Stevens LM (2011). The New York City Community Air Survey: Results from Year One Monitoring, 2008-2009. New York City Department of Health and Mental Hygiene, and NYC Mayor's Office for Long-Term Planning and Sustainability. http://www.nyc.gov/html/doh/downloads/pdf/eode/comm-air-survey-report.pdf *(Government report).*
3. Michanowicz D, Malone S Ferrar K, Kelso M, Clougherty JE, Fabisiak JP, Kriesky J. Pittsburgh Regional Environmental Threat Analysis (PRETA): Particulate Matter. Public report commissioned by Heinz Endowments: http://www.chec.pitt.edu/documents/PRETA/PRETA_PM.pdf.
4. Levy JI, Clougherty JE, deFur P (2011). Integrating Chemical and Non-Chemical Stressors in Cumulative Risk Assessment. U.S. EPA Risk Assessment Forum, Research Triangle Park, NC. Government white paper commissioned by U.S. EPA. *(commissioned white paper).*
5. Michanowicz A, Malone S, Ferrar KJ, Kelso M, Clougherty JE, Kriesky J, Fabisak JP Pittsburgh Regional Environmental Threats Analysis Report: Hazardous Air Pollutants. Public report commissioned by Heinz Endowments: http://www.heinz.org/UserFiles/Library/PRETA_HAPS.pdf.
6. Clougherty JE, Kheirbek I, Johnson S, Pezeshki G, Jacobson JB, Eisl HM, Gorczynski J, Ross Z, Kitson H, Benson A, Camacho A, Werbe-Fuentes J, Haviland-Markowitz J, Munoz R, Tilles A, Strickland CH, Charles-Guttman K, Markowitz S, Kass D, Matte T (2010). The New York City Community Air Survey: Results from Summer Monitoring 2009. New York City Department of Health and Mental Hygiene, and NYC Mayor's Office for Long-Term Planning and Sustainability. http://www.nyc.gov/html/doh/downloads/pdf/eode/nyccas-report-summer09.pdf *(Government report).*
7. Clougherty JE, Kheirbek I, Johnson S, Pezeshki G, Jacobson JB, Eisl H, Gorczynski J, Ross Z,

Kitson H, Benson A, Camacho A, Werbe-Fuentes J, Haviland-Markowitz J, Munoz R, Tilles A, Strickland CH, Charles-Guttman K, Markowitz S, Kass D, Matte T (2010). The New York City Community Air Survey Supplemental report: Nickel Concentrations in Ambient Fine Particles: Winter Monitoring, 2008-2009. New York City Department of Health and Mental Hygiene, and NYC Mayor's Office for Long-Term Planning and Sustainability. http://www.nyc.gov/html/doh/downloads/pdf/eode/nyccas-ni-report0510.pdf *(Government report).*

8. Clougherty JE, Kheirbek I, Johnson S, Pezeshki G, Jacobson JB, Eisl HM, Gorczynski J, Ross Z, Kitson H, Benson A, Camacho A, Werbe-Fuentes J, Haviland-Markowitz J, Munoz R, Tilles A, Strickland CH, Charles-Guttman K, Markowitz S, Kass D, Matte T (2009). The New York City Community Air Survey: Results from Winter Monitoring 2008-2009. New York City Department of Health and Mental Hygiene, and NYC Mayor's Office for Long-Term Planning and Sustainability. http://nyc.gov/html/om/pdf/2009/pr_538_nyccas_report.pdf *(Government report).*
9. Tunno BJ, Clougherty JE. (Characterizing the Spatial Variation in Diesel Particulate Matter in Downtown Pittsburgh. Allegheny County Health Department (ACHD). *(Government Report).*
10. Longley I, Tunno BJ, Clougherty JE. Spatially Resolved Technique for Source Apportionment in New Zealand: Auckland. National Institute of Water & Atmospheric Research Ltd, Auckland, New Zealand (NIWA). *(Government Report).*
11. Committee on the Review of the Department of Veterans Affairs Airborne Hazards and Open Burn Pitt Registry; National Academies of Sciences, Engineering, and Medicine. *Review of the Department of Veterans Affairs Airborne Hazards and Open Burn Pitt Registry.* National Academies Press, Washington D.C., 2016.
12. Clougherty JE, Humphrey JL, Reid CE, Kinnee EJ, Robinson LF, McClure LA, Kubzansky LD. *Susceptibility to Multiple Air Pollutants in Cardiovascular Disease*. Health Effects Institute (HEI) Research Report. *In press.*

Link to peer-reviewed publications listed in NCBI:
http://www.ncbi.nlm.nih.gov/sites/myncbi/jane.clougherty.1/bibliography/50364355/public/?sort=date&direction=ascending

RESEARCH

Current research support:

Funding Agency:	National Institutes of Health (NIH) R01
Title of Grant:	Pediatric Health in Extreme Weather – Health Effects and Ambient Temperature (PHEW-HEAT)
Principal Investigator:	PE Sheffield, JE Clougherty (Multiple-PI)
Years Inclusive:	8/2019 – 7/2024
Percent Effort:	20% academic year; 25% summer
Total Amount Awarded:	$876,400 (direct)

Funding Agency:	Drexel University Faculty Summer Research Awards
Title of Grant:	Chronic Stressors and Urban Air Pollution in Asthma and Birth Outcomes in NYC
Principal Investigator:	JE Clougherty
Years Inclusive:	6/2019 – 6/2020
Total Amount Awarded:	$7,000

Funding Agency:	Drexel University Urban Health Collaborative (UHC)
Title of Grant:	Using Emerging Air Sensors to Identify Community Air Pollution Exposures Specific to South Philadelphia
Principal Investigator:	S Tripathy

Years Inclusive: 6/2019 – 6/2020
Total Amount Awarded: $30,000

Pending:

Funding Agency: National Institutes of Health (NIH)/NICHD
Title of Grant: Physical and social environmental contributors to racial disparities in adverse pregnancy outcomes
Principal Investigator: Burris H
Role on Grant: Co-Investigator
Years Inclusive: 4/1/2020 – 3/31/2025
Percent Effort: 20%
Total Direct Costs: $538,579
Total Amount Awarded: $842,876

Funding Agency: National Institutes of Health (NIH)/Outstanding New Environmental Scientist (ONES) Award (RFA-ES-18-001)
Title of Grant: Air pollution, neighborhood violence, and disparities in spontaneous preterm birth
Principal Investigator: Burris H
Role on Grant: Co-Investigator
Years Inclusive: 2020 – 2025
Percent Effort: 5%
Total Direct Costs: $1,250,000

Funding Agency: American Heart Association (AHA)
Title of Grant: Ambient air pollution and atrial fibrillation, stroke, and atrial remodeling
Principal Investigator: Magnani J [University of Pittsburgh Medical Center (UPMC)]
Role on Grant: Co-Principal Investigator
Years Inclusive: 2020 – 2024
Percent Effort: 25 %
Total Direct Costs: $227,702
Total Amount Awarded: $338,565

Funding Agency: National Institutes of Health (NIH)
Title of Grant: Utilizing GIS Methods and an EHR-enabled Mobile Platform to Improve Asthma Outcomes in the Bronx
Principal Investigator: Jariwala (Albert Einstein College of Medicine)
Role on Grant: Co-Investigator
Years Inclusive: 2020 – 2025
Percent Effort: 15%
Total Direct Costs: $274,454
Total Amount Awarded: $429,520

Past research support:

Funding Agency: Health Effects Institute (HEI)
Title of Grant: Susceptibility to Multiple Air Pollutants in Cardiovascular Disease
Principal Investigator: JE Clougherty
Years Inclusive: 8/2017 - 10/2019
Percent Effort: 20%
Total Amount Awarded: $400,000

Funding Agency:	NIEHS Environmental Health Science Center at UC Davis (Pilot award)
Title of Grant:	Social and Genetic Susceptibility to Traffic-Related Air Pollution (TRAP)
Principal Investigator:	AS Wexler
Years Inclusive:	11/2018 - 11/2019
Total Amount Awarded:	$5,500

Funding Agency:	National Institutes of Health (NIH)
Grant Number:	1R01HL114536-01
Title of Grant:	Validating GIS-based methods to address spatial uncertainty in clinical trials
Principal Investigator:	JE Clougherty, F Holguin
Role on Grant:	PI (multiple)
Years Inclusive:	8/2012 - 7/2017 (NCE to 7/2018)
Percent Effort:	30.0 %
Total Direct Costs:	$1,250,000
Total Amount Awarded:	$1,858,479

Funding Agency:	National Institutes of Health (NIH)
Title of Grant:	Integrating individual and community exposures for cancer risk in urban and rural areas of western PA
Principal Investigator:	Jian-Min Yuan
Role on Grant:	Co-Investigator
Years Inclusive:	9/1/16 – 8/31/17
Percent Effort:	5%
Total Direct Costs:	$7,869
Total Amount Awarded:	$12,139

Funding Agency:	National Institutes of Health (NIH)
Grant number:	1UG3OD023365-01
Title of Grant:	Pre-adolescent and Late-adolescent Follow-up of the CHARGE Study Children
Principal Investigator:	Hertz-Picciotto, Bennett, Schweitzer
Role on Grant:	Co-Investigator
Years Inclusive:	10/1/16 - 9/30/17
Percent Effort:	10%
Total Direct Costs (Yr 1):	$999,636.
Total Amount Awarded (Yr 1):	$1,569,429.

Funding Agency:	Drexel University Urban Health Collaborative (UHC)
Title of Grant:	Design and Implementation for Spatially-Distributed Air Monitoring Campaigns in Philadelphia
Principal Investigator:	JE Clougherty
Years Inclusive:	6/2017 – 5/2018
Total Direct Costs:	$25,000

Funding Agency:	Drexel University Scholarly and Creative Research Award
Title of Grant:	Monitoring Spatial Variation in Air Pollution across Urban Areas: Auckland, New Zealand
Principal Investigator:	JE Clougherty
Years Inclusive:	6/2017 – 5/2018
Total Direct Costs:	$17,700

Funding Agency:	University of Pittsburgh/ UPMC Clinical Translational Sciences Institute (CTSI) Translational Research Pilot
Title of Grant:	$PM_{2.5}$ and Atrial Fibrillation in Allegheny County
Principal Investigator:	JM Magnani
Role on Grant:	Co-Investigator
Years Inclusive:	7/2017 – 6/2018
Total Direct Costs:	$25,000

Funding Agency:	Mascaro Center for Sustainable Innovation
Title of Grant:	Quantifying Reductions in Diesel-Related Air Pollution Exposures across Downtown Pittsburgh
Principal Investigator:	JE Clougherty
Years Inclusive:	2015-2016
Total Amount Awarded:	$50,000

Funding Agency:	U.S. Environmental Protection Agency
Grant Number:	R834576
Title of Grant:	Community Stressors and Susceptibility to Air Pollution in Urban Asthma
Principal Investigator:	JE Clougherty
Years Inclusive:	3/2011 - 3/2016 (NCE)
Percent Effort:	15.0 %
Total Direct Costs:	$1,226,206

Funding Agency:	Allegheny County Health Department (ACHD)
Grant Number:	138884
Title of Grant:	Characterizing the Spatial Variation in Diesel Particulate Matter in Downtown Pittsburgh
Principal Investigator:	JE Clougherty
Years Inclusive:	9/2012 - 9/2015
Percent Effort:	10.0 %
Total Direct Costs:	$860,000

Funding Agency:	National Institutes of Health (NIH)
Grant Number:	1 R21 ES021429-01
Title of Grant:	Children's Health and Vulnerability to Heat and Ozone in NYC
Principal Investigator:	JE Clougherty, P Sheffield
Role on Grant:	PI (multiple)
Years Inclusive:	6/2012 - 5/2015 (NCE)
Percent Effort:	10.0 %
Total Direct Costs:	$137,960
Total Amount Awarded:	$209,012

Funding Agency:	National Resources Defense Council (NRDC)
Title of Grant:	Airborne Coal Ash Monitoring and Analysis
Principal Investigator:	JE Clougherty
Years Inclusive:	10/2015 - 8/2016
Percent Effort:	5.0 %
Total Amount Awarded:	$21,559

Funding Agency:	National Institutes of Health (NIH)

Grant Number: 5R01ES19955-3
Title of Grant: Air Pollution and Pregnancy Outcomes in New York City
Principal Investigator: Savitz
Role on Grant: Co-Investigator
Years Inclusive: 8/2011 - 6/2014
Percent Effort: 10.0 %
Total Direct Costs: $71,345

Funding Agency: Manners Award - University Center for Social and Urban Research
Title of Grant: Social Stressors, Air Pollution, and Cancer across Allegheny County, PA
Principal Investigator: Robertson, L
Role on Grant: Co-Investigator
Years Inclusive: 2014-2015
Total Amount Awarded: $10,000

Funding Agency: University of Pittsburgh Central Research Development Fund Faculty Award 2012
Title of Grant: Validating tree leaf use as a novel method to reduce exposure misclassification
Principal Investigator: Shields
Clougherty Role on Grant: Co-Investigator
Years Inclusive: 6/2012 - 6/2014
Total Direct Costs: $16,000

Funding Agency: Heinz Endowments
Title of Grant: Incorporating Metals Analysis into Spatial Mapping of Multiple Air Pollutants across Pittsburgh
Principal Investigator: Robinson
Clougherty Role on Grant: PI (multiple)
Years Inclusive: 6/2012 - 5/2014
Percent Effort: 5.0 %
Total Direct Costs: $132,211

Funding Agency: New Zealand National Institute of Water and Atmospheric Research
Grant Number: SA131152
Title of Grant: Visiting Scientist Travel Award for Dr. Jane E. Clougherty
Principal Investigator: I Longley
Clougherty Role on Grant: PI (multiple)
Years Inclusive: 8/2012 - 8/2013
Total Direct Costs: $20,360

Funding Agency: Heinz Endowments
Grant Number: C1627
Title of Grant: Case-Control Study of Personal and Environmental Risk Factors for Childhood Autism in Southwestern Pennsylvania
Principal Investigator: Talbott
Clougherty Role on Grant: Co-Investigator
Years Inclusive: 8/2011 - 8/2013
Percent Effort: 5.0 %
Total Direct Costs: $780,915
Total Amount Awarded: $780,915

Funding Agency:	University of Pittsburgh Central Research Development Fund
Grant Number:	CRDF Faculty Pilot Award 2011
Title of Grant:	Developing a GIS-based survey instrument to examine multiple exposures in neighborhood health research
Principal Investigator:	JE Clougherty
Years Inclusive:	6/2011 - 8/2013
Total Direct Costs:	$16,000

Funding Agency:	University of Pittsburgh Center for Social and Urban Research (UCSUR)
Grant Number:	Manners Faculty Development Award 2011
Title of Grant:	A novel geospatial modeling technique to predict individual-level chronic stress in urban communities
Principal Investigator:	Clougherty JE
Years Inclusive:	6/2011 - 6/2013
Total Direct Costs:	$10,000

Funding Agency:	National Institute for Occupational Health Sciences
Grant Number:	(NIOSH/CDC) K-01 (1-K01-OH-009589-01)
Title of Grant:	Chronic Occupational Noise, Stressors, and Susceptibility in Cardiovascular Illness
Principal Investigator:	JE Clougherty
Years Inclusive:	2009 – 2013
Percent Effort:	50.0 %
Total Direct Costs:	$300,000

Funding Agency:	National Institute for Environmental Health (NIEHS) Harvard School of Public Health (HSPH) Particle Center Pilot Program
Title of Grant:	Physiologic Mechanisms to Explain Observed Differential Susceptibilities to Air Pollution by Social Stress in Rats
Principal Investigator:	Clougherty
Years Inclusive:	2007 – 2008
Total Direct Costs:	$25,000

Funding Agency:	New Zealand Health Research Council (HRC) Feasibility Grant
Title of Grant:	Family Stressors and Susceptibility to Traffic-Related and Indoor Air Pollution: The Pacific Islands Families Study
Principal Investigator:	Paterson
Clougherty Role on Grant:	Co-Investigator
Years Inclusive:	2006 – 2007
Total Direct Costs:	$128,000

Funding Agency:	American Lung Association: Lung Health Dissertation Grant
Title of Grant:	The Roles of Social Stress and Air Pollution Exposures in Exacerbation and Etiology of Childhood Asthma
Principal Investigator:	Clougherty
Years Inclusive:	2005 – 2006
Percent Effort:	100.0 %
Total Direct Costs:	$25,000

OTHER SCHOLARLY ACTIVITIES

Manuscript and Grant Reviewer:

2008 – Present	*Environmental Health Perspectives (EHP)*
2012 - Present	- Editorial Board Member
2016 - Present	- Associate Editor
2008 – Present	*Journal of Exposure Science and Environmental Epidemiology (JESEE)*
2014 – 2018	- Editorial Board Member
2011 – Present	*Environmental Health*
2016 – Present	- Editorial Board Member
	National Institutes of Health (NIH) Study Section:
2016 – Present	Neurological, Aging and Musculoskeletal Epidemiology Study Section (NAME)
	- *Ad hoc reviewer*
2008 – Present	*Indoor Air*
2010 – Present	*American Journal of Public Health*
2010 – Present	*Social Science and Medicine*
2010 – Present	*Atmospheric Environment*
2011 – Present	*European Respiratory Journal*
2011 – 2012	*Psychological Science*
2011 – Present	*BMJ*
2012 – 2013	*Psychosomatic Medicine*
2012 – Present	*International Journal of Environmental Research and Public Health*
2015 -2016	Clean Air Regulatory Agenda (CARA) Program, Health Canada.
2016 – Present	Health Effects Institute (HEI) grant reviewer

INVITED PRESENTATIONS

1. Clougherty JE. The Role for Gender Analysis in Environmental Health: Exposure to violence as a determinant of air pollution susceptibility. Presented at: HSPH Advanced Seminar in Women, Gender, and Health; 2004-2006; Boston, MA.
2. Clougherty JE. Gender and Sex Differences in the Role of Job Grade on Hypertension Outcomes. Presented at: MacArthur Network on Socioeconomic Status and Health; 2008; Phoenix, AZ.
3. Clougherty JE. Chronic Disease Onset in the Alcoa Aluminum Manufacturing Cohort. Presented at: MacArthur Network on Socioeconomic Status and Health; 2008; Cambridge, MA.
4. Clougherty JE. Combined Effects of Chronic Stress and Air Pollution. Presented at: North Carolina Environmental Justice Summit; 2009; Bricks, NC.
5. Clougherty JE, The New York City Community Air Survey (NYCCAS): Briefing for EPA. EPA Region II. 2009 Jan 28; New York, NY.
6. Clougherty JE. Year-Round Intra-Urban Variability in Air Pollution: The New York City Community Air Survey (NYCCAS). Presented at: Harvard School of Public Health: Exposure, Epidemiology, and Risk Seminar; 2010; Boston MA.
7. Clougherty JE. Combined Effects of Air Pollution and Social Stressors on Health in Communities Affected by Natural Gas Fracturing. Presented at: Conference on Health Effects of Shale Gas Extraction: What is Known and What We Can Predict; 2010; University of Pittsburgh, PA.
8. Clougherty JE. Examining Year-Round Intra-Urban Variability in Multiple Air Pollutants: The New York City Community Air Survey (NYCCAS). Presented at: Harvard School of Public Health: Biostatistics Seminar; 2010; Boston, MA.
9. Clougherty JE. Intra-Urban Variability in Multiple Air Pollutants: The New York City Community Air Survey (NYCCAS). Presented at: Hunter College of the City University of New York; 2010
10. Clougherty JE, Kubzansky LD. A Framework for Examining Social Stress and Susceptibility to

Environmental Pollutants. Presented at: U.S. Environmental Protection Agency (EPA) Symposium: The Science of Environmental Justice; 2010 Mar; Washington, DC.

11. Clougherty JE, Godleski J. Stress-Related Susceptibility to Air Pollution, with Application in an Animal Model. Presented at: Conceptualizing Gene-Environment Interactions in Obesity Research: Complex Pathways to Health Disparities,' Harvard/MGH Center on Genomics, Vulnerable Populations, and Health Disparities; 2011; Boston MA.
12. Clougherty JE. Examining Health Effects of Urban Air Pollution using Land-Use Regression Modeling Methods. Presented at: Carnegie Mellon University; 2011; Pittsburgh, PA.
13. Clougherty JE, Levy JI, deFur P. An Example for Integrating a Non-chemical Stressor into Cumulative Risk Assessment: Exposure to Violence and Air Pollution in Childhood Asthma. Presented at: Integrating Chemical and Non-Chemical Stressors in Cumulative Risk Assessment' U.S. EPA Risk Assessment Forum; 2011; Research Triangle Park, NC.
14. Clougherty JE, Lawrence J, Diaz E, Long M, McEwen B, Koutrakis P, Godleski J. Chronic Social Stress and Differential Susceptibility to Concentrated Air Pollution in Rats. Presented at: U.S. Environmental Protection Agency (EPA) Symposium: The Science of Environmental Justice; 2011; Washington, DC.
15. Clougherty JE, Levy JI, Carr JL, deFur P. Using Epidemiological (and Toxicological) Evidence to Incorporate Non-Chemical Stressors into Cumulative Risk Assessment, in symposium: 'Is Epidemiology Really the Key to Cumulative Risk Assessment?'. Presented at: International Society for Environmental Epidemiology (ISEE); 2012; Columbia, SC.
16. Clougherty JE. Quantification of Air Pollution in Pittsburgh. Presented at: Pittsburgh Asthma Summit: West Penn Allegheny Health System; 2012; Pittsburgh, PA.
17. Clougherty JE, Carr JL, Shepard P. Disentangling Spatial Patterns in Social and Environmental Exposures for Epidemiology. Presented at: EPA Workshop on Interactions between Social Stressors and Environmental Hazards; 2012 May; Washington DC.
18. Clougherty JE. Multiple-Pollutant Air Monitoring and Source Identification in Pittsburgh, PA. Presented at: Mid-Atlantic Regional Air Managers (MARAMA) Air Toxics Workshop; 2012 Aug 1; Baltimore, MD.
19. Clougherty JE. Assessment of Non-Chemical Stressor Exposures for Environmental Health Research. Presented at: International Society for Exposure Science (ISES); 2012 Oct; Seattle WA.
20. Carr JL, Newman OD, Joseph E, Chubb L, Parks A, Callaway C, Kubzansky LD, Spengler JD, Shepard P, Clougherty JE. Exploring the relevance of publicly-available indicators of social stressors through a spatially-informed, community-based qualitative process across NYC. Presented at: WE ACT for Environmental Justice Researcher Roundtable; 2012 Oct 1; New York, NY.
21. Gillooly SE, Cambal L, Clougherty JE, Shields KN. Validating tree leaf use as a novel method to reduce exposure misclassification. Presented at: University of Minnesota Institute for Rock Magnetism; 2012 Oct 1; Minneapolis, MN.
22. Clougherty JE. Health Effects of Shale Gas Extraction Conference (Moderator). Presented at: University of Pittsburgh; 2012 Nov 9; Pittsburgh, PA.
23. Gillooly SE, Cambal L, Feinberg J, Jackson M, Carr JL, Michanowicz AR, Tunno BJ, Clougherty JE, Shields KN. Development and Validation of a Method Using Deciduous Tree Leaves to Capture Air Pollution Variation in Pittsburgh, PA. Poster presented at: Health Across the Lifespan: Allegheny County 2012 conference; 2012 Dec 2; Pittsburgh, PA.
24. Michanowicz AR. Sustainability: Air pollution within the context of public health equity. Presented at: Sustainability EXPOsed: Rediscovering sustainability - ideas and innovations that are making business, governance, and community better for our region; 2013; Pittsburgh, PA.
25. Clougherty JE, Holguin F. Validating GIS-based methods to address spatial uncertainty in clinical trials. Presented at: NIH AsthmaNet Steering Committee; 2013 Jan 8; Chicago, IL.
26. Clougherty JE. Diesel Monitoring throughout Downtown Pittsburgh. Presented at: Allegheny County Health Department (ACHD) Air Advisory Committee; 2013 Jan 23; Pittsburgh, PA.
27. Clougherty JE, Carr JL, Johnson I. Developing a GIS-based survey tool to elicit perceived neighborhood information for environmental health research. Presented at: University Center for

Social and Urban Research (UCSUR); 2013 Feb 1; Pittsburgh, PA.

28. Clougherty JE. Health Disparities, Multiple Pollutants, and Pollution Susceptibility, across Pittsburgh, PA. Presented at: GSPH Board of Visitors; 2013 Mar 28; Pittsburgh, PA.
29. Clougherty JE. Intra-Urban Air Pollution Exposure Assessment for Epidemiology. Presented at: National Institutes for Water and Atmospheric Research (NIWA) Research Symposium; 2013 Apr 20; Auckland, New Zealand.
30. Clougherty JE. Intra-Urban Variation in Air pollution and Susceptibility. Presented at: Clean Air Society of Australia and New Zealand (CASANZ); 2013 May 6; Christchurch, New Zealand.
31. Clougherty JE. Intra-Urban Variation in Air Pollution and Susceptibility. Presented at: Auckland Council; 2013 May 10; Auckland, New Zealand.
32. Clougherty JE. Intra-Urban Variation in Air Pollution and Health Effects. Presented at: Unitech University; 2013 May 14; Auckland, New Zealand.
33. Carr JL, Clougherty JE. Chronic Social Stressors and Susceptibility to Air Pollution across NYC. Presented at: New York City Community Air Network (NYCCAN); 2013 Jun 19; New York, NY.
34. Clougherty JE, Tunno B, Cambal L, Roper C, Chubb L. Monitoring for Spatial Variation in Multiple Air Pollutants in Pittsburgh, PA and New Zealand. Presented at: National Institutes for Water and Air Research (NIWA); 2014; Auckland NZ.
35. Clougherty JE, Tunno B, Cambal L, Chubb L, Roper C. Monitoring for Spatial Variation in Multiple Air Pollutants in Pittsburgh, PA and New Zealand. Presented at: National Institutes for Water and Air Research (NIWA) Speaker Series; 2014; Christchurch, New Zealand.
36. Clougherty JE. GIS-Based Methods for the Analysis of Clinical Trials Data. Presented at: Hillman Cancer Center Speakers' Series; 2014; Pittsburgh, PA.
37. Carr JL, Clougherty JE. Validating community stressors using individual survey data on perceived stress across New York City. Presented at: Pittsburgh Biobehavioral Medicine Community Idea Series; 2014 Feb 13; Pittsburgh, PA.
38. Clougherty JE. Organics Monitoring in Downtown Pittsburgh. Presented at: EPA Region III Air Director's Annual Meeting; 2014 May 29; Pittsburgh, PA.
39. Clougherty JE. Air Monitoring and Modelling across Pittsburgh, PA. Presented at: Breathe Project Advisory Committee; 2014 Jun 5; Pittsburgh, PA.
40. Clougherty JE. Spatial Variation in Diesel-Related Organics in Downtown Pittsburgh. Presented at: Allegheny County Health Department (ACHD) Clean Air Advisory Committee; 2014 Jun 17; Pittsburgh, PA.
41. Clougherty JE, Shmool JL. Validating administrative social stressor indicators using survey data on perceived stress across New York City, in Symposium on 'Exposure Assessment for Non-Chemical Stressors'. Presented at: International Society for Exposure Science (ISES); 2014 Sep 12; Cincinnati, Ohio.
42. Clougherty JE. Implications of Intra-Urban Variation in Air Pollution for Nutritional Interventions. Presented at: DSM Workshop on Nutritional Interventions for Health Effects of Air Pollution; 2014 Sep 22; Valencia, Spain.
43. Clougherty JE. Intra-Urban Variation in Air Pollution - Implications for Nutritional Interventions. Presented at: Nutrition & Food Sciences Congress; 2014 Sep 23-25; Valencia, Spain.
44. Clougherty JE. Mobile and Saturation Monitoring for Multiple Pollutants and Source Identification in Pittsburgh, PA, in Health Effects Institute (HEI) workshop on mobile and saturation monitoring. Presented at: International Society for Exposure Science (ISES); 2014 Oct 12; Cincinnati, Ohio.
45. Shmool JL, Clougherty JE. Area-level socioeconomic deprivation, air pollution, and term birth weight in New York City, in Symposium on 'Exposure Assessment for Non-Chemical Stressors'. Presented at: International Society of Exposure Science (ISES); 2014 Oct 12; Cincinnati, OH.
46. Clougherty JE. Community Stressors and Susceptibility to Air Pollution in Urban Asthma. Presented at: US Environmental Protection Agency Grantee Workshop; 2014 Oct 23; Boston, MA.
47. Clougherty JE. Exposure Assessment for Unconventional Natural Gas Development -- A Case Study. Presented at: Harvard School of Public Health (HSPH) Environmental Health Fellows Workshop; 2014 Nov 5; Boston, MA.

48. Clougherty JE. Differential Susceptibility to Urban Air Pollution by Chronic Stress. Presented at: Harvard School of Public Health (HSPH) Environmental Health Fellows Workshop; 2014 Nov 5; Boston, MA.
49. Clougherty JE, Kinnee E, Holguin F. Key Sources of Intra-urban Spatial Variability in Geocoded Residential Addresses. Presented at: NIH Webinar Series on Spatial Uncertainty: Data, Modeling and Communication; 2014 Nov 6; Bethesda, MD.
50. Clougherty JE. Spatial Modeling of Diesel-Related Air Pollutants in Downtown Pittsburgh. Presented at: Mid-Atlantic Regional Air Managers' Association. 2014 Dec 10. Charlottesville, VA.
51. Clougherty JE, Tripathy SH. Introduction to Environmental Health. Presented at: Urban League of Pittsburgh. 2015 Jan 26; Pittsburgh PA.
52. Clougherty JE. Diesel-Related Air Pollution in Downtown Pittsburgh. Presented at: Allegheny County Health Department Air Advisory Committee. 2015 Feb 10; Pittsburgh PA.
53. Clougherty JE. Intra-Urban Variation in Air Pollution in Pittsburgh. Presented at: University of Pittsburgh Department of Geology and Environmental Science; 2015 Feb 12; Pittsburgh PA.
54. Clougherty JE. A Framework for Examining Social Stress and Susceptibility to Air Pollution in Respiratory Health. Presented at: Evaluating and Quantifying Stress for Inclusion in Cumulative Risk Assessment Symposium, at Society of Toxicology (SOT); 2015 Mar 23; San Diego, CA.
55. Clougherty JE. Intra-Urban Variation in Air Pollution Exposures and Susceptibility. Presented at: Curtin University; 2015 Mar 27; Perth, Australia.
56. Clougherty JE. Intra-Urban Air Pollution and Differential Susceptibility. Presented at: University de Bordeaux; 2015 Apr 10; Bordeaux, France.
57. Clougherty JE. La Pollution de l'Air Urbaine et l'Asthme des Enfants. Presented at: Centre National de Recherche Scientifique (CNRS); 2015 Apr 13; Paris, France.
58. Clougherty JE. Chronic Social Stressors and Susceptibility to Air Pollution in New York City, in Symposium on Intersection of Environmental and Social Epidemiology. Presented at: Society for Epidemiologic Research (SER); 2015 Jun 16-19; Denver, CO.
59. Clougherty JE. Intra-Urban Variation in Air Pollution Exposures and Susceptibility. Presented at: University of California at Davis; 2015 July 6; Davis, CA.
60. Clougherty JE, Longley I. Spatial Variation in Multiple Air Pollutants and Source Identification across Auckland and Christchurch. GNS Science. 2015 July 15. Auckland, New Zealand.
61. Clougherty JE, Longley I. Spatial Variation in Multiple Air Pollutants and Source Identification across Auckland Central Business District. Auckland Council/ Auckland Transport. 2015 July 16. Auckland, New Zealand.
62. Shmool, JLC, Reid C, Kubzansky LD, Spengler JD, Clougherty JE. Symposium on Integrating greenspace measures into environmental epidemiology, in symposium Greenspace and Health. International Society for Environmental Epidemiology (ISEE); 2015 Aug; Sao Paulo, Brazil.
63. Clougherty JE, Carr Shmool JL, Hajat A. Measuring the Neighborhood Social Environment: Implications for Environmental Epidemiology. Pre-Conference Workshop, International Society for Environmental Epidemiology. 2015 Aug; Sao Paulo, Brazil.
64. Shmool, JLC, Reid C, Kubzansky LD, Spengler JD, Clougherty JE. Symposium on Integrating methods for greenspace exposure assessment. Presented at: International Society of Exposure Science (ISES); 2015 Oct; Henderson, NV.
65. Clougherty JE. Environmental Health in Social Context. University of Pittsburgh Office of the Provost -- Green Speakeasy Seminar Series. 2015 Nov 2. Pittsburgh, PA.
66. Clougherty JE. Characterizing Spatial Variation in Diesel-Related Particulate Matter in Downtown Pittsburgh. Allegheny County Health Department (ACHD) Air Advisory Committee. 2016 Jan 20.
67. Robertson L, Shmool JLC, Clougherty JE. Spatial Variation in Social Stressors, Air Pollution, and Cancer. University Center on Social and Urban Research. 2016 20 Jan; Pittsburgh, PA.
68. Clougherty JE. Intra-urban variation in air pollution and social susceptibility. Drexel University Dornsife School of Public Health. 2016 Feb 10, Philadelphia, PA.
69. Clougherty JE. Intra-urban variation in air pollution and social susceptibility. National Institute for Environmental Health Sciences, Epidemiology Branch. 2016 Apr; Research Triangle Park, NC.

70. Holguin F, Clougherty JE. Incorporating GIS-based Indicators for Air Pollution and Chronic Stressors into Interpretation of Clinical Trials. 1 May 2016. Chicago, IL.
71. Clougherty JE. Accounting for Social and Psychosocial Factors at Health Effects Institute (HEI) Annual Meeting: Traffic and Air Pollution Workshop. 3 May 2016. Denver, CO.
72. Clougherty JE. Spatial Variation in Airborne Metals in Pittsburgh. Making the Connection: Air Pollution and Brain Health. Phipps Conservatory, 12 May 2016, Pittsburgh PA.
73. Clougherty JE. Diesel-Related Air Pollution in Downtown Pittsburgh. Allegheny County Health Department Monitoring and Compliance Subcommittee. 13 May 2016. Pittsburgh, PA.
74. Clougherty JE. Intra-urban variation in air pollution and social susceptibility. Old Dominion University, 14 May 2016; Norfolk VA.
75. Clougherty JE. Intra-urban Variation in Air Pollution and Health Impacts. City of Philadelphia Air Pollution Control Board Meeting. 2 June 2016; Philadelphia PA.
76. Clougherty JE. Social and Psychosocial Susceptibility to Urban Air Pollution. Plenary speaker: International Conference on Indoor Air. Ghent, Belgium, July 2016.
77. Clougherty JE. Spatial variation in nighttime exposures to woodsmoke-related organic air pollution. National Institute for Water and Atmospheric Research (NIWA) Woodsmoke workshop. July 2016. Wellington, New Zealand.
78. Clougherty JE. Spatial variation in nighttime exposures to woodsmoke-related organic air pollution in Christchurch. Environment Canterbury. July 2016. Christchurch, New Zealand.
79. Clougherty JE. Exposures to diesel-related air pollution in downtown Pittsburgh. Invited presentation to Allegheny County Board of Health. September 15, 2016.
80. Clougherty JE. Non-chemical stressors in cumulative risk assessment. Society of Toxicology (SOT) RASS Risk Assessment webinar series. 14 Sept 2016.
81. Clougherty JE. The link between exposure to traffic-related pollution and SES, in Health Effects Institute (HEI) symposium: Real-time measurements and integrated models to estimate traffic exposures in complex urban environments, at International Society of Exposure Science (ISES); Utrecht, Netherlands, Oct 2016.
82. Clougherty JE. Social and psychosocial factors in CRA. In symposium: Integrating Cumulative Risk Assessment into Occupational Safety and Health. Society for Risk Analysis (SRA) Annual Meeting, Dec 2016; San Diego, CA.
83. Clougherty JE. Diesel-Related Air Pollution in Downtown Pittsburgh. Mid-Atlantic Diesel Collaborative (MDC). Mid-Atlantic Regional Air Managers' Association. January 2017.
84. Clougherty JE. Spatial Variation in Diesel-Related Organics in a Downtown Core. Mid-Atlantic Regional Air Managers' Association. Webinar. February 28, 2017.
85. Clougherty JE. Combined Effects of Social Stressors and Environmental Pollution on Urban Health. University of Pennsylvania. Penn Injury Science Center (PISC). February 2017.
86. Clougherty JE. Saturation Sampling for Spatial Variation in Diesel-Related Pollution. Environmental Defense Fund webinar. April 3, 2017.
87. Clougherty JE. Susceptibility to Multiple Pollutants in Cardiovascular Disease. Health Effect Institute (HEI) annual meeting. Poster presentation. Alexandria, VA. May 1, 2017.
88. Clougherty JE. Psychosocial stress, air pollution, and respiratory disease. In symposium: Air Pollution and Psychosocial Stress and the Origin of Lung Disease. American Thoracic Society (ATS). Washington, D.C., May 24, 2017.
89. Clougherty JE. The role of psychosocial stressors in mediating socioeconomic susceptibility to air pollution. In symposium: Social Determinants of Health, Environmental Exposures, and Disproportionately Impacted Communities: What We Know and How We Tell Others. International Society for Exposure Science (ISES) Annual Meeting. Research Triangle Park, NC. October 2017.
90. Clougherty JE. What is the evidence? What are the gaps? University of Albany-T.H. Chan Harvard School of Public Health workshop: What is the joint contribution of environmental and social determinants of health in explaining health and disease over the life course? Building the field and identifying research priorities. Saratoga Springs, NY. October 2017.
91. Clougherty JE. Gender, chronic stress, and susceptibility to air pollution in chronic respiratory

illness. International Conference on Impact of Environment on Women's Health. Amity University. Lucknow, India. November 2017.

92. Clougherty JE. Exposure Assessment for Nonchemical Stressors. Society for Risk Analysis (SRA)-International Society for Exposure Science (ISES) Webinar Series. February 2018.
93. Clougherty JE, Humphrey JL, Kinnee EJ, Reid CE, Robinson L, McClure LA, Kubzansky LD. Susceptibility to Multiple Air Pollutants in Cardiovascular Disease. Health Effects Institute (HEI) Annual Meeting. Poster presentation. April 2018.
94. Clougherty JE. Chemical and Non-chemical Stressors in Cumulative Risk Assessment. National Institutes of Occupational Safety and Health (NIOSH) symposium on Cumulative Risk Assessment. Cincinnati, OH. July 2018.
95. Clougherty JE, Longley I, Tunno B, Somervell E, Edwards S, Olivares G, Coulson G. Using Distributed Air Sampling to Distinguish Spatial Contributions of Woodsmoke from other Particulate Sources in a Medium-sized City. In symposium: Innovation in community-based assessment of Residential Wood Smoke Exposure, Health and Solutions. International Society for Environmental Epidemiology (ISEE)/ International Society for Exposure Science (ISES) Joint Annual Meeting. Ottawa, Ontario, Canada. August 2018.
96. Clougherty JE. Psychosocial Stress and Air Pollution in Respiratory and Cardiovascular Health. Rutgers Environmental and Occupational Health Sciences Institute (EOHSI). Piscataway NJ. April 2018.
97. Clougherty JE. Differential Susceptibility to Environmental Pollution by Chronic Urban Stressors. Center of Excellence in Environmental Toxicology (CEET). Perelman School of Medicine at the University of Pennsylvania. October 2018.
98. Clougherty JE, Tripathy S. Design of a saturation network to capture spatial variation in NO_2 across Philadelphia. Drexel University Urban Health Collaborative (UHC). Philadelphia PA, January 2019.
99. Humphrey JL, Kinnee EJ, Kubzansky LD, Reid CE, McClure LA, Robinson L, Clougherty JE. Social Susceptibility to Multiple Air Pollutants in Cardiovascular Disease. American Association of Geographers (AAG). Washington, D.C., April 2019.
100. Clougherty JE, Kinnee EJ, Holguin F. Modification of Asthma Clinical Trial Results by Environmental and Socioeconomic Exposures. American Association of Geographers (AAG). Washington, D.C., April 2019.
101. Clougherty JE. Social Susceptibility to Air Pollution in Respiratory and Cardiovascular Health. University of Michigan, Epidemiology Seminar Series. April 2019.
102. Clougherty JE, Humphrey JL, Kinnee EJ, Kubzansky LD, Reid CE, McClure LA, Robinson L. Social Susceptibility to Multiple Air Pollutants in Cardiovascular Disease. Health Effects Institute (HEI) Annual meeting. Seattle, WA, May 2019.
103. Clougherty JE. Chronic social stressors and susceptibility to air pollution. Columbia University Mailman School of Public Health. Department of Environmental Health Sciences/ NIEHS Center for Environmental Health. June 2019.
104. Clougherty JE. Chronic social stressors and susceptibility to air pollution in urban communities. in symposium: Innovations in data collection and analysis in urban health research. Drexel Urban Health Symposium, Philadelphia PA, September 2019.
105. Clougherty JE. Chemical and Non-Chemical Stressors in Cumulative Risk Assessment (Keynote). North Carolina Society for Toxicology (SOT) Annual Meeting. October 5, 2019.
106. Clougherty JE. Differential susceptibility to air pollution by chronic psychosocial stress. Duke University Nicholas School of the Environment. February 13, 2020.
107. Clougherty JE. The Role of Socioeconomic Status (SES) in Studies of Air Pollution and Health. In session: Inequalities of Air Pollution Exposures and Associated Health Impacts in the United States. Health Effects Institute (HEI) Annual meeting. Boston, MA. April 2020.

OTHER PRESENTATIONS

1. Clougherty JE. Evaluating the Efficacy of Indoor Environmental Intervention to Improve Health Outcomes in Children. Presented at: Central and Eastern European Conference on Indoor Air

Quality; 2004; Tatras-Patry, Slovakia.

2. Clougherty JE. The Healthy Public Housing Initiative: Indoor Environmental Intervention to Improve Health Outcomes in Children. Presented at: American Public Health Association (APHA); 2004; Washington, DC.
3. Clougherty JE. Estimating Intra-Urban Variability in Traffic-Related Air Pollutants. Presented at: International Society for Exposure Analysis (ISEA); 2005; Tucson, AZ.
4. Clougherty JE. Effect Modification of Indoor Environmental Interventions to Reduce Childhood Asthma Symptoms. Presented at: 15th Conference of the International Society for Environmental Epidemiology (ISEE); 2005; Johannesburg, South Africa.
5. Clougherty JE. Modeling Intra-Urban Variability in Outdoor $PM_{2.5}$, EC, and NO_2. Presented at: 15th Conference of the International Society for Environmental Epidemiology (ISEE); 2006; Paris, France.
6. Clougherty JE. GIS-Based Retrospective Exposure Estimation, and Social-Environmental Synergy in Asthma Etiology. Presented at: 15th Conference of the International Society for Environmental Epidemiology (ISEE); 2006; Paris, France.
7. Clougherty JE. GIS-based Retrospective Exposure Estimation, and Social-Environmental Synergy in Asthma Etiology. Presented at: Environmental Justice Symposium, Conference of the International Society for Environmental Epidemiology (ISEE); 2007; Mexico City, Mexico.
8. Clougherty JE. The Effect of Job Status on Hypertension incidence in an Industrial Setting: The Alcoa Aluminum Manufacturing Cohort. Presented at: 19th Annual Conference on Epidemiology in Occupational Health (EpiCOH); 2007; Banff, Alberta Canada.
9. Clougherty JE, Levy JI, Houseman A. Modeling Intra-Urban Variability in $PM_{2.5}$ Constituents for Source Apportionment, using GIS and Independent Components Analysis (ICA). Presented at: International Society for Exposure Analysis (ISEA); 2007; Durham, NC.
10. Clougherty JE. Chronic Disease Onset in the Alcoa Aluminum Manufacturing Cohort. Presented at: MacArthur Network on Socioeconomic Status and Health Meeting; 2007 May; Cambridge, MA.
11. Clougherty JE. Traffic-Related Air Pollution, Acculturative Stress, and Childhood Respiratory Health in Urban New Zealand: Pacific Islands Families Study. Presented at: International Society for Environmental Epidemiology (ISEE)/ International Society for Exposure Analysis (ISEA); 2008; Pasadena, CA.
12. Clougherty JE. Social Stress and Susceptibility to Concentrated Particulate Air Pollution (CAPs) in Rats. Presented at: International Society for Environmental Epidemiology (ISEE)/ International Society for Exposure Analysis (ISEA); 2008; Pasadena, CA.
13. Clougherty JE. Job Strain and Hypertension in Manufacturing Settings: The Alcoa Aluminum Manufacturing Cohort. Presented at: Conference on Epidemiology in Occupational Health (EpiCOH); 2008; San Jose, Costa Rica.
14. Levy JI, Clougherty JE, Hausman A. Modeling Intra-Urban Variability in $PM_{2.5}$ Constituents for Source Apportionment, using GIS and Positive Matrix Factorization. Poster presented at: Health Effects Institute (HEI) Annual Conference; 2008; Philadelphia, PA.
15. Clougherty JE. Modeling Intra-Urban Variability in PM2.5 Constituents for Source Apportionment, using GIS and Constrained Factor Analysis. Presented at: International Society for Exposure Analysis (ISEA); 2009; Minneapolis, MN.
16. Clougherty JE. Chronic Stress and Respiratory Response to Concentrated Particulate Air Pollution (CAPs) in Rats. Presented at: International Society for Environmental Epidemiology (ISEE); 2009; Dublin, Ireland.
17. Clougherty JE. The New York City Community Air Survey: Design and Preliminary Results. Presented at: International Society for Environmental Epidemiology (ISEE); 2009; Dublin, Ireland.
18. Clougherty JE. Temporal and Spatial Sampling Allocation for Year-Round Variability in Multiple Pollutants: The New York City Community Air Survey. Poster presented at: Health Effects Institute (HEI) Annual Meeting; 2009; Portland, OR.
19. Clougherty JE. Wintertime Spatial and Temporal Variability in Multiple Air Pollutants: The New York City Community Air Survey (NYCCAS). Presented at: International Society for Exposure

Analysis (ISEA); 2009; Minneapolis, MN.

20. Clougherty JE. Temporal and Spatial Sampling Allocation for Year-Round Variability in Multiple Pollutants: The New York City Community Air Survey (NYCCAS). Poster presented at: Health Effects Institute (HEI) Annual Meeting; 2009 Nov; Minneapolis, MN.
21. Clougherty JE. Spatial Variability in Wintertime Concentrations of Multiple Pollutants and PM2.5 Constituents: The New York City Community Air Survey (NYCCAS). Presented at: American Association for Aerosol Research (AAAR); 2010; San Diego, CA.
22. Clougherty JE. Chronic Social Stress and Susceptibility to Fine Particulate Air Pollution in Rats. Presented at: American Association for Aerosol Research (AAAR); 2010; San Diego, CA.
23. Clougherty JE. Validated Measures of Chronic Occupational Noise Exposure, as Predictors of Hypertension. Presented at: International Society for Environmental Epidemiology (ISEE); 2011; Barcelona, Spain.
24. Tunno B, Cambal L, Howell J, Dalton R, Michael A, Tripathy S, Shields KN, Holguin F, Clougherty JE. Indoor Air Sampling for Particulate Matter and Nitrogen Dioxide in Pittsburgh Communities Near Active Steel Mills. Poster presented at: International Society for Environmental Epidemiology (ISEE); 2012 Aug 20; Columbia SC.
25. Carr JL, Newman OD, Joseph E, Chubb L, Parks A, Callaway C, Kubzansky LD, Spengler JD, Shepard P, Clougherty JE. Exploring the relevance of publicly-available indicators of social stressors through a spatially-informed, community-based qualitative process across New York City. Poster presented at: International Society of Environmental Epidemiology (ISEE); 2012 Aug 24; Columbia SC.
26. Clougherty JE. Cardiovascular Response to Chronic Social Stress in Rats. Presented at: International Society for Exposure Science (ISES); 2012 Oct; Seattle, WA.
27. Carr JL, Kubzansky LD, Ito K, Newman OD, Spengler JD, Shepard P, Clougherty JE. GIS-based methods for characterizing spatial relationships among social stressors across New York City. Presented at: International Society of Exposure Science (ISES); 2012 Oct 1; Seattle WA.
28. Carr JL, Clougherty JE. Community Stressors, Air Pollution, and Childhood Asthma across NYC. Poster presented at: Pittsburgh International Lung Conference; 2012 Oct 5; Pittsburgh, PA.
29. Gillooly SE, Cambal L, Feinberg J, Jackson M, Carr JL, Michanowicz AR, Tunno B, Clougherty JE, Shields KN. Development and Validation of a Method Using Deciduous Tree Leaves to Capture Air Pollution Variation in Pittsburgh, PA. Poster presented at: International Society for Exposure Science (ISES) annual conference; 2012 Oct 28; Seattle, WA.
30. Clougherty JE, Carr JL, Levy JI. Assessment of Non-Chemical Stressor Exposures for Environmental Health Research (Symposium). Presented at: International Society for Exposure Science (ISES); 2012 Oct 28; Seattle, WA.
31. Cambal L, Elliott E, Felix D, Tunno B, Howell J, Michanowicz AR, Carr JL, Gillooly S, Shields KN, Clougherty JE. Developing Methods to Determine the Nitrogen Isotopic Composition (d15N) in NO_2 for Source Apportionment in an Urban Area. Poster presented at: International Society for Exposure Science (ISES); 2012 Oct 28; Seattle, WA.
32. Cambal L, Clougherty JE. Intra-Urban Relationships between Ambient Ozone (O_3) and Nitrogen Dioxide (NO_2) Concentrations in Pittsburgh, PA. Poster presented at: International Society for Exposure Science (ISES); 2012 Oct 28; Seattle WA.
33. Shields KN, Clougherty JE. Evaluation of the Spiroscout, a novel device to record spatially and temporally resolved asthma exacerbation events, near Braddock, PA. Poster presented at: International Society for Exposure Science (ISES); 2012 Oct 28; Seattle WA.
34. Tunno B, Cambal L, Carr JL, Michael A, Howell J, Gillooly S, Tripathy S, Roper C, Misquitta A, Shields KN, Gorczynski J, Eisl H, Clougherty JE. Spatial Variation in Inversion-Focused Seasonal Measures of Fine Particulate Matter and Elemental Carbon in Pittsburgh, PA. Poster presented at: International Society for Exposure Science (ISES); 2012 Oct 28; Seattle WA.
35. Michanowicz AR, Carr JL, Cambal L, Tunno B, Gillooly S, Howell J, Shields KN, Clougherty JE. Efficacy of line source dispersion modeling within an area of complex terrain (Pittsburgh, PA) for improving spatial concentration estimates for nitrogen dioxide in land use regression modeling.

Poster presented at International Society for Exposure Science (ISES); 2012 Oct 28; Seattle, WA.

36. Clougherty JE. Spatial Variation for Diesel-Related Organics in Downtown Pittsburgh. Presented at: Mid-Atlantic Regional Air Manger's Association (MARAMA); 2013; Richmond, VA.
37. Carr JL, Johnson I, Keene R, Gradeck R, Landry P, Lucht J, Beach SR, Clougherty JE. Developing and validating an online GIS-based instrument to elicit perceived neighborhood information for public health research: A pilot study in New York City and Pittsburgh. Poster presented at: Dean's Day, University of Pittsburgh Graduate School of Public Health.; 2013 Apr 1; Pittsburgh, PA.
38. Roper C, Latoche J, Chubb L, Cambal L, Tunno B, Carr JL, Howell J, Tripathy S, Michanowicz AR, Gillooly S, Fattman CL, Clougherty JE. Diesel Fine Particlulate Composition of PM2.5 in Downtown Pittsburgh, PA and the Effects on Inflammatory Responses in Mice. Presented at: 27th Annual Meeting of the Allegheny-Erie Society of Toxicology, Toxicity of Air, Ground, and Water Pollutants; 2013 May 30; Morgantown, WV.
39. Clougherty JE. Chronic Social Stress and Cardiovascular Function in Rats. Presented at: International Society for Environmental Epidemiology (ISEE); 2013 Aug 20; Basel, Switzerland.
40. Gillooly S, Cambal L, Yonas MA, Kriesky J, Schmid J, Moore J, Clougherty JE, Shields K. A Community-Based Participatory Research (CBPR) Approach to Characterize Perceived Air Pollution "Hot Spots" Using Tree Leaves as Biomonitors. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
41. Tunno B, Cambal L, Roper C, Tripathy S, Michanowicz AR, Carr JL, Howell J, Gillooly S, Chubb L, Gorczynski J, Eisl H, Clougherty JE. Comparison of 24-hour vs. Inversion-Period Integrated Samples of PM2.5 and Elemental Carbon in Pittsburgh, PA, USA. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
42. Tunno B, Cambal L, Carr JL, Roper C, Tripathy S, Chubb L, Michanowicz AR, Howell J, Gillooly S, Gorczynski J, Eisl H, Clougherty JE. Exposure Assessment and Spatial Variation of PM2.5 and Elemental Carbon in Downtown Pittsburgh, PA, USA. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
43. Gillooly S, Cambal L, Feinberg J, Jackson M, Carr JL, Michanowicz AR, Tunno B, Clougherty JE, Shields KN. Development and Validation of a Magnetic Method Using Deciduous Tree Leaves to Obtain Spatially-Resolved Air Pollution Measurements in Pittsburgh, PA, USA. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
44. Cambal L, Elliott E, Felix D, Tunno B, Clougherty JE. Using the Nitrogen Isotopic Composition of NO2 (d15N-NO2) for Source Apportionment in an Urban Area. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
45. Cambal L, Gillooly SE, Tunno B, Michanowicz AR, Bain DJ, Clougherty JE, Shields KN. A Comparison of Trace Elements Accumulation and Spatial Variability in Leaves of Norway Maple Trees to Co-located PM_{25} Filters in an Urban Area. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
46. Carr JL, Bobb J, Yee M, Matte T, Savitz D, Clougherty JE. Influence of spatial heterogeneity in socioeconomic deprivation on birth outcomes and air pollution epidemiology in New York City, USA. Poster presented at: International Society for Environmental Epidemiology Annual Conference; 2013 Aug 20; Basel, Switzerland.
47. Michanowicz AR, Carr JL, Cambal L, Tunno B, Gillooly S, Howell J, Tripathy S, Roper C, Shields KN, Clougherty JE. A hybrid Land Use Regression/AERMOD Model for Predicting PM2.5. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
48. Michanowicz AR, Cambal L, Carr JL, Tunno B, Gillooly S, Howell J, Tripathy S, Roper C, Shields KN, Clougherty JE. A Hybrid Land Use Regression/ CALINE3 Model for Predicting NO_2: A Seasonal Comparison. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
49. Carr JL, Kubzansky LD, Newman OD, Spengler JD, Shepard P, Clougherty JE. Validating community stressors using individual data on perceived stress across New York City (NYC). Poster presented at: International Society for Environmental Epidemiology (ISEE) Annual Conference; 2013 Aug 20; Basel, Switzerland.

50. Shmool JL, Clougherty JE, Robertson LB, Sharma R, Simon B, Yuan J, Bovbjerg D. Social stress, air pollution, and cancer in Allegheny County, PA. Presented at: University of Pittsburgh Cancer Institute Research Retreat; 2014; Greensburg, PA.
51. Michanowicz A, Shmool J, Tunno BJ, Clougherty JE. A hybrid land use regression/AERMOD model for predicting PM2.5. Presented at: International Society of Exposure Science (ISES); 2014; Cincinnati, OH.
52. Rubright RT, Gillooly S, Tripathy S, Kasunic A, Gilliam ST, Wallace JM, Yonas MA, Clougherty JE. Transects Modeling from Bisecting Roadways for $PM_{2.5}$, Elemental Carbon (EC), and Nitrogen Dioxide (NO_2) in Homewood, PA. Poster presented at: International Society for Exposure Science (ISES); 2014; Cincinnati, OH.
53. Chubb L, Tunno B, Cambal L, Roper C, Somervell E, Edwards S, Olivares G, Gray S, Coulson G, Longley I, Clougherty JE. Spatial contrasts in $PM_{2.5}$ Collected During Daytime and Nighttime Hours in Christchurch, New Zealand. Poster presented at: International Society for Exposure Science (ISES); 2014; Cincinnati, OH.
54. Zhou J, Shmool JL, Clougherty JE, Sheffield P. Ambient ozone and children's acute asthma in New York City: A comparison of time-series and case-crossover analyses with spatially-resolved air pollution metrics. Poster presented at: International Society for Environmental Epidemiology (ISEE); 2014; Seattle, WA.
55. Tunno B, Cambal L, Chubb L, Roper C, Edwards S, Coulson G, Longley I, Clougherty JE. Spatial Variation in Fine Particulate Matter and Black Carbon across Auckland, New Zealand. Poster presented at: International Society for Exposure Science (ISES); 2014; Cincinatti, OH.
56. Tripathy S, Tunno B, Shmool JL, Michanowicz A, Manuck S, Gianaros PJ, Clougherty JE. Residential Outdoor Air Pollution and Brain Morphology in the Adult Health and Behavior (AHAB II) Cohort in Pittsburgh. Poster presented at: International Society for Environmental Epidemiology (ISEE); 2014; Seattle, WA.
57. Cambal L, Elliott E, Felix JD, Tunno BJ, Roper C, Michanowicz A, Clougherty JE. Using the Nitrogen Isotopic Composition of NO_2 (delta15N-NO_2) for Source Apportionment in an Urban Area. Poster presented at: International Society for Exposure Science (ISES); 2014; Cincinnati, OH.
58. Gillooly S, Tripathy S, Rubright RT, Kasunic A, Zuberi A, Gilliam ST, Lopez D, Wallace JM, Morris K, Yonas MA, Clougherty JE. Using Community-Based Participatory Research (CBPR) to Identify Areas of Concern Regarding Neighborhood Children's Exposures to Air Pollution Using Tree Leaves as Biomonitors. Poster presented at: International Society for Environmental Epidemiology (ISEE); 2014; Seattle, WA.
59. Clougherty JE. Spatial variation in organic tracers of diesel exposures during high-traffic hours in Downtown Pittsburgh. Presented at: Allegheny County Health Department (ACHD) Criteria Monitoring Subcommittee; 2014 Feb 10; Pittsburgh, PA.
60. Michanowicz AR, Clougherty JE. Hybrid land use regression/ AERMOD model for predicting $PM_{2.5}$. Presented at: International Society for Exposure Science (ISES); 2014 Oct 12; Cincinnati OH
61. Gilliam S, Burry K, Lopez D, Yonas MA, Kasunic A, Zuberi A, Boddie S, Bamwine P, Wallace JM, Gillooly SE, Tripathy S, Rubright RT, Clougherty JE. Healthy Living, Healthy Learning, Healthy Lives: Using CBPR Approaches to Examine How Diverse Contexts Influence Children's Asthma. Poster presented at: 142nd APHA Annual Meeting and Exposition; 2014 Nov 15-19; New Orleans, LA.
62. Tripathy S, Tunno B, Michanowicz DR, Shmool JLC, Gianaros PJ, Clougherty JE. Spatial Variation in Lead and Manganese Metal Constituents of Fine Particulate Matter. Presented at: International Society for Environmental Epidemiology (ISEE); 2015 Oct; Sao Paulo, Brazil.
63. Shmool JLC, Kinnee EJ, Sheffield PS, Clougherty JE. Incorporating Spatially-Resolved Exposure Metrics in a Case-Crossover Analysis of Ozone and Child Asthma Exacerbations. Presented at: International Society for Environmental Epidemiology (ISEE); 2015 Oct; Sao Paulo, Brazil.
64. Shmool JLC, Bobb JF, Ito K, Elston B, Savitz DA, Ross Z, Matte TD, Johnson S, Dominici F, Clougherty JE. Area-Level Socioeconomic Deprivation, Air Pollution, and Term Birth Weight. Presented at: International Society for Environmental Epidemiology (ISEE); 2015 Oct; Sao Paulo,

Brazil.

65. Tunno B, Tripathy S, Shmool JLC, Michanowicz D, Kinnee E, Gillooly S, Clougherty JE. Source Apportionment on Organic Compounds and Trace Elements across Downtown Pittsburgh, PA, USA. Presented at: International Society for Exposure Science (ISES); 2015 Oct; Henderson, NV.
66. Kinnee E, Shmool JLC, Tripathy S, Holguin F, Sheffield P, Clougherty JE. Spatial uncertainty in geocoding methods, exposure misclassification, and urban structure. Presented at: International Society for Exposure Science (ISES); 2015 Oct; Henderson, NV.
67. Kinnee E, Shmool JLC, Holguin F, Clougherty JE. Spatial Variation in Social and Environmental Exposures and Implications for Asthma-Related Clinical Trials, at International Society of Exposure Science (ISES); Utrecht, Netherlands, Oct 2016.
68. Tripathy SH, Gianaros PJ, Clougherty JE. Airborne Metals and Associations with Brain Inflammation in Pittsburgh Adults. International Society for Environmental Epidemiology (ISEE); 2016 Aug; Rome, Italy.
69. Erqou S, Clougherty JE, Reis S. Exposures to environmental pollutants in racial disparities in pre-clinical cardiovascular risk. American Heart Association (AHA). 2016 July; Phoenix, AZ.
70. Reid CE, Clougherty JE, Shmool JLC, Li J, Kubzansky LD. It's Not Easy Assessing Greenness: A Comparison of the Effects of Spatial Resolution of NDVI and Buffer Sizes on Self-Reported Health. American Association of Geographers (AAG). 2017 April; Boston, MA.
71. Orak N, Small M, Clougherty JE. A Probabilistic Methodology for Risk Assessmen of Nitrogen Dioxide Exposure and Adverse Reproductive Outcomes: A New York City Case Study. World Environment and Water Resources Congress. 2017; Sacramento CA.
72. Lee S, Moore J, Mady L, Clougherty JE. Air Pollution and Chronic Rhinosinusitis: Are there Modifiable Risk Factors for Disease Expression? American Rhinologic Society Annual Meeting April 2017.
73. Reid CE, Shmool JLC, Kubzansky LD, Clougherty JE. What Measure of Greenness Matters: the role of self-described neighborhoods and different measures of greenness with health in NYC. GeoMed. September 2017; Lisbon, Portugal.
74. Clougherty JE, Shmool JLC, Kinnee E, Sheffield PS. Chronic Social Stressors and Susceptibility to Short-term Variation in Urban Ozone: A Case-Crossover Analysis of Childhood Asthma Exacerbations in NYC. International Society for Environmental Epidemiology (ISEE) Annual Meeting. September 2017. Sydney, Australia.
75. Mady L, Lee S, Moore J, Kinnee E, Dodson Z, Tripathy S, Clougherty JE. Air Pollutants may be Modifiable Factors in Allergic Rhinitis and Chronic Rhinosinusitis. American Academy of Otolaryngic Allergy's Annual Scientific Meeting. Chicago IL. September 2017.
76. Mady L, Lee S, Moore J, Kinnee E, Dodson Z, Tripathy S, Clougherty JE. Air Pollutants may be Modifiable Factors in Allergic Rhinitis and Chronic Rhinosinusitis. American Rhinologic Society Annual Meeting. Chicago IL. September 2017.
77. Clougherty JE, Kinnee EJ, Shmool JLC, Sheffield PE. Violence, Poverty, and Differential Susceptibility to Ambient Ozone in Childhood Asthma. Drexel University Urban Health Collaborative (UHC) Fall symposium. Poster presentation. September 2017.
78. Canterbury A, Erqou S, Clougherty JE, Bambs C, Shpilsky D, Magnani J, Aiyer A, Kinnee E, Tripathy S, Reis S. Associations among Cumulative Social Risk, Ideal Cardiovascular Health and Exposure to Environmental Pollutants. American College of Cardiology 67th Annual Scientific Session & Expo. March 2018.
79. Holguin, Kinnee E, Clougherty JE. Using geographic information system (GIS) analysis to understand how the environment influences asthma. University of Colorado Asthma Clinical and Research Program. University of Colorado Asthma Research and Education (UCore). Grand Rounds. March 2018.
80. Ocampo P, Clougherty JE. Describing associations among perceived air quality, air pollution exposures and self-reported health in an urban population. Drexel University Emerging Graduate Scholars Conference. May 2018.
81. Humphrey JL, Kubzansky LD, Kinnee EJ, Reid CE, McClure LA, Clougherty JE. Susceptibility to

Multiple Air Pollutants in Cardiovascular Disease. Society for Epidemiologic Research (SER). Baltimore, Maryland. Poster presentation. June 2018.

82. Clougherty JE, Kinnee EJ, Holguin F. Modification of Asthma Clinical Trial Results by Environmental and Socioeconomic Exposures. International Society for Environmental Epidemiology (ISEE)/ International Society for Exposure Science (ISES) Joint Annual Meeting. Ottawa, Ontario, Canada. August 2018.
83. Tripathy S, Williams P, Schinasi L, Capps S, Clougherty JE. Disentangling impacts of multiple NO_2 sources in an urban industrial area. International Society for Environmental Epidemiology (ISEE)/ International Society for Exposure Science (ISES) Joint Annual Meeting. Ottawa, Ontario, Canada. August 2018.
84. Humphrey JL, Kinnee EJ, Kubzansky LD, Reid CE, McClure LA, Robinson L, Clougherty JE. Social Susceptibility to Multiple Air Pollutants in Cardiovascular Disease. International Society for Environmental Epidemiology (ISEE)/ International Society for Exposure Science (ISES) Joint Annual Meeting. Ottawa, Ontario, Canada. August 2018.
85. Volk H, Perera F, Braun JM, Kingsley SL, Gray K, Buckley J, Clougherty JE, Croen L, Eskenazi B, Herting M, Just A, Kloog I, Margolis A, McClure L, Miller R, Wright R. Leveraging Variability across Space and Time to Assess Air Pollution Exposures and Child Health in ECHO. International Society for Environmental Epidemiology (ISEE)/ International Society for Exposure Science (ISES) Joint Annual Meeting. Ottawa, Ontario, Canada. August 2018.
86. Schinasi LH, De Roos A, Quick H, Clougherty JE. Associations between area-level greenness and infant mortality rates in Philadelphia, PA. Society for Epidemiologic Research (SER). Baltimore, MD. June 2018.
87. Rhinehart ZJ, Kinnee E, Saul M, Clougherty J, Magnani JW. Association of particulate matter and incident stroke in atrial fibrillation. University of Pittsburgh Department of Medicine Research Day. Pittsburgh, PA, April 2019.
88. Clougherty JE, Humphrey JL, Kinnee EJ, Kubzansky LD, Reid CE, McClure LA, Robinson L. Social Susceptibility to Urban Air Pollution in Cardiovascular Disease. Health Effects Institute (HEI) Annual Meeting, Seattle, WA. May 5 -7, 2019
89. Williams P, Niemeier RT, Rice G, Clougherty JE, Rossner A. Advancing Cumulative Risk Assessment in Occupational Settings. In session: Risk Assessment and Management. American Industrial Hygiene Conference & Expo. Minneapolis MN. May 2019.
90. Clougherty JE, Humphrey JL, Kinnee EJ, Kubzansky LD, Reid CE, McClure LA, Robinson L. Social Susceptibility to Urban Air Pollution in Cardiovascular Disease. International Medical Geography Symposium (IMGS), Queenstown, New Zealand, June 30 - July 5, 2019.
91. Humphrey, JL. Kinnee EJ, Kubzansky LD, Reid CE, McClure LA, Robinson L, Clougherty JE. Social Susceptibility to Urban Air Pollution in Cardiovascular Disease. International Society for Environmental Epidemiology (ISEE). Utrecht, The Netherlands, August 2019.
92. Clougherty JE, Kinnee EJ, Holguin F. Modification of Asthma Clinical Trial Results by Environmental and Socioeconomic Exposures. International Society for Environmental Epidemiology (ISEE). Utrecht, The Netherlands, August 2019.
93. Rhinehart ZJ, Kinnee E, Saul M, Clougherty JE, Magnani JW. Association of particulate matter and incident stroke in atrial fibrillation. American Heart Association (AHA) Annual Meeting. Baltimore MD, September 2019.
94. Clougherty JE, Humphrey, JL. Kinnee EJ, Kubzansky LD, Reid CE, McClure LA, Robinson L. Social Susceptibility to Urban Air Pollution in Cardiovascular Disease. Drexel Urban Health Symposium, Philadelphia PA, September 2019.
95. Tripathy S, Williams P, Lavelle Lucia, Schinasi L, Capps S, Clougherty JE. Disentangling impacts of multiple nitrogen dioxide sources across Philadelphia. Drexel Urban Health Symposium, Philadelphia PA, September 2019.
96. Clougherty JE, Humphrey, JL. Kinnee EJ, Kubzansky LD, Reid CE, McClure LA, Robinson L. Social Susceptibility to Urban Air Pollution in Cardiovascular Disease. American Public Health Association (APHA) annual meeting, Philadelphia PA, November 2019.

97. Tripathy S, Williams P, Lavelle Lucia, Schinasi L, Capps S, Clougherty JE. Disentangling impacts of multiple nitrogen dioxide sources across Philadelphia. American Public Health Association (APHA) annual meeting, Philadelphia PA, November 2019.
98. Burris HH, Clougherty JE, Melly SJ, Elovitz MA. Neighborhood violent crime is associated with high perceived stress in pregnancy. To be presented as a poster at 40th Annual Pregnancy Meeting of the Society for Maternal Fetal Medicine. February 6, 2020, Grapevine, TX.
99. Williams PRD, Rossner A, Clougherty JE, Rice G, Niemeier RT. Adopting a Cumulative Risk Assessment Perspective to Support Decision-Making in the Work Environment. Society for Risk Analysis (SRA) Annual Meeting. December 9-11, 2019, Arlington, VA.
100. Herrera MT, Girma B, Liu B, Schinasi L, Clougherty JE, Sheffield PE. Hot weather and child emergency department visits for injury: An initial inquiry into violence as mechanism. American Public Health Association (APHA) annual meeting, October 24-28, 2020, San Francisco CA.
101. Schinasi L, Hirsch J, Melly S, Bayer J, Lovasi G, Clougherty JE. Greenspace, gentrification, and urban development in the United States: A longitudinal, multi-city study. International Society for Environmental Epidemiology (ISEE). August 23-27, 2020, Washington, DC.

TEACHING

Undergraduate-level Courses:

Year(s)	Course Number & Title	Role
	University of Chicago:	
1996 – 1997	Environmental Studies Academic Program	Academic Coordinator
	McMaster University:	
Fall 1997	Physical Geography of North America	Teaching Assistant

Graduate-level Courses:

	Harvard School of Public Health:	
Spring 2003	Air Pollution	Teaching Assistant
Spring 2004	Exposure Assessment/ Analytic Chemistry	Teaching Assistant
Fall 2004 – 2006	Lifecycle Analysis and Risk Assessment	Teaching Assistant
Spring 2007	Advanced Topics in Women, Gender and Health	Co-Primary Instructor
	University of Pittsburgh:	
Spring 2011	Environmental Health and Disease (EOH 2013)	Guest Lecturer
Spring 2011	Fate and Transport of Environmental Contaminants (EOH 2122)	Co-Primary Instructor
Fall 2011	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor

Summer 2012	Environmental Epidemiology (EPI 2220)	Guest Lecturer
Spring 2012	Fate and Transport of Environmental Contaminants (EOH 2122)	Co-Instructor
Fall 2012	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor
Spring 2013	Fate and Transport of Environmental Contaminants (EOH 2122)	Co-Primary Instructor
Fall 2013	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor
Summer 2014	Environmental Epidemiology (EPI 2220)	Guest Lecturer
Fall 2014	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor
Spring 2015	Environmental Health and Disease (EOH 2013)	Guest Lecturer
Fall 2015	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor
Spring 2016	Environmental Health and Disease (EOH 2013)	Guest Lecturer
Spring 2016	Applied Spatial Analysis in Environmental/ Community Epidemiology (EPI 2220)	Guest Lecturer
Fall 2016	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor
	Drexel University:	
Spring 2017	Environmental Hazard Assessment (EOH 620)	Primary Instructor
Summer 2017	Introduction to Environmental and Occupational Health (EOH 510)	Guest Lecturer
Spring 2018	Environmental Hazard Assessment (EOH 620)	Primary Instructor
Summer 2018	Introduction to Environmental and Occupational Health (EOH 510)	Guest Lecturer
Fall 2018	Environmental and Occupational Health (PBHL 314)	Guest Lecturer
Fall 2018	Proposal Writing Seminar (EPI 803)	Guest Lecturer
Winter 2018	Advanced Methods in GIS for Public Health (EOH 710)	Guest Lecturer

Spring 2019	Environmental Hazard Assessment (EOH 620)	Co-Instructor
Spring 2019	Introduction to Environmental and Occupational Health (EOH 510)	Guest Lecturer
Summer 2019	Introduction to Environmental and Occupational Health (EOH 510)	Guest Lecturer
Fall 2019	Environmental and Occupational Health (PBHL 314)	Guest Lecturer
Spring 2020	Environmental Exposure Assessment (EOH 620)	Primary Instructor

MENTORING AND ADVISING

Undergraduate Students

Year(s)	Mentee	Role
6/2011 - 8/2011	Hanna Giacomin Personal sampling for air pollution	Mentor (summer intern)
6/2011 - 8/2011	Nijole Pollock Personal sampling for air pollution	Mentor (summer intern)
6/2011 - 8/2012	Isaac Johnson GIS-based online survey development	Mentor (student employee)
6/2012	Rehima Jordan Socioeconomic patterns in air pollution exposures from Marcellus Shale operations	Mentor (Pitt-STEER)
6/2012 – 6/2013	Rebecca Dalton Elemental source markers in urban fine particles	Mentor
1/2013 – 6/2013	Jessica McDonald Monitoring and modeling volatile organic compound (VOC) concentrations across Downtown Pittsburgh	Mentor

Master's Students

Year(s)	Mentee	Role
2010 – 2011	Laalithya Konduru MS (Completed 2011) Biomarkers of Chronic Stress	Thesis Advisor
2011 – 2013	Jeff Howell MPH (Completed 2013) Pittsburgh air monitoring and youth focus groups	Mentor
2011 – 2013	Lauren Chubb MPH (Completed 2013)	Primary Advisor

	Organic markers of diesel particulate exposures across Downtown Pittsburgh	
2011 – 2013	Leah Cambal MPH (Completed 2013) Gaseous pollutant source apportionment across Pittsburgh	Primary Advisor
2011 – 2015	Sara Gillooly MS (Completed April 2015) Development of a method for using tree leaves for urban source identification *Award: Delta Omega Honor Society Inductee 2015* *Delta Omega Outstanding Masters' Thesis 2015*	Primary Advisor
6/2013 - 4/2015	Ryan Tyler Rubright MS (Completed April 2015) Variation in $PM_{2.5}$ and pre-clinical markers of cardiovascular illness in Pittsburgh, PA	Primary Advisor
8/2016-9/2016	Brian Adams DrPH (Behavioral and Community, Health Scis) Examining intimate partner violence support services for gay and bisexual men	Qualifying Exam Committee Member
2/2016 - Present	Guning Liu Air pollution exposures and self-reported health among prisoners in a facility near a coal ash dump	Research rotation
8/2016-Present	Heng Bai Social status as a modifier of immune and respiratory response to air pollution during California wildfires in large primates	Research rotation
2017 – Present	Paige Williams Spatial patterns in gaseous air pollution exposures in Philadelphia, PA *Award: Dornsife Funded Student-Faculty Collaborative Projects: Disentangling Multiple Air Pollution Sources in South Philadelphia*	Faculty Mentor
2017 – Present	Pilar Ocampo Perceived and objective air pollution exposures in New York City	Faculty Mentor
2019 – Present	Danielle Uibel MPH, Environmental and Occupational Health	Faculty Mentor
2019 – Present	Duong Nguyen MPH, Health Management and Policy Urban Health Fellowship Air Monitoring in South Philadelphia	Project Mentor

2019 – Present	Kathleen Escoto MPH, Epidemiology Air Pollution and Pre-term Birth in South Philadelphia	Preceptor/ Project Mentor
2019 – Present	Chahita Kanungo MPH, Environmental and Occupational Health Urban Air Pollution and Health	Faculty Mentor

Doctoral Students

Year(s)	**Mentee**	**Role**
2010 – 2013	Brett Tunno DrPH (completed November 2013) Modeling Spatial Variation in Ambient $PM_{2.5}$ and BC across Pittsburgh *Award: International Society for Environmental Epidemiology (ISEE) Outstanding Student Poster Presentation 2011*	Primary Advisor
2010 – 2014	Jessie L. Carr Shmool DrPH (completed December 2014) Exposure Assessment for Non-Chemical Stressors in Environmental Health *Award: Outstanding Student, EOH* *Award: Delta Omega Honor Society Inductee 2015* *Award: Delta Omega Honor Society Outstanding Doctoral Thesis*	Primary Advisor
2011 – 2014	Andrew Michanowicz DrPH (completed December 2014) Integration of source dispersion modeling into land use regression models across complex terrain *Award: Delta Omega Honor Society* *Award: International Society for Exposure Science Outstanding Student Poster 2012*	Primary Advisor
2012 - 2017	Sheila Tripathy PhD (completed April 2017) Hybrid Land use Regression Modeling of Fine Particulate Matter and Metal Components for Application in two Pittsburgh Cohorts *Award: Tri-State Chapter International Society of Exposure Science (ISES) travel award 2018*	Primary Advisor
2011 – 2012	Shantanu Kathar PhD (completed 2012) Secondary particle formation from diesel engines	PhD Committee Member (Carnegie Mellon University Engineering & Public Policy)
2011 – 2012	Tim Gordon PhD (completed 2012) Treatment effects on fine particulate composition	PhD Committee Member (Carnegie Mellon University Engineering & Public Policy)

	from heavy-duty engines	
2015	Tao Xue PhD (completed January 2015) Time-Series analysis of air pollution and cardiovascular outcomes	Research Rotation – 2012
2019 – Present	Henry Colby Chemistry of Third-hand Smoke from E-cigarettes and vaping	PhD Committee Member Drexel University Department of Chemistry
2019 – Present	Rennie Joshi Land-Use Regression Modeling of PM_{10} in Nepal	PhD Committee Member Drexel University Dornsife School of Public Health Epidemiology and Biostatistics
2020 - Present	Dustin Fry Physical disorder in Latin American cities: Measurement and evaluation	PhD Committee Member Drexel University Dornsife School of Public Health Epidemiology and Biostatistics

Postdoctoral Fellows

Year(s)	**Mentee**
1/2013 – 1/2015	Jiang Zhou, PhD Case-crossover analyses of spatiotemporal variance in air pollution and childhood asthma in NYC
8/2017 – Present	Jamie Humphrey, PhD Susceptibility by social factors in case-crossover analyses of multiple air pollutants and cardiovascular risk in NYC
6/2017 – Present	Sheila Tripathy, PhD Spatial variation in ports-related emissions in Auckland, New Zealand; Source apportionment for multiple NO_2 sources in Philadelphia, PA *Drexel Urban Health Collaborative (UHC) grant awardee 2019: Using Emerging Air Sensors to Identify Community Air Pollution Exposures Specific to South Philadelphia* *Fulbright Award Finalist, U.S.-New Zealand 2019*
September 2019 - Present	Drexel Urban Health Collaborative (UHC) GATHER T32 Training Grant Faculty Mentor

Junior Faculty Mentees

9/2017 – Present	Leah Schinasi, PhD Assistant Professor (tenure-track) Department of Environmental and Occupational Health *Mentor: Drexel Dornsife Junior Faculty Mentoring Program*

3/2018 - Present	*Mentor: American Heart Association (AHA) Career Development Award 2019-2022: Urban greenness, cardiovascular disease mortality, and the environmental pathways underlying this association* Usama Bilal, MD MPH PhD Assistant Professor (tenure-track) Department of Epidemiology and Biostatistics & Urban Health Collaborative Drexel University Dornsife School of Public Health *Committee member: 2018 NIH Director's Early Independence Award*

SERVICE

Departmental Committees

University of Pittsburgh:

2011 – 2016	Departmental Graduate Program Committee, member
2011 – 2016	Departmental Environmental Epidemiology Faculty Search Committee, member

Drexel University:

March 2018 – Nov 2018	Co-Chair, Department of Environmental and Occupational Health (EOH) Doctoral (PhD) Program Development Committee
Dec 2018 – Present	Co-Chair, Department of Environmental and Occupational Health (EOH) Doctoral (PhD) Program
Nov 2018 - Present	Chair, Department of Environmental and Occupational Health (EOH) Tenure-Track Faculty Search Committee

School and University Committees

University of Pittsburgh:

2011 – 2014	GSPH Educational Policies and Curriculum Committee (EPCC) Alternate Departmental Representative
2011 – 2012	GSPH Conference on the Health Effects of Natural Gas Extraction Member, Planning committee
August 2012 – 2016	University of Pittsburgh Committee on Race and Social Problems (RAP) Health Research Advisory Committee Member
October 2013 – 2014	GSPH Salk Centennial Celebration Planning Committee Member
October 2013 – 2016	University of Pittsburgh Provost's Sustainability Task Force (Mascaro Center for Sustainable Innovation) -- Invited Member
August 2014 –2016	GSPH Educational Policies and Curriculum Committee (EPCC)

	Departmental Representative
September 2014 -2015	Association for Schools and Programs of Public Health (ASPPH) Invited Faculty Objective Reviewer
October 2014 –2015	Council on Education for Public Health (CEPH) GSPH re-accreditation process Internal reviewer
October 2016 – Dec 2016	Graduate School of Public Health Faculty Appointments, Promotion, and Tenure Committee (FAPTC) ***Drexel University:***
July 2017 – Sept 2019	Drexel University: School Representative, Senate Committee for Faculty Affairs (SCFA)
	Drexel University Dornsife School of Public Health:
February 2017 – May 2018	Member, Educational Coordinating Committee (ECC)
April 2017 – May 2018	Member, Program Alignment and Review (PAR) Undergraduate Program Assessment Committee
Nov 2017 – May 2018	Member, Director of Global Health Search Committee
September 2019 – Present	Elected At-Large Representative, Executive Committee of the Faculty (ECF)
September 2019 – Present	Chair, EOH Departmental Chair Evaluation Committee

External Committees

2019 – Present	Editorial Board *International Journal of Environmental Research and Public Health (IJERPH)*
2018 - Present	Guest Editor *International Journal of Environmental Research and Public Health (IJERPH)* Special Issue: Social Stressors and Susceptibility to environmental Chemicals
	N*ational Institutes of Health (NIH) Study Sections:*
August 2016	- Neurological, Aging and Musculoskeletal Epidemiology Study Section (NAME) - *Ad hoc reviewer*
April 2017	- Community Influences on Health and Behavior (CIHB) - *Ad hoc reviewer*
June 2018	- Systemic Injury by Environmental Exposure (SIEE) - *Ad hoc reviewer*
June 2019	- Social Sciences and Population Studies A (SSPA) - *Ad hoc reviewer*
October 2018	Risk Assessment-Epidemiology Methods Workshop (Tampa, FL)
January 2019 – Present	Electric Power Research Institute (EPRI) Expert Panel on Confounding by Socioeconomic Factors in Environmental Epidemiology

November 2016	Norwegian Institute of Public Health (NIPH) Advisory Board: HEALTHSCAPES – The Impact of Urban Green Landscapes on Citizen Health and Wellbeing
August – Dec 2016	Air Advisory Committee, *Allegheny County Department of Health (ACHD)*
	Environmental Health Perspectives (journal):
2012 – Present	Editorial Review Board
2016 – Present	Associate Editor
	International Society for Exposure Science (ISES):
8/2012 – 8/2015	Elected Academic Councilor/ Board Member
8/2015 – 8/2017	Publications Committee Liaison
8/2014 – 6/2018	Publications Committee
8/2012 – 8/2015	Mentor, Students and New Researchers Program
6/2017 – Present	Quarterly Newsletter Editorial Review Board
2013 – 2019	Editorial Review Board *Journal of Exposure Science & Environmental Epidemiology*
2016 – 2019	Editorial Review Board, *Environmental Health (journal)*
	National Academy of Sciences (NAS):
2014 – 2016	Institute of Medicine (IOM) -- Department of Veterans Affairs Scientific Committee on Impacts of Open Burn Pits on Health of Veterans of Wars in Iraq and Afghanistan
2017 - Present	New Zealand Health Research Council (HRC) - Grant reviewer
2015 – Present	National Institute for Occupational Safety and Health (NIOSH) / Centers for Disease Control (CDC) Working Group: Occupational Factors in Cumulative Risk Assessment
2015 - 2016	Green Buildings Alliance (GBA) Pittsburgh Health Advisory Council
2015 – 2016	City of Pittsburgh Office of Sustainability – Pittsburgh Climate Action Plan -- Climate/ Resilience Project Public Health & Wellbeing Expert Group
2012 – 2013	West Harlem Environmental Action (WE ACT for Environmental Justice) Clean Heat Buildings Council, Board Member
2013 – 2014	New York City Clean Air Network (NYCCAN) member

From:	DeWitt, Jamie
To:	Knott, Steven
Subject:	TSCA SACC Nomination
Date:	Monday, April 20, 2020 12:00:05 PM
Attachments:	DeWitt_Contact Information_2020.pdf DeWitt_Expertise_2020.pdf DeWitt_CV_2020.pdf DeWitt_Biosketch_2020.pdf

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Dear Mr. Knott,

Attached, please find the following materials for my nomination to the TSCA Science Advisory Committee on Chemicals (SACC):

1. Current contact information
2. Expertise
3. Curriculum vitae
4. Biographical sketch

Please inform me if additional materials are required. Thank you for the opportunity to nomination.

Sincerely,

Jamie C. DeWitt
Associate Professor of Pharmacology & Toxicology
Brody School of Medicine
East Carolina University
Greenville, NC 27834

Biosketch

Jamie C. DeWitt

Current Position

2015- *Associate Professor* of Pharmacology and Toxicology, Brody School of Medicine, East Carolina University, Greenville, NC

2018- *Adjunct Associate Professor* of Toxicology Program, North Carolina State University, Raleigh, NC

Educational Background

Michigan State University	B.S.	1992	Biology
Indiana University	Ph.D.	2004	Env Science & Neural Sci
Indiana University	Postdoc	2003-04	Ecotoxicology
University of North Carolina	Postdoc	2004-08	Immunotoxicology

Research Activities

The DeWitt Laboratory at East Carolina University studies the role that environmental contaminants play in affecting health, with a specific focus on immune function, as well as how contaminants affect the ability of the immune system to communicate with the nervous system. Many of the contaminants studied by the DeWitt Laboratory are emerging environmental contaminants. Therefore, a parallel goal of the laboratory is to describe toxicity associated with exposure to emerging contaminants to better understand their potential health effects. These contaminants include per- and polyfluoroalkyl substances (PFAS) as well as pharmaceutical and personal care product pollutants (PPCP). Additional studies have addressed the toxicity of heavy metals and geogenic dusts that contain heavy metals. Research activities also are dedicated to understanding how exposure to environmental contaminants and how the immune and nervous systems communicate in diseases such as Autism Spectrum Disorder, Alzheimer's Disease, and Gulf War Illness.

Recent Service (Federal Advisory Committees and National or International Professional Organizations)

2020 Grant reviewer, National Institute of Environmental Health Sciences

2017-2019 External reviewer, Agency for Toxic Substances and Disease Registry, documents related to per- and polyfluoroalkyl substances (PFAS)

2013-2019 Grant reviewer, Department of Defense Congressionally Directed Medical Research Programs

2018 Workshop participant, European Environmental Agency workshop on "Sustainability consequences of chemical exposures: Connecting environment, health, and economic assessments"

2017- Member, Global PFAS Science Panel

2014 External reviewer, US Environmental Protection Agency, draft health effects documents: perfluorooctanoic acid and perfluorooctane sulfonate

2014 Working group member, International Agency for Research on Cancer, Monograph Volume 110

2005 - Society of Toxicology

1997 - Society of Environmental Toxicology and Chemistry

Contact Information for Nominee

Name: Jamie C. DeWitt

Organization: Department of Pharmacology and Toxicology, Brody School of Medicine, East Carolina University

Current Business Address: 6S-10 Brody Building, Brody School of Medicine, 600 Moye Blvd., Greenville, NC 27834, USA

Email Address: dewittj@ecu.edu

Daytime Telephone Number: 252-744-2474 (alternative: (b) (6))

Jamie C. DeWitt

Contact Details:

Department of Pharmacology & Toxicology
Brody School of Medicine, East Carolina University
6S-10 Brody Building, 600 Moye Blvd., Greenville, NC 27834
Phone: 252-744-2474
Email: dewittj@ecu.edu

EDUCATION & CERTIFICATIONS

Diplomate, American Board of Toxicology. 2017.

Ph.D., Environmental Science and Neural Science.
School of Public and Environmental Affairs and Program in Neural Science. Indiana University, Bloomington, IN. 2004.
Concentrations: Environmental and developmental neurotoxicology and risk assessment
Dissertation title: Developmental intoxication of dioxins and polychlorinated biphenyls in an avian model: Correlations of brain asymmetry, behavior, and related developmental effects

B.S., Environmental Science and Biology.
Lyman Briggs College. 1992. Michigan State University, East Lansing, MI. 1992.

PROFESSIONAL EXPERIENCE

Adjunct Associate Professor
Toxicology Program, Biological Sciences, North Carolina State University, Raleigh, NC.
March 2018-present.

Associate Professor of Pharmacology and Toxicology
Department of Pharmacology and Toxicology, Brody School of Medicine, East Carolina University, Greenville, NC.
July 2015-present.

Adjunct Associate Professor of Public Health
Department of Public Health, Brody School of Medicine, East Carolina University, Greenville, NC.
July 2015-July 2017.

Adjunct Assistant Professor of Public Health
Department of Public Health, Brody School of Medicine, East Carolina University, Greenville, NC.
July 2012-July 2014.

Affiliated Member
The Harriet and John Wooten Laboratory for Alzheimer's and Neurodegenerative Disease Research, East Carolina University, Greenville, NC.
July 2011-present.

Assistant Professor of Pharmacology and Toxicology

Department of Pharmacology and Toxicology, Brody School of Medicine, East Carolina University, Greenville, NC.
July 2008-July 2015.

Postdoctoral Trainee in Immunotoxicology

University of North Carolina at Chapel Hill in cooperation with the U.S. Environmental Protection Agency (Training Agreement CT829472), National Health and Environmental Effects Research Laboratory, Experimental Toxicology Division, Immunotoxicology Branch, Research Triangle Park, NC (Advisor: Dr. Robert Luebke). Evaluation of immune function and exploration of immunotoxic mechanisms, including use of knock-out models and molecular techniques, of various xenobiotics (organotins and perfluoroalkyl acids) in rodent models.
June 2004-June 2008.

Postdoctoral Research Associate in Environmental and Ecotoxicology

Developmental Neurobiology and Environmental Toxicology Laboratory, School of Public and Environmental Affairs, Indiana University, in cooperation with the U.S. Fish and Wildlife Service Bloomington Ecological Services Field Office, Bloomington, IN (Advisors: Dr. Diane Henshel and Daniel Sparks). Cardiotoxic effects in wild passerine birds developmentally exposed to PCBs.
September 2003-May 2004.

Research Assistant in Environmental and Ecotoxicology

Developmental Neurobiology and Environmental Toxicology Laboratory, School of Public and Environmental Affairs, Indiana University, Bloomington, IN (Advisor: Dr. Diane Henshel). Toxicological effects of dioxin and polychlorinated biphenyls after developmental exposure in an avian model, wild birds, and wild fish.
August 1995-August 2003.

Field Assistant in Limnology

Lake Lemon Conservancy District, Unionville, IN. Canada goose control, littoral zone revegetation, and monitoring of native and exotic aquatic plant populations.
June 2000-May 2003.

Field Assistant in Ecotoxicology

U.S. Fish and Wildlife Service-Bloomington Ecological Services Field Office, Bloomington, IN. Wild bird and macroinvertebrate population monitoring in a metal-contaminated lake, including assessment of fertile eggs for embryonic abnormalities.
April 1997-October 1997.

Research Associate in Entomology

Landscape Entomology Division, Department of Entomology, Michigan State University, East Lansing, MI. Research and efficacy tests for forest, ornamental and turf entomological studies for the Michigan Department of Agriculture and Turf Foundation.
September 1992-August 1995.

Research Assistant in Entomology

Medical Entomology Division, Department of Entomology, Michigan State University, East Lansing, MI. Assessment of Lyme disease prevalence in deer and dog ticks collected from a Lyme disease endemic area in Michigan.
May 1992-May 1993.

PUBLICATIONS

Peer-Reviewed Manuscripts

Kwiatkowski C, Andrews D, Birnbaum L, Bruton T, **DeWitt J**, Knappe D, Maffini M, Miller M, Pelch K, Reade A, Soehl A, Trier X, Venier M, Wagner C, Wang Z, Blum A. 2020. The scientific basis for managing PFAS as a chemical class. Under review by *Environmental Science and Technology Letters*.

Kotlarz N, McCord J, Collier D, Lea CS, Strynar M, Lindstrom AB, Wilkie AA, Islam JY, Matney K, Tarte P, Polera ME, Burdette K, **DeWitt J**, May K, Smart RC, Knappe DRU, Hoppin JA. 2020. Poorly understood PFAS generated as byproducts of fluorochemical manufacturing are in the blood of children and adults living in Wilmington, North Carolina. Under review by *Environmental Health Perspectives*.

McDonough C, Choyke S, Ferguson PL, **DeWitt J**, Higgins C. Bioaccumulation of novel per- and polyfluoroalkyl substances (PFASs) in mice dosed with an aqueous film-forming foam (AFFF). 2020. Accepted by *Environmental Science & Technology*.

vonderEmbse A, Gomez I, Hu Q, **DeWitt J**. Postnatal toxicant exposure in 3xTgAD mice promotes detrimental, sex-dependent NeuroimmiR profiles for microglia:neuron crosstalk. 2020. Accepted by *Neuroimmunology and Neuroinflammation*.

vonderEmbse AN, Hu Q, **DeWitt JC.** 2019. Dysfunctional microglia:neuron interactions with significant female bias in a developmental gene x environment rodent model of Alzheimer's disease. *International Immunopharmacology*. 71:241-250.

Keil DE, Buck B, Goossens D, McLaurin B, Murphy L, Leetham-Spencer M, Teng Y, Pollard J, Gerads R, and **DeWitt JC**. 2018. Nevada desert dust with heavy metals suppresses IgM antibody production. *Toxicology Reports*. 5:258-269.

vonderEmbse AN, Hu Q, and **DeWitt JC.** 2017. Developmental toxicant exposure in a mouse model of Alzheimer's disease induces differential sex-associated microglial activation and increased susceptibility to amyloid accumulation. *Journal of Developmental Origins of Health and Disease.* 2:1-9.

Meadows JR, Parker C, Gilbert KM, Blossom SJ, and **DeWitt JC**. 2017. A single dose of trichloroethylene given during development does not substantially alter markers of neuroinflammation in brains of adult mice. *Journal of Immunotoxicology.* 14:95-109.

DeWitt JC, Buck BJ, Goossens D, Teng Y, Pollard J, McLaurin B, Gerads R, and DE Keil. 2017. Health effects following subacute exposure to geogenic dust collected from active drainage surfaces (Nellis Dunes Recreation Area, Las Vegas, NV). *Toxicology Reports*. 4:19-31.

Rushing BR, Hu Q, Franklin JN, McMahen R, Dagnino S, Higgins CP, Strynar MJ, and **DeWitt JC**. 2017. Evaluation of the immunomodulatory effects of 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)-propanoate in C57BL/6 mice. *Toxicological Sciences*. 156:179-189.

Keil DE, Buck B, Goossens D, Teng Y, Pollard J, McLaurin B, Gerads R, **DeWitt JC**. 2016. Health effects from exposure to atmospheric mineral dust near Las Vegas, NV, USA. *Toxicology Reports*. 3:785-795.

Jusko TA, Oktapoda M, Murinová LP, Babjaková J, Verner M-A, **DeWitt JC**, Babinská, Thevenet-Morrison K, Conka K, Drobná B, Thurston SW, Lawrence BP, Dozier AM, Jarvinene-Seppo KM, Patayová H, Trnovec T, Legler J, Hertz-Picciotto I, and Lamoree MH. 2016. Demographic, reproductive, and dietary determinants of perfluorooctane sulfonic (PFOS) and perfluooctanoic acid (PFOA) concentrations in human colostrum. *Environmental Science and Technology*. 50:7152-7162.

DeWitt JC, Buck B, Goossens D, Hu Q, Chow R, David W, Young S, Teng Y, Leetham-Spencer M, Murphy L, Pollard J, McLaurin B, Gerads R, and Keil D. 2016. Health effects following subacute exposure to dusts from arsenic-rich sediment at the Nellis Dunes Recreation Area, Las Vegas, NV. *Toxicology and Applied Pharmacology*. 304:79-89.

Leetham M, **DeWitt J**, Buck B, Goossens D, Teng Y, Pollard J, McLaurin B, Gerads R, and Keil D. 2016. Oxidative stress and lung pathology following geogenic dust exposure. *Journal of Applied Toxicology*. 36:1276-1283.

Keil D, Buck B, Goossens D, Teng Y, Spencer M, Murphy L, Pollard J, Eggers M, Gerards R, and **DeWitt J**. 2016. Immunotoxicological and neurotoxicological profile of health effects following subacute exposure to geogenic dust from sand dunes at the Nellis Dunes Recreation Area, Las Vegas, NV. *Toxicology and Applied Pharmacology,* 291:1-12.

DeWitt JC, Williams W, Creech NJ, and RW Luebke. 2016. Suppression of antigen-specific antibody responses in mice exposed to perfluorooctanoic acid: Role of PPARα and B cell targeting. *Journal of Immunotoxicology*. 13:38-45.

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Review Articles

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Hopkins Z, Sun M, **DeWitt J**, and Knappe D. 2018. Recently detected drinking water contaminants: GenX and other per- and polyfluoroalkyl ether acids. *Journal of the American Water Works Association*. 110:13-28.

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Hessel EVS, Ezendam J, van Broekhuizen FA, Hakkert B, **DeWitt JC**, Granum B, Guzylack L, Lawrence BP, Penninks A, Rooney AA, Piersma AH, and van Loveren H. 2016. Assessment of recent developmental immunotoxicity studies with bisphenol A in the context of the 2015 EFSA t-TDI. *Reproductive Toxicology*. 65:448-456.

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DeWitt J, Peden-Adams M, Keil D, and Dietert R. 2012. Current status of developmental immunotoxicity: Early-life patterns and testing. *Toxicologic Pathology*, 40:230-236.

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Dietert RR, **DeWitt JC**, Germolec DR, and Zelikoff JT. 2010. Breaking patterns of environmentally influenced disease for health risk reduction: Immune perspectives. *Environmental Health Perspectives* 118:1091-1099.

DeWitt JC, Shnyra A, Badr MZ, Loveless SE, Hoban D, Frame SR, Cunard R, Anderson SE, Meade BJ, Peden-Adams MM, Luebke RW, and Luster MI. 2009. Immunotoxicity of perfluorooctanoic acid and perfluorooctane sulfonate and the role of peroxisome proliferator activated receptor alpha. *Critical Reviews in Toxicology* 39:76-94.

Edited Books

DeWitt JC, Rockwell CE, and Bowman CC (eds). 2018. *Immunotoxicity Testing: Methods and Protocols,* Methods in Molecular Biology Series. Springer Science + Business Media, LLC (Invited).

DeWitt JC (ed). 2015. *Toxicological Effects of Perfluoroalkyl and Polyfluoroalkyl Substances*. Springer Science + Business Media, LLC (Invited).

Book Chapters

Meadows JR, **DeWitt JC**, and Rooney AA. 2018. Ecoimmunotoxicology – An overview. In: *Comprehensive Toxicology* (McQueen CA, ed) 3rd edition. Elsevier Ltd., Oxford.

DeWitt JC and Keil DE. 2017. Current issues in developmental immunotoxicity. In: *Immunopathology in Toxicology and Drug Development* (Parker GA, ed). Springer International Publishing, Switzerland.

DeWitt JC, Germolec DR, Luebke RW, and Johnson, VJ. 2016. Associating changes in the immune system with clinical diseases for interpretation of risk assessment. In: *Current Protocols in Toxicology*. 67:18.1.1-18.1.22.

DeWitt JC, Peden-Adams MM, and Keil DE. 2015. Immunotoxic effects of perfluoroalkylated compounds: Mechanisms of action. In: *Molecular Immunotoxicology* (Corsini E and van Loveren H, eds). Wiley-VCH GmbH & Co., Weinheim.

DeWitt JC and Dietert RR. 2014. Immunotoxicity in autism spectrum disorders. In: *The Comprehensive Guide to Autism* (Patel VB, Martin CR, Preedy V, and Preedy VR, eds). Springer Reference, New York, NY.

Dietert RR, **DeWitt JC**, and Luebke RW. 2012. Reducing the prevalence of immune-based chronic disease. In: *Immunotoxicity, Immune Dysfunction, and Chronic Diseases* (Dietert RR and Luebke RW, eds), Molecular and Integrative Toxicology, Springer Science + Business Media, LLC. pp 419-440.

DeWitt J, Peden-Adams M, Keil D, and Dietert R. 2012. Developmental immunotoxicity (DIT): Assays for evaluating effects of exogenous agents on development of the immune system. In: *Current Protocols in Toxicology*. Chapter 18: Unit 18.15.

Luebke RW, **DeWitt JC**, Germolec DR, Salazar KD, and Kerkvliet NI. 2012. Immunomodulation by persistent organic pollutants. In: *Dioxins and Health, Including Other Persistent Organic Pollutants and Endocrine Disruptors, 3nd Edition* (Schecter A, ed), John Wiley and Sons, Inc., Hoboken, NJ. pp 171-192.

DeWitt JC and Dietert RR. 2012. Postnatal immune dysfunction and its impact on growth parameters. In: *Handbook of Growth and Growth Monitoring in Health and Disease* (Preedy VR, ed), Springer, New York, NY. pp 741-755.

DeWitt JC and Luebke RW. 2010. Immunological Aging. In: *Comprehensive Toxicology*, 2nd Edition, Volume 5 (Lawrence D, ed), Elsevier Limited, Oxford, UK. pp 455-465.

Dietert RR and **DeWitt J**. 2010. Developmental immunotoxicity (DIT): The why, where and how of DIT testing. In: *Immunotoxicity Testing: Methods and Protocols* (Dietert RR, ed), Methods in Molecular Biology. Humana Press, Inc., Totowa, NJ. 598:17-25.

Luebke RW, Beamer CA, Bowman C, **DeWitt JC**, Gowdy K, Johnson VJ, Shepherd DM, and Germolec DR. 2009. Immunotoxicology (developmental immunotoxicology section). In: *General and Applied Toxicology*, 3rd Edition (Marrs T, Ballantyne B, Syversen T, eds.), John Wiley & Sons, Ltd., Chichester, UK, pp 1561-1583.

Other Scholarly Contributions

Portier CJ et al. (90+ co-authors). 2016. Differences in the carcinogenic evaluation of glyphosate between the International Agency for Research on Cancer (IARC) and the European Food Safety Authority (EFSA). *Journal of Epidemiology and Community Health*. 70:741-745.

DeWitt JC and Luebke RW. 2014. Immunological Aging. *Online Reference Database Biomedical Science*.

Benbrahim-Tallaa L, Lauby-Secretan B, Loomis D, Guyton KZ, Grosse Y, El Ghissassi F, Bouvard V, Guha N, Mattock H, and Straif K *on behalf of the International Agency for Research on Cancer Monograph Working Group* (**DeWitt JC**, Mechanisms Subgroup Member). 2014. Carcinogenicity of perfluorooctanoic acid, tetrafluoroethylene, dichloromethane, 1,2-dichloropropane, and 1,3-propane sultone. *The Lancet Oncology*. 15:924-925.

IARC. 2014 Perfluoro-octanoic acid, Tetrafluoroethylene, Dichloromethane, 1,2-Dichloropropane, and 1,3-Propane sultone. *IARC Monogr Eval Carcinog Risks Hum* (**DeWitt JC**, Mechanisms Subgroup Member). *Monograph 110*.

DeWitt JC and Dietert RR. 2011. Response to "Theoretical aspects of autism: Causes - a review" by Ratajczak, HV (*Journal of Immunotoxicology* 8:68-79, 2011). *Journal of Immunotoxicology.* 8:195-197.

Non-Refereed Articles

"Toxicant induced brain asymmetry: More than just a bird-brained scheme?" Learned Discourses, *SETAC Globe*, Jan/Feb 2001 (invited).

RESEARCH FUNDING

Brody Brothers Endowment Foundation 1 year

Do Per- and Polyfluoroalkyl Substances found in the Cape Fear River of North Carolina Pose a Risk to the Immune System?

Role on project: Principal Investigator

Status: Award notification December 2019. Direct costs: $32,000

National Institute of Environmental Health Sciences Superfund Research Program (P42) via subcontract from North Carolina State University 5 years

Center for Environmental and Health Effects of PFAS. BMRP2: Uncovering the Mechanisms of PFAS-Induced Immunotoxicity: An Important Public Health endpoint

Role on project: Co-Principal Investigator (C. Mattingly and D. Knappe, PIs, NCSU)

Status: Award notification December 2019. Direct costs to ECU: $684,005

Department of Defense 3 years

New Approaches for the Treatment of Neuroinflammatory and Behavioral Consequences of Exposure to Gulf War Illness Chemicals

Role on project: Principal Investigator

Status: Award notification March 2019. Direct costs: $699,564.

United States Environmental Protection Agency via subcontract from Oregon State University 3 years

System Toxicological Approaches to Define and Predict Toxicity of Per- and Polyfluoroalkyl Substances

Role on project: Co-Principal Investigator (R. Tanguay, PI, OSU)

Status: Award notification September 2018. Direct costs to ECU: $465,000.

North Carolina Policy Collaboratory 2 years

Per- and Polyfluoroalkyl Substance Testing (PFAST) Network: Effects of novel PFASs on immune function

Role on project: Co-Principal Investigator and Team Co-Lead (with R. Fry, UNC-CH)

Status: Award notification September 2018. Direct costs to ECU: $168,068.

North Carolina Policy Collaboratory 6 months

Emerging contaminants in North Carolina, including PFASs, 1,4-dioxiane, and bromide, in air and water

Role on project: Co- Principal Investigator

Status: Award notification July 2018. Direct costs to ECU: $12,000.

National Institutes of Health/National Institute of Environmental Health Sciences via subcontract with North Carolina State University 2 years
Assessing Impact of Drinking Water Exposure to GenX in the Cape Fear River Basin
Role on project: Co-Investigator (J. Hoppin, NCSU, PI)
Status: Award notification November 2017. Direct costs to ECU: $20,000

Brody Brothers Endowment Foundation 1 year
Immunomodulatory Effects of Aqueous Film Forming Foam (AFFF): An Effective Fire Suppressant or a Persistent Environmental Contaminant with Unknown Health Consequences?
Role on project: Principal Investigator
Status: Award notification November 2016. Direct costs: $20,000

Center for Human Health and Environment at NCSU Pilot Project Program 1 year
Discovery of Biomarkers of Effect following Environmentally-Relevant Exposure to Pharmaceutical Pollutants
Role on project: Co-Principal Investigator (E. Hvastkovs and K. McCoy, ECU, co-PIs)
Status: Award notification August 2015. Direct costs: $25,000

Brody School of Medicine Internal Seed/Bridge Grant Program 1 year
Post-translational Modifications to Potassium Channels in Alzheimer's Disease: Triggers of Onset and Progression?
Role on project: Co-Principal Investigator (R. Schwalbe, ECU, co-PI)
Status: Award notification August 2015. Direct costs: $25,000

The Harriet and John Wooten Laboratory for Alzheimer's and Neurodegenerative Disease Research 1 year
Microglia as a Target of Environment x Gene Interactions Part II: Digging into the Biochemistry of Alzheimer's Disease
Role on project: Principal Investigator (R. Schwalbe, ECU, co-PI)
Status: Award notification November 2014. Direct costs: $12,000

Interdisciplinary Research Collaboration Award (East Carolina University) 6 months
Pharmaceutical and Personal Care Product Contaminants in Fresh Water
Role on Project: Corresponding Faculty PI
Status: Award notification August 2014. Direct costs: $23,000

Alzheimer's North Carolina 1 year
A Multidisciplinary Approach to Fight Senior Dementia
Role on Project: Co-Investigator (Q. Lu, ECU, PI)
Status: Award notification February 2014. Direct costs: $50,000

East-West Research Collaboration Award (East Carolina University) 6 months
Pharmaceutical and Personal Care Product Contaminants in Fresh Water
Role on Project: Corresponding Faculty PI
Status: Award notification December 2013. Direct costs: $23,000

The Harriet and John Wooten Laboratory for Alzheimer's and Neurodegenerative Disease Research 1 year

Microglia as a Target of Environment x Gene Interactions: Exacerbation of Alzheimer's Pathology by Early-life Exposure to Lead
Role on project: Principal Investigator
Status: Award notification April 2013. Direct costs: $12,000

Bureau of Land Management via subcontract from University of Nevada-LV 3 years
Nellis Dunes Recreation Area Dust Exposure and Human Health Risk Assessment
Role on project: Co-Principal Investigator (B. Buck, UNLV, PI)
Status: Award notification March 2011. Direct costs to ECU: $105,699

Department of Defense 1 year
Immunopathogenesis in autism: Regulatory T cells and autoimmunity in neurodevelopment
Role on project: Principal Investigator
Status: Award notification December 2009. Direct costs: $75,000

School of Public and Environmental Affairs, Indiana University. Ph.D. Student Travel Award and Graduate Student Organization Travel Award. 2001. Funded amount: $500.00
Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry. Student Travel Grant. 1997, 1998, 2001. Funded amounts: $300.00 each year

EDITORIAL BOARDS/AD HOC MANUSCRIPT REVIEWER

Editorial Board Member, *Journal of Immunotoxicology*. 2010-
Editorial Board Member, *Journal of Toxicology and Environmental Health Part A.* 2013-
Associate Editor, *Toxicology and Applied Pharmacology*. 2016-
Series co-Editor (with Sarah Blossom), *Molecular and Integrative Toxicology*. 2016-
Editorial Board Member, *Environmental Health Perspectives*. 2017-
Editorial Board Member, *NeuroToxicology*. 2018-
Editorial Board Member, *PLoS One*. 2018-
Editorial Board Member, *Reproductive Toxicology*, 2019-

Ad Hoc Reviewer:

Advances in Physiology Education
Archives of Environmental Contamination & Toxicology
Archives of Toxicology
Chemical Research in Toxicology
Chemosphere
Drug and Chemical Toxicology
Environmental Health Perspectives
Environment International
Environmental Research
Environmental Science & Pollution Research
Environmental Science & Technology
Epidemiology
Food and Chemical Toxicology
GENE
Human & Experimental Toxicology
International Aquatic Research
International Immunopharmacology
Journal of Environmental Immunology & Toxicology
International Journal of Tropical Biology
Journal of Immunotoxicology
Journal of Toxicology & Environmental Health
NeuroToxicology
Pharmacological Research
PLoS One
Regulatory Toxicology & Pharmacology
Reproductive Toxicology
Science of the Total Environment
Southeastern Naturalist
Toxicology & Applied Pharmacology
Toxicology Letters
Toxicology Reports
Toxicological Sciences

GRANT REVIEWER & REVIEW PANEL CHAIR

National Institute of Environmental Health Sciences, 2020
Wisconsin SeaGrant, 2019
Hudson River Foundation, 2019
Department of Defense Congressionally Directed Medical Research Programs, Review Panel Chair, 2018, 2019
CORIS, Consorzio per la Ricerca Sanitaria, 2018
Department of Defense Congressionally Directed Medical Research Programs, 2013-2019
Graduate Women in Science Graduate Fellowships, 2011, 2014-2018
CDC-NIOSH, 2010, 2013, 2016

EXTERNAL REVIEWER

ATSDR, 2017-2019 (manuscripts and Toxicological Profile)
New York State Department of Public Health, 2017 (Cancer incidence investigation: Village of Hoosick Falls, Rensselaer County, New York)

ORAL PRESENTATIONS (Invited)

"Descriptive Toxicological "Bringing Scientific Evidence to Meet Local Policy Challenges," Session Panelist, American Association of the Advancement of Science Annual Meeting, Seattle, WA. 2020.

Approaches to Understand Health Risks of Understudied PFAS." *Environmental Health Collaborative 2019 Summit on "PFAS: Integrating Science and Solutions in NC."* Durham, NC. 2019.

"An Overview of how PFAS are Toxic with the Immune System as a Specific Example." *Michigan Society of Toxicology Fall 2019 Meeting on "PFAS Exposure and Toxicology in Michigan and Beyond."* Ann Arbor, MI. 2019

"Addressing Public Health Concerns about PFAS: Focus on Immunotoxicology." *Purdue University, Chemical Exposure Research Area, Center for the Environment and School of Health Sciences Seminar Series.* Lafayette, IN. 2019.

"Immunotoxicological Findings of PFAS: Consistency of Effects between Humans and Rodent Models." *SETAC North America Focused Topic Meting: Environmental Risk Assessment of PFAS.* Durham, NC. 2019.

"Per- and Polyfluoroalkyl Substances (PFAS): A Lifecycle Perspective." *The Toxicology Forum Summer Meeting*. Alexandria, VA. 2019.

"What can PFAS do to our Health?" *North Carolina Museum of Natural Sciences Science Café: "Toxic Chemicals and Human Health*." Raleigh, NC. 2019.

"Immunotoxicological Findings of PFAS: Consistency of Effects between Rodent Models and Humans." *2019 Per- and Polyfluoroalkyl Substances: Second National Conference*. Northeastern University. Boston, MA. 2019.

"PFAS Testing Network: Team #5: Other Applied R&D." *What's in our Water? A Public Forum on Emerging Contaminants*. NC Coastal Federation. Wilmington, NC. 2019.

"Per- and Polyfluoroalkyl Substances are Immunotoxic: What does this mean for Public Health Protection?" *Environmental and Molecular Toxicology Seminar Series*, Oregon State University. Corvallis, OR. 2019.

"An Overview of what we know about PFAS Toxicology." *PFAS and Other Emerging Contaminants Conference*. American Council of Engineering Companies of North Carolina and Groundwater Professionals of North Carolina. Raleigh, NC. 2019.

"Developmental Immunotoxicology." *American College of Toxicology and Teratology Society Practical Reproductive and Developmental Toxicology*. Gaithersburg, MD. 2019.

"PFAS Toxicity." *North Carolina Waterworks Operators Association Lab Technology Day*. Raleigh, NC. 2019.

"PFAS and Health: What we've learned in the Past Two Years." *Center for Human Health and the Environment Third Annual Symposium*. North Carolina State University, Raleigh, NC. 2019.

"Three Reasons that Per- and Polyfluoroalkyl Substances do not belong in our Bodies." *University of North Carolina Wilmington Department of Chemistry and Biochemistry Seminar*, Wilmington, NC. 2019.

"PFAS Exposure: What are the Health Implications?" *Cape Fear Public Utility Authority Board Workshop*, Wilmington, NC. 2018.

"Impact of Early-Life Environmental Factors on the Developing Immune system." *PPTOX VI*, Faroe Islands. 2018.

"Health Effects of GenX: What do we know and what do we need to know to Protect Public Health?" *45th Annual Meeting of the Cape Fear River Assembly*, Wilmington, NC. 2018.

"How do we know Whether a Chemical is Toxic?" *Osher Lifelong Learning Institute Sea & Coffee Series*, University of North Carolina at Wilmington, Wilmington, NC. 2018.

"PFASs, AFFFs, PFAAs: An Alphabet Soup of Emerging Aquatic Contaminants with Immunotoxic Potential." *NCSU Toxicology Program Seminar Series*, North Carolina State University, Raleigh, NC. 2018.

"How Per- and Polyfluoroalkyl Substances (PFASs), as EDCs, can Fool the Developing Brain's Immune System." *EDC-NC Annual Meeting*. RTP, NC. 2018.

"Research Challenges Associated with PFASs: Ubiquitous Multisystem Toxicants." *The Toxicology Forum Winter Meeting*. Washington DC. 2018.

"Environmental Triggers of Underlying Neuroimmune Susceptibilities: Critical Events in Development." *Webinar*, Autism Research Institute. 2018.

"Are Replacements for the Legacy PFASs Indisputably Safe Alternatives?" *Webinar*, Toxic-Free Future. 2018.

"Per and Polyfluoroalkyl Substances: Complex Chemicals that Challenge Policies for Environmental Health Protection and Risk Communication." *Brown Bag Lunch*, RTI International, RTP, NC. 2018.

"From Legacies to Alternatives: What we know and what we need to know about the Toxicity of Per- and Polyfluoroalkyl Substances." *Weekly Seminar*, NC Department of Health and Human Services, Raleigh, NC. 2017.

"The Never-Ending Story of Per- and Polyfluoroalkyl Substances: Immunotoxicity from Legacies to Alternatives." *Mid Atlantic Society of Toxicology Annual Meeting*, Edison, NJ. 2017.

"A Potential Never-Ending Story of Chemical Water Pollution in LMICs: Proliferation of Legacy and Replacement PFASs." *International Society of Exposure Science*, Research Triangle Park, NC. 2017.

"The Science behind GenX." *Water Wednesday*, Clean Cape Fear, Wilmington, NC. 2017.

"Is it Possible to Untangle Underlying Developmental Susceptibilities from Exogenous Triggers in ASD?" *Autism Think Tank*, Autism Research Institute, Dallas-Fort Worth, TX. 2017.

"Urgent Research Needs for Better Understanding the Toxicity of PFASs." *Northeast Superfund Research Program Meeting*, Northeastern University, Boston, MA. 2017.

"Emerging Toxicological Knowledge and Data Gaps for "Novel" PFASs." *Public Workshop on Perfluoroalkyl and Polyfluoroalkyl Substances (PFASs) in Carpets, Rugs, Indoor Upholstered Furniture, and Their Care and Treatment Products*, Safer Consumer Products Program, Department of Toxic Substances Control, California Environmental Protection Agency, Sacramento, CA. 2017.

"Pharmaceuticals and Personal Care Products as Emerging Pollutants in Coastal Waters (with Dr. Siddhartha Mitra). *Science on the Sound Symposium*, Coastal Studies Institute, Wanchese, NC. 2017.

"Emerging Aquatic Contaminants and Health: Finding Solutions with Transdisciplinary Teams." Coastal Health Initiative, East Carolina University, Greenville, NC. 2016.

"Water Pollution: Is seeing believing?" *Love a Sea Turtle Second Annual Environmental Symposium*, River Park North, Greenville, NC. 2016.

"Developmental Immunotoxicology." *Middle Atlantic Reproduction and Teratology Association*, Covance Research Products, Inc., Denver, PA. 2015.

"A Little Bit of this and a Little Bit of that…How do we Understand Risks of Agents in just a Drop of Water?" *Love a Sea Turtle First Annual Environmental Symposium*, River Park North, Greenville, NC. 2015.

"Updates on Alzheimer's Disease Research in the DeWitt Lab at East Carolina University" (with Annalise vonderEmbse). *Senior Services Community Health Program*, Vidant Medical Center, Greenville, NC. 2015.

"Immunomodulatory Effects of Perfluoroalkyl Substances in Rodents and Humans." *Immunotoxicology in Food and Ingredient Safety Assessment: Approaches and Case Studies, SOT FDA Colloquia on Emerging Toxicological Science Challenges in Food and Ingredient Safety*, Washington, DC. 2015.

"Updates on Alzheimer's Disease Research in the DeWitt Lab at East Carolina University" (with Annalise vonderEmbse). *Alzheimer's Professional Partnership-Greenville*, Greenville, NC. 2015.

"From Sink to Sea: Evaluating Health Impacts of Pills and Perfumes after we Wash them away" (with Krista McCoy). *FaculTea Seminar*, East Carolina University, Greenville NC. 2014.

"Better Living through Chemistry: A Tale of Two Toxicants." *Department of Chemistry Seminar*, East Carolina University, Greenville, NC. 2014.

"The Nuts and Bolts of Interdisciplinary Toxicological Research" (with Christie Sayes). *Western Carolina University Department of Biology Spring Seminar Series*. Cullowhee, NC. 2014.

"Alzheimer's Disease and Neurodegenerative Disorders Research at East Carolina University" (with Annalise vonderEmbse). *Alzheimer's Professional Partnership-Goldsboro*, Goldsboro, NC. 2015.

"Endocrine Disruption of the Neuro-immune Interface." *The Collaborative on Health and the Environment Partnership Call* (Teleseminar). 2014
"Contaminated Drinking Water: A Case Study of Perfluorinated Compounds." *Coastal Water Resources Center*, East Carolina University, Greenville, NC. 2013.

"Villains and Heroes in the Battle for Clean Water" (with Siddhartha Mitra and Anthony Cannon). *STEM at Starlight*, Greenville, NC. 2013.

"The Nuts and Bolts of Alzheimer's Disease Research at East Carolina University." *Senior Services Community Health Program*, Vidant Medical Center, Greenville, NC. 2013.

"Alzheimer's Disease and Neurodegenerative Disorders Research at East Carolina University." *Alzheimer's Professional Partnership-Greenville*, Greenville, NC. 2013.

"A Neuroimmune Investigation of an Endocrine-Disrupting Compound". *Department of Biology Seminar*, East Carolina University, Greenville, NC. 2013.

"A Neuroimmune Investigation of an Endocrine-Disrupting Compound: How Bisphenol A may Disrupt Learning and Memory through Immunomodulation." *Endocrine Disrupting Chemicals Forum*, Research Triangle Park, NC. 2013.

"Undecafluoro-2-methyl-3-oxahexanoic Acid Versus Perfluorooctanoic Acid: Is Polyfluorination a Less Immunotoxic Option than Perfluorination?" *Department of Environmental and Molecular Toxicology Seminar*, North Carolina State University, Raleigh, NC. 2013.

"Early Life Triggers of Developmental Immunotoxicity." *Society for Toxicologic Pathology*, Annual Meeting, Denver, CO. 2011.

"Is the Pathway to Autism Paved with Environmental Chemicals?" *Department of Comparative Medicine seminar*. East Carolina University, Greenville, NC. 2011.

"PPAR Involvement in PFAA Immunotoxicity." *U.S. EPA PFAA Days III Workshop*, U.S. Environmental Protection Agency, Research Triangle Park, NC. 2010.

"Are Environmental Contaminants (Developmental) Immunotoxicants? A Case Study of a Fluorinated Compound." *Department of Microbiology and Immunology Seminar*, East Carolina University, Greenville, NC. 2010.

"Developmental Immunotoxicity of PFOA, an Emerging Contaminant." *Department of Biology Seminar*, East Carolina University, Greenville, NC. 2009.

"The Immunotoxicity of Perfluorooctanoic Acid (PFOA)." *Department of Physiology Seminar*, Brody School of Medicine, East Carolina University, Greenville, NC. 2008.

"Immunotoxic Potentials of PFOA." *U.S. EPA PFAA Days II Workshop*, U.S. Environmental Protection Agency, Research Triangle Park, NC. 2008.

"Chasing Down the Mechanism of Perfluorooctanoic Acid-Induced Immunomodulation: Knock-outs and Adrenalectomies." *National Health and Environmental Effects Research Laboratory Work in Progress*, U.S. Environmental Protection Agency, Research Triangle Park, NC. 2007.

"Wildlife Immunotoxicology." Immunotoxicology course. College of Veterinary Medicine, North Carolina State University. 2006.

"Immunotoxicity of Individual Organotin Compounds in Sprague-Dawley Rats." *Society for Risk Analysis* 25th Annual Meeting, Orlando, FL. 2005.

"Immune Function in Rats Exposed to Organotins as Adults or During Development." *National Health and Environmental Effects Research Laboratory Work in Progress*, U.S. Environmental Protection Agency, Research Triangle Park, NC. 2005.

"Brain Asymmetry in Domestic Hatchling Chickens Developmentally Exposed to TCDD: A Histological Examination." *Society of Environmental Toxicology and Chemistry* 24th Annual Meeting, Austin, TX. 2003.

"Service Learning and Scientific Research." Indiana University Community Outreach and Partnerships in Service-Learning Workshop, Indiana University, Bloomington, IN. 2004.

"Toxic Effects of Mercury." Clean Air Indiana Speak out on the Clear Skies Initiative, Indiana University, Bloomington, IN. 2003.

"Environmental Health Concerns for Toxics in Indiana Superfund Sites." Indiana Public Interest Research Group (INPIRG) Teach-In on Indiana Superfund Issues, Indiana University, Bloomington, IN. 2002.

"Introduction to Environmental Toxicology." Techniques in Environmental Science and Environmental and People courses. School of Public and Environmental Affairs, Indiana University-Bloomington. 2000, 2001, 2003.

"Bioaccumulation and Biomagnification of Environmental Chemicals in Colonial Fish-eating Waterbirds." Introduction to Environmental Sciences course. School of Public and Environmental Affairs, Indiana University-Bloomington. 2000 and 2001.

"Women in the Sciences: Abolishing Gender Apartheid." IU Skills for Leadership Conference, Office of Women's Affairs, Indiana University, Bloomington, IN. 1999.

ORAL PRESENTATIONS

"Immunotoxicity Evaluation as a Tool for Protecting Public and Environmental Health from PFAS." *Society of Environmental Toxicology and Chemistry* 40th Annual Meeting, Toronto, Ontario. 2019.

"Immunotoxicological Findings of an Aqueous Film-Forming Foam Formulation." *Society of Environmental Toxicology and Chemistry annual meeting*, Sacramento, CA. 2018.

"Perspectives from the AAMC Mid-Career Women Faculty Professional Development Seminar "MIDWIMS"). *Brody Women Faculty Committee*. Greenville, NC. 2017.

"Immunopathogenesis in Autism: Regulatory T Cells and Markers of Autoimmunity in Mice Developmentally Exposed to Perflurooctanoic Acid (PFOA). *27th Annual NeuroToxicology Conference*, Annual Meeting, Durham, NC. 2011.

"PFOA-induced Immunomodulation in mice: An Overview." *Society of Toxicology* 48th Annual Meeting, Baltimore, MD. 2009.

"Pathways of PFOA-mediated Immunosuppression." *Society of Toxicology* 48th Annual Meeting, Baltimore, MD. 2009.

"Dose-response of Perfluorooctanoic Acid-Induced Immunomodulation in Adult C57BL/6 Mice." *Society of Toxicology* 46th Annual Meeting, Charlotte, NC. 2007.

"Immune Function in Rats Developmentally Exposed to Dibutyltin Dichloride." *Society of Toxicology* 45th Annual Meeting, San Diego, CA. 2006.
"Neurotoxic Effects in Avian Species: Implications for Human and Ecological Health." School of Public and Environmental Affairs *2nd Annual Young Researchers Conference*, Indiana University, Bloomington, IN. 2002.

"TCDD-Induced Brain Asymmetry and Behavior: What do Individual Chicks Have to Say?" *Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry*, Hueston Woods State Park, College Corner, OH. 2000.

"Behavioral and Morphological Changes in Domestic Chicks Exposed to TCDD or PCB-126 at Embryonic Day 0 or Embryonic Day 4." *Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry*, Indiana University, Bloomington, IN. 1997.

"Behavioral Changes in Domestic Hatchling Chicks Exposed to 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) *in ovo*." *Conference on Chlorine in the Environment*, Massachusetts Institute of Technology, Boston, MA. 1996.

"Behavioral Assessment of Hatchling Chicks Exposed to TCDD *in ovo*: Preliminary Results." *Great Lakes Bioeffects Workgroup*. Wright State University, Dayton, OH and *Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry*, Eastern Kentucky University, Richmond, KY. 1996.

CONTINUING EDUCATION COURSES

Stress as a Confounding Factor in Toxicology Studies
Rodent Pathology (Immunopathology)
Basic Embryology and Developmental Toxicology
Grants 101: Professional Grant Writing Workshop
Immunology for Toxicologists
Risk Communication for the General Public
Estrogen Mimics in Health and Disease
Methods for Assessment of Neurotoxicity

PROFESSIONAL ORGANIZATIONS

2017-2018	International Society of Exposure Science
2009-Present	Carolinas Society of Environmental Toxicology and Chemistry
2005-Present	Society of Toxicology (SOT)
2005-Present	North Carolina Chapter of the Society of Toxicology
1997-Present	Society of Environmental Toxicology and Chemistry (SETAC)
1996-2004	Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry
1996-2004	Great Lakes Bioeffects Workgroup

AWARDS AND HONORS

- *Engagement and Outreach Scholars Academy Scholar*, East Carolina University, Office of Community Engagement and Research. 2019-2020.
- *The Faculty Mentor Award*, East Carolina University Honors College. 2017.
- *Outstanding Young Investigator Award*, Immunotoxicology Specialty Section, Society of Toxicology. 2013.
- *Outstanding Teaching Award*, School of Public and Environmental Affairs, Indiana University. 1999 and 2002.
- *Future Faculty Teaching Fellowship*, Preparing Future Faculty program, Indiana University. 2002.
- *Marian Vinegar Award*, Outstanding Student Presentation at the annual meeting, Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry. 2000.
- *Outstanding Educational Volunteer*, Monroe County Humane Association, Bloomington, IN. 2000.
- *Outstanding Student Poster Award*, Society of Environmental Toxicology and Chemistry 19th Annual Meeting (3rd place). 1998.
- *Teaching Excellence Recognition Award*, School of Public and Environmental Affairs, Indiana University. 1998.

PROFESSIONAL PRACTICE

North Carolina Secretaries Science Advisory Board Member, NC Department of Environmental Quality (DEQ) and NC Department of Health and Human Services (DHHS). 2019-present.

- Charged with advising the DEQ and DHHS on toxicological effects of contaminants and levels of control necessary for protection of human health and the environment.

North Carolina Cancer Advisory Research Panel Member, NC Policy Collaboratory. 2019-present.

- Charged by the NC General Assembly with recommending strategies for assessing cancer incidence and mortality rates with respect to temporal and spatial patterns within NC.

Tennessee PFAS External Advisory Group Member, Tennessee Departments of Environment and Conservation and Health. 2019-present.

- Charged with informing the state of Tennessee about PFAS, including compound characteristics, identification, sampling and measurement, remediation, etc.).

U.S. House of Representatives Congressional Testimony. 2019.

- Committee on Energy and Commerce, *Subcommittee on Environment and Climate Change*, "Protecting Americans at Risk of PFAS Contamination and Exposure." May 15, 2019.
- Committee on Oversight and Reform, *Subcommittee on Environment*, "The Devil they Knew – PFAS Contamination and the Need for Corporate Accountability." July 24, 2019.

Michigan Science Advisory Workgroup Member, Michigan PFAS Action Response Team (MPART). 2019.

- Charged with advising the state of Michigan on Maximum Contaminant Level recommendations for PFAS.

PFAS Testing Network Executive Advisory Committee Member and Team 5 Co-Lead, NC Policy Collaboratory. 2018-present.

- Responsible for advising the Network on addressing occurrence and effects of PFAS in drinking water resources in the state of NC.
- Responsible for co-leading Team 5 (with Dr. Rebecca Fry from University of North Carolina at Chapel Hill) charged with addressing "other research opportunities" for understanding PFAS in NC.

Workshop Participant, Sustainability consequences of chemical exposures: connecting environment, health, and economic assessments. Organized by the European Environmental Agency, Copenhagen, Denmark. June 2018.

- Panelist representing the toxicological sciences.

Global PFAS Science Panel Member. Established from the co-authors of the Zurich Statement (Ritscher et al., 2018). 2017-present.

- Group of academic and government scientists dedicated to fostering development of high-quality scientific research, stewarding information exchange, and coordinating advancement of science and policy to address the class of per- and polyfluoroalkyl substances (PFASs) as a global concern.

Plaintiff Expert Witness, various organizations, to provide toxicological expertise regarding per- and polyfluoroalkyl substances (PFAS).

- Natural Resource Damage Assessment (NRDA) claim by the state of Minnesota against a major corporate entity. November 2016-February 2018. Claim for $5 billion; settled for $850 million. Third largest NRDA claim in U.S. history. Deposed but did not testify.
- Involved in several other ongoing cases.

Pro-bono Consultation, various environmental protection and advocacy organizations, 2015-present.

- Provide scientific interpretation and opinion regarding toxicity of per- and polyfluoroalkyl substances to individual community members as well as organizations.

- Organizations include *California Environmental Protection Agency, Cape Fear Public Utility Authority, Center for Environmental Health, Green Science Policy Institute, Massachusetts Toxic Use Reduction Program, Silent Spring Institute, and Toxic Free Future.*

Workshop Participant, Is the European Food Safety Authority (EFSA) standard for bisphenol A sufficiently protective of the immune system and should the Dutch government consider a different standard? Organized by representatives of RIVM (National Institute for Public Health and the Environment), Amsterdam, The Netherlands. September 2015.

- Provided immunotoxicological guidance for regulatory consideration of bisphenol A (BPA).

Consultant, CZR Incorporated, Wilmington, NC. May-July, 2014-2019.

- Provided toxicological interpretation of stream water quality monitoring data for heavy metals.

Technical Advisor, Office of Health Assessment and Translation (OHAT), National Toxicology Program, National Institute of Environmental Health Sciences. March 2013. March 2015. April 2016.

- Evaluated OHAT protocol for evaluation of PFOS-PFOA immunotoxicity.

External Peer Reviewer, U.S. Environmental Protection Agency, External peer review of EPA's Draft Health Effects Documents for Perfluorooctanoic acid (PFOA) and Perfluorooctane Sulfonate (PFOS). 2014.

- Scientific peer reviewer of the health effects documents. Nominated and selected.

Working Group Member, International Agency for Research on Cancer (IARC), IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 110: Perfluorooctanoic acid, Tetrafluoroethylene, Dichloromethane, 1,2-Dichloropropane, and 1,3-Propane sultone. 2014.

- Member of Mechanistic and Other Relevant Data Working Group for perfluorooctanoic acid and tetrafluoroethylene. Invited.

Consultant, Constella Group, LLC, Durham, NC. October 2004-December 2005.

- Summarized immunotoxicology of atrazine for the National Toxicology Program's Report on Carcinogens.

Consultant, Henshel EnviroComm, Bloomington, IN. June 1999-May 2004.

- Representative of the Restoration Advisory Board for Jefferson Proving Ground (Department of Defense) through the Technical Assistance for Public Participation program.
- Interpreted risk assessment documents associated with base clean-up for the general public.

Consultant, Dinosaur Inc., Bloomington, IN. June 2000-September 2000.

- Summarized the potential health and environmental effects of land-applied paper mill sludge.

Consultant, Integrated Pest Management in Schools and Childcare Centers, School of Public and Environmental Affairs Information Clearinghouse, Bloomington, IN. April 2000-September 2000.

- Summarized the potential health effects of pesticides commonly used in schools and childcare centers.

Co-Director, *Summer Program for Exploration of Complex Issues in Environmental Science for Teachers (SPECIES-Teachers)* and *Environmental Education 99*, School of Public and Environmental Affairs, Indiana University, Bloomington, IN. Summer 1999 and 2001.

- Directed hands-on environmental science summer field workshop for Indiana teachers.

Consultant, Brownstown Elementary Fourth Grade, Brownstown, IN. September 1999-May 2000.

- Served as environmental science expert during weekly videoconferences in a "students as environmental scientists" program.

Associate Director, *Research Experience for High School Students*, College of Arts and Sciences, Indiana University, Bloomington, IN. February 1999-October 1999.

- Mentored high school students participating in research in university laboratories, provided weekly counseling, and oversaw development of final research reports and presentations.

Co-Director, *Environment 98* and *Environment 99*, School of Public and Environmental Affairs, Indiana University, Bloomington, IN. Summer 1998 and 1999.

- Directed hands-on environmental science summer field workshop for Indiana students.

Chemical Safety Assistant, Office of Radiation, Chemical and Biological Safety, Michigan State University, East Lansing, MI. August 1993-June 1995.

- Developed Michigan State University's Chemical Hygiene Plan, performed university-wide laboratory safety inspections, and trained new science employees in chemical and laboratory safety.

TEACHING EXPERIENCE

Instructor, East Carolina University

- Pandemic Crisis Management. Third year medical students (small group facilitator). 2020-present.
- Practical Problems in Biometry. Graduate (course director). 2010-present.
- General Toxicology. Graduate (course co-director). 2009-present.
- Advanced Toxicology. Graduate (course co-director). 2016-present.
- Medical Pharmacology. Graduate physician assistant students (topical: endocrine pharmacology, toxicology). 2015-2018.
- Medical Pharmacology. Second year medical students (topical: endocrine pharmacology, toxicology). 2012-present.
- Pharmacology Mini-Course. First and second year dental students (topical: toxicology, management of poisoned patients, pharmacokinetics, endocrine pharmacology). 2012-present.
- Foundations of Medicine/Problem Based Learning Mini-Course. First and second year medical students (small group facilitator). 2011-2013.
- Foundations of Medicine/PirateMD. First and second year medical students (small group facilitator). 2013-2019.

Instructor, Indiana University

- Analytical Problem Solving (statistics). Undergraduate, honors, 2 semesters.
- Environment and People. Undergraduate (co-instructor), 1 semester.
- Introduction to Statistical Techniques. Undergraduate, 1 semester.
- Introduction to Environmental Sciences. Undergraduate, 1 semester.
- Environmental Risk Analysis. Graduate, 1 semester.
- Outdoor Environmental Awareness (Public land management). Undergraduate recruitment course, 6 semesters.
- Introduction to Risk Assessment and Risk Communication. Undergraduate, 1 semester.

- Environmental Toxicology. Combined undergraduate/graduate, 1 semester.
- Techniques in Environmental Science (field/lab techniques). Undergraduate, 3 semesters.

Teaching Assistant/Coordinator, Indiana University

- Aquatic Habitat Analysis (field techniques). Combined undergraduate/graduate, 3 semesters.
- Terrestrial Habitat Analysis (field techniques). Combined undergraduate/graduate, 3 semesters.
- Environmental Toxicology. Undergraduate and graduate, 3 semesters.
- Teaching Assistant and Undergraduate Teaching Intern Training Workshop. Combined undergraduate and graduate, 6 sessions.

Laboratory Mentor, East Carolina University

High school students

- Javier Limon and John Mallett, Medical Honors Program (high school laboratory research). Project Liver lipid accumulation in livers from rodents exposed to PFAS. 2019-.
- Catherine Wondra and Anushka Nandy, Summer Ventures Program (high school laboratory research). Project: Liver lipid accumulation in livers from rodents exposed to PFAS. 2019.
- Alex Beaver and Margarita Anayiotou, Summer Ventures Program (high school laboratory research). Project: Neuroinflammation in a rodent model of Gulf War Illness. 2018.
- Allison Gallagher and Sophie Villani, Medical Honors Program (high school laboratory research). Project Developmental effects of pharmaceutical pollutants in an avian model. 2017-2018.
- Sunnie Li and Alex Reulbach, Summer Ventures Program (high school laboratory research). Project: Neuroinflammation in a rodent model of Gulf War Illness. 2017.
- Matthew Clayton, high school laboratory research for the NC Science Fair. Project: Developmental effects of pharmaceutical pollutants in an avian model. 2016.
- Virginia Billings, Summer Ventures Program (high school laboratory research). Project: Developmental effects of pharmaceutical pollutants in an avian model. 2016.
- Jaein Yoon, Medical Honors Program (high school laboratory research). Project: Developmental effects of pharmaceutical pollutants in an avian model. 2015-2016.
- Chevonne Parker, Summer Ventures Program (high school laboratory research). Project: Neuronal T-cell infiltration following developmental trichloroethylene exposure. 2015.
- Catherine Taylor and Jessi Zhou, Medical Honors Program (high school laboratory research). Project: Microglial responses in an Alzheimer's mouse model developmentally exposed to lead. 2014-2015.
- Janelle Neal, Summer Ventures Program (high school laboratory research). Project: Microglial responses following inhalation exposure to natural dusts. 2014.
- Brian Alloway, Medical Honors Program (high school laboratory research). Project: Peroxisome proliferation in livers of C57BL/6 mice exposed to undecafluoro-2-methyl-oxahexanoic acid (U2M3-OHxA) gavage. 2013-2014.
- Kortney Wager, Summer Ventures Program (high school laboratory research). Project: Developmental effects of BPA on immune responses. 2013.
- Brian Ennis and Jonathan Reed, Medical Honors Program (high school laboratory research). Project: Teratogenicity of PFOS in early chicken embryos. 2012-2013.
- Willa Chen, Summer Ventures Program (high school laboratory research). Project: Developmental effects of PFOA in primary cardiomyocyte cultures from chickens. 2012.
- Elizabeth Fox and Samantha Rouse, Medical Honors Program (high school laboratory research). Project: Teratogenicity of PFOS in early chicken embryos. 2011-2012.
- Pranavi Sanka, Summer Ventures Program (high school laboratory research). Project: Developmental effects of PFOS: T cell infiltration into mouse brains. 2011.

- Erin Morris and Andrew Wood, Medical Honors Program (high school laboratory research). Project: Developmental effects of PFOA on T cell infiltration and myelin basic protein levels in mouse brains. 2010-2011.
- Jillian Loftis, Summer Ventures Program (high school laboratory research). Project: Developmental effects of PFOA on glycogen deposition in a chicken model. 2010.
- Clarissa Morrissey, Medical Honors Program (high school laboratory research). Project: Teratogenicity of PFOA in early chicken embryos. 2009-2010.
- Taylor Brundage, Summer Ventures Program (high school laboratory research). Project: Developmental teratogenic effects of PFOA in a chicken model. 2009.
- Ian Bryan, Medical Honors Program (high school laboratory research). Project: Developmental effects of PFOA on liver glucocorticoid receptor levels, and pancreatic alpha and beta cells in a mouse model. 2008-2009.

Undergraduate students

- Elizabeth Suter, Biology (undergraduate laboratory research): Cellularity of wing webs of two-week old chickens developmentally treated with fluoxetine. 2020-.
- Jasmine Clark, University Studies (undergraduate laboratory research): PFAS as air pollutants. 2019.
- Jeffery Ayala, and Mark Ibrahim, Program in Neuroscience (undergraduate laboratory research): Microglial morphology in a rodent model of Alzheimer's disease. 2018-.
- Payton Anders, Jeffery Ayala, and Mark Ibrahim, Program in Neuroscience (undergraduate laboratory research): Microglial morphology in a rodent model of Alzheimer's disease. 2018.
- Alexis Liberatore, Program in Neuroscience (undergraduate laboratory research): Glucocorticoid receptor expression in avian brains following developmental exposure to pharmaceutical pollutants. 2018-2019.
- Kathleen Ferris, Biology (undergraduate laboratory research): Peroxisome proliferation in livers of rodents exposed to aqueous film forming foam. 2018-2019.
- Robert Strickland, General Studies/Program in Neuroscience (undergraduate laboratory research). Project: Neuroinflamamtion in a rodent model of Gulf War Illness. 2017.
- Chastity Ward, Summer Biomedical Research Program (undergraduate laboratory research). Project: Immunotoxic effects of AFFF in a rodent model. 2017.
- Christopher Hamby, Mutidisciplinary Studies Program in Neuroscience (undergraduate laboratory research/senior thesis advisor). Project: Microglial morphology in a rodent model of Gulf War Illness. 2016-2017.
- Ishmael Gomez, Summer Biomedical Research Program (undergraduate laboratory research). Project: DAP12 microglial signaling in a rodent model of Alzheimer's disease. 2016.
- Brianna Davidson, Multidisciplinary Studies Program in Neuroscience (undergraduate laboratory research). Project: Synaptic degeneration in a rodent model of Alzheimer's disease. 2016.
- Samuel Vance, Mutidisciplinary Studies Program in Neuroscience (undergraduate laboratory research/senior thesis advisor). Project: Project: Post-translational modifications and Alzheimer's pathology. 2015-2017.
- Waeya Lin, Summer Biomedical Research Program (undergraduate laboratory research). Project: Exacerbation of Alzheimer's pathology by prenatal exposure to lead; Dystrophic microglia. 2015.
- Giovana Fernanda Cosi Bento, Brazil Scientific Mobility Program (undergraduate laboratory research). Project: Exacerbation of Alzheimer's pathology by prenatal exposure to lead; Synaptosomes. 2015.
- Zoe Hinton, Mutidisciplinary Studies Program in Neuroscience (undergraduate laboratory research/senior thesis advisor). Project I: Exacerbation of Alzheimer's pathology by prenatal

exposure to lead; Synaptosomes. 2015. Project II: Microglial morphology in a rodent model of Gulf War Illness. 2016-2017.

- Andrew Wood, Biology (undergraduate honors thesis advisor). Project: Exacerbation of Alzheimer's pathology by prenatal exposure to lead; Measurement of amyloid beta. 2014-2015.
- Dakota Johnson, Biology (undergraduate honors thesis advisor). Project: Exacerbation of Alzheimer's pathology by early-life exposure to lead; Measurement of amyloid beta. 2013-2014.
- Sydney Henry, Summer Biomedical Research Program (undergraduate laboratory research). Project: Neurotoxic effects of dust collected from the Nellis Dunes Recreation Area. 2014.
- Andrew Wood, Biology undergraduate student. Project: Developmental effects of BPA on serum IL-4 and IgG. 2013.
- Dominique Baldwin, Biology undergraduate student. Project: Neurotoxic effects of dust collected from the Nellis Dunes Recreation Area. 2013.
- Megan Biller, Summer Biomedical Research Program (undergraduate laboratory research). Project: Microglia in Alzheimer's-prone triple transgenic mice. 2013.
- Blake Rushing, Summer Biomedical Research Program (undergraduate laboratory research). Project: Blood distribution, urinary excretion, and T cell-dependent immunotoxicity of undecafluoro-2-methyl-oxahexanoic acid (U2M3-OHxA) in C57BL/6 mice exposed via gavage. 2012.
- Alvin-Ming-Yun Tsang, Psychology (undergraduate honors thesis advisor). Project: Developmental effects of nanoparticles in a rodent model. 2011-2012.
- Nick Creech, Summer Biomedical Research Program (undergraduate laboratory research). Project: Immunological effects of PFOA on a T-cell independent antigen (DNP-Ficcol) in an adult mouse model. 2010-2011.
- Hatel Patel, Biochemistry undergraduate student. Project 1: Developmental effects of PFOA on liver peroxisomes proliferation in a chicken model. Project 2: Effects of PFOA on myelin basic protein levels in the brains of developmentally-exposed mice. 2009.
- Ian Bryan, Biology and Chemistry undergraduate student. Project: Developmental effects of PFOA and PROS in a chicken model, including early embryo teratogenesis and hatchling glycogen levels. 2009-2012.

Master's students

- Emma Tobin, Biomedical Sciences Master's Student. Project: Immunotoxicological effects of PFAS of emerging concern in the Cape Fear River. 2019-.
- Samuel Vance, Biomedical Sciences Master's Student. Project: Immunotoxicological effects of PFMOAA, a contaminant of emerging concern in the Cape Fear River. 2018-2019.
- Carmen Davis, Environmental Health Master's Student. Project: Developmental effects of Triclosan in an avian model. 2015-2016.
- Cory Boles, Biomedical Sciences Master's Student. Project: Exacerbation of Alzheimer's pathology by early-life exposure to lead. 2013-2015.
- Annalise vonderEmbse, Biomedical Sciences Master's Student. Project: Exacerbation of Alzheimer's pathology by early-life exposure to lead; Effects on microglia. 2012-2014.

Doctoral students

- Jacqueline Meadows, Pharmacology and Toxicology Ph.D. Student. Project: Developmental effects of pharmaceutical pollutants in an avian model. 2015-2019.
- Annalise vonderEmbse, Pharmacology and Toxicology Ph.D. Student. Project: Exacerbation of Alzheimer's pathology by early-life exposure to lead; Effects on microglia. 2014-2017. Currently a postdoctoral trainee with Dr. Pam Lein at the University of California-Davis.

- Jason Franklin, Pharmacology and Toxicology Ph.D. Student. Project: Developmental neuroimmunotoxicity of bisphenol a in a rodent model. 2010-2014. Currently a postdoctoral trainee in neurotoxicology at the U.S. Environmental Protection Agency.
- Qixiao Jiang. Pharmacology and Toxicology Ph.D. Student. Project: Developmental cardiotoxicity of perfluorinated compounds in an avian model. 2009-2013. Currently an assistant professor at Qingdo University.

Medical students
- Amie McPherson and Danesh Ghiassi, Medical students. Project: Isolation and stimulation of regulatory T cells from spleens of PFOA-exposed mice. 2009.

Postdoctoral Scholars
- Dr. Tracey Woodlief. Project: Immunotoxicological mechanisms of PFAS. 2019-.

Advisory, East Carolina University

- Heidi Knecht and Danielle Carter, Public Health Ph.D. Students (Dissertation committee; Advisor: Stephanie Richards). 2018-
- Megan Rhyne, Environmental Health and Health Education & Promotion Master's Student (Thesis committee; Advisor: Stephanie Richards). 2018.
- Dariel Hopersberger, Microbiology and Immunology Ph.D. Student (Dissertation committee; Advisor: Marty Roop). 2018-
- Alexandra Hayes, Microbiology and Immunology Master's Student (Thesis committee; Advisor: Rachel Roper). 2018-2019.
- Kayla DeOca, Microbiology and Immunology Ph.D. Student (Dissertation committee; Advisor: Mark Mannie). 2018-
- Henry Raab, Coastal Resource Management Ph.D. Student (Dissertation committee; Advisor: Joe Luczkovich). 2017-
- Khoa Do, Biomedical Sciences Master's Student (Thesis committee; Advisor: Hu Huang). 2016-2017.
- John Atkinson, Biology Master's Student (Thesis committee; Advisor: David Rudell). 2015-2016.
- Blake Rushing, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Mustafa Selim). 2015-2018.
- Ahmed Aldhafiri, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Ken Soderstrom). 2014-
- Jason Hoggard, Biomedical Sciences Master's Student (Thesis committee; Advisor: Lance Bridges). 2014-2015.
- Matthew Edwards, Biology Master's Student (Thesis committee; Advisor: Krista McCoy). 2014-2015.
- Bevin Blake, Biology Master's Student (Thesis committee; Advisor: Krista McCoy). 2013-2015.
- Anastasia Weeks, Microbiology and Immunology Master's Student (Thesis committee; Advisor: Mark Mannie). 2013-2017.
- Samar Rezq, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Abdel Abdel-Rahman). 2013-2016.
- Partha Nagchowdhuri, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Brian McMillen). 2013-
- Suelen Demor, Biology Ph.D. Student (Dissertation committee; Advisor: David Chalcraft). 2013-2017.
- Tessa Holland, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Ken Soderstrom). 2013-

- Samantha Sellers, Anatomy and Cell Biology Ph.D. Student (Dissertation committee). 2013.
- Alvin Ming-Yun Tsang, Psychology Undergraduate Student (Honors Thesis Advisor). 2011-2012.
- Abdullah Aldossari, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Jared Brown). 2011-2018.
- Michael Smith, Biology Master's Student (Thesis committee; Advisor: Xiaoping Pan). 2010-2011.
- Pranita Katwa, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Jared Brown). 2009-2012.

PROFESSIONAL SERVICE

Scientific Community

- Society of Toxicology Faculty United for Toxicology Undergraduate Recruitment and Education (FUTURE) Committee. 2019-present.
- Past-President, Society of Toxicology Immunotoxicology Specialty Section. 2019-2020.
- Co-Chair, Advanced Immunotoxicity Testing continuing education course. 2019 Annual Meeting, Society of Toxicology, Baltimore, MD.
- President, Society of Toxicology Immunotoxicology Specialty Section. 2018-2019.
- Co-Chair, Introduction to Immunotoxicity Testing continuing education course. 2018 Annual Meeting, Society of Toxicology, San Antonio, TX.
- Society of Toxicology Career Resource and Development Committee. 2018-2019.
- Society of Toxicology Specialty Section Collaboration and Communication Group. 2017-2019.
- Vice-President, Society of Toxicology Immunotoxicology Specialty Section. 2017-2018.
- Program Planning Committee, Volunteers Sub-committee, 2017 Annual Meeting, Society of Environmental Toxicology and Chemistry. 2016-2017.
- Vice-President Elect, Society of Toxicology Immunotoxicology Specialty Section. 2016-2017.
- Program Committee, Society of Toxicology Immunotoxicology Specialty Section. 2015-2016.
- Moderator for Toxicology, Epidemiology, and Human Health section, FLUOROS 2015 meeting, Golden, CO. 2015.
- Program Planning Committee, 2015 Annual Meeting, Society of Environmental Toxicology and Chemistry. 2014-2015.
- Senior Councilor, Immunotoxicology Specialty Section Society of Toxicology. 2014-2015.
- Past-President, North Carolina Society of Toxicology. 2014-2015.
- Junior Councilor, Immunotoxicology Specialty Section Society of Toxicology. 2013-2014.
- President, North Carolina Society of Toxicology. 2013-2014.
- Research Funding Committee, Society of Toxicology. 2012-2014.
- Vice President, North Carolina Society of Toxicology. 2012-2013.
- Vice President-Elect, North Carolina Society of Toxicology. 2011-2012.
- Program Committee, Society of Toxicology Immunotoxicology Specialty Section. 2010-2011.
- Councilor, North Carolina Society of Toxicology. 2009-2011.
- Workshop co-chair and organizer, "Is Modulation of the Immune System by Perfluoroalkyl Acids a Human Health Concern?" Society of Toxicology Annual Meeting, Baltimore, MD. 2009.
- Symposium co-chair and organizer, "Immune Biomarkers in Alternative Species: Implications for Risk Assessment," Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
- Platform session co-chair, "Immunotoxicology: Immune Modulation and Cell Specific Responses," Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
- Postdoctoral Representative and Program Committee member, Immunotoxicology Specialty Section of the Society of Toxicology. 2005-2007.

- Mentor, Association of Women in Science Program (WISP) Mentoring Project, Office of Women's Affairs, Indiana University, Bloomington, IN. 2000-2002.
- Student Board Member, Ohio Valley Chapter of Environmental Toxicology and Chemistry. 2000-2001.

Workplace Community

- Diversity and Equity Leadership Program, Division of Research, Economic Development and Engagement at ECU. 2019-present.
- Faculty Research Advisory Committee, Division of Research, Economic Development and Engagement at ECU. 2019-present.
- My IDP Mentor, ECU Postdoctoral Training Program, Division of Research, Economic Development and Engagement at ECU. 2019-present.
- Vice-Chair, Institutional Animal Care and Use Committee, 2019-present.
- BSOM Research Committee, Brody School of Medicine, East Carolina University. 2019-present.
- LCME Steering Committee and Co-Chair of Academic Environment Sub-Committee, Brody School of Medicine, East Carolina University, 2018-present.
- Department of Comparative Medicine Promotion and Tenure Committee, Brody School of Medicine, East Carolina University, 2017-present.
- Coastal Strategic Planning Committee, East Carolina University, 2016-2017.
- BSOM Promotion and Tenure Committee, Brody School of Medicine, East Carolina University, 2015-present.
- Secretary/Treasurer, Brody Women Faculty Committee. 2015-2017.
- Planning committee for the joint PhD program in Integrated Coastal and Marine Sciences, East Carolina University. 2015-2017.
- School of Dental Medicine Admissions Committee, East Carolina University, 2014-2018.
- BSOM Sustainability Committee, Brody School of Medicine, East Carolina University, 2014-2016.
- Committee member, BSOM Research Committee, Brody School of Medicine, East Carolina University. 2014-2015.
- Five-Year Review Committee for Dean Paul Cunningham, Dean of the Brody School of Medicine (appointed by the Vice Chancellor for Health Sciences). 2014.
- Institutional Animal Use and Care Committee. 2013-present.
- M1 Curriculum Committee, Brody School of Medicine, East Carolina University. 2013-2016.
- Master Educator Committee, Brody School of Medicine, East Carolina University. 2012-2016.
- Chair, Brody Women Faculty Committee. 2012-2013.
- Brody Vision, Innovation, Achievement (VIA) group. 2011-2015.
- Undergraduate Research and Creative Activity Biomedical Sciences Grant Review Committee. 2011-2018.
- Chair-elect, Brody Women Faculty Committee. 2011-2012.
- Coastal Maritime Council, East Carolina University. 2010-present.
- Five-Year Review Committee for Dr. David Taylor, Chair of the Department of Pharmacology and Toxicology (appointed by the Dean of the School of Medicine). 2010.
- Shared Resources Committee, Brody School of Medicine, East Carolina University. 2008-2012.
- Faculty of the Interdisciplinary Doctoral Program in Biological Sciences, East Carolina University. 2009-present.
- Brody Women Faculty Committee, East Carolina University. 2008-present.
- Graduate Faculty, Division of Research and Graduate Studies, East Carolina University. 2008-present.
- Vice-President and at-large member, EPA RTP Networking and Leadership Training Organization, USEPA. 2004-2008.

- Organizing Committee, 2007 NIEHS Biomedical Career Fair. 2006-2007.
- Vice-chair, Environmental Science program representative, Association of SPEA Ph.D. Students, School of Public and Environmental Affairs, Indiana University. 2001-2002.
- Environmental Science program representative, Dean's Student Advisory Committee, School of Public and Environmental Affairs, Indiana University. 1997-2002.

Other

- Science Olympiad (regional) Event C-Coordinator, "Potions and Poisons." 2018, 2019.
- Science Event Co-Coordinator, "ADdMe to Tox Town," Girl Scouts TechnoQuest Event. 2017.
- Science Event Co-Coordinator, "Biometry in Action," Brody Girl's STEM Day. 2016.
- Science Event Coordinator, "The Water Cycle," Youth Ocean Conservation Summit. 2016.
- STEM volunteer, various events, Love a Sea Turtle, NC Estuarium Sound Rivers. 2015-present.
- Science Event Coordinator, "Marshmallow Genetics" and "DNA Necklaces," ECU Girl's STEM Day. 2014-2016.
- Scientific Expert, Alzheimer's North Carolina fundraising walk, Washington, NC. 2014-2016.
- Über Judge, Blue Heron Bowl, Regional Competition for the National Ocean Sciences Bowl. 2012.
- Judge, North Carolina Region 1 Science and Engineering Fair. 2010. 2011.
- North Carolina Estuarium Docent. 2009-present.

Disciplinary and Specific Areas of Expertise for Nominee

Jamie C. DeWitt

Biomedical statistics

Developmental neurotoxicology

Developmental toxicology

Endocrine toxicology

Environmental and ecotoxicology

Environmental science

Human health risk assessment

Immunotoxicology/developmental immunotoxicology

Neural science

Risk communication

MaryAnn Hoff, CIH, MSPH, MPM

4006 Mayflower Lane
Murrysville, PA 15668
Cell: (b) (6)
Office: 724.325.5086

Expertise

Over 30 years practical work experience in the areas of industrial hygiene, chemical hazard assessment, global regulatory compliance, hazard communication and advocacy.

Key Initiatives and Accomplishments

- Leads a team of regulatory, toxicology, technical, business and legal associates to plan, track and submit Low Volume Exemptions (LVEs). Developed a hazard and risk evaluation framework to facilitate LVE submissions.
- Routinely meets with trade associations to share industry perspectives and make recommendations on multiple facets of the (Lautenberg) TSCA legislation including new chemistry hazard assessment, priority chemicals and LVE/ PMN submissions.
- Employs a multi-pronged approach to advocacy through communications with the global manager of regulatory compliance, the government affairs team and PPG businesses.
- Works with the American Chemistry Council Exposure Assessment committee to promote a more pragmatic and statistically appropriate approach to chemical risk assessment.
- Works closely with formulators on global raw material regulatory status highlighting substances targeted for deselection.
- Participated in the American Coatings Association Policy Summit.
- Developed a Substance of Concern communication process for Technical, Sales, Manufacturing and Supply Chain staff.
- Provided GHS training and emerging regulatory issues updates to PPG Refinish customers at the 2015, 2016 & 2017 Refinish National Sales Meetings.
- In partnership with the ACA emphasized the need for alignment with Canada GHS and development of a North American consolidated label approach. This topic was taken to the U.S./ Canada Regulatory Cooperation Council.
- Actively participated in the development of product stewardship management system implementation tools, including guidance documents and templates to help businesses identify compliance accountabilities across the supply chain.
- Mobilized technical, legal, manufacturing, purchasing and colleagues in corporate EHS to quickly address the new Consumer Product Safety Improvement Act which required lead testing and generation of certificates of conformity as of Nov. 12, 2008.
- Strategically applied information gained from EHS baseline assessments that were performed at Refinish training centers in North America to improve and standardize EHS performance at training centers, globally. Assessments involved a gap analysis and self-audit process.

Trade Associations and Advocacy Groups

- American Chemistry Council – Health, Product & Science Policy committee member, nominated by PPG CEO.
- American Chemistry Council Exposure Assessment Workgroup – Provide the team with significant industrial hygiene experience and expertise to support communications with OSHA and EPA.
- American Chemistry Council – Responsible Care Coordinator
- American Coatings Association – Product Stewardship Committee
- Synthetic Amorphous Silica & Silicate Industry Association – Tracking nano regulatory developments, globally.

Communications

- Over 25 years of senior level presentation experience to various internal and external audiences including customers, unions, manufacturing plants, research, sales, marketing, technical support and management staffs.
- Over 20 years of experience presenting health and safety data, explaining trends and statistics to Executives, General Managers and Directors of diverse business units.
- Over 20 years of experience preparing EHS communications and documents for distribution by Executive management.

Positions

2017- Present, PPG, Monroeville, PA. Director, Global Product Stewardship & Corporate Advocacy, Specialty Coatings & Materials
2011- 2017, PPG, Pittsburgh, PA. Global Product Stewardship Manager, Refinish
2002 – 2011, PPG Industries, Allison Park, PA. Manager Environment, Health, Safety & Product Stewardship, Performance Coatings Segment.
1999-2002, PPG Industries, Inc, Harmar, PA. Supervisor EHS, Glass Research.
1996-1999, PPG Industries, Inc., Pittsburgh, PA Supervisor Occupational Health, Glass Group.
1991-1996, PPG Industries, Inc., Allison Park, PA. Industrial Hygienist, Coatings.
PPG work experience includes all aspects of EHS program development and implementation including industrial hygiene, occupational health/ wellness, workers' compensation, injury reporting and investigation, corporate auditing, environmental permitting, and Product Stewardship. Managed EHS and security staffs as well as health services. Interacted with various regulatory agencies and trade associations. Work with all levels of corporate and business unit management to strategically promote corporate initiatives.

1988-1991, Mobay (Bayer), Pittsburgh, PA. Industrial Hygienist. Provided customer health and safety education, training and air sampling for two component paint systems, primarily polyurethane chemistries.

1986-1988, University of Pittsburgh Graduate School of Public Health, Graduate Student. Performed *in vivo* inhalation toxicology research on trimellitic anhydride for graduate thesis. Published, Respiratory effects of trimellitic anhydride aerosols in mice, Archives of Toxicology (1991).

1984-1986, NUS Corporation, Pittsburgh, PA. Analytical Chemist. Analyzed materials and environmental samples from industry and uncontrolled hazardous waste sites. Utilized USEPA Superfund as well as solid waste methodologies. Completed two assignments at Vandenberg Air Force Base as a clean room Chemist in support of the Discovery Space Shuttle launch.

Education

Masters Public Management *(Honors)* - Finance, Carnegie Mellon, Pittsburgh, PA. 2000.
Master Science Public Health - Chemical Hazard Assessment, University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA. 1988.
Bachelors Chemistry *(Honors)*, University of Denver, Denver, CO. 1984

From:	Hoff, Mary Ann
To:	Knott, Steven
Subject:	TSCA SACC
Date:	Thursday, April 9, 2020 4:16:46 PM
Attachments:	image001.png SACC CL 04092020.pdf MA Resume 04082020.pdf SACC Nomination.pdf

Mr. Knott,

SACC nomination information is attached.

Regards,

-MaryAnn

MaryAnn Hoff, CIH, MSPH, MPM
Director, Global Product Stewardship & Corporate Advocacy
Specialty Coatings & Materials
PPG
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MaryAnn Hoff, CIH, MSPH, MPM
Director Global Product Stewardship &
Corporate Advocacy
Specialty Coatings and Materials

9 April 2020

Mr. Steven M. Knott, MS
Designated Federal Officer
Office of Science Coordination and Policy
Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Mr. Knott,

I am contacting you as a self-nominee to be considered for appointment to the TSCA Science Advisory Committee on Chemicals. My strong science background coupled with my diverse work experience and education would contribute greatly to SACC discussions and decision-making.

Included with this correspondence you will find my resume and biographical sketch.

Should you require any additional information do not hesitate to contact me.

Best Regards,

MaryAnn Hoff, CIH

MaryAnn Hoff, CIH, MSPH, MPM
Director, Global Product Stewardship & Corporate Advocacy
Specialty Coatings & Materials
PPG
440 College Park Drive
Monroeville, PA 15146
W: 724.325.5086
M: (b) (6)
hoff@ppg.com

Affiliation: Director, Global Product Stewardship & Corporate Advocacy, PPG Specialty Coatings & Materials, Pittsburgh, PA.

Expertise: MaryAnn has over 30 years practical work experience in the areas of industrial hygiene, chemical hazard assessment, global regulatory compliance, hazard communication and advocacy.

Education: BS Chemistry with Honors, University of Denver, Denver, CO; MSPH (Chemical Hazard Assessment / Industrial Hygiene), University of Pittsburgh School of Public Health, Pittsburgh, PA; MS Public Management, with Honors, Carnegie Mellon, Pittsburgh, PA.

Experience Summary: MaryAnn has over 30 years as a practitioner of Industrial Hygiene, Chemical Hazard and Risk Assessment, Occupational Health Management, Product Safety, Global Regulatory Compliance/ Implementation and Management. During her time with PPG MaryAnn earned her CIH (Certification in Industrial Hygiene) and has had the unique opportunity to hold various environmental, health and safety management positions in each of PPG's major strategic business segments. Prior to her 29 year career with PPG, she worked for Mobay (Bayer) as an Industrial Hygienist where she specialized in polyisocyanate health and safety and performed Industrial Hygiene sampling and training at a variety of end-user locations. MaryAnn started her career as an Environmental Chemist working for NUS laboratories, a subsidiary of Halliburton. While at NUS she had two temporary assignments at Vandenberg Air Force Base in California where she worked on the Discovery Space Shuttle project as a Clean Room Chemist and Group Leader. During her graduate studies at the University of Pittsburgh, MaryAnn's interest was respiratory toxicology. Her Master's thesis project on the respiratory effects of trimellitic anhydride was published in the Archives of Toxicology (1991).

Panel Experience: National Paint and Coatings Association HMIS Work Group; American Coatings Association Product Stewardship Committee and Hazard Communication (e.g., GHS implementation) Work Group; American Chemistry Council Health, Product & Science Policy (HPSP) Committee and Exposure Assessment Work Group. Other memberships: ACGIH (American Conference Governmental Industrial Hygienists), SASSI (Synthetic Amorphous Silica & Silicates Institute) and ASASP (Association of Silica and Silicate Producers).

From:	William Adams
To:	Knott, Steven
Subject:	TSCA Science Advisory Committee Nomination
Date:	Saturday, March 28, 2020 12:28:14 PM
Attachments:	RESUME Bill Adams -20120+----------.doc Adams-Biosketch TSCA.docx

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Steven
I would like to self nominate as a candidate to be considered for an appointment to the Toxics Substances Control Act (TSCA), Science Advisory Committee on Chemicals (SACC).

I have previously served on the EPA Science Advisory Board, FIFRA SAP and NAS (NMB on sediments). I have attached a short biosketch and my resume'.

I am currently a self employed private consultant.

Thank you for consideration.

William Adams
Fellow, SETAC

Dr. William Adams – Biosketch 3/28/2020

Dr. William J. Adams is a scientist who spent the last 40 years conducting research in the field of environmental science. Bill is currently a self-employed environmental consultant. He was previously Chief Advisor for Rio Tinto (20 years) and a Science Fellow for Monsanto (15 years). The remaining time was as a consultant. His responsibilities were to manage corporate global toxicology and remediation programs which included assisting with preparation of premanufacture notifications for TSCA and pesticide registration. He has performed research with organic substances (PCBs, dioxins, adipate, phthalate, and phosphate esters, rubber chemicals) and with metals (arsenic cadmium, copper, lead, manganese, selenium and zinc). Research topics have resulted in publications in the human health field, as well as plants, birds, mammals and aquatic species related to both toxicity and exposure assessment. He has performed numerous risk assessments for site related issues where soil, groundwater, human health and environmental risk assessment and remediation was required. Dr. Adams received his M.S. in wildlife toxicology and Ph.D. in aquatic toxicology from Michigan State University. His recent research interests include chairing the Arsenic Science Task Force (ASTF) which is working with EPA on an IRIS risk assessment. Bill had extensive input to the Copper Risk Assessment for Europe and the REACH Copper Dossier. Dr. Adams also directed the environmental portion of the REACH dossier for aluminum and iron. Recently he has been developing ecotoxicology risk assessment methods for metals, site-specific methodologies for water quality criteria for metals and approaches for assessing hazards of metals. Dr. Adams has been a member of the EPA Science Advisory Board (SAB - EPEC) and served three terms for a total of 12 years. He also served on the EPA Superfund National Advisory Committee for Environmental Policy and Technology and the National Marine Board Sediment Committee. Additionally, he chairs several technical workgroups dealing with science and the environment. Bill has worked on many TSCA related projects including premanufacture notifications, TSCA Section 4 test rules and risk assessments. Dr. Adams has published more than 115 papers, including papers on both organic and metals substances. He has also authored 7 books. His most recent publications have dealt with human health criteria for ingested copper and approaches for setting site specific water quality standards for copper, and selenium. He is currently working on developing biotic ligand models for establishing water quality criteria for aluminum and iron and assessment of the importance of selenium in protecting against mercury toxicity. Dr. Adams is a SETAC Fellow and recipient of the SETAC Founders Award (the Society’s highest award for demonstrated leadership in environmental science).

RESUME'

WILLIAM J. ADAMS

Consultant
7760 North Boulder Drive
Lake Point, UT 84074
(b) (6)
(b) (6) @gmail.com

TITLE Senior Environmental Scientist – SETAC Fellow

EDUCATION

B.S. Biological Sciences (cum laude) 1969
Lake Superior State University, Sault Ste Marie, MI

M.S. Wildlife Toxicology - 1971 Michigan State University, E. Lansing, MI Thesis: Survival and Reproduction of the Ring-Necked Pheasant (Phasianus colchicus) Consuming Two Mercurial Fungicides.

Ph.D. Aquatic Toxicology - 1976 Michigan State University, East Lansing, MI
Thesis: Toxicity and Residue Dynamics of Selenium in Fish and Aquatic Invertebrates.

EXPERIENCE

July, 2016-present – Private Consultant
I resigned from Rio Tinto in June of 2016 and I am now working as a private consultant with an emphasis on metal toxicology in birds and aquatic organisms. Recent research has dealt with bioavailability and toxicity of aluminum, copper, iron and selenium. Other areas of focus have been on mine closure and closure planning.

2008 – June, 2016 – General Manager Legacy and Chief Scientist– Areas under Management for Rio Tinto Corporation
In this role, I was responsible for managing remedial activities at 9 mine sites and 100 other properties where soil or groundwater remediation is required. My responsibility for site remediation spanned across the North America, Europe and Australia. The types of projects we were involved with include numerous groundwater issues, soil remediation, pit lakes, stream remediation, waste rock remediation and revegetation. I frequently engaged in research programs with subsequent publications.

June 2002 - 2008 - Chief Adviser – Product Stewardship Rio Tinto
Principle responsibilities in this role were leading and developing product stewardship

programs across Rio Tinto global business units. This includes the development of life cycle assessments, programs on eco-efficiency, and research programs to assess product safety for health and the environment. Monitoring and reporting on emerging issues as well as new regulations that effect products or mining operations is an important part of the job. Frequent interface with regulators and government officials is required to assure sound regulations and corporate compliance in a global market. In this position, I frequently initiated and participated in international research as well and emerging global environmental regulatory issues. This includes engagement with OECD, UN and the EU bodies.

1995-2002 - Kennecott Utah Copper: Director Environmental Science

Responsible for environmental research, ecotoxicology and human health risk assessments, and product stewardship programs for Kennecott. Interfacing with various international and EPA regulatory branches was a key part of this position. Research interests include developing ecotoxicology risk assessment methods for metals, site-specific methodologies for water quality criteria for metals, evaluation of the sensitivity of threaten and endangered fishes, and development of an alternative strategy for metals to replace the existing PBT (persistent, toxicity and bioaccumulation) approach for the metals industry and scientific community.

1991 - 95 - ABC Laboratories: Director and Vice President Environmental Toxicology

In this position, I was responsible for the technical operations and business direction of ABC's Environmental Toxicology division. The focus of this job was leading a team of 45 associates in providing ecotoxicology data. Research interests were focused on aquatic toxicology, sediment assessment, risk assessment and non- target insect testing. Research projects focused on pesticides, pharmaceuticals and metals to a lesser extent.

1988 - 1991 - Monsanto Co.: Science Fellow

The position of Science Fellow is unique in industry and was set up to recognize outstanding performance in research and was designed to be equivalent to a university position of Professor. The primary focus of this position was to develop unique biological waste treatment technologies for air and water emissions. Development of immobilized cell biosystems for effluents, air biofiltration systems and application of biotreatment techniques to contaminated sites were the main focal points. Seven persons reported to me directly and several others indirectly with an R & D budget of $1.0 million. Three pilot scale projects as well as numerous laboratory projects were directed in both the U.S. and England.

1986 - 1988 - Monsanto Co.: Associate Fellow

The primary job responsibility was to develop viable alternative biological waste treatment technologies for treating contaminated waste sites and manufacturing discharges. Additional responsibilities included functioning as a corporate consultant on environmental fate and aquatic toxicity issues including environmental fate and toxicity of dioxins.

1983 and 1985 - Monsanto Co.: Senior Environmental Specialist

This position involved developing and maintaining a corporate aquatic research capability and conducting basic research to assess the environmental safety of chemicals and effluents. Key emphasis was the development of an approach for assessing the safety of chemicals sorbed to sediments. Research led to development of equilibrium partitioning theory for assessing the significance of non-polar substances sorbed to sediments.

1981 and 1982 - Monsanto Co.: Research Group Leader

The primary responsibility of this position was to develop aquatic toxicity, environmental fate, and environmental monitoring data needed to assess the environmental safety of new and existing products. Negotiations with various branches of the EPA and publication of hazard assessment test results were routine.

1977 to 1981 - Monsanto Co.: Senior Research Biologist / Research Specialist

Development of state-of-the-art aquatic toxicity laboratory and data was the primary focus of this position. Aquatic information for preliminary and in-depth assessment of 100+ chemicals was performed. Acute and chronic toxicity tests with daphnids, midges, fathead minnows, rainbow trout and several other species were performed. Participation in outside groups such as Chemical Manufacturers Association (CMA), The Soap and Detergent Association (SDA), and the American Society for Testing and Materials was expected.

1975 to 1977 - Michigan State University: Post Doctoral Research

Six model streams were used to measure the bioconcentration and degradation of atrazine and hexachlorobiphenyl by aquatic invertebrates, plants and fish. The purpose of this research project was to compare the data obtained by small laboratory model ecosystems with a larger, more natural aquatic system. The primary responsibility was field project director for stream monitoring and collection and identification of stream organisms.

1974 and 1975 - Research for Ph.D. dissertation

An aquatic hazard review of selenium in Western Lake Erie was performed. Several acute and chronic toxicity tests with two selenium compounds and several species of fish and aquatic invertebrates were conducted. The accumulation and distribution of selenite by fathead minnows and rainbow trout was measured and the selenium content in fish, zooplankton, water, and sediment samples collected from Lake Erie was determined.

1972 and 1973 - Research Technician

The primary responsibility of this job was to collect data on the abundance, biomass and age and growth of fish in Western Lake Erie. The job involved working 20 hours a week for two years as a member of a limnological research team hired by Detroit Edison Power Company to evaluate the effects of a thermal effluent on Western Lake Erie.

1971 - Army Corp of Engineers, Ft. Belvoir, Virginia

A Corp of Engineers basic training course for officers was completed. The course consisted of three months of training in building of roads, bridges, drainage and concrete construction in addition to other army related subjects.

1970 and 1971 - Masters Degree Program

Research was conducted for a Masters Degree on the toxic effects of methyl- and phenyl-mercurial fungicides on the survival and reproduction of ring necked pheasants. Study results were presented at the International Environmental Mercury Conference, Ann Arbor, Michigan.

HONORS

1968-9 Nominated to Who's Who Among College Students of America.
1973 Awarded a National Science Foundation Grant.
1981 Achievement Award for the MIC National Aquatic Monitoring Program.
1983 American Fisheries Society Associate Editor.
1985-88 Elected to board of directors, Society of Environmental Toxicology and Chemistry.
1986 Nominated as Chairman of Tenth ASTM Aquatic Toxicology and Hazard Assessment Symposium.
1987 Awarded a plaque for outstanding science and performance in the area of product defense for Santicizer 160 (butyl benzyl phthalate) by the Monsanto Benzyl Phthalate Product Board.
1988 Received an Exceptional Service Award by the Committee E-47 on Biological and

Environmental Fate, American Society for Testing and Materials.
1991 Invited to speak at the first Industrial Chemical Engineering Symposium at Cambridge, England.
1993 Received an award for serving on the EPA Biology Grant Review Panel.
1995 Appointed to EPA Science Advisory Board by EPA Administrator
1998 Reappointed to EPA Science Advisory Board
1999 Appointed to EPA Science Advisory Board Research Strategy Advisory Committee
2001 Reappointed to EPA Science Advisory Board Research Strategy Advisory Committee
2002 Appointed to the Subcommittee of the EPA National Advisory Committee for Environmental Policy and Technology (**NACEPT**)
2002 Appointed Chair of the ICMM Technical Working Group on metals
2007 Appointed chair of the International Council for Mining and Metals Material Stewardship Task Force
2003-2010 Appointed as Chairman of the North American Metals Council
2012 Recipient of the SETAC Founders Award for lifetime achievement in the environmental field; the Society's highest award.
2014 Inducted as a SETAC Fellow.
2015 Nominated by EPA Administrator to serve on the EPA Science Advisory Board for Ecological Processes and Effects.

PROFESSIONAL ACTIVITIES

1968 Member of the student judicial board - Lake Superior State College.
1968 Vice President of the Society of American Military Engineers and representative to the
Student Senate - Lake Superior State College.
1974 Graduate student representative to the faculty - Michigan State University.
1975 President of the Graduate Student Organization - Michigan State University.
1978 Photolysis Task Group Chairman for American Society for Testing and Materials (ASTM).
1980-4 Daphnia Task Group Co-Chairman - ASTM.
1982-3 Monsanto Technical Community (TCM) Environmental Sciences, Program Chair.
1983-4 Monsanto Technical Community (TCM) Environmental Sciences Chapter, Chairman.
1983-4 Society of Environmental Toxicology and Chemistry (SETAC) editorial board.
1983-4 American Fisheries Society (AFS) Associate Editor.
1983-4 ASTM Aquatic Safety Subcommittee (E-47) Vice Chairman.
1984 Participated in SETAC Pellston Workshop on sediments at Florissant, CO.
1985 Poster Chairman for SETAC annual symposium.
1986 Monsanto Technical Community, Environmental Sciences Chapter, Chairman.
1987 Chairman of Government Affairs Committee for SETAC.

1987 Organized a national workshop on "Research Needs in Environmental Risk Assessment" at the Request of the President's Science Advisor.

1987-1994 Member of EPA Biology Grant Review Board for unsolicited basic environmental research grants.

1988 Session chairman at ASTM Aquatic Toxicology Symposium.

1988 Co-chairman of Government Affairs Committee for SETAC.

1988 Appointed to the National Academy of Science Marine Board for the purpose of reviewing the extent of sediment contamination in marine sediments.

1988 Appointed to the EPA Science Advisory Board for the purpose of reviewing the proposed EPA methodology for deriving Sediment Quality Criteria.

1989 Session chairman at ASTM Aquatic Toxicology Symposium.

1989 Associate editor for SETAC special technical publications.

1989 Session chairman at EPA sponsored workshop on sediment criteria development at the Corvallis, OR laboratory.

1990 Associate editor for SETAC special technical publications.

1991 Selected to participate in SETAC sponsored Pellston Workshop on microcosms at Wintergreen, VA.

1991 Participated in EPA Science Advisory Board subcommittee review of the EPA Ecorisk Framework document.
Member of EPA Science Advisory Board Subcommittee for the purpose of reviewing EPA methodology for deriving dioxin Water Quality Criteria.

1991-4 Daphnia Task Group Co-Chairman - ASTM.

1991-4 Member of EPA Science Advisory Board Subcommittee for the purpose of reviewing EPA methodology for deriving Sediment Quality Criteria.

1992 Poster co-chair for the SETAC annual symposium, Seattle, WA.

1993 Requested to participate in an EPA sponsored Dioxin risk assessment 1995.
Poster presentation entitled, Chronic Toxicity Study for Honeybees: a New Approach. Present at the 16th Annual SETAC Symposium, Vancouver, BC. workshop. Workshop focus was to review an approach for assessing dioxin releases to the aquatic environment.

1993 Participant in the CEFCOM (Committee on the Environmental Fate of Complex Organic Molecules) workshop held at Airlie, VA.

1993 Participant in the Corps of Engineers workshop on Determining the Developmental Status of Sediment Toxicity Bioassays (Denver, CO).

1994 Appointed by EPA Administrator Carol Browner to EPA Science Advisory Board

1995 Co-organizer of Society of Toxicology and Chemistry Pellston Workshop on sediment contaminant assessment.

1996 Participant in Society of Toxicology and Chemistry Pellston Workshop on mechanisms of metal toxicity to aquatic organisms.

1996 Co-organizer of Society of Toxicology and Chemistry special symposium session on metals and water quality criteria

1997 Co-organizer of Society of Toxicology and Chemistry interactive poster session on Bioavailability of metals in aquatic ecosystems

1997 Organized a national symposium on Selenium In The Aquatic Environment

1997 Organized an international meeting of the Ecotoxicology Technical Advisory Panel in Brugge, Belgium

1999 Served as chair of the International Copper Association=s, Ecotoxicology Subcommittee

1998 Organized (steering committee member) a Pellston Workshop on water quality criteria: new developments

1999 Chaired a metals session at the SETAC national symposium, presented one platform paper and six posters.

1999 Organized (steering committee member) an international workshop on methods for performing ecological risk assessments for metals.

1999 Chaired two metals session at the SETAC national symposium, presented two platform papers, participated in a debate on selenium and presented six posters.

2000 Organized (steering committee member) a workshop in Washington DC on alternatives to assessing persistence, bioaccumulation and toxicity for metals

2000 Co-chaired an interactive poster session on assessing dietary exposure for metals at the SETAC national symposium, presented four platform papers on metals (PBT, dietary exposure, Acute to chronic rations for metals, and Selenium thresholds for birds) and two posters.

2001 Appointed by EPA Administrator Christie Whitman to EPA Science Advisory Board, Research Strategies Advisory Committee.

2001 Invited speaker at European Union Technical Workshop on setting predicted no-effect concentrations (PNECs) for environmental risk assessments.

2001Served on EPA FIFRA Science Advisory Panel (SAP) to review probabilistic risk assessment methods for assessing ecological effect of pesticides on birds.

2000 Participant in Biotic Ligand Model Workshop: Application to Marine Systems, Woods Hole, MA

2001 Presented two platform papers (PBT alternative for metals and A residue-based approach to water quality criteria for selenium), one poster paper (Analysis of field and laboratory data used to derive avian thresholds for selenium) and co-authored two other papers (Diversity and richness of metal aquatic toxicity data sets and Use of ACRs for metals) at the SETAC national symposium in Baltimore.

2002 Workgroup chair of SETAC Technical Workshop on Porewater Assessment of Sediments, Pensacola, FL

2003 Chair of SETAC 2002 Program Committee for the 23rd Annual SETAC Symposium in Salt Lake City.

2002 Organized a Pellston Workshop (steering committee member) on Role of Dietary Exposure in the Evaluation of Risk of Metals to Aquatic Organisms

2002 Organized a Pellston Workshop (steering committee member) on sediment quality

assessment, Fairmont Springs, Montana.

2002 Invited speaker at UNEP-SETAC Life Cycle Assessment Workshop, Montreal, Canada, March 15, 2002.

2002 Invited speaker at EPA-ACC conference on Issues in Assessing and Managing Ecological Risks at Contaminated Sediment Sites, Chicago, IL, 6-45, 2002.

2002 Chaired a review of the Review of the Mid-Continent Ecology Division, National Health and Environmental Effects Research Laboratory USEPA, February 25 – 28, 2002, Duluth, MN

2004 Invited speaker at USACE/US NAVY/S-SW HSRC, USEPA, NOAA/USGS SMWG: An Intensive 3-Day Workshop on Environmental Stability of Chemicals in Sediments April 8-10, 2003, San Diego. Presented a paper on metal bioaccumulation.

2003 Keynote speaker at initiation of Wright State University Ph.D. program, May 12.

2003 Chaired a SETAC Pellston Workshop entitled Hazard Identification Approach For Metals and Inorganic Metal Substances, 3-8 May 2003, Pensacola, FL.

2003 Invited speaker at the copper symposium entitled *Cobre 2003*, Santiago, Chile, December.

2003 Presented four papers/posters at US SETAC Symposium.

2003 Two posters were presented at SETAC Latin America, Buenos Aires.

2004 Invited speaker at SETAC-UNEP LCIA workshop in Apeldorn, Netherlands, April

2004 Lead a follow-up Review of the Mid-Continent Ecology Division, National Health and Environmental Effects Research Laboratory USEPA, Duluth, MN.

2004 Presented one platform paper at the EU SETAC symposium on assessing the bioavailability of background concentrations of metals.

2004 Chaired a metals session at the US SETAC national symposium, presented one platform and one posters paper and co-authored two other platform papers and posters.

2004 Invited to participate in the SETAC Pellston Workshop on *in situ* application of sediment test methodologies.

2004 Chaired the International Council for Metals and Mining Technical Working Group; purpose was to address emerging international issues related to chemicals/metals management.

2005 Co-chaired (Metals Environmental Risk Assessment Guidance) MERAG International Workshop, London, May, 9-10. MERAG is intended to provide guidance to update the EU Technical Guidance Document for metals risk assessments.

2005 SETAC Europe Symposium, presented two posters on metal risk assessment methodologies in an interactive poster session.

2005 Delivered a key note address at the SETAC Latin America symposium in Santiago, Chile in October on Integrating Science with Policy.

2005 Addressed the United Nations Strategic Approach to International Chemicals Management (SAICM) in Dubai.

2005 Three platform presentations were given at the US SETAC symposium on life cycle impact assessment, unit world model and transformation / dissolution.

2006 Co-chaired the SETAC Metals Regulatory Session; delivered a paper on metal classification and Unit World Model and a special tribute to Rick Playle on metal bioaccumulation.

2006 Chaired an international workshop on selenium toxicology and treatment; held in November in Toronto.

2007 Presented two papers to the EU Classification and Labelling Committee on metal transformation-dissolution and persistence/degradation interpretation; in Ispra, Italy.

2008 SETAC Europe, Warsaw, Poland: 1 platform paper and 1 poster on use of metal tissue residues to assess aquatic effects; 1 poster on marine risk assessment of metals, 1 poster on the use of the BLM for assessing multiple metal exposures; 1 poster on the use of the transformat6ion dissolution protocol to classify metals.

2009 -10 Presented several papers at SETAC North America on copper and biomagnification of metals.

2011 Invited to OECD (Paris) to present on bioaccumulation of metals. Guest lecture at Mine Closure symposium in Lake Louise, Alberta. Presented papers at SETAC Europe and the American Fisheries Society on assessing metal mixtures and salmonid olfactory response to copper, respectively.

2012 Organized an international workshop on assessing bioavailability of metals in soils; Sundance, UT, September.

2013 Keynote speaker at the SETAC annual meeting in Longbeach, CA and recipient of the Society's Founders Award.

2013 Keynote speaker at the Mine Closure Conference at Eden, Cornwall, UK, September.

2014 Presented several papers at the SETAC conference in Vancouver.

2015 Presented two papers at SETAC North America.

2015 Participant in SETAC Pellston Workshop in Barcelona Spain on Chemical Mixtures.

2015-16 Chair of the ICMM Technical Working Group

2018 Presented two papers at SETAC - Sacramento; Sensitivity of sturgeon to metals and bioavailability of metals: historical perspective.

2015-20 Chair of the Arsenic Science Task Force

2010-20 Chair of the North American Metals Council

2010-20 Co-chair of the industry Selenium Working Group

2017 - SETAC Technical workshop on bioavailability of metals, steering committee and workgroup chair (December, Pensacola, FL).

2019 Presented a paper at RM-SETAC Denver, Working towards a water quality criterion for iron.

2019 Presented a paper at the SETAC North America meeting in Toronto entitled Transepithelial Potential as a Predictor of Major Ion Toxicity in Fish

2020 Submitted a paper for the SETAC Europe meeting in Dublin on the rapid removal of copper from the water column.

PROFESSIONAL SOCIETIES

- American Society for Testing and Materials
- Society of Environmental Toxicology and Chemistry
- American Chemical Society

PUBLICATIONS

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11. Lynch, T.R., H.E. Johnson, and W.J. Adams. 1980. The fate of atrazine and a hexachlorobiphenyl isomer in naturally-derived model stream ecosystems. Environmental Toxicology and Chemistry 1(2): 179-192.

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13. Adams, W.J., B.B. Heidolph, P.R. Michael, and R.A. Kimerle. 1981. Field confirmation of laboratory derived acute and chronic data. In Aquatic Toxicology and Hazard Assessment, Proceedings of the Sixth Annual Symposium on Aquatic Toxicology, W.E. Bishop, R.D. Cardwell, B.B. Heidolph, editors. ASTM Special Technical Publication STP 802.

14. Werner, A.F., W.J. Adams, and R.A. Kimerle. 1982. Cost effective approaches to evaluating aquatic safety of chemicals. Proceedings of EPA Workshop; Identification, Evaluation, and Control of Toxic Substances in Industrial Effluents, June 15-16, Chicago, Illinois.

15. Kimerle, R.A., W.J. Adams, and D.R. Grothe. 1982. A tiered approach to aquatic safety assessments of effluents. Proceedings of Workshop on Environmental Hazard Assessment of Effluents, Valley Ranch, Wyoming, August 1982. Environmental Toxicology and Chemistry Special Technical Publication No. 1.

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Annual ASTM Aquatic Toxicology Symposium. R.D. Cardwell, R. Purdy, and R.C. Bahner, editors. Special Technical Publication STP 854; pp 538-547.

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23. W.J. Adams, P.S. Ziegenfuss, W.J. Renaudette, and R.G. Mosher. 1985. Comparison of laboratory and field methods for testing the toxicity of chemicals sorbed to sediments. Special Technical Publication STP 921, pp. 494-513. Proceedings of Ninth Annual ASTM Aquatic Toxicology Symposium, T.M. Poston and R. Purdy editors.

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immobilized bacteria: laboratory studies showing feasibility for glyphosate removal from wastewater. Can. J. Microbiol., 38:921-928.

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116. Adams W, Blust R, Dwyer R, Mount D, Nordheim E, Rodriguez E, Spry D. 2019. Bioavailability assessment of metals in freshwater environments: a historical review. Submitted to *Environ Toxicol Chem.*

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Books

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2. Fava, J. A., W. J. Adams, et al. 1988. Editors, Research Needs in Environmental Risk Assessment. Society of Environmental Toxicology and Chemistry, Washington, DC. (Book)

3. Reiley, M., W. J. Adams, D. DiToro, P. Hodson, R. Erickson, F. J. Keating and W. A. Stubblefield. 2002. Editors, Reevaluation of the State-of-the-Science for Water Quality Criteria Development. Pellston Workshop, Society of Environmental Toxicology and Chemistry Press, Pensacola, FL. (Book)

4. Wharfe, J., W. Adams, S. Apitz, R. Barra, T. Bridges, C. Hickey, S. Ireland. *In situ*-based measures, an important line of evidence in the environmental risk framework; in Field-Based Effects Measures: Linking Responses to Ecological Consequences. SETAC Pellston Workshop, November 9-12, 2004, published in IEAM, August 2007.

5. Adams, W. J., P. M. Chapman. 2006. Assessing the hazard of metals and inorganic metal substances in aquatic and terrestrial systems. SETAC Pellston Workshop May 2003, SETAC Press, Pensacola, Florida. (Book)

6. Rodier, D. and W. Adams. Sustainable development, HS&E, and recycling. 2007. Proceedings of the Sixth International Copper-Cobre Conference, Volume VI, Toronto, Ontario, A publication of the Canadian Mining, Metallurgy and Petroleum, Xerox Tower, Montreal, Quebec, Canada, www.metsoc.org.

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Book Chapters

1. Adams, W.J. 1987. Chapter 16: Bioavailability and Safety Assessment of Lipophilic Organics Sorbed to Sediments. Proceedings of workshop on Role of Suspended and Settled Sediments in Regulating the Fate and Effects of Chemicals in the Aquatic Environment, Florissant, CO, August 1984, Pergamon Press, NY.

2. Adams, W. J. 1994. Aquatic Toxicology Test Methods. Chapter 4: Environmental Handbook of Ecotoxicology, Lewis Publishers, Ann Arbor, MI.

3. Adams W. J., Berry, W.J., Burton, G.A. Jr., Ho, K., MacDonald, D., Scroggins, R., Winger, P.V. 2002. Porewater Chemistry: Effects of Sampling, Storage, Handling and Toxicity Testing. In: Porewater Toxicity Testing: Biological, Chemical, and Ecological Considerations with a Review of Methods and Applications, and Recommendations for Future Areas of Research, Chapter 5, S. Carr and M. Nipper, Eds. Pellston Workshop, Society of Environmental Toxicology and Chemistry Press, Pensacola, FL.

4. Adams, W. J. and C. D Rowland. 2002. Aquatic Toxicology Test Methods. Chapter 2: Environmental Handbook of Ecotoxicology, Second Edition, Lewis Publishers, Ann Arbor, MI.

5. Adams, W.J., A. S. Green, W. Ahlf, S. S. Brown, G. A. Burton, B. Chadwick, M. Crane, R. Gouguet, K. T. Ho, C. Hogstrand, T. B. Reynoldson, A. H. Ringwood, J. D. Savitz, P. K. Sibley. 2004. Using Sediment assessment tools and a weight of evidence approach, in Use of Sediment Quality Guidelines for the Assessment of Contaminated Sediments, Wenning, R. J., Batley, G. E., Ingersoll C. G., and Moore, D. W., editors. Society of Environmental Toxicology and Chemistry (SETAC), Pensacola Florida.

6. DeForest DK, Adams WJ. 2012 Selenium accumulation and toxicity in freshwater fishes. In: Beyer WN, Meador JP, editors. Environmental contaminants in biota: interpreting tissue concentrations. 2nd edition. Boca Raton (FL, USA): Taylor and Francis.

7. Assessment of complex inorganic materials. 2018. Main characteristics of relevance for the assessment of complex inorganic materials, Chapter 5.

From:	PRZYBYLA, Jennifer (ATSDR/DTHHS/ETB)
To:	Knott, Steven
Subject:	TSCA Science Advisory Committee on Chemicals
Date:	Tuesday, August 25, 2020 12:05:29 PM
Attachments:	JPrzybyla_CV.docx JPrzybyla_biosketchform.pdf JPrzybyla_contact.docx JPrzybyla_biosketch_word.docx

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Good morning Mr. Knott,

I am writing to self-nominate for the TSCA Science Advisory Committee on Chemicals. Please find attached a pdf of the completed biosketch form, my CV, and contact information. I have also include a word version of the biosketch because I noticed sometimes unless the fields were selected information disappeared.

Thank you for your consideration,

Jennifer Przybyla, MS, MS, PhD
Epidemiologist
404-498-5264

From:	Michael Dourson
To:	Knott, Steven
Subject:	TSCA Science Advisory Committee on Chemicals; Request for Nominations
Date:	Monday, April 6, 2020 11:15:33 AM
Attachments:	PastedGraphic-6.pdf Untitled attachment 00011.htm image011.png Untitled attachment 00014.htm Dourson CV-2020.doc Untitled attachment 00017.htm

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Dear Master Knott

Please find attached a resume that summarizes my expertise in toxicology and risk assessment, including my employment, educational background, speaking engagements, research publications, scientific sessions chaired, committee and organizational appointments/elections, awards, and affiliations. I also served on EPA's SAB (2011 to 2017).

My biographical sketch follows directly:

> Michael Dourson has a PhD in toxicology from the University of Cincinnati, College of Medicine, and is a board-certified toxicologist (i.e., DABT) serving as the Director of Science at the 501c3 nonprofit organization Toxicology Excellence for Risk Assessment (TERA). Prior to this, he was Senior Advisor in the Office of the Administrator at the US EPA. Before this, he was a Professor in the Risk Science Center at the University of Cincinnati, College of Medicine and also worked at TERA and US EPA.
>
> He has been awarded the Arnold J. Lehman award from the Society of Toxicology, the International Achievement Award by the International Society of Regulatory Toxicology and Pharmacology, and 4 bronze medals from the U.S. Environmental Protection Agency. He has been elected as a Fellow of the Academy of Toxicological Sciences (i.e., FATS) and as a Fellow for the Society for Risk Analysis (i.e., FSRA).
>
> He has co-published more than 150 papers on risk assessment methods or chemical-specific analyses (4 of them winning awards), and co-authored well over 100 government risk assessment documents (many of them risk assessment guidance texts). He has made over 150 invited presentations to a variety of organizations, and has chaired over 150 sessions at scientific meetings and independent peer reviews. He has been elected to multiple officer positions in the American Board of Toxicology (including its President), the Society of Toxicology (including the presidency of 3 specialty sections), the Society for Risk Analysis (including its Secretary), and is currently the President of the Toxicology Education Foundation, a nonprofit organization with a vision to help our public understand the essentials of toxicology. In addition to numerous appointments on government panels, such as EPA's Science Advisory Board, he is a current member on the editorial board of Regulatory Toxicology and Pharmacology and Human and Experimental Toxicology.

Sincerely,

CURRICULUM VITAE

Michael L. Dourson, Ph.D., DABT, FATS, FSRA
Toxicology Excellence for Risk Assessment (TERA)
1250 Ohio Pike
Cincinnati OH 45102

dourson@tera.org
513-542-7475, ext. 105
(b) (6)
2019

EMPLOYMENT

2018-	Director of Science. Toxicology Excellence for Risk Assessment (TERA)
2017-18	Senior Advisor. Office of the Administrator, U.S. Environmental Protection Agency
2016-17	Professor. Risk Science Center. Department of Environmental Health, University of Cincinnati, College of Medicine, Cincinnati, Ohio
2015-16	Professor and Director. Toxicology Excellence for Risk Assessment Center, Department of Environmental Health, University of Cincinnati, College of Medicine, Cincinnati, Ohio
1995-15	Director/President. Toxicology Excellence for Risk Assessment, Cincinnati, Ohio
1991-94	Chief. Systemic Toxicants Assessment Branch, Environmental Criteria & Assessment Office (ECAO), U.S. Environmental Protection Agency (EPA), Cincinnati, Ohio
1990-91	Associate Director. ECAO, Cincinnati, Ohio
1989-90	Chief. Pesticides and Toxics Team, EPA, Washington, D.C.
1986-89	Chief. Methods Evaluation and Development Staff, ECAO, Cincinnati, Ohio
1985	Leader. Acceptable Daily Intake (ADI) Group, ECAO, Cincinnati, Ohio
1980-84	Staff Toxicologist. Environmental Criteria and Assessment Office (ECAO), Cincinnati, Ohio

EDUCATION

1988-89	Executive Potential Program. U.S. Office of Personnel Management
1986-87	Zenger Miller Supervision Course
1985-2015	Diplomate of the American Board of Toxicology
1975-80	University of Cincinnati, College of Medicine, Ph.D. degree in toxicology
1970-74	Wittenberg University, B.A. degree in biology

TEACHING

I have lectured in courses at the graduate level in several universities and institutes; have lectured high school students on the general principles of toxicology over several years; and have talked with grade school students on several occasions about careers in science and my experiences in Africa. I participated as a member of the Ph.D. thesis committee of Dr. Natalia Foronda of the Ministry of Health, New Zealand.

INVITED PRESENTATIONS (Selected)

"Food Safety Regulations: Carcinogens and the Relevance of the Delaney Clause: A Pro Delany Perspective"
American Association for the Advancement of Science. Seattle, WA. February 16, 2020.

"Update: Whither the safe dose for perfluorooctanonate (PFOA)?"
Toxicology Forum, Tysons, Virginia, January 28. 2020.

"Perceptions of bias: Does the standard of certainty change when politics comes into play?"
Society for Risk Analysis, Arlington, Virginia, December 11, 2019.

"Data Derived Extrapolation Factors for Developmental Toxicity:
A Preliminary Research Case Study with Perfluorooctanoate (PFOA)"
2nd International PFAS Conference, Adelaide, Australia, September 10, 2019.

"Human health risk characterization: A North American perspective"
Environmental risk assessment of Per- and polyfluoroalkyl substances (PFAS). **Society of Environmental Toxicology and Chemistry (SETAC)**. Durham, NC, August 14, 2019.

"The need for a holistic toxicological assessment of heat-formed substances within a food matrix"
The mitigation and regulation of heat-formed substances produced in foods during cooking: What are the unintended consequences on microbial safety and public health? **International Association of Food Protection**. Louisville, KY, July 23, 2019.

"Evidence-based dose response assessment for thyroid tumorigenesis: A tale of two AOPs…and what can be done about it"
U.S. Environmental Protection Agency. July 18, Washington, D.C.

"Elk River Chemical Spill Assessments"
Evidence integration in chemical assessments: Challenges faced in developing and communicating human health effect conclusions. **National Academy of Sciences**. Washington, D.C., June 3, 2019.

"PFAS Toxicology/Risks: Overview of the Issues"
PFAS Experts Symposium, **Remediation Journal & Nathan Inc**. Arlington, VA. May 20, 2019.

"Controversy on the Developmental-based Reference Concentration (RfC) for TCE"
Air & Waste Management Association Webinar on TCE Short-Term Vapor Intrusion Risks: How Urgent Should Responses Be? April 9, 2019.

"The Delaney Clause, from 1958 to 2019: Making the Model Relevant: A Pro Delany Perspective"
Society of Toxicology. Baltimore, MD. March 12, 2019.

Data Derive Extrapolation Factors for Developmental Toxicity: A Case Study with PFOA"
Alliance for Risk Assessment. Beyond Science and Decisions. Austin, TX. February 26, 2019.

"Benchmark Dose: History and Its First Use"
Toxicology Forum, Crystal City Virginia January 29, 2019.

"What do these items have in common? TCE Averaging Time, PFOA Kinetics and the US Senate"
American Waste Management Association. Vapor Intrusion, Remediation, and Site Closure Conference. Phoenix, Arizona. December 5-6, 2018.

"Remarks on Toxicology, Politics and the Press"
American Council on Safety and Health. Featured talk at the ACSH 40th Anniversary Gala Celebration. Washington, D.C. October 24, 2018.

"Toxicology, Chemicals of Interest and Ways Forward "
Food Industry Toxicology Roundtable. Columbus, Ohio. August 15, 2018.

"Extrapolating new approaches into a tiered approach to mixtures risk assessment"
Slovak Toxicology Society. TOXICON, Stara Lesna, Slovakia. June 22, 2018.

"Extrapolating new approaches into a tiered approach to mixtures risk assessment"
Asian Society of Toxicology and **Thai Society of Toxicology**. ASIATOX. Pattaya, Thailand. June 18, 2018.

"Toxicology, Chemicals and Politics"
Alliance for Chemical Safety. Keynote talk at annual awards dinner. Cincinnati, Ohio. June 14, 2018.

"Extrapolating new approaches into a tiered approach to mixtures risk assessment"
Society of Toxicology and US Food and Drug Agency. Colloquia on Emerging Toxicological Science. College Park, Maryland. March 27, 2018.

"Current status of Benchmark Dose Modeling for 3-Monochloropropane-1,2-diol (3-MCPD)"
German Fat Scientists Association and the German Federation for Food Law and Food Science. Berlin, Germany. June 20, 2017.

"Health risk assessment for perchlorate: New direction in EPA's modeling approach for establishing standards"
American Water Works Association. Annual Conference. Philadelphia, PA. June 14, 2017.

"Hazard identification"
"Dose response assessment"
"Exposure assessment"
"Risk characterization"
Ateneo School of Medicine and Public Health. Makati City, Philippines. June 1-2, 2017.

"Risk Assessor Certification"
Taiwan Chapter of the Society for Risk Analysis. Taichung City, Taiwan. May 24, 2017.

"Overview of risk assessment"
"Hazard identification II: Cancer"
"Dose response assessment II: Cancer"
"Introduction to dose response assessment modeling"
"Use of PBPK modeling in risk assessment"
"Risk characterization"
The Regional Training Program on Risk Assessment, Bibliotheca Alexandrina, Alexandria, Egypt, April 24-27, 2017.

"Managing the non-cancer risks a hazardous waste sites: Trichloroethylene (TCE) as a case study"
Association for Environmental Health and Sciences (AEHS) Foundation. San Diego, California March 21, 2017.

"The concept of hormesis and application in risk assessment"
Society of Toxicology, Baltimore, Maryland, March 14, 2017.

"The concept of hormesis and application in risk assessment"
Society for Risk Analysis. San Diego, California, December 12, 2016

"Mechanics of Risk Assessment"
In workshop on Risk Analysis**. Institute for Humane Studies and the Mercatus Center at George Mason University**. Portland, Oregon, June 18th, 2016.

"Yes, 'Thresholdable' Carcinogens Are Still Delaney Carcinogens"
Roundtable Session: Is a "Thresholdable" Carcinogen Still a Delaney Carcinogen?
Society of Toxicology, New Orleans, Louisiana, March 14, 2016.

"Distinguishing between Mode and Mechanism of Action, and Some Key Events for MOA"
Colloquium: Role of Mode of Action in Dose-Response Assessment for Carcinogens.
Food and Drug Administration and the Society of Toxicology, College Park, Maryland, February 25, 2016.

"Harmonizing OELs: Commonalities and Differences"
Keynote talk at the annual meeting of the **Occupational Toxicology Roundtable**. New Brunswick, New Jersey, October 4, 2015

"Risk assessment and hazard identification for metals"
"Human health case study: mercury exposure and essential metals"
"Human health criteria and standards"

Asian Pacific Economic Conference Workshop on Metals Risk Assessment, Cebu, Philippines on 28-29th August 2015.

"Hepatotoxicity"
"Cardiac Toxicity"
"Hazard Identification/Dose Response"
"Exposure Assessment/Characterization"
International Workshop On Comprehensive Toxicology, Bengaluru, India, July 27-31, 2015.

"Defining the range of the reference dose: imprecision versus uncertainty"
The TCE Revolution and its Permanent Impact on Environmental Due Diligence, EDR Insight, National Teleconference/Webinar. June 24, 2015.

"Assessment and management of Elk River, West Virginia drinking water contamination incident, 2014"
British Toxicology Society Annual Congress, Birmingham, UK, April 20, 2015.

"Hazard & Dose Response Assessment: Roadmaps & Methods for Using 21st Century Data"
Ohio State University, Columbus, Ohio, February 23, 2015.

"Practical Guidance on the Development of a Non-cancer Hazard Range for Effective Risk Assessment and Risk Management of Contaminated Sites: A Case Study with Trichloroethylene and Other Chemicals"
Tri-Service Environmental Risk Assessment Work Group, Naval Medical Center, Portsmouth, VA. Jan. 21, 2015.

"Advances in Assessing Food Additive Safety"
SPI Food, Drug and Cosmetic Packaging Materials Committee. Food Packaging Summit. New Orleans, LA**.** Nov. 10-12, 2014.

"Mode of Action and Dose-Response Evaluation of the Effect of Partially Hydrogenated Oils on LDL-Cholesterol"
SOT-FDA Colloquia on Emerging Toxicological Science Challenges in Food and Ingredient Safety. Colloquium One. College Park, MD, Live Webcast. Nov. 7, 2014.

"Risk Assessment Roadmaps & Methods for Using 21st Century Data"
International Institute of Synthetic Rubber Producers, Inc. Houston, Texas. Nov. 6, 2014.

"Advances in Assessing Ingredient Safety"
Workshop on GRAS Determinations. **International Society of Regulatory Toxicology and Pharmacology.** Washington, DC. Oct. 14, 2014.

"Case study #3: Partially Hydrogenated Oils (PHOs)"
The Role and Use of Nutritional Studies I Evaluating the Safety of a Food or Ingredient. ILSI North American Special Workshop. Washington, DC. July 22, 2014.

"Dose Response Assessment Boot Camp---Lecture series"
Toxicology Excellence for Risk Assessment (TERA) at Gadjah Mada University, Yogyakarta, Indonesia. June 13-21, 2014.

"Opportunities and Challenges Posed By the Use of 'omics' data in Risk Assessment of Mixtures"

Toxicology Risk Assessment Conference (TRAC). Cincinnati, Ohio. April 8, 2014.

"Alliance for Risk Assessment (*ARA*), EDSP, TCE, Science and Decisions"
Monsanto. St. Louis, MO. April 10, 2013.

"Risk Assessment Roadmaps & Methods for Using 21st Century Data"
Weight of Evidence Workshop. **International Life Sciences Institute (ILSI)** North America Technical Committee on Food & Chemical Safety. Miami, Florida. January 23-24, 2013.

"Advancing human health risk assessment: Charting a Course through committee recommendations"
Society for Risk Analysis Annual Meeting. San Francisco, CA. Dec. 9-12, 2012.

"How Individual Variability is Currently Factored into Risk Assessment/Regulation/Decision Making"
Emerging Science for Environmental Health Decisions. **The National Academies of Science**, Board on Life Sciences, Board on Environmental Studies and Toxicology. Washington, D.C. April 18-19, 2012.

"A Hitchhikers Guide to the Galaxy of Practical Risk Assessment"
Resource sharing, partnering, and cooperative science policy resolution. US EPA and Region V States **Vapor Intrusion Video Conference Roundtable.** Columbus, OH. April 12, 2012.

"Problem formulation to dose response: Advance via the *ARA* Beyond Science and Decisions workshops"
New England Chapter of the Society for Risk Analysis. Boston, MA. January 24, 2012.

"Risk Analysis on the Coast"
Society for Risk Analysis Annual Meeting. Charleston, SC. Dec. 4-7, 2011.

"Current Environmental Risk Assessment: Getting ready for Century 21"
Association of Government Toxicologists. Washington, D.C. March 29, 2011.

"Risk Assessment"
Global Chemistry. Baltimore, MD. March 22, 2011.

"Peer Review and Consultation Program"
American Chemistry Council. Washington, D.C. Feb. 16, 2011.

"Fishbowl"
Risk 21: Realizing the Future of Risk Assessment Workshop**. International Life Sciences Institute**. Washington, DC. Jan. 11, 2011.

"Draft Toxicological Review of Hexavalent Chromium"
Environmental Protection Agency's IRIS listening session. Washington, D.C. November 18, 2010.

"Perspectives of Air Pollutants: Health Effects Research Update Session: Risk Assessment…*in the 21st Century*." **Clean Air Forum.** Houston, TX. Nov. 4, 2010.

"A Risk Assessment and Regulatory Agency Perspective on Mixtures Affecting Susceptible Populations"
Society of Toxicology Annual Meeting. Salt Lake City, Utah. March 6-12, 2010.

"Risk Analysis: The Evolution of a Science"

Society for Risk Analysis Annual Meeting. Baltimore, MD. Dec. 5-10, 2009.

"Environmental Risk in the 21st Century**"**
International Society of Regulatory Toxicology and Pharmacology. Washington, D.C. Dec. 9, 2009.

"Emerging issues and regulatory challenges and the science of risk assessment"
Keynote talk at the **Midwestern States Environmental Consultants Association** biannual meeting. Indianapolis, Indiana. November 3, 2009.

"Making a Successful Transition from Government to Non-Profit Sectors"
Society of Toxicology. Baltimore, MD. March 15-20, 2009.

"Exposure, and Risk Data: Ensuring the Best Science"
Society of Toxicology. Baltimore, MD. March 15-20, 2009.

"Scientific Peer Review: An Overview with Reference to the International Toxicity Estimates for Risk *(ITER)* Database"
Society of Toxicology. . Baltimore, MD. March 15-20, 2009.

"A Risk Assessment and Regulatory Agency Perspective on Mixtures Affecting Susceptible Populations"
Society of Toxicology. Baltimore, MD. March 15-20, 2009.

"Toxicology Excellence for Risk Assessment"
Environmental Council Of States and Department of Defense Sustainability Workgroup. Washington, D.C. June 20-21, 2007.

"Predicting risk above EPA's Reference Dose (RfD)"
Toxicology and risk assessment conference. **Multiple federal agency sponsors**. Cincinnati, Ohio. April 25, 2007.

"Using human data to protect public health"
Toxicology and risk assessment conference. **Multiple federal agency sponsors**. Cincinnati, Ohio. April 24, 2007.

"A Historical Perspective on Risk Assessment and Areas for Advancement"
Twenty-Eighth Annual Meeting of the **American College of Toxicology**. Nov. 11-14, 2007.

"Air toxics: Risk based analysis"
Symposium on air emission from large industrial sources. Endicott House, **Multiple sponsors**. August 16-17, 2006.

"What Should We Really Be Worried About?"
Seafood & Health '05: Issues, Questions and Answers. Session V. Assessing the Real Risks. **Department of Commerce**. Washington, D.C. December 2005.

"Future Use of Default Assumptions and Uncertainty Factors"
Michigan State University, Center for Integrative Toxicology. April 8, 2005.

"Mercury Regulation: Fishing For The Facts About Risk"
States and Nation Policy Summit. **American Legislative Exchange Council**. Washington D.C. December 3, 2004.

"Acceptable Daily Intakes (ADIs) and their Application in the Regulatory Process"

Meeting of the Technical Committee on Food Toxicology and Safety Assessment of the **International Life Sciences Institute**. North America. Washington, DC. Nov. 30, 2004.

"Human dose-response assessment of copper"
Science Symposium Update on Science Supporting the EU Voluntary Risk Assessment, **International Copper Association**. Rome. May 17, 2004.

"Integration of Toxicity and Molecular Mechanistic Data for Nonlinear Dose-Response Assessment. Application to Systems Biology and Risk Assessment"
2003 Annual Meeting, **Society for Risk Assessment**. Baltimore, Maryland. December 10, 2003.

"History of *TERA* Coordinated Public/Private Partnership on Perchlorate Research"
Perchlorate State-of-the-Science Symposium. **University of Nebraska, Center for Environmental Toxicology**. Omaha, Nebraska. September 29, 2003.

"Perchlorate Reference Dose (RfD)"
California Environmental Protection Agency. September 26, 2003.

"Small Non-Profits in a Big Risk World: Greasing the Wheels of Change"
Featured Meeting Speaker, The **Northern California Chapter of the Society for Risk Analysis**. September 25, 2003.

"Risk Assessment"
In: ATSDR and RIVM Expert Panel Meeting on Chemical Risk Assessment and Children's Health. **ATSDR** and **RIVM**, Brussels. June 26, 2003.

"Differential Sensitivity Of Children And Adults To Chemical Toxicity"
Midwestern States Risk Assessment Symposium. **Indiana Department of Environmental Management.** Indianapolis, IN. July 25, 2002.

"Modeling Of Population Variability"
Midwestern States Risk Assessment Symposium. **Indiana Department of Environmental Management.** Indianapolis, IN. July 25, 2002.

"Data Derived Replacement Of Default Uncertainty Factor"
Workshop on modeling of population variability. **Society of Toxicology.** Nashville, TN. March 19, 2002.

"Stone-Age Toxicity: From Factors of 10 to Compound-Specific Adjustments"
University of Cincinnati Medical Center, Dept. of Environmental Health Seminar. Nov. 2002.

"Does The Use Of Data-Derived Uncertainty Factors Allow Risk Assessors To Describe Uncertainty More Accurately?"
Fifth Annual Workshop on Evaluation of Default Uncertainty Factors in Health Risk Assessment, **New Jersey Medical School**. June 1, 2001.

"Risk Assessment"
HESI Agricultural Chemical Safety Assessment Subcommittee Steering Committee Meeting. **International Life Sciences Institute**. Washington, D.C, April 18, 2001.

"Risk Characterization Framework For Non-Lethal Weapons"
Symposium on comparative risk. **Society for Risk Analysis.** Seattle, WA. December 5, 2001.

"Noncancer Risk Assessment: A 20-Year Perspective"
Ohio Society for Risk Analysis. Noncancer Workshop. Cincinnati. June 13, 2000.

"Approaches to assessing dose response assessment relations"
Chulabhorn Research Institute. Training course on environmental and health risk assessment and risk management of toxic chemicals, Lak si, Bangkok, Thailand. November 21, 2000.

"Guidelines for Application of Data-Derived Uncertainty Factor in Risk Assessment"
Fourth Annual Workshop of Evaluation of Uncertainty Factors in Health Risk Assessment, **New Jersey Medical School.** May 3-4. 2000.

"Determining USEPA Reference Doses (RfDs) for Essential Minerals"
University of Ulster. Nutrition & Toxicology Excellence for Risk Assessment Workshop Series. Northern Ireland. June 18, 1999.

"The Challenges Of Using Common Mechanism Of Toxicity In Chemical Regulation"
Roundtable session. **Society of Toxicology**. New Orleans, LA. March 17, 1999.

"Extrapolating Data From Adults To Set ULs For Children"
Workshop on upper levels of nutrients. **National Academy of Sciences**. January 21, 1999.

Incidence and severity in relation to magnitude of intake: mixed effects, categorical regression"
International Life Sciences Institute. Workshop on the significance of excursions of intake above the ADI. Milan, Italy. April 23, 1998.

"Should there be an international accreditation of toxicologists? Accreditation in the USA"
International Congress of Toxicology. Paris, France. July 8, 1998.

"Quality Issues relating to scientific information"
US. EPA Data Quality and Gaps Workshop. **U.S. Environmental Protection Agency.** Washington, D.C. October 19, 1998.

"Noncancer Risk Assessment: Impact of Research on the Underlying Science"
International Society for the Study of Xenobiotics. Hilton Head, South Carolina. October 26-30, 1997.

"Alternatives to the NOAEL Approach (BMD, probabilistic approach)"
Federal Institute for Health Protection of Consumers and Veterinary Medicine. Workshop on Use of Uncertainty Factors in the Risk Assessment Process - New Directions. Berlin, Germany. May 5-7, 1997.

"Risk Assessment And The Role Of Risk Assessment Guidelines"
Workshop: EPA's neurotoxicity risk assessment guidelines. **Society of Toxicology**. Cincinnati, Ohio. March 11, 1997.

"Noncancer Risk Assessment: Impact Of Research On The Underlying Science"
Symposium V: Cancer and noncancer risk assessment. **International Society for the Study of Xenobiotics**. October 28, 1997.

"Overview: Classical Risk Assessment"
Risk Assessment in Establishing Upper Reference Levels of Nutrients Workshop. **Food & Nutrition Board, Inst. of Medicine,** Washington, DC. July 15-16, 1996.

"ADI, BMD, CEL...The Alphabet Soup of Methods for Dose Response Assessment"
In: Conference on Advances in Toxicology and Applications to Risk Assessment. **ATSDR**, **U.S. Army, Air Force, Navy and EPA**, Dayton, Ohio. April 25, 1996.

"Overview of EPA's Reference Dose Methodology"
In: Toxicology Peer Review Board Meeting of the **U.S. Army** Center for Health Promotion and Preventive Medicine. Aberdeen Proving Ground, Maryland. January 18,1996.

"Non-Cancer Risk Assessment: Three Practical Methods From A Decade Of Research"
In: New Techniques in Risk Assessment. **International Business Communication**. Orlando, Florida. February 15, 1996.

"Evolution of Science-based Uncertainty Factors in Noncancer Risk Assessment"
The 2nd Annual Workshop on the Evaluation of EPA 10X Safety Factors in Health Risk Assessment. **New Jersey Medical School**. Nutley, NJ. December 6, 1996.

"Noncancer Hazard Identification and Dose Response Assessment, Part 2"
In: Risk assessment. **University of Cincinnati, College of Medicine**. April 18, 1996.

"Dose Response Class Exercise: Aroclor"
In: Risk assessment. **University of Cincinnati, College of Medicine**. April 30, 1996.

"Introduction to Risk Assessment"
In: Risk assessment. **University of Cincinnati, College of Medicine**. March 26, 1996.

"Systemic Toxicants, Cross Route Extrapolation, Complex Mixtures"
In: Risk assessment. **University of Cincinnati, College of Medicine**. May 23, 1995.

"On Reference Dose and Its Underlying Toxicity Data Base"
Health Canada. Threshold of Regulation Workshop. Ottawa, Canada. March 28, 1995.

"Presentation of Ongoing Work on Characterization of Distributions of Data which Serve as the Basis for Uncertainty Factor" **Health Canada**. Planning Meeting on Uncertainty Factors. Ottawa, Canada. March 18, 1995.

"Advances in Research Used as an Adjunct to Toxicity Testing: EPA Perspective"
In: Regulatory Update: EPA Regulation and Test Requirements. **American College of Toxicology.** Annual Meeting. Vienna, Virginia. November 12, 1995.

"Alternatives To The RfD: What Are We Getting And How Much Effort Does It Cost?"
Interagency Risk Assessment Committee. **State of New Jersey.** April 25, 1994.

"Panel Discussion"
In: Issues in reproductive and developmental risk assessment-boron toxicity as a test case. Annual Winter **Toxicology Forum**. February 22, 1994.

"Regulatory Considerations of the U.S. EPA"
In: Biological effects of low level exposures (BELLE) and potential implications for regulatory decision-making. **American College of Toxicology.** Annual Meeting. October 26, 1994.

"Noncancer Improvements Discussion Panel"
In: Health effects & risk assessment associated with noncarcinogenic, radioactive and mixed waste. **Air & Waste Management Association.** 87th Annual Meeting. June 23, 1994.

"Evaluating Subpopulations: Fish Consumption Advisory Methodology"
In: EPA Workshop on challenges in Risk Characterization. **U.S. Environmental Protection Agency,** Cincinnati. September 8, 1994.

"Inherent Imprecision of RfD"

In: EPA Regional Risk Assessors' Meeting. **U.S. Environmental Protection Agency**, Boston, MA. April 27th, 1994.

"New Methods: Benchmark Dose"
In: EPA Regional Risk Assessors' Meeting. **U.S. Environmental Protection Agency**, Boston, MA. April 26th, 1994.

"Components of Risk Assessment"
In: Risk assessment. **University of Cincinnati, College of Medicine**. March 29, 1994 (This same lecture was also given an additional two times at the Cincinnati State Technical and Community College on September 27th and November 15th).

"How Toxicity Data Are Used in the Process of Hazard Identification and Dose-Response Assessment"
In: Basic Risk Assessment: Current Developments. Continuing Education Course. **Society of Toxicology**. New Orleans, LA. March 14, 1993.

"Modifying Uncertainty Factors for Noncancer Endpoints"
In: Advanced Topics in Risk Assessment. Continuing Education Course. **Society of Toxicology**. New Orleans, LA. March 14, 1993.

"Noncancer Risk Assessment"
In: Course entitled "Introduction to Risk Assessment." **University of Kentucky.** Lexington, Kentucky. July 28, 1993.

"Noncancer Risk Assessment Science"
In: Risk Assessment and the Environment Series. Harvard Center for Risk Analysis. **Harvard School of Public Health.** Boston, MA. February 16, 1993.

"Statistical Research Planning of the Environmental Criteria and Assessment Office"
In: Workshop on Office of Research and Development Statistical Needs. **U.S. Environmental Protection Agency**, Research Triangle Park, North Carolina. May 12, 1993.

"EPA's Integrated Risk Information System"
International Programme on Chemical Safety, World Health Organization. Geneva, Switzerland. June 17, 1993.

"Noncancer Dose-response and Risk Characterization"
In: Course on Environmental Health Risk Assessment. **Nofer Institute of Occupational Health**, Lodz, Poland. March 31, 1993.

"Most Important Problems Encountered in Quantitative Risk Assessment at the National or International Level"
In: Meeting on Consultation on Guiding Principles and Methodology for Quantitative Risk Assessment in Setting Exposure Limits. **International Programme on Chemical Safety, World Health Organization**, Langen, Germany. January 19, 1993.

"Risk above the Reference Dose (RfD) Benchmark Dose (BMD)"
In: Conference on the Risk Assessment Paradigm after Ten Years. **U.S. Army, Air Force, Navy and EPA**, Dayton, Ohio. April 7, 1993.

"Benchmark Dose Approach to Risk Assessment"
In: **Federal-State Toxicology and Risk Analysis (FSTRAC)** Fall Meeting. Washington D.C. December 1-3, 1993.

"Overview of Alternatives to Benchmark Dose"
In: Workshop on Benchmark Dose Methodology**.** Public workshop sponsored by **U.S. Environmental Protection Agency, American Industrial Health Council, and International Life Sciences Institute**. Fairfax, Virginia. September 28-30, 1993.

"Development of RfDs and the IRIS Process"
In: Cincinnati Forum on Dose Response Issues of Risk Assessment for Trivalent and Hexavalent Chromium Salts. **Public workshop sponsored by U.S. Environmental Protection Agency**. Cincinnati, Ohio. August 19, 1993.

"The Use of Threshold Limit Values for Determining Community Standards: Current Issues"
In: Tutorial Session on Threshold Limit Values and Biological Exposure Indices. 11th International System Safety Conference. **Ohio Chapters of both the System Safety Society and the Society for Risk Analysis**. Cincinnati, Ohio. July 29, 1993.

"The IRIS Process"
In: Cincinnati Forum on Boron Containing Chemicals: Risk Factors and Characterizations. **Public workshop sponsored by U.S. Environmental Protection Agency**. Cincinnati, Ohio. February 11, 1993.

"Introduction to Risk Assessment"
In: Tutorial Session on Environmental and Occupational Risk Assessment and Risk Communication. 11th International System Safety Conference. **Ohio Chapter of the System Safety Society**. Cincinnati, Ohio. July 29, 1993.

"The U.S. EPA's Use of Uncertainty Factors"
In: Workshop on Safety Assessment for Non-Cancer Endpoints: The Benchmark Dose and Other Possible Approaches. **California EPA, U.S. EPA and U.S. Agency for Toxic Substances and Disease Registry**, Tiburon, California, May 12, 1992.
.
"Risk Assessment: Who needs it?"
All-Ohio Safety and Health Congress and Exhibit. Cincinnati, Ohio. April 1, 1992.

"Bridging the Chasm: Breakthroughs Needed in Noncancer Risk Assessment"
In: Kettering Seminar Series. **University of Cincinnati, College of Medicine.** Cincinnati, Ohio. January 22, 1992.

"Role of Risk Analysis and Risk Management in the U.S"
In: 3rd U.S.-Japan Governmental Conference on Drinking Water Quality Management. **Governments of the United States and of Japan**, Cincinnati, Ohio. September 22, 1992.

"The Reference Dose"
In: Conference on Trace Elements in Health and Disease. **International Society for Trace Element Research in Humans** and **Nordic Trace Element Society**, Stockholm, Sweden. May 27, 1992.

"Novel Approaches to the Estimation of Noncancer Health Risk"
International Programme on Chemical Safety, World Health Organization, Geneva, Switzerland. January 16, 1992.

"The Reference Doses for Chromium"
In: Workshop on Risk Assessment of Essential Elements**.** Public workshop sponsored by **U.S. Environmental Protection Agency, Agency for Toxic Substances and Disease Registry, and International Life Sciences Institute**, Herdon, Virginia. March 12, 1992.

"The Reference Dose"
In: Workshop on Risk Assessment of Essential Elements. Public workshop sponsored by **U.S. Environmental Protection Agency, Agency for Toxic Substances and Disease Registry, and International Life Sciences Institute**. Herdon, Virginia. March 10, 1992.

"Novel Approaches to the Estimation of Noncancer Health Risk: Probabilistic RfDs, Benchmark Dose, and Severity Modeling"
In: Workshop on Risk Assessment for Noncarcinogens. **Health and Welfare Canada**, Tunney's Pasture, Ottawa. April 29, 1991.

"Novel Approaches to Noncancer Health Risk Assessment"
In: EPA Regional Risk Assessors' Meeting. **U.S. Environmental Protection Agency**, Denver, Colorado. June 25, 1991.

"Risk Communication-A Challenge for the 1990's and Beyond"
System Safety Society. Cincinnati, Ohio. August 5, 1991.

"Quantitative Risk Assessment: The Reference Dose (RfD) and Research to Improve this Model Including the Use of Average Uncertainty Factors"
In: Symposium on Neurotoxicity Risk Assessment: State of the Art. **Society of Toxicology.** Dallas, Texas. March 1, 1991.

"Novel Approaches for Quantitative Assessment of Risks for Noncancer Effects"
Boston Risk Assessment Group and **New England Chapter of the Society for Risk Analysis.** Boston, Massachusetts. February 12, 1991.

"Impact of Risk Related Concerns on the EPA Programs"
In: Advanced Research Workshop on Nitrate Contamination: Exposure, Consequences and Control. **North Atlantic Treaty Organization (NATO)**, Lincoln, Nebraska. September 14, 1990.

"How Are Environmental Criteria Developed?"
In: A course entitled "Environmental and Occupational Health Risk Assessment and Risk Management." Developed for **City of Cincinnati Council** and other local decision-makers. Cincinnati, Ohio. May 3, 1990.

"Non-carcinogenic Risk Assessment"
In: Risk Assessment Workshop. **Federal-State Toxicology and Regulatory Alliance Committee**. Washington D.C. April 19, 1990.

"Risk above the RfD and Benchmark Dose Procedures"
In: Workshop to Discuss Noncancer Risk Assessment Methods/Data Needs to Support the New Clean Air Act Amendments. **U.S. Environmental Protection Agency**, Research Triangle Park, North Carolina. July 23, 1990.

"Reference Dose (RfD)"
In: Workshop to Discuss Noncancer Risk Assessment Methods/Data Needs to Support the New Clean Air Act Amendments. **U.S. Environmental Protection Agency**, Research Triangle Park, North Carolina. July 23, 1990.

"Guidelines Used to Assess Toxicological Hazards: Quantification Issues"
In: Symposium on Access and Use of Information Resources in Assessing Health Risks from Chemical Exposure. **Oak Ridge National Lab** and **U.S. Environmental Protection Agency**, Knoxville, Tennessee. June 28, 1990.

"How Statutes and Executive Orders Affect the Use of Scientific Information"
In: Regulation Development in EPA Course. **U.S. Environmental Protection Agency**, Washington, D.C. June 20, 1990.

"Risk Assessment and Its Uses: Directions of New Research"
National Institute of Occupational Safety and Health (NIOSH), Cincinnati, Ohio. June 20, 1989.

"Health Risk Assessment: Chronic Reference Dose"
In: Washington Conference on Risk Assessment. **Center for Energy and Environmental Management.** Washington, D.C. September 26, 1989.

"EPA's Approach to Developing Acceptable Air Quality Criteria"
In: 4th Annual Conference**. HAZTECH International.** Cincinnati, Ohio. September 13, 1989.

"The Underlying Basis of Risk Management Decisions"
In: 4th Annual Conference**. HAZTECH International.** Cincinnati, Ohio. September 12, 1989.

"Derivation of Risk Values by EPA"
Hazardous Materials Management Conference and Exhibition/Central. Rosemont, Illinois. March 15, 1989.

"The Reference Dose"
American Industrial Hygiene Association, Annual Toxicology Symposium. Williamsburg, Virginia. August 16, 1988.

"Reference Dose: Description and Use in Health Risk Assessments"
In: 54th Annual Meeting. **American Mosquito Control Association.** Denver, Colorado. February 2, 1988.

"Use of Uncertainty Factors for Reference Dose"
In: Workshop on the Use of the EPA Tools in State Risk Assessment. **National Governors' Association**. Copper Mountain, Colorado. May 4-6, 1988.

"Development of Oral Reference Doses"
In: Workshop on EPA's Integrated Risk Information System: Access, Use, and Interpretation. **U.S. Environmental Protection Agency**, Lexington, Massachusetts. July 22, 1987.

"The Systemic Toxicity of Air Pollutants: New Directions in Health Risk Assessment"
In: Session 100: Balanced Approach to Risk Assessment. Annual Meeting**. Air Pollution Control Association.** New York, New York. June 22, 1987.

"Safety Factors in Non-Carcinogenic Risk"
In: Workshop on Reducing Uncertainty in Risk Assessment. **Michigan State University.** East Lansing, Michigan. May 18, 1987.

"New Development in the Derivation and Application of Acceptable Daily Intake Values"
In: Workshop on Approaches to Ecological and Human Health Risk Analysis for Disposal of Contaminated Sediments and Human Consumption of Contaminated Seafood. **U.S. Environmental Protection Agency** and **U.S. Department of the Army**, Seattle, Washington, December 16, 1985.

"Human Health Assessment"
In: Workshop of Water Quality-Based Toxics Control. **U.S. Environmental Protection Agency**, Philadelphia, Pennsylvania. November 14, 1985.

"Systemic Health Hazard Assessment"
In: Workshop on Human Health Criteria. **U.S. Environmental Protection Agency**, Philadelphia, Pennsylvania**.** October 3, 1985.

"Novel Methods for the Estimation of Acceptable Daily Intake"
In: Course entitled "Risk Assessment 101." **U.S. Environmental Protection Agency**, Washington, D.C. February 19, 1985.

"Use of Risk Assessment to Set Safe Levels"
In: Conference on Emerging Issues in Environmental Analysis and Planning: Implication for Professional Education. **University of Cincinnati**, **U.S. Army Corps of Engineers** and the **U.S. Environmental Protection Agency.** Cincinnati, Ohio. April 12, 1985.

"Environmental Risk Assessment"
In: Course on Applied Toxicology. **University of Cincinnati, College of Medicine.** Cincinnati, Ohio. April 6, 1984.

"Toxicity Risk Assessment"
U.S. Environmental Protection Agency, Atlanta, Georgia. July 7, 1984.

"The Regulatory History and Experimental Support of Uncertainty (Safety) Factors"
In: Workshop on Toxic Air Pollution: A Regulatory Challenge. **State and Territorial Air Pollution Control Officials**. Washington, D.C**.** October 10-12, 1984.

"Traditional Means of Assessing the Safety of Non-carcinogens"
In: Symposium on Federal Regulation of Carcinogens. **American Chemical Society.** Washington, D.C. August 30, 1983.

"The U.S. Environmental Protection Agency Perspective of Qualitative Risk Assessment"
In: Course on Applied Toxicology. **University of Cincinnati, College of Medicine.** Cincinnati, Ohio. March 30, 1983.

"EPA Criteria Documents"
In: Fifth Annual Course in the Principles and Practices of Genetic Toxicology. Division of Environmental Toxicology. **University of Texas Medical Branch.** Galveston, Texas. 1980.

"Quantitative Considerations in Urethane Induced Neoplasia"
In: Toxicology Division Seminars Series. **University of Cincinnati, College of Medicine.** Cincinnati, Ohio. October 25, 1979.

"Some Quantitative Aspects of Chemical Carcinogenesis II"
In: Toxicology Division Seminar Series. **University of Cincinnati, College of Medicine.** Cincinnati, Ohio. February 2, 1979.

"Some Quantitative Aspects of Chemical Carcinogenesis I"
In: Toxicology Division Seminar Series. **University of Cincinnati, College of Medicine.** Cincinnati, Ohio. March 7, 1978.

"Computer Simulation Studies on Kehoe's Lead Data"
In: Toxicology Division Seminar Series. **University of Cincinnati, College of Medicine.** Cincinnati, Ohio. May 14, 1977.

"A New Approach to Minimum Toxic Dose"

In: Toxicology Division Seminar Series. **University of Cincinnati, College of Medicine.** Cincinnati, Ohio. February 25, 1976.

I also have given over 50 formal, but uninvited, presentations (e.g., abstracts at the scientific annual meetings).

RISK ASSESSMENT PUBLICATIONS (Selected)

Michael Dourson, Bernard Gadagbui; Chiijoke Onyema; Patricia M McGinnis 2020. A Commentary on Some Epidemiology Data for Chlorpyrifos. Regulatory Toxicology and Pharmacology. Volume 113, June 2020, 104616.

Danzeisen R, D L Williams, V Viegas, *M Dourson*, S Verberckmoes, A Burzlaff 2020. Bioelution, Bioavailability, and Toxicity of Cobalt Compounds Correlate. Toxicological Sciences. DOI 10.1093/toxsci/kfz249.

Michael L. Dourson, Bernard Gadagbui, Chijioke Onyema, Patricia M. McGinnis, Raymond G. York. 2019. Data derived Extrapolation Factors for developmental toxicity: A preliminary research case study with perfluorooctanoate (PFOA). Regulatory Toxicology and Pharmacology. Volume 108, November, 104446. **(Regulatory and safety paper of the year, Society of Toxicology, Regulatory and Safety Evaluation Specialty Section)**

Haber, Lynne T., *Michael L. Dourson*, Bruce C. Allen, Richard C. Hertzberg, Ann Parker, Melissa J. Vincent, Andrew Maier & Alan R. Boobis (2018): Benchmark dose (BMD) modeling: current practice, issues, and challenges, Critical Reviews in Toxicology, DOI: 10.1080/10408444.2018.1430121.

Alison M. Pecquet, Jeanelle M. Martinez, Melissa Vincent, Neeraja Erraguntla, *Michael Dourson*. 2018. Derivation of a no-significant-risk-level for tetrabromobisphenol A based on a threshold non-mutagenic cancer mode of action. Journal of Applied Toxicology. Pages 1-17.

Dourson, M.L. 2018. Let the IRIS Bloom: Regrowing the integrated risk information system (IRIS) of the U.S. Environmental Protection Agency. Regulatory Toxicology and Pharmacology 97: A4-A5.

Michael L. Dourson, Jeri Higginbotham, Jeff Crum, Heather Burleigh-Flayer, Patricia Nance, Norman D. Forsberg, Mark Lafranconi, John Reichard. 2017. Update: Mode of action (MOA) for liver tumors induced by oral exposure to 1,4-dioxane. Regulatory Toxicology and Pharmacology 88:45-55.

Richard A. Becker, Vicki Dellarco, Jennifer Seed, Joel M. Kronenberg, Bette Meek, Jennifer Foreman, Christine Palermo, Chris Kirman, Igor Linkov, Rita Schoeny, *Michael Dourson*, Lynn H. Pottenger, and Mary K. Manibusan. 2017. Quantitative weight of evidence to assess confidence in potential modes of action. Regulatory Toxicology and Pharmacology, 86:205–220.

Michael Dourson and Raymond G York. 2016. Advances in Assessing Ingredient Safety. Regulatory Toxicology and Pharmacology. 79:S112-S118.

Michael Dourson, Bernard Gadagbui, Rod Thompson, Edward Pfau, and John Lowe. 2016. Managing Risks of Noncancer Health Effects at Hazardous Waste Sites: A Case Study Using the Reference Concentration (RfC) of Trichloroethylene (TCE). Regulatory Toxicology and Pharmacology 80:125-133.

Ted W. Simon, Yiliang Zhu, *Michael L. Dourson*, Nancy B. Beck. 2016. Bayesian methods for uncertainty factor application for derivation of reference values. Regulatory Toxicology and Pharmacology 80:9-24.

Dourson, Michael, Chinkin, Lyle, MacIntosh, D.L., Finn, Jennifer, Brown, Kathleen, Reid, Stephen, Martinez, Jeanelle. 2016. A Case Study of Potential Human Health Impacts from Petroleum Coke Transfer Facilities. Journal of the Air & Waste Management Association May. DOI: 10.1080/10962247.2016.1180328.

Nancy B. Beck, Richard A. Becker, Neeraja Erraguntla, William H. Farland, Roberta L. Grant, George Gray, Christopher Kirman, Judy S. LaKind, R. Jeffrey Lewis, Patricia Nance, Lynn H. Pottenger, Susan L. Santos, Stephanie Shirley, Ted Simon, *Michael L. Dourson*. 2016. Approaches for describing and communicating overall uncertainty in toxicity characterizations: U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS) as a case study. Environment International 89–90 (2016) 110–128. **(Regulatory and safety paper of the year, Society of Toxicology, Regulatory and Safety Evaluation Specialty Section)**

Greenberg M, Goldstein BD, Anderson E, *Dourson M*, Landis W, North DW. 2015. Whither Risk Assessment: New Challenges and Opportunities a Third of a Century After the Red Book. Risk Analysis, 35(11): 1959-1968.

Nance, P., O. Kroner, L. Haber and *M. Dourson*. 2015. Assessing Risks to Human Health. In Reference Module in Biomedical Sciences (Online). In-Press.

Dankovic DA, Naumann BD, Maier A, *Dourson ML*, Levy LS. 2015. The Scientific Basis of Uncertainty Factors Used in Setting Occupational Exposure Limits. J Occup Environ Hyg. 2015 Nov 25;12 Suppl 1:55-68

Cope, Rhian B., Sam Kacew, *Michael Dourson*. 2015. A reproductive, developmental and neurobehavioral study following oral exposure of tetrabromobisphenol A on Sprague-Dawley rats. Toxicology 329 (2015) 49–59.

Dourson, M., Reichard, J., Nance, P., Burleigh-Flayer, H., Parker, A., Vincent, M., McConnell, E.E. 2014. Mode of action analysis for liver tumors from oral 1,4-dioxane exposures and evidence-based dose response assessment. Regul.Toxicol. Pharm. 68(3): 387-401.

Cope, R., Nance, P., *Dourson*, ML. 2014. "Chapter 4. Human Health Risk Assessment of Inhaled Materials." IN: Salem, H., Katz, S., eds. Inhalation Toxicology, 3rd Edition, CRC Press.

Juberg, D.R., Borghoff, S.J., Becker, R.A., Casey, W., Hartung, T., Holsapple, M.P., Marty, S.M., Mihaich, E.M., Van Der Kraak, G., Wade, M.G., Willett, C.E., Anderson, M.E., Borgert, C.J., Cody, K.K., *Dourson, M.L*., Fowle, J.R., Gray, L.E. Lamb, J.C., Ortego, L.S., Schug, T.T., Toole, C.M., Zorrilla, L.M., Kroner, O.L., Patterson, J., Rinckel, L.A., Jones, B.R. 2014. Workshop Report, Lessons Learned, Challenges, and Opportunities: The US. Endocrine Disruptor Screening Program. ALTEX, ALTES. ALTES, 31:63-78, January. Workshop Report is now available via open access publication in ALTEX.

Rosen, JS; Whelton, AJ; McGuire, MJ; Clancy, JL; Bartrand, T; Eaton, A; Patterson, J; *Dourson*, M, Nance, P; Adams, C. 2014. The crude MCHM chemical spill in Charleston, W.Va. Journal AWWA. Vol. 106:65-74.

Patterson J., Maier A, Kohrman-Vincent M, and *ML Dourson*. 2013. Peer consultation on relationship between PAC profile and toxicity of petroleum substances. Reg. Tox and Pharm, Volume 67: S86–S93.

Dourson, M, Becker, R.A., Haber, L.T., Pottenter, L.H.,Bredfeldt, T., Fenner-Crisp, P. 2013. Advancing Human Health Risk Assessment: Integrating Recent Advisory Committee Recommendations. Crit. Rev. Toxicol. 43(6): 467-92 (doi: 10.3109/10408444.2013.807223).

Dourson, M., Gadagbui, B., Griffin, S., Garabrant, D.H., Haws, L.C., Kirman, C. and Tohyama, C. 2013. The importance of problem formulations in risk assessment: A case study involving dioxin-contaminated soil. Reg. Toxicol.Pharmcol. 66(2): 208-216.

Hasegawa R, Hirata-Koizumi M, *Dourson ML*, Parker A, Ono A, Hirose A. 2013. Safety assessment of boron by application of new uncertainty factors and their subdivision. Regul. Toxicol. Pharmacol. 65:1, 108-114.

Haber LT, JE Strawson, A Maier, IM Baskerville-Abraham, A Parker, *ML Dourson*. 2013. "Noncancer Risk Assessment: Principles and Practice in Environmental and Occupational Settings." In: Bingham, E., and B. Cohrssen, eds. *Patty's Toxicology, 6th Edition, Volume 5*. John Wiley and Sons Inc.

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I have also co-authored well over 100 documents for the EPA, TERA and others that address either risk assessments for specific chemicals, or risk assessment methods, and have additional published manuscripts that are not listed here. I have also written three stories on integrating science and Biblical text: *Messiah's Star, The Beginning*, and *The Linen Cloths*.

COMMENTARIES (Selected)

Michael L. Dourson and Bernard Gadagbui. 2019. What Is The Safe Dose Of Perfluorooctanaote (PFOA)? Available at: https://www.acsh.org/news/2019/09/09/what-safe-dose-perfluorooctanaote-pfoa-14279.

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SCIENTIFIC SESSIONS CHAIRED OR PLANNED (Selected)

Chair: Well Over 100 Risk Assessment Peer Review Meetings
Since 1986, and to the present, I have chaired well over 100 scientific peer review meetings for risk assessment documents. Documents have covered a number of topics including risk assessment methods and assessments including cancer and non-cancer toxicity. These meetings have been sponsored by a number of organizations through either Toxicology Excellence for Risk Assessment's (*TERA*) program of the International Toxicity Estimates for Risk (*ITER*)

database (for examples, please see www.tera.org/peer), by EPA through its IRIS database (see www.epa.gov/iris), or by groups such as Versar. These reviews have discussed well over 400 chemicals or risk issues.

Co-Chair and Discussion Moderator: Risk Characterization
Environmental risk assessment of Per- and polyfluoroalkyl substances (PFAS). Society of Environmental Toxicology and Chemistry (SETAC). Durham, NC, August 14-15, 2019.

Co-Chair and Discussion Moderator: Deciphering Different Approaches to Benchmark Dose (BMD) Methodologies
Toxicology Forum, Crystal City Virginia January 29, 2019.

Chair: Tox21: Current Progress, Next Steps and Exploring the Concept of a New Center of Excellence
Society of Toxicology. Baltimore, Maryland. March 12, 2017.

Co-chair: Low-Dose Non-Monotonic Responses
Society of Toxicology. Baltimore, Maryland. March 14, 2017.

Chair: Endocrine Disruption: Research, Analysis, Regulation, & Communication
Society of Toxicology. New Orleans, Louisiana, March 14, 2016.

Chair: Derived No-Effect Levels+ Big Data Toxicology Meeting
Society of Toxicology. New Orleans, Louisiana. March 13, 2016.

Moderator: Can/Should peer-reviewed publications be used to formulate regulatory policy?
Society of Toxicology. San Diego, California. March 23, 2015.

Chair: Beyond Science and Decisions: From Problem Formulation to Dose Response
Alliance for Risk Assessment. Cincinnati, Ohio. May 9-11, 2015.

Facilitator: Integration of Scientific Evidence to Inform Ozone Effects on Human Health
Texas Commission on Environmental Quality. Austin. Texas. April 8, 2015.

Chair: TTC Threshold Levels & TTC Decision Tree
EFSA/WHO workshop on Threshold of Toxicological Concern (TTC). Brussels, Belgium. December 3-5, 2014**.**

Chair: Chemical Assessment Advisory Committee for Ammonia
U.S. Environmental Protection Agency (EPA). Washington, D.C. July 14-16, 2014.

Chair: Beyond Science and Decisions: From Problem Formulation to Dose Response
Alliance for Risk Assessment. Austin, Texas. May 20-22, 2014.

Chair: Expert Panel Review of Screening Levels for Exposure to Chemicals From the January 2014 Elk River Spill
West Virginia Testing Assessment Project. Charleston, West Virginia. March 31, 2014.

Chair: Workshop to Assess the Modes of Action of Lung Tumors in Mice From Exposures to Styrene Ethylbenzene, and Naphthalene

Styrene Information & Research Center. Cincinnati, Ohio. September 17, 2013.

Chair: Melding Exposure and Toxicology Science I the 21st Century: Moving from Hazard to a Risk Based Paradigm
The Toxicology Forum. Aspen, Colorado. July 7-11, 2013.

Co-chair: Advancing Risk Assessment Approaches…*in the 21st Century*
The Toxicology Forum. Washington, DC. January 30-Feb. 2, 2012.

Rapporteur: Weight of Evidence Workshop, Session #1: From Review to Inference
Center for Advancing Risk Assessment Science and Policy (ARASP*)*. Washington, DC. December 4, 2012.

Chair: Soil Exposure: What Have We Learned and How Do We Improve Problem Formulations for Risk Assessment
The Toxicology Forum. Aspen, Colorado. July 10-14, 2011.

Co-Chair: Determination of the Contribution of Individual Stressors in Cumulative Risk Assessments
Society of Toxicology Annual Meeting. Salt Lake City, Utah. March 6-12, 2010.

Chair: Fetal and Early-Life Perchlorate Exposures and Outcomes
Symposium. Perchlorate Exposures, Iodine Modulation of Effect, and Epidemiologic Associations: Implications for Risk Assessment. An Ancillary Program of the Annual Meeting of the Society of Toxicology. Seattle, Washington. March 2008.

Chair: Perchloroethylene (PERC): Approaches To Evaluating Uncertainty In Health Risk Assessment
Toxicology Forum. Washington D.C. January 30-February 1, 2007.

Chair: Mechanism/Mode Of Action Analyses
Risk Assessment Methodology Technical Committee, Weight of Evidence Workshop. Health and Environmental Sciences Institute. Baltimore, Maryland. December 7-8, 2006.

Session Planner and Chair: Issues In Trichloroethylene Risk Assessment
Midwest States Risk Assessment Symposium. Indianapolis, Indiana. August 23, 2006.

Session Planner and Chair: Panel Discussion On Trichloroethylene Toxicity
Midwest States Risk Assessment Symposium. Indianapolis, Indiana. August 25, 2004.

Chair: Screening Level Assessment Of Exposure And Characterization Of Risk For Humans
Risk Methodologies External Peer Review Panel Meeting, The Soap and Detergent Association. Washington, D.C., January 14, 2004.

Chair: A Review of the Reference Dose (RfD) and Reference Concentration (RfC) Processes
External Peer Review for U.S. EPA via Versar. Washington, D.C., June 19, 2002.

Session Planner and Co-Chair: Modeling of Population Variability
Society of Toxicology. Nashville, TN., Tuesday, March 19, 2002.

Co-Chaired Methyl Mercury: Risk Assessment, Policy and Research Needs
Children's Health and the Environment 2000. 19th International Neurotoxicology Conference. Colorado Springs, Colorado, September 26, 2000.

Session Planner and Co-Chair: Effective Risk Communication: Avoiding the Pitfalls
Continuing Education Course at the Society of Toxicology Annual Meeting, Seattle, Washington, March 1, 1998.

Lead: Panel Discussion on Information Resources for Toxicology and Environmental Health
Society of Toxicology, NCAC. George Washington University. Washington, DC, June 18, 1996.

Moderator: Workshop on Toxicity Assessment
At Harmonization of State/Federal Approaches at the Environmental Risk Symposium. Michigan State University. May 20-21, 1996.

Chair: Session on Risk Assessment
Chromium Symposium. Multiple Sponsors. Arlington, Virginia, April 23-24, 1996.

Session Planner and Co-Chair: Risk Assessment of Essential Trace Elements (ETES)
Society of Toxicology Annual Meeting. Anaheim, California, March 13, 1996.

Session Planner and Chair: Risk Characterization
In: New Techniques in Risk Assessment. International Business Communication. Orlando, Florida, February 16, 1996.

Session Planner and Chair: EPA's Integrated Risk Information System: Future Directions
In: New Techniques in Risk Assessment. International Business Communication. Orlando, Florida, February 14, 1996.

Session Planner and Co-Chair: Role of Toxicology in Tomorrow's Risk Assessment Practices
Sponsored by the Society for Risk Analysis and the International Congress of Toxicology. Seattle, July 2-6, 1995.

Session Planner and Chair: Techniques for Quantifying Uncertainty in Risk Assessment
Society of Toxicology Annual Meeting, March 19, 1995.

Session Planner and Co-Chair: Statistical and Dose Response Models in Risk Assessment
Society of Toxicology Annual Meeting, March 18, 1995.

Member of the Planning Committee: Workshop on Benchmark Dose Methodology
Sponsored by the EPA, the American Industrial Health Council and the International Life Sciences Institute, Fairfax, Virginia, September 28-30, 1993.

Session Planner and Co-Chair: Basics of Risk Assessment
In: Conference on the Risk Assessment Paradigm after Ten Years: Policy and Practice Then, Now, and in the Future. Sponsored by the U.S. Army, Air Force, Navy and EPA, Dayton, Ohio, April 5, 1993.

Session Planner and Co-Chair: Basic Risk Assessment: Current Developments
Continuing Education Course at the Society of Toxicology Annual Meeting. New Orleans, Louisiana, March 14, 1993.

Member of the Planning Committee: Risk Assessment of Essential Elements
Sponsored by U.S. ATSDR, EPA and the International Life Sciences Institute. Herndon, Virginia, March 10-12, 1992.

Session Planner and Co-Chair: Improvements in Quantitative Noncancer Risk Assessment
Society of Toxicology. Seattle, Washington. February 27, 1992.

Session Planner and Co-Chair: Neurotoxicity Risk Assessment: State of the Art
Society of Toxicology. Dallas, Texas. March 1, 1991.

Session Planner and Co-Chair: Improvements in Quantitative Noncancer Risk Assessment
Society of Toxicology. San Francisco, California. February 27, 1985.

APPOINTMENTS OR ELECTIONS (Selected)

2018 to… **Affiliate Professor**
Cincinnati's Drug and Poison Information Center

2018 to… **Board of Scientific Advisors**
American Council on Science and Health

2012 to… **President and Member**
Board of Directors, Toxicology Education Foundation

2009 to… **Fellow**
Society for Risk Analysis

2007 to… **Advisor**
African Society of Toxicological Sciences

2007 to… **Fellow**
Academy of Toxicological Sciences

1995 to… **Member**
Editorial Board of the Journal *Regulatory Toxicology and Pharmacology*

1994 to… **Member**
Editorial Board of the Journal *Human and Experimental Toxicology*

2018 **Member**
Peer Review Team. Formas, Non-toxic Environment, Stockholm, October 22-23

2018 **Discussant**
Review of Processes for Development of Health Benchmarks. Toxicology Benchmarks Workshop, George Washington University, June 26

2017 **Associate Editor**
Toxicological Sciences

2016 to 2017 **Secretary**
Board of Directors, Toxicology Forum

2014 to 2017 **Vice President Elect, Vice President, President**
Society of Toxicology's Specialty Section for Regulatory and Safety Evaluation

2012 to 2017 **Member**
Science Advisory Council, North American Flame Retardant Association

2011 to 2017 **Member**
Science Advisory Board of the U.S. Environmental Protection Agency (EPA)

1999 to 2017 **Member and Vice Chair (2003)**
Health Advisory Board, NSF International

2016 **Member**
Joint Meeting of the Food and Agriculture Organization of the United Nations (FAO) Panel of Experts on Pesticide Residues in Food and the Environment and the World Health Organization (WHO) Core Assessment Group on Pesticide Residues (JMPR)

2015 **Discussant**
Increasing the manganese reference value despite the growing environmental and health concerns, International Manganese Institute, University of Ottawa, October 14, 2015

2015 **Member**
Joint Meeting of the Food and Agriculture Organization of the United Nations (FAO) Panel of Experts on Pesticide Residues in Food and the Environment and the World Health Organization (WHO) Core Assessment Group on Pesticide Residues (JMPR)

2014 **Member**
World Health Organization & European Food Safety Commission Expert Panel, Workshop on Review of the Threshold of Toxicological Concern (TTC) Approach, Brussels, Belgium, December 2-4

2011 to 2014 **Member, Co-Chair, Chair**
Membership Committee of the Society of Toxicology

2010 to 2015 **Chair**
Audit Committee of the Society for Risk Analysis

2010 **Faculty**
Resource person to the Risk Assessment Summer School (RASS) in Calabar, Nigeria, sponsored by the International Union of Toxicology, May 26-30

2009 to 2011 **Vice President Elect, Vice President, President**
Society of Toxicology's Specialty Section on Mixtures

2008 to 2014 **Member and President**
Council of Mt. Zion Lutheran Church

2008 **Participant, Essential Metals Workshop**
Institute of Population Health**,** University of Ottawa

2008 **Member**
Green Chemistry Initiative Science Advisory Panel, California Environmental Protection Agency, Department of Toxic Substances Control, San Francisco, CA

2007 **Lecturer**
Shanghai Municipal Center for Disease Control and Prevention (Shanghai CDC), National Continuing Education Training Workshop on Chemical Risk Assessment and Its Development, Shanghai, P.R. China

2006 to 2007 **Member**
The ECOS and DoD Sustainability Workgroup, Department of Defense, Washington, D.C.

2006 **Panelist**
Joint meeting of the dental products panel of the medical devices advisory committee of the CDRH and the peripheral and central nervous system drugs advisory committee of the CDER, Food and Drug Administration, September 6-7

2005 **Rapporteur**
Workshop on Poisons Centres and the Use of Human Data in Consumer Product Risk Assessment, Work Health Organization (WHO), Berlin, Germany, May 9-10, 2005

2004 **Panelist**
Technical workshop on human milk surveillance and biomonitoring for environmental chemicals in the United States, Milton Hershey Medical Center, Penn State, Pennsylvania, September 24 to 26

2003 to 2006 **Member and Chair**
World Wide Web Advisory Committee, Society of Toxicology

2003 **Panel Member**
Mid-Cycle Peer Review for NHEERL's Neurotoxicology Division, U.S. EPA, RTP, NC

2001 to 2005 **Secretary**
Society for Risk Analysis

2001 **Panel Member**
Peer Review for NHEERL's Neurotoxicology Division, U.S. EPA, RTP, NC

2000 to 2001 **Temporary Advisor**
World Health Organization for Consultation on Uncertainty and Variability: BGVV, Berlin, Germany, 9-11 May

2000 to 2001 **Advisor and Rapporteur**
Food Safety in Europe: Risk assessment of chemicals in food and diet. ILSI: Barcelona, Spain

1999 **Member**
Panel for the harmonization of cancer and non-cancer risk assessment. Society of Toxicology. November 1-3

1999 to 2002 **Member**
Oversight Group for the EPA Cooperative Agreement. George Washington University

1999 to 2002 **Vice President Elect, Vice President, President and Councilor**
Society of Toxicology's Specialty Section on Risk Assessment

1998 to 2004 **Executive Director and Treasurer**
Concordia Lutheran Church, Cincinnati, Ohio

1996 to 1998 **Member**
FDA Science Board Subcommittee on Toxicology

1995 **Co-Guest Editor**
EPA Uncertainty Factor Workshop. Human and Ecological Risk Assessment, 1(5):512-662

1995 to 1999 **Member, Treasurer, Vice President, and President (1998)**
Board of Directors of the American Board of Toxicology

1995 to 1996 **President (first elected)**
Dose-Response Specialty Group, Society for Risk Analysis

1995 to 2006 **Scoutmaster, Assistant Scoutmaster**
Troop 133 of Concordia Lutheran Church, Cincinnati, Ohio

1994 to 2007 **Member**
Editorial Board of the Journal Human and Ecological Risk Assessment

1994 to 1995 **Director, Property Board**
Concordia Lutheran Church, Cincinnati, Ohio

1994 to 1995 **Cubmaster**
Pack 133 of Concordia Lutheran Church, Cincinnati, Ohio

1991 to 1994 **President-Elect, President and Councilor**
The Ohio Valley Chapter of the Society of Risk Analysis

1993 **Member**
Committee on Lutheran Mission Ministry Strategy for Greater Cincinnati

1993 **Expert Witness**
OSHA for Informal Public Hearing on the Proposed Rule on Occupational Exposure to Glycol Ethers, Washington, D.C., July 21

1993 **Temporary Advisor and Joint Rapporteur**
World Health Organization for Consultation on Guiding Principles and Methodology for Quantitative Risk Assessment in Setting Exposures Limits: III, Geneva, Switzerland, June 14-18

1993 **Faculty**
As part of an EPA-sponsored delegation to teach a course on Environmental Management-Risk Assessment Training, Lodz, Poland, March 29-April 2

1993 **Temporary Advisor**
World Health Organization for Consultation on Guiding Principles and Methodology for Quantitative Risk Assessment in Setting Exposures Limits: II, Langen, Germany, January 19-22

1992 **Temporary Advisor and Co-Vice Chair**
World Health Organization for Consultation on Guiding Principles and Methodology for Quantitative Risk Assessment in Setting Exposures Limits: I,

Geneva, Switzerland, January 14-17

1990 to 1993 **Vice President and President**
Academy of Kettering Fellows. University of Cincinnati, College of Medicine

1988 to 1992 **Councilor**
The Ohio Valley Chapter of the Society of Toxicology

1988 to 1990 **Vice President (interim), President (first elected) and Councilor**
Society of Toxicology's Specialty Section on Risk Assessment

1987 to 1992 C**hair**
EPA Risk Assessment Forum's technical panel to develop Risk Assessment Guidelines for Non-Cancer Health Effects

1986 to 1993 **Treasurer, Vice President and President**
Lutheran Church of the Cross, Cincinnati, Ohio

1986 to 1994 **Chair and Co-Chair**
Reference Dose (RfD) Work Group of the EPA (with a 1 year break in service)

1986 to 1995 **Charter Member**
Risk Assessment Forum of the EPA

AWARDS (Selected)

2018 **Top Ten Poster.** Developmental And Reproductive Toxicology (DART): Risk-based Reference Values. Risk Assessment Specialty Section, Society of Toxicology Annual Meeting, March. Award was based on a group effort.

2017 **Outstanding Regulatory and Safety Evaluation Paper**. Given for the outstanding published paper in regulatory and safety evaluation during 2016. Regulatory and Safety Evaluation Specialty Section (RSESS). Society of Toxicology. Award was based on a group effort.

2013 **Risk Communication Award.** KidsChemicalSafety.org was honored with the Alliance for Chemical Safety. The risk communication award recognizes a company, organization or individual who has shown outstanding leadership in communicating about chemical risks. Award was based on a group effort.

2013 **Best Charity Award.** Toxic Chemical Safety awarded for recognition as one of the 'BEST' charities in America. Presented upon rigorous independent review for being able to certify, document and demonstrate on an annual basis that met the highest standards of public accountability, program effectiveness, and cost effectiveness.

2009 **International Achievement Award.** In recognition of his outstanding contributions nationally and internationally to the advancement of regulatory science, policy, and methodologies in risk assessment and risk management and for his distinguished and creative participation in regulatory organizations and in

decisions of ultimate public health significance worldwide. International Society of Regulatory Toxicology and Pharmacology.

2008 **Outstanding Risk Assessment Paper**. Given for the outstanding published paper in 2007 demonstrating an application of risk assessment. Risk Assessment Specialty Section, Society of Toxicology. Award was based on a group effort.

2008 **The Independent Charities Seal of Excellence.** Given to the members of Independent Charities of America and Local Independent Charities of America that have, upon rigorous independent review, been able to certify, document, and demonstrate on an annual basis that they meet the highest standards of public accountability, program effectiveness, and cost effectiveness. These standards include those required by the US Government for inclusion in the Combined Federal Campaign, probably the most exclusive fund drive in the world. Of the 1,000,000 charities operating in the United States today, it is estimated that fewer than 50,000, or 5 percent, meet or exceed these standards, and, of those, fewer than 2,000 have been awarded this Seal. Award was based on a group effort.

2007 **Service to the Voluntary Children's Chemical Evaluation Program (VCCEP)**. Given for service as chair and participant on external review panels. Toxicology Excellence for Risk Assessment, Cincinnati, Ohio.

2005 **Order of the Heart.** Boy Scouts of America. Cincinnati, Ohio. Given for noteworthy service to youth in scouting.

2003 **Arnold J. Lehman Award.** An award in recognition of major contributions to risk assessment and the regulation of chemical agents, including pharmaceuticals. Society of Toxicology.

2002 **Environmental Stewardship Award.** An award issued in gratitude for serving on the C8 Assessment of Toxicity Team as a toxicologist in the development of toxicity factors and screening levels. West Virginia, Department of Environmental Protection. Award was based on a group effort.

2000 **Key Risk Award.** Environmental Studies Topic. Links2Go. *TERA*'s International Toxicity Estimates for Risk (*ITER*) database won this award by being 7th most accessed environmental web site in the world. Award was based on a group effort.

1998 **Outstanding Risk Assessment Paper**. Given for the outstanding published paper in risk assessment during 1997. Risk Assessment Specialty Section. Society of Toxicology. Award was based on a group effort.

1995 **In Appreciation.** An award for outstanding service and scientific contribution to the Environmental Protection Agency and to United States Government.

1994 **Special Achievement.** An award for noteworthy contribution as a member of the Risk Characterization Team towards an EPA-wide workshop on risk characterization.

1992 **Bronze Medal.** An award for outstanding service in the review of EPA's 503

Sludge Regulations. Award was based on a group effort.

1992 **OHEA Peer Award for Scientific Achievement.** An annual peer award for scientific achievement in EPA's Office of Health and Environmental Assessment

1992 **RfD/RfC Work Group Appreciation Award.** For sustained superior leadership of and scientific contributions to EPA's Reference Dose/Reference Concentration Work Group.

1991 **Bronze Medal.** An award for outstanding service in the development of EPA's Integrated Risk Information System (IRIS). Award was based on a group effort.

1990 **Special Achievement.** An EPA award for ensuring ORD's successful involvement in regulatory support issues with EPA's Office of Pesticides and Toxic Substances.

1988 **Special Achievement.** An EPA award for resolution of generic issues associated with the minimum data base needed to estimate Reference Doses (RfDs).

1987 **Special Achievement.** An award for further development of the EPA's -- Integrated Risk Information System (IRIS).

1986 **Bronze Medal.** An EPA award "for outstanding service in the organization and review of Risk Reference Doses (Acceptable Daily Intakes) and the science from which they are derived." Award was based on a group effort.

1984 **Tribute of Appreciation.** An EPA award for the "Development of Risk Assessment Guidelines."

1982 **Coach of the Year (soccer).** Greater Cincinnati League (Catholic Boys High School)

1980 **Bronze Medal.** An EPA award recognizing "Outstanding dedication, completion of tasks and contributions to environmental protection in the development of Water Quality Criteria." Award was based on a group effort.

AFFILIATIONS

I am a member of the American Association for the Advancement of Science **(AAAS)**, the Society for Risk Analysis **(SRA)**, and the Society of Toxicology **(SOT).** I am a Diplomate of the American Board of Toxicology (October 1985) and was recertified in 1990, 1995, 2000, 2005, 2010, and 2015. I am an elected Fellow of the Academy of Toxicological Sciences and the Society for Risk Analysis.

REFERENCES

References will be readily supplied upon request.

Candidate's name: Jennifer Przybyla, MS, MS, PhD
Affiliation: Epidemiologist, Centers for Disease Control and Prevention (CDC)/Agency for Toxic Substances and Disease Registry (ATSDR), Atlanta GA.
Expertise: Epidemiology; Risk Assessment; Environmental Health; Toxicology; Exposure Science
Education: BS/BA, Biology/Criminal Justice. Indiana University.
MS, Natural Science; Concentration in Forensic Chemistry. Southeast Missouri State University.
MS, Analytical Chemistry. Virginia Tech University.
PhD. Environmental and Occupational Health and Safety. Oregon State University
Experience Summary: Dr. Przybyla is an epidemiologist with the Agency for Toxic Substances and Disease Registry (ATSDR) with over ten years of experience in the environmental health field. Her research has focused on detection of chemicals at hazardous waste sites; health effects of exposure to chemical mixtures; and risk assessment of chemicals at Superfund Sites. Currently she develops toxicological profiles and minimal risk levels used to inform communities living near hazardous waste sites of health risks from exposure to environmental chemicals. She has served as a panel member in the National Academies Standing Committee on Emerging Science for Environmental Health Decision Workshop "Integrating the Science of Aging and Environmental Health Research (2020) and as a subject matter expert (SEM) in environmental epidemiology and risk assessment for a feasibility assessment for a cancer cluster investigation for the Texas Department of State Health Services (TCEQ).

Panel Experience: Dr. Przybyla has served as a critical reviewer for many CDC notice of funding opportunities including: State-Based Public Health Laboratory Biomonitoring Programs (2019); Strengthening Environmental Health Capacity Data, Hazards, and Assessments (2020); A Comprehensive Public Health Approach to Asthma Control Through Evidence-Based Interventions (2019); ATSDR's Partnership to Promote Local Efforts to Reduce Environmental Exposure (APPLETREE) (2020). Dr. Przybyla has served as a critical reviewer for round robin review of a Health Advisory for Putnam County, New York (2019).

Environmental Protection Agency (EPA)
Office of Science Coordination and Policy (OSCP)
Biosketch Instructions, Example, and Fillable Form

Thank you for your interest in peer reviews at the EPA. As part of the process of soliciting, nominating, and recruiting established members of a panel or committee or adding *ad hoc* members for select meetings, OSCP needs a one-page biographical sketch (a.k.a. biosketch).

We are requesting that you provide information that is focused and appropriate to represent your profession, expertise, scientific or related technical experience, and prior panel or committee experience like that of a Federal Advisory Committee (e.g., Scientific Advisory Panel, Scientific Advisory Board, Board of Scientific Counselors, or similar).

The one-page biosketch will be used in the candidate phase of recruiting and identifying members with the credentials that support the potential participation in a particular meeting and, if placed on a panel or committee meeting roster, will be used to document members who contributed to a meeting.

INSTRUCTIONS

The next page provides a description of the information that is requested by field name.

The following page is an example of a properly formated one-page biosketch.

The last section (2 pages) of this document is a fillable form that corresponds to the fields (sections) that comprise the biosketch. *Fields are character limited*. Scroll bars may appear for a field, but once the maximum characters are used the field will accept no additional information. We will receive the form and extract the information to a document for final review and formatting. If more than one page of information is received, we will contact you about any edits made to conform to the single page format.

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BIOGRAPHICAL SKETCH TEMPLATE

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …); additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests. Usually 200-word count.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

EXAMPLE:

Daniel Schlenk, Ph.D.

Affiliation: Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California Riverside, CA.

Expertise: Research on understanding the biochemical factors that influence susceptibility to environmental and natural chemicals with a focus on Aquatic Ecotoxicology.

Education: PhD in Toxicology, Oregon State University. BS Toxicology Northeast Louisiana University.

Experience Summary: Dr. Daniel Schlenk is Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California-Riverside. He is a Fellow of the American Association for the Advancement of Science, and from 2007-2014. Dr. Schlenk was a member of the Board of Directors for the North American Society of Environmental Toxicology and Chemistry (2003-2006). His research interests focus on mechanisms of action of pesticides, PAHs, and emerging compounds in aquatic organisms.

Panel Experience: Dr. Schlenk is currently a member of EPA Science Advisory Committee on Chemicals (SACC; 2017-present); Dr. Schlenk's experience on Federal panels includes: Permanent Member US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Science Advisory Panel (2007-2012) and Chair US EPA FIFRA Science Advisory Panel (2012-2014). USEPA Chemical Safety Advisory Committee (CSAC) (2016) and the Toxic Substances Control Act (TSCA), Draft Risk Assessment Work Plan Chemical for 1-Bromopropane (2016); Ad hoc reviewer National Institute of Environmental Health Sciences (NIEHS) Freshwater Biomedical Centers (1996); US Department of Agriculture (1997-2000) and National Science Foundation (1996-present); National Oceanic and Atmospheric Administration (NOAA) Oceans and Human Health Initiative Grant Review Panel (2005); US EPA Endocrine Disrupter Mixtures Grant Review Panel (2005); US EPA Science Advisory Board, Aquatic Life Criteria Guidelines (2005); NIEHS P30 Core-Center Applications (2008); and NIEHS Superfund Research Program P42 Center Applications (2016). Dr. Schlenk has also served on numerous State and foundation review panels and committees.

Scroll to the top of this document for Instructions, biosketch template, and example. Use the fields below to enter you biosketch information.

Candidate's name: First Name, Middle initial, Last Name: (including credentials)

Affiliation: Primary position title and Primary Place of employment (including city and state)

Expertise: Chemistry; Human Physiology; Ecological Toxicology; other

Education: include degrees earned and name of college/university

Experience Summary: Start with candidate's name (and describe experience; e.g., Dr. Smith is a professor of Human Physiology with 15 years of teaching and research on …) ; additional concurrent position(s) and place(s) of employment; editorial roles, workshop or workgroup activities (years served should appear in parentheses, e.g., 2011-2012), and primary research interests.

Panel Experience: Provide committee/panel style peer review experience(s) with the listing of the years served on the panel (i.e. 2000-2004).

Name: Jennifer Przybyla

Organization: Centers for Disease Control and Prevention (CDC)/Agency for Toxic Substances and Disease Registry (ATSDR)

Current Business Address: 4770 Buford Highway, Atlanta GA 30341

Email Address: xgd1@cdc.gov

Daytime Telephone Number: (b) (6)

Disciplinary and specific areas of expertise of the nominee: Epidemiology; Risk Assessment; Environmental Health; Toxicology; Exposure Science

Jennifer Przybyla

(b) (6) • (b) (6) • (b) (6)

WORK EXPERIENCE

Agency for Toxic Substances and Disease Registry (ATSDR)/Centers for Disease Control and Prevention (CDC)

Epidemiologist, GS-0601-13, Division of Toxicology and Human Health Sciences, Environmental Toxicology Branch ***June 2017-Present***

- Deliver scientific expertise in epidemiology, exposure assessment, toxicological, and biostatistics to develop accurate toxicological profiles that are used by public health professionals to assess risk from chemical exposure as dictated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
- Served as a subject matter expert in environmental epidemiology and risk assessment for feasibility assessment of the occurrence of cancer in Houston, TX. Provided guidance and recommendations to state public health representatives and community members on feasibility of further epidemiological studies to understand cancer risk associated with creosote exposure.
- Coordinate research efforts with the Environmental Protection Agency (EPA) for the use of advanced systematic review tools to evaluate toxicological and epidemiological studies. Ensure the integration of a comprehensive database of epidemiological and toxicological studies between multiple software platforms and produced advance data visuals conveying risk of exposure to environmental chemicals. Accelerate the production of informative chemical risk products like toxicological profiles and minimal risk levels (MRLs).
- Collaborated on a project and published a manuscript in a top-tiered academic journal investigating the epidemiological association between hearing loss and depression in support of the Agency's mission to communicate risks of hearing loss and importance of hearing protection for World Hearing Day (March 3rd).
- Employ computational toxicology methods like benchmark dose modeling (BMD) to quantify MRLs using toxicological and epidemiological data of substances found on the Priority List of Hazardous Substances to ensure the most precise risk value for protection of human health.
- Established and maintained a database of chemical interactions from exposure to chemical mixtures featured in ATSDR's interaction profiles. Evaluated synergistic and antagonist effects of exposure to mixtures and composed a unique manuscript describing toxicodynamics and toxicokinetics influences on interactions.
- Analyzed human health exposure data and determined associated health effects by systematically reviewing epidemiological and toxicological evidence and disseminate findings to the general public and media by composing online ToxFAQs.
- Provided quick and responsive customer service by answering CDC WONDER enquiries via email, fax, or phone for over ten requests from the general public about human health risks regarding exposure to hazardous substances. Interacted with one member of the public over 3 times via hour-long phone conversations until health effects and exposure risk from a hazardous substances was understood.
- Managed a project for the development of guidance for evaluating the quality and weight of evidence of epidemiological studies for use by contractors when producing toxicological profiles. Increased accuracy and relevancy of epidemiological data evaluating health effects from exposure to environmental chemicals provided in toxicological profiles.
- Organized a workgroup that used epidemiological methodology to review human health data on the relationship between glyphosate exposure and various cancers. Published epidemiological tables describing cancer data in the highly anticipated glyphosate toxicological profile, which was closely reviewed by Congress.
- Pioneered innovated guidance for the use of p-values and confidence intervals for the statistical significance of epidemiological studies in technical documents produced throughout the agency.
- Collaborate with other branches within the division to ensure emergency preparedness and environmental medicine evidence is integrated into toxicological products, resulting in easily accessible health effect information used by medical professionals and first responders during emergency responses.
- Supported a round robin review of the Division of Community Health Investigations (DCHI)'s Health Consultation by critically analyzing epidemiological investigations and exposure assessment data from arsenic exposure in residential soils. Findings will be published in a Health Advisory for Putnam County, New York and used to inform remediation efforts.
- Appraised guidance documentation for the use of innovative computational toxicology modeling methods to improve accuracy of MRL derivation. Comments and edits were incorporated to improve contractor implementation of Bayesian Benchmark Dose Modeling (BBDM).
- Served as a subject matter expert on review panel for notice of funding opportunities. Critically reviewed applications for funding by evaluating proposed approach, evaluation and performance measurement, and organization capacity to implement the approach for the following opportunities:
    - State-Based Public Health Laboratory Biomonitoring Programs
    - Strengthening Environmental Health Capacity Data, Hazards, and Assessments
    - A Comprehensive Public Health Approach to Asthma Control Through Evidence-Based Interventions
    - ATSDR's Partnership to Promote Local Efforts to Reduce Environmental Exposure (APPLETREE)
- Presented findings from an epidemiological investigation for exposure to mixtures of environmental chemicals in a US population and neurological health effects using advance statistical techniques at CDC/ATSDR Statistic Day 2017.
- Member of the Global Rapid Response Team (GRRT) in the role of Epidemiologist or Laboratorian.
    - Deployed to 2019 novel coronavirus response as team lead and secondary/tertiary screener. Developed safety protocol for passenger flow resulting in safer screening for passengers and screeners.
    - Deployed to SW Missouri as epidemiologist/data analysts for COVID-19 outbreak investigation. Reported

statistical findings and recommendations to state representative in daily briefs.

Florida State Department of Health

Senior Biostatistician/Environmental Consultant, Environmental Public Health Tracking Network ***April 2017-June 2017***

- Forecasted, analyzed, and interpreted environmental health indicators such as asthma, low birthweight, cardiovascular events, pesticide, and occupational exposures at the state and local level to inform resource allocation for intervention efforts.
- Advised public health officials, community members, media, and colleagues about the risk of environmental contaminants and hazards by supplying timely and accurate technical assistance on public health surveillance and epidemiologic and biostatistical expertise to county health departments and community partners.
- Developed social vulnerability indexes for risk factors for the Zika virus including nationality of birth, household size, and housing year to inform public health communication campaigns.
- Maintained databases of confidential geocoded data and associated environmental health indicators. Ensured privacy of community members by applying security measures to protect the integrity of information.

Oregon State University

Faculty Research Assistant, Food Safety and Environmental Stewardship (FSES) Laboratory ***August 2009 – September 2011***

- Employed passive sampling devices to quantify polycyclic aromatic hydrocarbons, oxygenated- polycyclic aromatic hydrocarbons, pesticides, and heavy metals at Superfund Sites on the EPA's National Priority List. Increased understanding of exposure to Priority List Substances for community members living and working in close proximity to Superfund Sites.
- Transferred institutional knowledge about use of passive sampling devices to determine pesticide concentrations in water used to irrigate agricultural plots to collaborators in Burkina Faso in a project funded by the Food and Agriculture Organization of the United Nations (FAO). Project results in increased capacity to detect pesticides in agricultural water samples ultimately leading to policy reform on pesticides use in agricultural areas.
- Integrated laboratory information management system (LIMS) to support workflow and data tracking by incorporating a data exchange interface between instrumentation and data analysis software. Allowed automation of sample testing which increased project efficiency and reduced data errors.
- Developed efficient instrument methodologies for analysis of PAHs and bisphenol-a (BPA) using High Performance Liquid Chromatography (HPLC) from aqueous and sediment samples, resulting in increased efficiency of standard operating procedures.
- Interpreted and articulated concentrations of environmental contaminants at hazardous waste sites to stakeholders in Superfund Research Center and Food Safety and Environmental Stewardship Laboratory, including the Scientific Advisory Board, senior leadership, grant administrators, and the general public through reports and presentation. Communications resulted in a maintenance or an increase in funding each year.
- Formulated and complied with Standard Operating Procedures (SOPs) to ensure standardization of analytical methods and accuracy of analysis of instrumentation results.
- Supervised 2 high school students to develop an analytical method for extraction and quantification of bisphenol a (BPA) from cash register receipts for a science fair project.
- Attendee for a regionally organized symposium on conducting ethical and respectful research in tribal communities.

Faculty Research Assistant, Aquatic Toxicology Laboratory ***September 2011-September 2012***

- Analyzed environmental aqueous metal samples using inductively coupled plasma-optical emission (ICP-OES) and inductively coupled plasma-mass spectrometry (ICP-MS) to determine concentrations of metals used in toxicity testing.
- Evaluated and interpreted water chemistry including pH, dissolved oxygen (DO), conductivity, nitrogen, hardness, and alkalinity to ensure water suitability for bioassays.
- Maintained cultures of *D. rerio*, *C. dubia*, *D.magna*, *H. Azteca*, *P. Promelas*, and *M. bahia* for use in aquatic toxicity studies.
- Executed and oversaw acute (static) and chronic (renewal, flow through, life cycle), and effluent toxicity aquatic assays.
- Interpreted and communicated results of reproductive and survival toxicity tests to determine Derived No Effect Levels for submission to the European Chemical Agency (ECHA) for Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) compliance for metal consortiums.
- Published SOPs to ensure high quality control and quality assurance standards for the accuracy and completion of laboratory reports and logs, resulting in increased performance during external stakeholder audits.

EDUCATION

Oregon State University, Doctor of Philosophy in Public Health, Specialization: Environmental Epidemiology Corvallis, OR November 2016

Virginia Polytechnic Institute and State University, Master of Science in Analytical Chemistry Blacksburg, VA May 2009

Southeast Missouri State University, Masters of Science in Natural Science, Specialization: Forensic Chemistry Cape Girardeau, MO, May 2006

Indiana University, Bachelor of Science in Biology, Minors: Chemistry and Anthropology Bloomington, IN, June 2003

Indiana University, Bachelor of Arts in Criminal Justice, Bloomington, IN, June 2003

RESEARCH EXPERIENCE

Oregon State University Corvallis, Oregon

Graduate Research Assistant ***September 2012- November 2016***

- Managed the successful completion of three projects using innovative statistical methods to investigated adverse health effects associated with exposure to multiple environmental chemicals in the US population, resulting in publication of 4 peer-reviewed manuscripts in top-tiered environmental health journals.
- Created analysis plan for modelling relationship between disease and environmental agents in a US population.
- Completed a systematic review of epidemiological and toxicological literature examining the relationship between mixtures of chemical contaminants and adverse health effects resulting in a comprehensive library of peer-review manuscripts.
- Instituted an inventive methods to calculate exposure to environmental mixtures in specific demographic groups using recursive partition mixture modelling (RPMM) resulting, in the first publication to identify environmental mixtures exposure by age, sex, and race using this method.
- Accelerated the understanding of the relationship between exposure to mixtures of endocrine disrupting compounds and body mass index as mediated through thyroid hormones by using the novel method of Structural Equation Modelling.
- Analyzed the relationship between exposure to multiple neurotoxins and cognitive functioning in older US adults using a Pathway Analysis, resulting in a widely read peer-reviewed manuscript.
- Mentored undergraduate public health majors on careers and higher education in the public health field.
- Presented findings from epidemiological investigations of exposure to multiple chemicals and important health effects at four regional, national, and international conferences.
- Authored three proposals for federally funded grants including US EPA grants. Awarded the National Institute of Environmental Health Sciences (NIEHS) T32 Predoctoral Award to investigate the relationship between exposure to multiple environmental chemicals and health outcomes in US populations.

Interplay Study

- Recruited 32 pre-school aged children for participation in a cohort for the assessment of the relationship between exposure to polybrominated diphenyl ethers (PBDEs) and neurocognitive function assessed by Peabody Developmental Motor Scales, 2nd edition.
- Developed and maintain a database of participants' demographics, cognitive scores and laboratory values. Ensured participants' confidentiality by protecting data privacy through computer security measures.
- Designed and implemented survey methods to assess demographic, exposure, and social variables such as hand to mouth activity to understand risk factors associated with exposure to PBDEs.
- Evaluated children's exposure to PBDEs by collecting environmental and personal samples by collecting dust samples and taking hand wipes.
- Supervised and trained three undergraduate researchers in conducting exposure assessment and survey implementation for data collection during study duration.
- Evaluated the relationship between exposure to PBDEs and neurocognitive functioning using biostatical methods to convey PBDE exposure risk to parents and guardians of study participants.

Oregon State Health Authority Portland, OR

Healthy Waters Intern **June 2014-December 2015**

- Assessed health effects, risk, and prevention techniques for exposure to drinking water contaminants by systematically reviewing toxicological and epidemiological data. Published 13 on-line fact sheets that communicated health effects and risk from exposure to contaminants to the general public and media.
- Example factsheet: *https://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Monitoring/Documents/health/lead.pdfcidecc*

Centers for Disease Control and Prevention (CDC), Agency for Toxic Substances and Disease Registry Atlanta, GA

Oak Ridge for Science and Education (ORISE), Graduate Environmental Health (GEH) Intern and CDC Worksite Experience Program
Summer and Fall 2013

- Constructed human health risk assessment values (Minimal Risk Levels and Derived No Effect Levels) for ethylbenzene and manganese to evaluate differences in derivation methods between agencies. Explained discrepancies in derivation process between agencies, ultimately leading harmonized chemical risk assessment procedures.
- Composed a manuscript describing the differences and similarities between MRLs and Derived No Effect Levels and how discrepancies may impact the health of the general and worker population.
- Investigated the effect of policy on the use of phthalates and phthalates alternatives in personal care products and human health outcomes, highlighting an overlook issue about using replacement chemicals when one type of chemical is highly regulated.
- Awarded the Best Graduate Intern Presentation for project describing differences between derivation methods of risk values intended to protect human health from exposure to environmental chemicals in the European Union and the United States.

Virginia Polytechnic and State University Blacksburg, Virginia

Graduate Research Assistant ***January 2006- May 2009***

- Designed and conducted experiments for the isolation, concentrations, and characterization of water contaminant to determine chemical compounds responsible for neural tube defects in mice embryos.
- Guided weekly group meetings to communicate status of the project resulting in increased collaboration and acceleration of project progress.
- Composed and delivered reports describing methodology for identifying agents responsible for causing neural tube effects to project team.

Southeast Missouri State University Cape Girardeau, MO

Graduate Research Assistant **August 2004- May 2006**

- Designed state-of-the-art methods for extraction of methamphetamine from natural water samples, including from the effluent and influent of local wastewater treatment facility,
- Quantified methamphetamine from natural, effluent, influent, and drinking water samples using Gas Chromatography Mass Spectrometry allowing estimation of local methamphetamine use.
- Reported findings to project team and senior leadership by presentation or written reports.

U.S. Fish and Wildlife National Forensic Laboratory Ashland, OR

Student Intern **Summer 2005**

- Determined composition of fiber blends using Fourier Transform-Infrared Spectroscopy and applied discriminative analysis to recognize patterns between fiber blends for future identification at investigation sites.
- Communicated findings from discriminative analysis to public and scientific community through publication of findings in a peer reviewed journal.

PROFESSIONAL SKILLS

- Biostatistical Software (R, Stata, SAS, MPlus)
- Collaborative Institutional Training Initiative (CITI)-Biomedical Responsible Conduct of Research Course
- Good Laboratory Practice (GLP)-Familiar with quality assurance/quality control framework, creating and executing SOPs, and recording chain of custody data.
- Pre-disaster Community Assessment for Public Health Emergency Response (CASPER)
- Health Impact Assessment Training (HIA), Upstream Public Health, Salem, OR
- Science Communication Training, Atlanta, GA

PUBLICATIONS

- Scinicariello F, Przybyla J, Carroll Y, Eichwald J, Decker J, Breysse PN. Age and sex differences in hearing loss association with depressive symptoms: analyses of NHANES 2011-2012. Psychol Med. 2018 Jun 18:1-7. DOI:10.1017/S0033291718001617. [Epub ahead of print] PubMed PMID: 29909806
- Przybyla, Jennifer; Geldhof, John G; Smit, Ellen; Kile, Molly L. A cross sectional study of urinary phthalates, phenols, and perchlorate on thyroid hormones in US adults using structural equation models (NHANES 2007-2008). *Environmental Research* (2017), 163:26-35.
- Przybyla, Jennifer; Kile, Molly L; Smit, Ellen. Description of exposure profiles for seven environmental chemicals in a US population using recursive partition mixture modeling (RPMM). *Journal of Exposure Science and Environmental Epidemiology* (2017), DOI 10.1038/s41370-017-0008-7
- Przybyla, Jennifer; Houseman, E. Andres; Smit, Ellen; Kile, Molly L. A path analysis of multiple neurotoxic chemicals and cognitive functioning in older US adults (NHANES 1999-2002). *Environmental Health* (2017), 16(1):19.
- Przybyla, Jennifer; Kile, Molly; Smit, Ellen; Houseman, E. Andres. Cross sectional study of lipid-adjusted polybrominated flame retardants and self-reported attention deficit hyperactivity disorder in U.S. youth aged 12-15 (NHANES 2003-2004). *Journal of Environmental and Public Health* (2016), 163:26-35.
- Saili, Katerine; Corvi, Margaret; Weber, Daniel; Patel, Ami; Das, Siba, Przybyla, Jennifer; Anderson, Kim; Tanguay, Robert Neurodevelopmental low-dose bisphenol A exposure leads to early lifestage hyperactivity and learning deficits in adult zebrafish. *Toxicology* (2012), 201(1-3), 83-92.
- Espinoza, Edgard; Przybyla, Jennifer; Cox, Robert. Analysis of Fiber Blends Using Horizontal Attenuated Total Reflection Fourier Transform Infrared and Discriminate Analysis. *Applied Spectroscopy* (2006), 60(4), 386-391.

PUBLICATIONS IN PREPARATION

- Jennifer Przybyla, Yulia Iossifova, John Risher. The European Union-Derived No effect Level and the United States Minimal Risk Level: Comparison and contrast of the derivation procedures.
- Jennifer Przybyla, Peter McClure, Hana Pohl. Chemical interactions and mixtures risk assessment: An analysis of ATSDR's database.
- Jennifer Przybyla, Susan Z. Ingber, Melanie C. Buser, Henry G. Abadin, Hana R. Pohl. Evaluation of ATSDR's MRL and EPA's RfCs/RfDs: Similarities, Differences, and Rationales.

PRESENTATIONS

- Northwest Environmental Health Conference, 2014, Portland OR. *Detection of 41 Flame Retardants in Preschool Aged Children*
- Northwest Environmental Health Conference, 2015, Portland OR. *Brominated Flame Retardants and ADHD in U.S. Youth*
- Annual Symposium on Environmental, Occupational and Population Health, 2016, Blain WA. *Brominated Flame Retardants and ADHD in U.S. Youth*
- Council of State and Territorial Epidemiologist Annual Conference, 2016, Anchorage Alaska. *Brominated Flame Retardants in U.S. Youth*
- Environmental Health Science Trainee Colloquium, 2016, Oregon State University. *Relationship of environmental levels of multiple EDCs and BMI directed through thyroid hormones as evaluated by structural equation modeling*
- CDC/ATSDR Statistics Day, 2017, Atlanta, GA. *Description of exposure profiles for seven environmental chemicals in a US population using recursive partition mixture modeling (RPMM).*

From: Wickliffe, Jeffrey K
To: Knott, Steven
Subject: TSCA-SACC Self-nomination
Date: Friday, April 3, 2020 2:02:06 PM
Attachments: Wickliffe CV current.pdf

Dear Dr. Knott,
Please accept this message as my self-nomination for the TSCA-SACC requested by the USEPA. I have attached my current CV for your records.
Let me know if you need anything else.
Thanks,
Jeff

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Jeffrey K. Wickliffe MS, PhD
Associate Professor
Environmental Health Sciences
Tulane University

Tulane University
SCHOOL OF PUBLIC HEALTH AND TROPICAL MEDICINE

Jeffrey K. Wickliffe

Curriculum Vitae

CURRENT POSITION:

Associate Professor (2015-Present)
Department of Environmental Health Sciences
School of Public Health and Tropical Medicine
Tulane University
1440 Tidewater Suite 2100 #8360
New Orleans, LA 70112
Work Phone-504-988-3910
E-mail address- jwicklif@tulane.edu

PERMANENT ADDRESS:
(b) (6)
[redacted]
[redacted]

EDUCATION:

B.S. Wildlife and Fisheries Sciences, Texas A&M University, College Station, TX 1991. Ecology option.

M.S. Wildlife and Fisheries Sciences-Environmental Toxicology, Texas A&M University, College Station, TX. 1997. Thesis-Genetic Damage and Cell Cycle Perturbations: Biomarkers of Effect in Natural Populations

Ph.D. Biology, Texas Tech University, Lubbock, TX. 2002. Dissertation-Molecular genetic consequences of exposure to ionizing radiation: studies at Chornobyl, Ukraine.

Postdoctoral Training (2002-2004)-NIEHS Toxicology Training Fellow; Department of Preventive Medicine and Community Health, University of Texas Medical Branch, Galveston, TX

RESEARCH, TEACHING, and SERVICE PHILSOPHY:

My interests and dedication to assessing, understanding, and ultimately preventing adverse human health effects associated with exposure to environmental hazards guides my research, education, and service efforts. Identifying and understanding the role that environmental factors, especially modifiable factors, play in the development of chronic diseases through robust research provides the best means by which we can in turn develop accurate models of health risks and interventions to prevent or mitigate disease and promote healthy longevity. I use a bench-to-trench approach in my research, and the environmental health sciences in the larger domain of public health provide the perfect fit for my work. Trained as an environmental toxicologist, I conduct bench research developing and applying human cell and animal systems designed to model human systems (e.g. chemical biotransformation, genetics, genomic damage, mutagenesis). I also conduct human population or community research using a Community-based Participatory Research framework designed to both inform my bench research (i.e. environmental exposures of most relevance, influence of dietary behaviors and physical health on xenobiotic sensitivity) as well as to provide a solid environmental health platform for my interdisciplinary, collaborative analyses examining the interplay between non-

chemical stressors (e.g. socioeconomics, disaster experiences, food safety and security, mental health) as well as chemical stressors on adverse physical outcomes such as cancer, reproductive health, and development. One of my long-term goals through this bench-to-trench, interdisciplinary research is to develop robust cumulative, probabilistic health risk models that can be used in preventive and interventive policies designed to improve human and public health. I also explicitly connect my research and education, through my interdisciplinary studies investigating the interaction between genetics, diet, essential and non-essential trace elements and antioxidants, and environmental chemical exposures and bringing those results into the classroom using novel pedagogy to more effectively engage, inform, and illustrate environmental health science principles and practice. I use both exploratory and hypothesis-driven experiments that include basic mechanistic studies using *in vitro* and *in vivo* models to studies in human populations (occupational, clinical, and communities) thus translating information from the bench and community-based participatory research to improvements in public health. Ultimately, my research, teaching, and service efforts have a common goal of identifying modifiable environmental factors and providing critical evidence that will be used to develop and implement health and environmental policies designed to prevent and mitigate the development of chronic diseases such as cancer.

GRANTS and AWARDS	Year(s)	Amount Calendar-Months
Previous Support		
P30 ES06676 NIH/NIEHS Pilot Grant (Wickliffe-PI) Nucleotide excision repair of butadiene adducts J. Halpert (PI)	2004-2005	$26,820
T42 CCT610417-11 CDC-ERC Training Program (UTSOPH) Pilot Grant (PI) Polymorphisms in DNA repair genes: susceptibility to butadiene G. Delclos (PI)	2004-2006	$10,000
Philip Morris External Research Program Grant (Wickliffe-CoI) DNA Repair Polymorphisms and Human Response to Genotoxins S. Z. Abdel-Rahman (PI)	2002-2006	$800,000
R01 ES06015-03 NIEHS (Wickliffe-CoI) Human Sensitivity to Genotoxic Effects of Butadiene J. B. Ward, Jr. (PI)	2002-2007	$950,000
P30 ES06676 NIEHS (Wickliffe-CoI) Biological and functional significance of polymorphisms in the *MGMT* gene S. Z. Abdel-Rahman (PI) J. Halpert (PI)	2006-2007	$17,500
DE-FG02-02ER63439 (Wickliffe-PD) Texas Tech University Transcriptional and Radio-Adaptive Responses to Low Dose Rate Environmental Exposures to the Radioactive Fallout at Chernobyl B.E. Rodgers (PI)	2006-2007	$25,000
5 R25 CA065618-11 NIH/NCI (Wickliffe-CoI) The Cancer Teaching and Curriculum Enhancement in Undergraduate Medicine (CATCHUM) Project The major goals of this project are, through the efforts of the eight Texas Medical schools, focused on forming a collaborative cancer education program dedicated to prevention and early detection in undergraduate medical education, and providing on-line educational materials specifically for -undergraduate medical students. Role: Teaching support [*development of an on-line educational module in environmental/occupational toxicology assessment]*	2006-2009	$1,592,120
1 R21 DK073093-02 NIH/NIDDK (Wickliffe-CoI) Genetic Susceptibility Factors in Porphyria Cutanea Tarda (PCT) K. Anderson (PI)	2006-2009	$395,820

P50 CA105631 NIH/NCI Center for Population Health and Health Disparities-UTMB (Wickliffe-Tech support) Development of biomarkers to assess community-level exposure to toxicants J. B. Ward, Jr. (CoI) J. Goodwin (PI)	2008-2009	$40,000
1 R03 NS065392-01 NIH/NINDS (Wickliffe-Consultant) Role of promoter polymorphisms of the MGMT gene in alkylation chemotherapy S. Abdel-Rahman (PI)	06/09-05/11	$100,000
SES-1049782 NSF (Wickliffe PI) RAPID: Collaborative Research: What makes lay/expert scientific collaborations succeed? Frickel (CoPI)	09/01/2010- 08/31/2011	$32,634 1.60
Health Effects Institute (Wickliffe-CoI) Advanced Collaborative Emissions Study Genotoxicity and oxidative stress in lung and brain tissue of rodents exposed to diesel exhaust generated from new generation engines L. Hallberg (PI)	05/01/2010- 12/31/2012	$75,000 0.36
LEQSF-EPS(2014)-PFUND-381 Louisiana Board of Regents Accelerated genome evolution in the bank vole—the dynamic interplay between environmental contamination and habitat recovery	01/01/2014- 12/31/2014	$8,750
5 R24 TW009561-02 NIH/Fogarty International (Wickliffe CoI) Planning Grant for HUBS of Interdisciplinary Research and Training in Global, Environmental, and Occupational Health Caribbean Consortium for Research in Environmental and Occupational Health (CCREOH) A global interdisciplinary environmental and occupational health research and training consortium anchored in Suriname and designed to serve as the future HUB for the Caribbean region. CCREOH will address high priority environmental and occupational health risks common to this increasingly vulnerable geographic region while preserving the unique assets, health and cultural traditions of indigenous and other health disparate populations. M. Lichtveld (PI)	09/01/2012- 08/31/2014	$100,000
1 U19 ES020677-01 NIH/NIEHS (Wickliffe CoPI) Transdisciplinary research consortium for Gulf resilience on women's health (GROWH)	06/01/2011- 05/31/2016	$6,500,000 1.2
Baton Rouge Area Foundation (Wickliffe CoPI) Risk and Resilience in Environmental Health: a Community-Based Participatory Research and Environmental Health Capacity Building Program	01/17/2012- 12/31/2017 In No-cost Extension	$3,700,000 2.4

National Academy of Sciences (Wickliffe CoI) Linking Energy Production Technologies to Human Health Protection The goal of this project is to develop a set of core competencies in environmental health and disaster management targeting the middle-skilled oil production, marine operations, and nursing workforces.	09/01/15- 09/01/16	$125,000 0.24
UAB Gulf States Health Policy Center Making Environmental Policy Work for Communities: A Culturally Competent Community-Based Participatory Research Approach to Advancing the Health of Gulf Coast Vietnamese-Americans This study aims to conduct a culturally competent impact assessment of critical environmental policy gaps in MCH and respiratory health outcomes of Gulf Coast Vietnamese-Americans; examine the role of culture in advancing healthy behaviors against environmental health risks among Vietnamese-Americans; and develop a culturally tailored CBPR policy intervention framework to serve as a roadmap for policy makers, communities, and academic partners to protect communities against environmental threats.	N/A	$25,000 0.12
Gulf Region Health Outreach Program (Wickliffe CoI) Environmental Health Capacity and Literacy Project (EHCLP) The EHCLP's goal is expand and improve environmental health knowledge, ability, and literacy in Gulf Coast communities in Louisiana, Mississippi, Alabama, and the Florida Panhandle. EHCLP's programs include the Emerging Scholars Environmental Health Sciences Academy, a two-month summer program held at Tulane for high school students, and the Environmental Health Sciences Teacher Workshop, a two-day intensive training program for certified high school science teachers. EHCLP is part of the Gulf Region Health Outreach Program, which was developed jointly by BP and the Plaintiffs' Steering Committee as part of the Deepwater Horizon Medical Benefits Class Action Settlement.	05/09/2012- 05/08/2017	$60,000 1.8
Gulf of Mexico Research Institute (Wickliffe CoI) The goal of this project is to elucidate the highly toxic compounds within fresh and weathered crude oil from the MC252 oil spill. The hypothesis of this research proposal is that a relatively small group of the chemicals in oil accounts for most of the toxicity. Learning the identity of these highly toxic compounds will lead to better predictions of the toxic properties of fresh crude oil and will provide a way to follow these substances as oil weathers in the environment. C. Miller (PI)	01/01/16- 12/31/18	$1,574,109 1.2

COR Faculty International Travel Grant (Wickliffe PI) In support of travel to the Caribbean Public Agency's 64th Annual Meeting in Trinidad to present research results as a platform and as an invitee to a pre-conference workshop in Environmental and Occupational Health	06/17/19- 06/22/19	$550 N/A
Newcomb College Institute Faculty Research (Wickliffe PI) Selenium protects neuronal cells against oxidative stress Funds are also provided to support a stipend for a Tulane Undergraduate student to participate in this research project.	06/01/19- 08/01/19	$2,000 N/A
Tulane University School of Public Health and Tropical Medicine 170th Early Career Professorship (Wickliffe PI) Development of a novel blood-based mutation biomarker for assessing transplacental genotoxicity	04/01/2011- 03/31/2019	$100,000
Current Support		
1U2RTW010104-01 NIH/FIC (Wickliffe CoI) 2/2-Neurotoxicant Exposures: Impact on Maternal and child Health in Suriname-US This grant is linked to a complimentary one awarded to Suriname's largest hospital, and together will serve to establish the Caribbean Consortium for Research in Environmental Health and Occupational Health to recruit 1,000 pregnant women whose diet and environment might expose them to mercury, lead, arsenic and several pesticides. Dr. Lichtveld and her team will build sustainable research capacity to assess the impact of exposures to neurotoxicants on maternal and child health in Suriname while preserving the unique assets, health and cultural traditions of indigenous and other health disparate populations. Research training and career development programs for Surinamese scientist and health professionals and a long-term education training portfolio of EOH masters and doctoral degrees will be implemented. M. Lichtveld (PI)	09/28/2015- 08/31/2020	$3,000,000 0.36
1 R24 NIH (Wickliffe CoI) Linking Complex Disease and Exposure Data to Established Data Standards (subaward with Research Triangle Institute)	07/01/17- 06/30/20	$167,980 0.96
1 R44 ES028163-01A1 NIH/NIEHS (Wickliffe CoI) Validation of cross-species biomarkers of DNA damage S. Dertinger (PI)	2018-2019	$49,380 0.60
Pending Applications		
NIEHS Children's Health Exposure Analysis Resource (Wickliffe CoI) Exposures to metals in pregnant women and the impact on fetal development and birth outcomes in Suriname Lichtveld (PI)	Not specified	Not specified 0.0

1 R01 NIEHS (Wickliffe CoI) Heavy metal and pesticide exposure, metabolomic profile, and maternal health during and after pregnancy: The Meki Tamara Study Harville (PI)	07/01/2020-06/30/2025	1,495,335 0.6
Unfunded (submitted) Applications		
1 R21 ES026272-01 NIH/NIEHS (Wickliffe CoI)) Combined chemical and nonchemical stressors: How do we measure cumulative risk? Harville (PI)	2015-2017	$275,000 1.2
1 R01 ES027889-01 NIH/NIEHS (Wickliffe PI) Louisiana Community Indoor Air Stressors and Action Project (LCI-ASAP)	2017-2022	$2,480,053 1.8
Board of Regents Support Fund-Research Competitiveness Program Wickliffe (PI) Generation and characterization of diet-induced obese female and male mice for modeling obesity-driven chemical sensitivity and cancer susceptibility in humans	2018-2019	$19,980 0.0
National Academy of Sciences Gulf Research Program Wickliffe PI Advancing and communicating risk assessment and toxicology using adverse outcome pathways and key events to determine oil compound potencies and points-of-departure in biological responses from in-vitro experiments	2018-2021	$911,197 1.8
1 K01 TW011207-01 NIH/FIC (Wickliffe US Mentor)) Building independent international research expertise in Suriname Wilson PI	2018-2021	$374,055 0.0
1 R21 ES030058-01 NIH/NIEHS (Wickliffe PI) Obesity increases Cyp2e1 activity and chemical sensitivity	2018-2020	$275,000 1.2
1 R01 ES030496-01 NIH/NIEHS (Wickliffe PI) Obesity increases the production of endogenous and exogenous mutagens	2019-2024	$1,129,568 2.4
Saudi Research and Development International Collaboration Conference (Wickliffe CoI) Advancing health risk assessment using adverse outcome pathways and key events to inform benchmark responses and points-of departure from in vitro experiments Wilson (PI) Jazan University	2019-2022	$443,887 0.6
GRANT12942007 EPA STAR (Wickliffe CoI) Assessing exposure risks to extreme flooding-mobilized contaminants in New Orleans East: implications to human health Sherchan (PI)	05/01/2020-04/30/2023	$606,317 0.6

NIEHS Children's Health Exposure Analysis Resource (Wickliffe CoI) Gulf Coast environmental exposures and birth outcomes: The Gulf Resilience on Women's Health (GROWH) study Lichtveld (PI)	Not specified	Not specified 0.0
K43 NIH/FIC (Wickliffe US Mentor) Influence of Nutritional Status and Exposure to Lead on Childhood Anemia in Suriname Abdoel Wahid (PI)	2019-2023	$453,593 0.0
R24 NIH/NIEHS (Wickliffe CoI) Caribbean Consortium for Research in Environmental and Occupational Health (CCREOH) - Cohort Maintenance and Data Enrichment Lichtveld (PI)	2019-2024	$1,567,301 0.6

AWARDS AND FELLOWSHIPS:

2019-Present

National Academy of Medicine, Emerging Leader in Health and Medicine Scholarship

2011-Present

170th Anniversary Early Career Professorship, Tulane University SPH&TM

2004

Environmental Mutagen Society Award of Merit (Postdoctoral)

Texas Genetics Society Best Platform Presentation (Postdoctoral) Award

2002-2004

NIH/NIEHS Toxicology Training Grant-University of Texas Medical Branch

2003

Mehlman-Legator Best Proposal Award

2002

Texas Genetics Society Best Platform Presentation (Graduate) Award

Graduate and Professional Student Government Association Best Poster Presentation Award-Texas Tech University

Texas Tech University Association of Biologists Best Platform Presentation Award

2001

Employee/Dependent Scholarship-Texas Tech University

Summer Dissertation/Thesis Research Award-Texas Tech University

SETAC North America Student Travel Award

1998

Chancellor's Fellowship-Texas Tech University

PROFESSIONAL SOCIETY AFFILIATIONS:

Delta Omega Honorary Society in Public Health, Eta Chapter, Tulane University (2010)

Environmental Mutagenesis and Genomics Society (2000)

Society of Toxicology (2002)

Society of Toxicology-Southcentral Regional Chapter (2009)
Society for Risk Analysis (2016)
International Society for Environmental Epidemiology (2019)
Board Member-Society for Environmental Toxicology and Chemistry, South-Central Regional Chapter (2019-Present)

COMMITTEES/NON-SOCIETAL MEMBERSHIP AND MENTEES:

General

2018-Present Research Consultant, Scientific Research Center Suriname, Academic Hospital Paramaribo
2017-Present Member, Nutrition Obesity Research Center (NORC), Pennington Biomedical Research Center Louisiana State University
2017-Present Member, Center for Clinical and Translational Science (CCTS), University of Alabama Birmingham
2009-Present Member Louisiana Cancer Research Consortium
2009-Present Member Tulane Cancer Center
2008-2008 Member UTMB Comprehensive Cancer Center
2008-2008 President UTMB Junior Faculty Association
2008-2008 Departmental (PMCH) Executive Committee-Junior Faculty Representative
2008-2008 Environmental Health and Safety-Chemical Safety Committee (UTMB)
2008-2008 Ad Hoc Committee for Research Development (PMCH, Family Medicine, Institute of Medical Humanities)
2008-2008 Departmental (PMCH) Strategic Planning Committee
2006-2008 Member, Institutional Animal Care and Use Committee Improvement Panel-UTMB
2006-2008 Councilor, Society of Toxicology Gulf Coast Chapter
2004-2005 Awards Committee, Texas Genetics Society
2004-2005 Board of Directors, Texas Genetics Society
2004-2005 Co-Chair, Organization of Postdoctoral Scientists, University of Texas Medical Branch

Thesis or Dissertation

2007-Present Catherine Rondelli, UTMB, Dissertation Committee Member
- Graduated 2013

2010-2012 Jocelyn Lewis, Tulane University Dissertation Committee Member
- Graduated 2012

2010-2014 Bridget Simon, Tulane University Dissertation Committee Chairperson
- Successfully Defended August 2014, Graduated May 2015

2012-2014 Danielle Major, Tulane University Dissertation Committee Member
- Successfully Defended October 2014, Graduated May 2015

2011-2016 Jessi Howard, Tulane University Dissertation Committee Chairperson
- Successfully Defended March 2016, Graduated May 2016

2012-2016 Kyle Moller, Tulane University Dissertation Committee Chairperson
- Successfully Defended February 2016, Graduated May 2016

2013-2015 Chris Mundorf, Tulane University Dissertation Committee Member
- Successfully Defended July 2015, Graduated May 2015

2013-2015 Olalekan Ogunsakin, Tulane University Dissertation Committee Member

- Successfully Defended October 2015, Graduated December 2015

2014-2017 Denyse Nanan, Tulane University Dissertation Committee Member
- Successfully Defended April 2017, Graduated May 2017

2015-2017 Benjamin Jelin, Tulane University Dissertation Committee Member
- Successfully Defended January 2017, Graduated May 2017

2015-2016 Dev Jani, Tulane University Dissertation Committee Member
- Successfully Defended June 2016, Graduated August 2016

2013-Present Firoz Abdoel Wahid, Tulane University Dissertation Committee Member
- Successfully Defended December 2017, Graduated May 2018

2016-Present Ahmad Alqassim, Tulane University Dissertation Committee Member
- Successfully Defended May 2019, Graduated May 2019

2016-Present Rebecca Lichtler, Tulane University Dissertation Committee Chairperson

2017-Present Vinoj Misser, Antom De Kom University of Suriname Dissertation Committee Member

2017-Present Sheila Kort, Antom De Kom University of Suriname Dissertation Committee Member

2018-Present Arioene Vreedzaam, Antom De Kom University of Suriname Dissertation Committee Member

2018-Present Nicholaas Pinas, Antom De Kom University of Suriname Dissertation Committee Member

2018-Present Aloysius Koendjbiharie, Antom De Kom University of Suriname Dissertation Committee Member

2018-Present Cecilia Alcala, Tulane University Dissertation Committee Co-Chairperson
- UJMT Fogarty International Center (NIH) Fellow

2018-Present Lissa Soares, Tulane University Dissertation Committee Co-Chairperson
- UJMT Fogarty International Center (NIH) Fellow

Postdoctoral Fellows

2007-2008 Jai Dwivedi, Ph.D., UTMB, NIEHS Toxicology Training Grant Postdoctoral Fellow
- Founder and director Marine Biomedical Technologies

2009-2011 Shuguang Wang, Ph.D., Tulane University, Postdoctoral Fellowship
- Postdoctoral Fellow (2011-2013) U.S. FDA National Center for Toxicological Research
- Postdoctoral Fellow (2013-2014) Tulane University School of Medicine
- Postdoctoral Fellow (2014-Present) LSU Health Sciences Center

2011-2012 Mark Wilson, Tulane University Postdoctoral Fellowship
- Research Assistant Professor, Tulane University (2013-2017)
- Assistant Professor, Tulane University (2017-Present)

SERVICE (Current and Previous):

Tulane University
- 2020-Present Environmental Health Sciences Faculty Affiliate to the ByWater Institute, Tulane University
- 2019-Present SPH&TM Representative to Tulane University Faculty Senate
- 2019-Present Newcomb-Tulane College Executive Committee
- 2018-Present Member of Biomedical Institutional Review Board, Tulane University

- 2018-Present Health Professions Committee, Tulane University SPH&TM and SoM
- 2019-Present Faculty lead and developer for the Emerging Scholars funded by a generous donation/gift from BP America.
- 2016-2019 Member of SPH&TM Dean's Research Council Committee
- 2014-2015 Vice-chair SPH&TM Faculty
- 2015-2016 Chair SPH&TM Faculty
- 2013-2018 Faculty lead and developer for the Emerging Scholars program within the Gulf Region Health Outreach Program's Environmental Health Literacy and Capacity Program
  - Helped design, plan, and implement an annual 8-week summer Environmental Health Sciences (EHS) research program for upper-level high-school students from southeast Louisiana public and charter schools. This program introduces the scholars to university scientific research, the principles of EHS through laboratory demonstration, field excursions, research article discussions, and guest speakers, reinforces and develops reading, writing, and presentation skills, and demystifies the high-school to college application and transition process.
  - Helped design, plan, and implement an annual 2-day high-school science teachers' workshop emphasizing the use of EHS in meeting curricular objectives and grade level expectations in southeast Louisiana public and charter schools. This workshop provides classroom tools, classroom instruction and lesson plans, web-based resources and tools for classroom use, and field trip opportunities aligned with the Common Core and Next-Generation Science Standards that use EHS to meet academic objectives and competencies.
- Chair or member of departmental faculty search committees
  - Climate and Environmental Health, Current (Chair)
  - Mark Wilson, Assistant Professor, Hired in 2017
  - Tewodros Godebo, Assistant Professor, Hired in 2017 (Chair)
  - Tiong Gim Aw, Assistant Professor, Hired in 2016 (Chair)
  - Samendra Sherchan, Assistant Professor, Hired 2016 (Chair)
  - Michael McCaskill, Assistant Professor, Hired in 2013 (Chair)
  - Erik Svendsen, Associate Professor, Hired in 2012
- Member and Chair of SPH&TM Nominating Committee
- Member of SPH&TM Committee on Student Affairs
- Member of SPH&TM Committee on Academic Policy
- Member of SPH&TM CEPH Reaccreditation Committee

- Advisor to MSPH Students in Tulane SPH&TM GEHS
  - Caitlin Norton, Graduated 2012
  - Panita Charoensuk, Graduated 2013
  - Caitlin Carter, Graduated 2014
  - Matthew Kennedy, Graduated 2015
  - Phanuwat Sriyotha, Graduated 2015
  - Ourania Georgacopoulos, Graduated 2015 Miller Award winner
  - Siyu Lin, Current MSPH Student, Graduated 2017
  - Jessica Oswalt Current Combined Degree BSPH/MSPH Student, Graduated 2017
  - Sue Claire Lichtveld, Combined Degree BSPH/MSPH Student, Graduated 2017

University of Texas Medical Branch

- Summer Undergraduate Research Program (2004-2007)-Host laboratory and judge for poster competition. Mentored 3 students and their projects including experimental design, technical aspects, data collection, analysis, interpretation, and presentation of the results.
- Community of Engaged Scholars (2008)-Campus-wide initiative to bring together individuals actively involved in community-level and community-based research.
- Science Shop (2008)-modeled after EU "science shops", this initiative involves several community groups in the Houston area and southeast Texas interested in health effects associated with community pollution and environmental injustice. Framework is similar to the Community-Campus Partnerships in Health (CCPH) approach.
- Medical School Applicant Interviewer (2006-2008)-interviewed prospective medical school undergraduates as part of their application process providing assessment to acceptance committee.

Other

- University of Houston Secondary School Science Teacher Workshop (2007-2008)-presented regional secondary school teachers with basic information about environmental toxicology including air, water, soil, and marine pollution. Discussed general principles of toxicology and experimental methods. Provided on-line resources that can be used in the classroom to demonstrate both principles and application of toxicological sciences.
- Science Fair Judge (2008-2009)-judge competitive science fairs at Texas A&M University Galveston for undergraduate- and graduate-level researchers. Judge for competitive science fairs in the Clear Creek Independent School District at middle school science magnets.
- Environmental Protection Agency Public Hearings and Workshops (2007-present)-provided scientific support to regional community groups regarding toxicological issues (i.e. health hazards, risk assessment, and risk interpretation) in their areas. These include hazardous air pollutants in fence-line communities such as 1,3-butadiene, benzene, and polychlorinated biphenyls.

National Institutes of Health Review Panels—

2015: The Children's Health Exposure Analysis Resources (CHEAR) Review Committee (ES15-009 NETWORKS)

2015: Special Emphasis Panel ZDE1 VH_09, Biological and Physiological Effects of E-cigarette Aerosol Mixtures

2012-Present: Center for Scientific Review Early Career Reviewer. Study sections include XNDA, CE, and CG.

2009: Special Emphasis Panel ZRG1 IMST-D (16)-charged with reviewing grant applications submitted through the SBIR mechanism focused on bioassays for mutation analysis and carcinogen testing.

Other Grant Application Reviews or Panels—

2019: National Academies of Sciences, Engineering, and Medicine-Gulf Research Program (GRP) Fellowships

2013: University of Texas Medical Branch NIEHS Center for Environmental Toxicology Pilot Project Grant Application Reviewer
2012: Natural Environment Research Council, United Kingdom, Grant Application Reviewer

Manuscript Editorial Board or Reviewer—
Editorial Board
International Journal of Environmental Research and Public Health, Section Editor, Toxicology and Public Health
Reviewer
Altex
American Journal of Epidemiology
Analytical Chemistry
Biological Trace Element Research
Biomarkers
BMC Cancer
Chemical Research in Toxicology
Chemosphere
Comparative Biochemistry and Physiology-Part C: Toxicology & Pharmacology
Ecotoxicology and Environmental Safety
Environmental Health Insights
Environmental Health Perspectives
Environmental and Molecular Mutagenesis
Environmental Pollution
Environmental Toxicology and Pharmacology
Evolutionary Applications
International Journal of Environmental Analytical Chemistry
International Journal of Environmental Research and Public Health
International Journal of Hygiene and Environmental Health
International Journal of Radiation Biology
Journal of Chemical Engineering and Bioanalytical Chemistry
Journal of Environmental Radioactivity
Journal of Exposure Science and Environmental Epidemiology
Journal of Photobiology
Marine Drugs
Marine Pollution Bulletin
Mutagenesis
Mutation Research-Genetic Toxicology and Environmental Mutagenesis
Mutation Research-Reviews
Pharmacogenetics and Genomics
PLoS ONE
Public Health Nutrition
Radiation Research
Russian Journal of Theriology
Science of the Total Environment
Stochastic Environmental Research and Risk Assessment
Toxicology Research

Toxicological Sciences
Toxics

Board Membership and Professional Panels

2020-Present: Elected Councilor (3-year term) for the Environmental Mutagenesis and Genomics Society

2019-Present: Board member, Society of Environmental Toxicology and Chemistry, South-Central Regional Chapter

2019-Present: External Advisory Board, Greater Caribbean Center for Ciguatera Research (GCCCR). NIEHS-NSF funded through the Centers for Oceans and Human Health program

2017-2018: Expert panel on Dispersant Use in Arctic Waters; Toxicology, Human Health, and Risk Assessment; Coastal Response Research Center at the University of New Hampshire

Editorial Boards

2019-Present: *International Journal of Environmental Research and Public Health*, MDPI

2015-Present: *Mutation Research-Reviews in Mutation Research*, Academic Press, Elsevier.

Book Reviewer—

Thresholds of Genotoxic Carcinogens: From Mechanisms to Regulation, Nohmi, Takehiko and Fukushima, Shoji. Academic Press, Elsevier.

Scientific Societies—

2014-2019: Environmental Genetic Toxicology Special Interest Group with the Environmental Mutagen and Genomics Society. Served as Co-Chair.

2009-2016: Public Relations and Communications Committee member for the Environmental Mutagen and Genomics Society. Served as Co-Chair for 3 years.

Consultant—

2019: Paid consultant for the Cobalt Institute. Served as a peer reviewer of an application submitted for research funding and support.

2017: Paid consultant for Eastern Research Group, Inc. (ERG), serving as a peer reviewer of the U.S. EPA's draft Provisional Peer-Reviewed Toxicity Values for tert-Butyl Formate (CASRN 762-75-4) under Prime Contract EP-C-12-029, Task Order 78.

2009-2012: Unpaid toxicology consultant to non-profit organization Calhoun County Resource Watch based in Seadrift/Port Lavaca, TX. Served as professional advisor to this group regarding health effects caused by exposure to environmental mercury and chlorinated hydrocarbons.

2009-2012: Unpaid toxicology consultant to non-profit organization Injured Workers United based in Port Lavaca, TX. Served as professional advisor to this group regarding health effects related to occupational exposure to vinyl chloride and chemicals used in the production of polyvinylchloride plastic.

PREVIOUS EXPERIENCE/POSITIONS:

1988-1991-Field Biologist-LGL Alaska Research Associates and Troy Ecological Research Associates, Summers 1988-1991. Duties included identifying, banding, and monitoring shorebird and passerine activity in the Prudhoe Bay oilfield.

1991-1995-Molecular Biologist-LGL Ecological Genetics Inc. 1991-1995. Duties included bacterial and viral cloning, PCR, RFLP, nucleotide sequence and microsatellite data collection and analysis of several vertebrate taxa in natural and domestic populations.

1996-1997-Research Assistant-Texas A&M University-1996-1997. Duties included implementing and directing laboratory and field research both technical and analytical aspects. Charged with managing projects involving population and systematic analysis of vertebrates (mammals and birds) and toxicological studies involving vertebrates (mammals, reptiles, fishes, and birds).

1997-1998-Graduate Research Assistant and Research Technician III-University of Georgia. Conducted experiments involving several techniques investigating a nuclear gene potentially involved in the apoptotic pathway. Studies involved *in vitro* cell culture experiments and *in vivo* immunological/transfection experiments.

1998-2002-Graduate Research Associate-Texas Tech University-Jun. 1998-Jun. 2002. Duties included implementing and directing laboratory and field research both technical and analytical aspects. Charged with managing projects involving population and toxicological studies involving vertebrates (primarily mammals).

2002-2004-NIEHS Postdoctoral Fellow-University of Texas Medical Branch

2004-2006-Instructor of Preventive Medicine and Community Health, University of Texas Medical Branch

2006-2008-Research Assistant Professor (non-tenure track) of Preventive Medicine and Community Health, University of Texas Medical Branch

2009-2014-Assistant Professor (tenure-track) of Global Environmental Health Sciences, Tulane University

2001-Present-Research Associate of the Museum of Texas Tech University

2015-Present-Associate Professor of Global Environmental Health Sciences, Tulane University

CURRENT TEACHING RESPONSIBILITY:

GEHS 7620 Human Health Risk Assessment (3 hours, 2009-Present)-Tulane University. Primary instructor of the practice and principles of human health and environmental risk assessment. Graduate level course in preparation for the MPH/MSPH in the Environmental Health Sciences. This is a departmental core course required of all graduate students in GEHS.

SPHU 2150 Foundations of Environmental Health (3 hours, 2013-Present)-Tulane University. Primary instructor of a broad introductory course in Environmental Health and the Environmental Health Sciences with a focused public health perspective. Undergraduate level course in preparation for the BSPH. This is a core content course required of all students majoring in PH.

SPHU 3330 Disasters & Environmental Health (3 hours, 2020-Present)-Tulane University. Co-instructor of an upper-level course covering disasters, natural and technological, and their impacts on environmental and public health. This is an elective course offered through our BSPH program.

Health Risk Assessment (2014-Present)-Anton de Kom University of Suriname, Paramaribo, Suriname. Primary instructor of the practice and principles of human health and environmental risk assessment. Two week short course (meets every day for 3 hours). Graduate level course for the MPH in the Environmental Health Sciences.

PREVIOUS TEACHING RESPONSIBILITY:

WFSC 302 Natural History of the Vertebrates (1994-1996)-Texas A&M University. Teaching Assistant-duties included conducting and directing weekly laboratory seminars, assessment of incorporated information, and off-campus field excursions.

BBSC 6403 Molecular Biology and Genetics (2005-2007)-University of Texas Medical Branch. Small group facilitator for groups of 8-10 graduate students. Facilitated discussion of assigned scientific papers demonstrating experimental results demonstrating concepts presented in lecture.

BBSC 6403 Molecular Biology and Genetics (2008-2008)-University of Texas Medical Branch. Instructed four lectures describing human genetics and the basis for human genetic disease. Integrated modern concepts of human genetics, population genetics, and genetic variation in addition to Mendelian genetics and cytogenetics. Groups of 20-30 graduate students in biomedical sciences.

BBSC 6213 Genes, Environment, and Disease (2007-2008)-University of Texas Medical Branch. Instructed lectures in human genetics emphasizing current genetic approaches to evaluating the role that genetics (i.e. polymorphisms [SNPs, CNVs] and haplotypes) play in the development of complex disease and the interplay between genetics and the environment where environment includes xenobiotic exposure and diet. Instruction integrated relevance and application to public health.

PHTO 6214 Molecular Toxicology (2004-2008)-University of Texas Medical Branch. Co-directed this course dealing with current approaches and knowledge of the field of molecular toxicology. Directed modules dealing with molecular epidemiology, genetic toxicology, gene-based cancer susceptibility, and transgenic rodents. Graduate students in biomedical sciences.

MARB 489 Principles of Toxicology (2004-2008)-Texas A&M University, Galveston. Team-taught this course dealing with broad principles governing the field of toxicology to upper-level undergraduate students.

PHIL 314 Environmental Ethics (2004-2007)-Texas A&M University, Galveston. Instructed this course dealing with the field of ethics as applied to environmental and ecological issues to upper-level undergraduate students introducing them to the “moral basis of duties to preserve or protect plants, animals and environmental systems; foundations of environmental law and policy; the idea of nature in philosophy; critique of social and economic analyses of environmental values.”

IMC-GAR Gross Anatomy and Radiology (2008)-University of Texas Medical Branch. Problem-based Learning facilitator teaching the main structures (organs, muscles, vessels, nerves, ligaments, etc.) of the entire human body. Instructed students in the various diseases/abnormalities that can arise from these structures. Also, instructed students in the various types of radiology techniques used to view the human body and how to interpret diseases from these techniques. Prime goal is to provide first-year medical students with a basic understanding of the gross anatomy and radiology of the entire body.

PUBLICATIONS:

1997

1.) Custer TW, Hines RK, Melancon MJ, Hoffman DJ, Wickliffe JK, Bickham JW, Martin JW, Henshel DS. 1997. Contaminant concentrations and biomarker response in Great Blue Heron eggs from 10

colonies on the Upper Mississippi River, USA. *Environmental Toxicology and Chemistry* 16(2):260-271.

1998

2.) Bickham JW, Rowe GR, Palatnikov G, Mekhtiev A, Mekhtiev M, Kasimov RY, Hauschulz DW, Wickliffe JK, Rogers WJ. 1998. Acute and genotoxic effects of Baku harbor sediment on Russian sturgeon (*Acipenser guildenstaedti*). *Bulletin of Environmental Contamination and Toxicology* 61(4):512-518 PMID:9811957.

3.) Bickham JW, Loughlin TR, Calkins DG, Wickliffe JK, Patton JC. 1998. Genetic variability and population decline in Steller sea lions from the Gulf of Alaska. *Journal of Mammalogy* 79:1390-1395.

4.) Bickham JW, Loughlin TR, Wickliffe JK, Burkanov VN. 1998. Geographic variation in the mitochondrial DNA of Steller sea lions: haplotype diversity and endemism in the Kuril islands. *Biosphere Conservation* 1(2):107-117.

5.) Wickliffe JK, Bickham JW. 1998. Flow cytometric analysis of hematocytes from Brown Pelicans (*Pelecanus occidentalis*) exposed to planar halogenated hydrocarbons and heavy metals. *Bulletin of Environmental Contamination and Toxicology* 61(2):239-246 PMID:9702362.

1999

6.) Compton MM, Wickliffe JK. 1999. Multiparametric assessment of bursal lymphocyte apoptosis. *Developmental and Comparative Immunology* 23:487-500 PMID:10512459.

2000

7.) Wickliffe JK, Pitts RM, Bickham JW. 2000. Cell cycle disruption in wild rodent populations: a novel endpoint in detecting exposure and effect. *Bulletin of Environmental Contamination and Toxicology* 64(3):448-455 PMID:10757672.

8.) Custer TW, Custer CM, Hines RK, Sparks DW, Melancon MJ, Hoffman DJ, Bickham JW, Wickliffe JK. 2000. Mixed-function oxygenases, oxidative stress, and chromosomal damage measured in Lesser Scaup wintering on the Indiana Harbor canal. *Archives of Environmental Contamination and Toxicology* 38:522-529. PMID:10787104

2001

9.) Dahl CR, Bickham JW, Wickliffe JK, Custer TW. 2001. Cytochrome *b* sequences in Black-crowned Night-herons (*Nycticorax nycticorax*) from heronries exposed to genotoxic contaminants. *Ecotoxicology* 10(5):291-298 PMID:11556116.

10.) Baker RJ, Bickham AM, Bondarkov M, Gaschak S, Matson CW, Rodgers BE, Wickliffe JK, Chesser RK. 2001. Consequences of polluted environments on population structure: the Bank Vole (*Clethrionomys glareolus*) at Chornobyl. *Ecotoxicology* 10:211-216 PMID:11501430.

11.) Chesser RK, Rodgers BE, Wickliffe JK, Gaschak S, Chizhevsky I, Phillips CJ, Baker RJ. 2001. Accumulation of ^{137}Cs and ^{90}Sr from abiotic and biotic sources in rodents at Chornobyl, Ukraine. *Environmental Toxicology and Chemistry* 20:1927-1935 PMID:11521818.

12.) Rodgers BE, Wickliffe JK, Phillips CJ, Chesser RK, Baker RJ. 2001. Experimental exposure of naïve bank voles (*Clethrionomys glareolus*) to the Chornobyl environment: a test of radioresistance. *Environmental Toxicology and Chemistry* 20:1936-1941 PMID:11521819.

13.) Wickliffe JK, Chesser RK, Rodgers BE, Baker RJ. 2001. Letter to the editor. *Mutation Research, Fundamental and Molecular Mechanisms of Mutagenesis* 478:207-208 PMID:11467282.

14.) Rodgers BE, Chesser RK, Wickliffe JK, Phillips CJ, Baker RJ. 2001. Subchronic exposure of BALB/c and C57BL/6 strains of *Mus musculus* to the radioactive environment of the Chornobyl, Ukraine exclusion zone. *Environmental Toxicology and Chemistry* 20:2830-2835 PMID:11764167.

2002

15.) Wickliffe JK, Chesser RK, Rodgers BE, Baker RJ. 2002. Assessing the genotoxicity of chronic, environmental irradiation using mitochondrial DNA heteroplasmy in the bank vole (*Clethrionomys glareolus*) at Chornobyl, Ukraine. *Environmental Toxicology and Chemistry* 21(6): 1249-1254 PMID:12069310.

16.) Cronin MA, Wickliffe JK, Dunina Y, Baker RJ. 2002. K-*ras* oncogene DNA sequences in pink salmon in streams impacted by the *Exxon Valdez* oil spill: no evidence of oil-induced heritable mutations. *Ecotoxicology* 11(4): 233-241 PMID:12211696.

17.) Wickliffe JK, Lee VH, Smith E, Tandler B, Phillips CJ. 2002. Gene expression, cell localization, and evolution of rodent submandibular gland androgen-binding protein. *European Journal of Morphology* 40(4):257-260 PMID:14566605.

2003

18.) Wickliffe JK, Chizhevsky I, Rodgers BE, O'Neill MB, Dunina-Barkovskaya YV, Baker RJ. 2003. Identifying voucher specimens involving risk: shrews from Chornobyl, Ukraine. *Journal of Mammalogy* 84(1):117-122.

19.) Wickliffe JK, Rodgers BE, Chesser RK, Phillips CJ, Gaschak SP, Baker RJ. 2003. Mitochondrial DNA heteroplasmy in laboratory mice experimentally enclosed in the radioactive Chornobyl environment. *Radiation Research* 159:458-464 PMID:12643790.

20.) Wickliffe JK, Hoffmann FG, Carroll DS, Dunina-Barkovskaya YV, Bradley RD, Baker RJ. 2003. PCR and sequencing primers for intron 7 of the fibrinogen, B beta polypeptide (*Fgb*) in mammals: a novel nuclear DNA phylogenetic marker. *Occasional Papers Museum of Texas Tech University* 219:1-6 (OP-219).

21.) Bickham JW, Matson CW, Islamzadey A, Rowe GT, Donnelly KC, Swartz CD, Rogers WJ, Autenrieth RL, McDonald TJ, Politov D, Palatnikov G, Mekhtiev AA, Kasimov R. 2003. The unknown environmental tragedy in Sumgayit, Azerbaijan. *Ecotoxicology* 12:505-508 PMID:14680331.

22.) Swartz CD, Donnelly KC, Islamzadey A, Rowe GT, Rogers WJ, Palatnikov GM, Kasimov R, McDonald TJ, Wickliffe JK, Bickham JW. 2003. Chemical contaminants and their effects in fish and wildlife from the industrial zone of Sumgayit, Republic of Azerbaijan. *Ecotoxicology* 12:509-521 PMID:14680332.

23.) Wickliffe JK, Bickham AM, Rodgers BE, Chesser RK, Gaschak SP, Chizhevsky I, Goryana JA, Phillips CJ, Baker RJ. 2003. Exposure to chronic, low-dose rate radiation at Chornobyl does not induce point mutations in Big Blue® mice. *Environmental and Molecular Mutagenesis* 42(1):11-18 PMID:12874808.

24.) Wickliffe JK, Ammenheuser MM, Salazar JJ, Abdel-Rahman SZ, Hastings-Smith DA, Postlethwait EM, Lloyd RS, Ward JB Jr. 2003. A model of sensitivity: 1,3-butadiene increases mutant frequencies and genomic damage in mice lacking microsomal epoxide hydrolase activity. *Environmental and Molecular Mutagenesis* 42(2):106-110 PMID:12929123.

25.) Wickliffe JK, Rodgers BE, Chesser RK, Phillips CJ, Gaschak SP, Baker RJ. 2003. Letter to the editor: response to Dubrova. *Radiation Research* 160(5):611-612.

2004

26.) Chesser RK, Bondarkov M, Baker RJ, Wickliffe JK, Rodgers BE. 2004. Reconstruction of radioactive plume characteristics along Chernobyl's Western trace. *Journal of Environmental Radioactivity* 71(2):147-157 PMID:14748353.

27.) Conway WC, Wickliffe JK, Hoffmann FG, Baker RJ, Smith LM. 2004. An improved PCR-based method for gender identification in birds. *Occasional Papers Museum of Texas Tech University* 239:1-7 (OP-239).

2005

28.) Abdel-Rahman SZ, Ammenheuser MM, Omiecinski CJ, Wickliffe JK, Rosenblatt JI, Ward JB Jr. 2005. Variability in human sensitivity to 1,3-butadiene: influence of polymorphisms in the 5'-flanking region of the microsomal epoxide hydrolase gene (*EPHX1*). *Toxicological Sciences* 85(1):624-631 PMID:15716486.

29.) Hill CE, Wickliffe JK, Wolfe KJ, Kinslow CJ, Lopez MS, Abdel-Rahman SZ. 2005. The L84F and the I143V polymorphisms in the O6-methylguanine-DNA-methyltransferase (MGMT) gene increase human sensitivity to the genotoxic effects of the tobacco-specific nitrosamine carcinogen NNK. *Pharmacogenetics and Genomics* 15(8):571-578 PMID:16007001.

30.) Baker AR, Loughlin TR, Burkanov V, Matson CW, Trujillo RG, Calkins DG, Wickliffe JK, Bickham JW. 2005. Variation of mitochondrial control region sequences of Steller sea lions, Eumetopias jubatus: the three-stock hypothesis. *Journal of Mammalogy* 86(6):1075-1084.

2006

31.) Wickliffe JK, Galbert LA, Ammenheuser MM, Herring SM, Xie J, Masters OE, Lloyd RS, Ward JB Jr. 2006. 3,4-epoxy-1-butene, a reactive metabolite of 1,3-butadiene, induces somatic mutations in *Xpc*-null mice. *Environmental and Molecular Mutagenesis* 47(1):67-70 PMID:16094661.

32.) Wickliffe JK, Dunina-Barkovskaya YV, Gaschak SP, Rodgers BE, Chesser RK, Bondarkov M, Baker RJ. 2006. Variation in mitochondrial DNA control region haplotypes in populations of the bank vole, *Clethrionomys glareolus*, living in the Chornobyl environment. *Environmental Toxicology and Chemistry* 25(2):503-508 PMID:16519312.

33.) Sudman PD, Wickliffe JK, Horner P, Smolen MJ, Bickham JW, Bradley RD. 2006. Molecular systematics of pocket gophers of the genus *Geomys*. *Journal of Mammalogy* 87:668-676.

2007

34.) Meeks HN, Wickliffe JK, Hoofer SR, Chesser RK, Rodgers BE, Baker RJ. 2007. Mitochondrial control region variation in bank voles (*Clethrionomys glareolus*) is not related to Chernobyl radiation. *Environmental Toxicology and Chemistry* 26(2):361-369 PMID:17713225.

35.) Wickliffe JK, Herring SM, Galbert LA, Hallberg LM, Ammenheuser MM, Masters OE, Xie J, Friedberg EC, Lloyd RS, Ward JB Jr. 2007. Detoxification of olefinic epoxides and nucleotide excision repair of epoxide-mediated DNA damage: insights from animal models examining human sensitivity to 1,3-butadiene. *Chemico-Biological Interactions* 166:226-231 PMID:16730686.

36.) Hoofer SR, Gaschak SP, Dunina-Barkovskaya Y, Makluk J, Meeks HN, Wickliffe JK, Baker RJ. 2007. New information for systematics, taxonomy, and phylogeography of the rodent genus, Apodemus (Sylvaemus) in Ukraine. *Journal of Mammalogy* 88(2):330-342.

37.) Hill CE, Wickliffe JK, Guerin AT, Kinslow CJ, Wolfe KJ, Ammenheuser MM, Abdel-Rahman SZ. 2007. The L84F polymorphism in the O6-Methylguanine-DNA-Methyltransferase (MGMT)

gene is associated with increased hypoxanthine phosphoribosyltransferase (HPRT) mutant frequency in lymphocytes of tobacco smokers. *Pharmacogenetics and Genomics* 17(9):743-753 PMID:17700363.

38.) Wolfe KJ, Wickliffe JK, Hill CE, Ammenheuser MM, Abdel-Rahman SZ. 2007. Single nucleotide polymorphisms of the DNA repair gene *XPD*/*ERCC2* alter mRNA expression. *Pharmacogenetics and Genomics* 17:897-905 PMID:18075460.

39.) Goggin M, Loeber R, Park S, Walker V, Wickliffe J, Tretyakova N. 2007. HPLC-ESI+-MS/MS analysis of N7-Guanine-N7-Guanine DNA cross-links in tissues of mice exposed to 1,3-butadiene. *Chemical Research in Toxicology* 20(5):839-847 PMID:17455958.

2008

40.) Kinslow CJ, El-Zein RA, Hill CE, Wickliffe JK, Abdel-Rahman SZ. 2008. Single nucleotide polymorphisms 5' upstream of the coding region of the *NEIL2* gene influence gene transcription levels and alter levels of genetic damage. *Genes, Chromosomes and Cancer* 47(11):923-932 PMID:18651651.

2009

41.) Wickliffe JK, Ammenheuser MM, Adler PJ, Abdel-Rahman SZ, Ward JB Jr. 2009. Evaluation of frequencies of *HPRT* mutant lymphocytes in butadiene polymer workers in a Southeast Texas facility. *Environmental and Molecular Mutagenesis* 50(2):82-87 PMID:19107895.

42.) Kinslow CJ, El-Zein RA, Rondelli CM, Hill CE, Wickliffe JK, Abdel-Rahman SZ. 2009. Regulatory regions responsive to oxidative stress in the promoter of the human DNA glycosylase gene *NEIL2. Mutagenesis* 25(2):171-177 PMID:19945985.

2010

43.) Rondelli CM, El-Zein RA, Wickliffe JK, Etzel CJ, Abdel-Rahman SZ. 2010. A comprehensive haplotype analysis of the XPC genomic sequence reveals a cluster of genetic variants associated with sensitivity to tobacco-smoke mutagens. *Toxicological Sciences* 115:41-50 PMID:20106949.

44.) Kietthubthew S, Wickliffe JK, Sriplung H, Takafumi I, Chonmaitree T, Au W. 2010. Association of polymorphisms in proinflammatory cytokine genes with the development of oral cancer in Southern Thailand. *International Journal of Hygiene and Environmental Health* 213:146-152 PMID:20133197.

2011

45.) Wickliffe JK, Abdel-Rahman SZ, Lee C, Sood G, Grady JJ, Desnick RJ, Anderson KE. 2010. *CYP1A2* *1F and *GSTM1* polymorphisms are associated with susceptibility to porphyria cutanea tarda. *Molecular Medicine* 17(3-4):241-247 PMID 20957336.

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Simon BR, Wilson MJ, Wickliffe JK. hTERT-Immortalized Renal Proximal Tubule Epithelial Cells: Characterizing a Model System for Testing the Role of Cadmium and Benzo[a]pyrene in the Development of Renal Cancer. *Environmental Mutagenesis and Genomics Society-Poster*

Wickliffe JK. Ecosystem Impacts from Nuclear Energy: Lessons from Chernobyl and Fukushima. Organized session at 13th National Conference on Science, Policy and the Environment. Focus on environmental disasters. Recruited guest speakers and organized session.

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Simon BR, Wilson MJ, Blake DA, Yu H, Wickliffe JK. hTERT-Immortalized Renal Proximal Tubule Epithelial Cells: Characterizing a Model System for Testing the Role of Cadmium and Benzo[a]pyrene in the development of Renal Cancer. *Society of Toxicology-Poster*

Simon BR, Wilson MJ, Blake DA, Yu H, Wickliffe JK. Characterizing a Novel Human Renal Proximal Tubule Cell Line as a Model System to Test the Role of Cadmium and Benzo[a]pyrene in the Development of Renal Cancer. *Louisiana Cancer Research Consortium Retreat-Poster presentation*

Simon BR, Wilson MJ, Blake DA, Yu H, Wickliffe JK. Characterizing a Novel Human Renal Proximal Tubule Cell Line as a Model System to Test the Role of Cadmium and Benzo[a]pyrene in the Development of Renal Cancer. *Tulane University Health Sciences Research Days-Poster presentation*

Howard JL, Wilson MJ, Nguyen D, Moller KM, Stock T, Gauthe D, Overton EB, Harville E, Wickliffe JK. Assessing Personalized Exposures of Importance: Paired Indoor/Outdoor Air Sampling and Seafood Analyses in Southeast Louisiana. *Tulane University Health Sciences Research Days-Poster presentation*

Howard JL, Wilson MJ, Nguyen D, Moller KM, Stock T, Gauthe D, Overton EB, Harville E, Wickliffe JK. Assessing Personalized Exposures of Importance: Paired Indoor/Outdoor Air Sampling and Seafood Analyses in Southeast Louisiana. *Tulane University Delta Omega Chapter of Public Health-Poster presentation*

Howard JL, Wilson MJ, Nguyen D, Moller KM, Stock T, Gauthe D, Overton EB, Harville E, Wickliffe JK. Assessing Personalized Exposures of Importance: Paired Indoor/Outdoor Air Sampling and Seafood Analyses in Southeast Louisiana. *Gulf of Mexico Oil Spill & Ecosystem Science Conference-Poster presentation*

Wilson MJ, Simon BR, Dertinger SD, Torous DK, Avlasevich SL, Wickliffe JK. Does Diet-Induced Obesity Act as a Weak Mutagen? *Environmental Mutagenesis and Genomics Society-Poster Presentation and EGT-SIG Invited Platform Presentation*.

Howard JL, Wilson MJ, Nguyen D, Moller KM, Stock T, Gauthe D, Overton EB, Harville E, Wickliffe JK. Assessing Personalized Exposures of Importance: Paired Indoor/Outdoor Air Sampling and Seafood Analyses in Southeast Louisiana. *American Public Health Association-Poster presentation*

Moller KM, Carter B, Nguyen D, Wilson MJ, Wickliffe JK. Soil analysis of urban farms in New Orleans, LA. *American Public Health Association-Poster presentation*

Moller KM, Carter B, Nguyen D, Wilson MJ, Wickliffe JK. Soil analysis of urban farms in New Orleans, LA. *Tulane University Health Sciences Research Days-Poster presentation*

Moller KM, Carter B, Nguyen D, Wilson MJ, Wickliffe JK. Soil analysis of urban farms in New Orleans, LA. *Tulane University Delta Omega Chapter of Public Health-Poster presentation*

2015

Howard J, Wickliffe JK. Community-based participatory research in southeast Louisiana: challenges in determining air- and food-borne exposures in low-income participants. *Gulf of Mexico Oil Spill & Ecosystem Science Conference-Platform presentation*

Wickliffe JK. Developing respectful community-academic relationships fosters more effective risk (and science) communication. *NIEHS Partnerships for Environmental Public Health* ***Invited Webinar****-Risk Communication: Addressing the Needs of Your Community*

Wahid FA, Hawkins WB, Wilson MJ, Wickliffe JK, van Sauers A, Lichtveld MY. Pesticide contamination of produce and medicinal plants in Suriname: an emerging environmental health threat. *Consortium of Universities for Global Health-Poster presentation*

Wickliffe J, Bemis J, Hallberg L. Exposure to diesel exhaust from a 2007-compliant engine does not increase genotoxicity or oxidative stress in blood, lung, or brain tissue of rats. *Environmental Mutagen and Genomics Society-****Invited*** *Platform presentation*

Wickliffe J. All Hands Symposium-The Deepwater Horizon Oil Spill: Progress in the Last Five Years. *Environmental Mutagen and Genomics Society-Session Co-Organizer*, Recruited 5 speakers to give platform presentations

2016

Simon-Friedt BR, Williams A, Favre J, Wilson MJ, Overton EB, Adhikari P, Wickliffe JK. Transcriptional upregulation of *CYP1A1* and *CYP1B1* by alkylated polycyclic aromatic hydrocarbons found in crude oil in the human RPTEC/TERT1 cell line. *Gulf of Mexico Oil Spill & Ecosystem Science Conference-Poster presentation*

Simon-Friedt BR, Howard JL, Wilson MJ, Frahm E, Gauthe D, Bogen D, Nguyen D, Wickliffe JK. Self-reported perceptions regarding seafood safety and consumption in southeast Louisiana following the Deepwater Horizon Accident. *Gulf of Mexico Oil Spill & Ecosystem Science Conference-Platform presentation*

Harville E, Shankar A, Jacobs M, Wickliffe J. Cumulative risk and adverse birth outcomes: the Gulf Resilience on Women's Health study. *Society of Toxicology-****Invited*** *Platform presentation* (Wickliffe speaker).

Wickliffe JK, Overton EB, Wilson MJ, Howard J, Frahm E, Simon-Friedt B, Gauthe D, Bogen D, Nguyen D. Human health risk assessments regarding consumption of fish and shellfish from the northern Gulf of Mexico following the Deepwater Horizon accident: Results across three academic research consortia. *Society of Toxicology-****Invited*** *Platform presentation*.

Wickliffe J, Nguyen D, Wilson M, Simon-Friedt B, Howard J, Frickel S. Polycyclic aromatic hydrocarbons in white shrimp following the Deepwater Horizon accident: Community-based science from southeast Louisiana. *Society of Toxicology and Environmental Chemistry-****Invited*** *Platform presentation*.

Asare Y, Mans D, Wickliffe J. The effects of Surinamese nutraceutical and medicinal plant extracts on scratch wound healing of endothelial cells. *Society of Toxicology-Poster presentation*.

Simon-Friedt B, Wilson M, Overton EB, Adhikari P, Wickliffe J. Transcriptional upregulation of *CYP1A1* and *CYP1B1* by alkylated polycyclic aromatic hydrocarbons found in crude oil in the human RPTEC/TERT1 cell line. *Society of Toxicology-Poster presentation* (Wickliffe presenter).

2017

Wickliffe J, Perrault L, Covert H, Lichtveld M. Emerging scholars environmental health sciences academies and teacher workshops. *The National Council for Science and the Environment-****Invited*** *Platform presentation*.

Lichtler R, Wilson M, Wickliffe J. Impact of diet-induced obesity on cytochrome P450 2e1 activity in mouse liver. *Tulane University Health Sciences Research Days-Poster presentation*

Lichtler R, Wilson M, Wickliffe J. Impact of diet-induced obesity on cytochrome P450 2e1 activity in mouse liver. *Louisiana Cancer Research Consortium Annual Retreat-Poster presentation*

Lichtler R, Wilson M, Wickliffe J. Impact of diet-induced obesity on cytochrome P450 2e1 activity in mouse liver. *Tulane University Delta Omega Chapter of Public Health-Poster presentation*

2018

Lichtler R, Wilson M, Wickliffe J. Does obesity increase sensitivity to chemical mutagens? Initial characterization of a diet-induced obese mouse model. *Tulane University Health Sciences Research Days-Poster presentation (Winner Best Poster by a Public Health Doctoral Student)*

Wickliffe JK, Simon-Friedt BR, Wilson MJ, Howard JL, Frahm E, Nguyen D, Gauthe D, Meyer B, Pangeni D, Overton EB. "Farming" seafood following a marine oil spill: Seafood safety and perspectives from harvesters, consumers, and public health scientists. *American Chemical Society Annual Meeting-**Invited** Platform presentation*

Wickliffe JK, Landburg G, Hawkins W, Lichtveld MY, Zijlmans W, MacDonald S, Harville E, Ouboter P. Mercury levels in women and children from Suriname. *Consortium of Universities for Global Health Annual Meeting-**Invited** Platform presentation*

Lichtler RC, LeBlanc A, Wilson MJ, Meyer BM, Pangeni D, Overton EB, Wickliffe JK. Transcriptional responses to polycyclic aromatic hydrocarbons found in crude oil in murine lung and liver cell lines. *Gulf of Mexico Oil Spill and Ecosystem Science Annual Conference-Poster presentation*

Lichtler RC, LeBlanc A, Wilson MJ, Meyer BM, Pangeni D, Overton EB, Wickliffe JK. Transcriptional responses to polycyclic aromatic hydrocarbons found in crude oil in murine lung and liver cell lines. *Society of Toxicology Annual Conference-Poster presentation*

Lichtler RC, LeBlanc A, Wilson MJ, Meyer BM, Pangeni D, Overton EB, Wickliffe JK. Transcriptional responses to polycyclic aromatic hydrocarbons found in crude oil in murine lung and liver cell lines. *Environmental Mutagenesis and Genomics Society Conference-Poster presentation*

Lichtler RC, Wilson MJ, Wickliffe JK. Diet-induced obesity impacts genomic integrity. *Environmental Mutagenesis and Genomics Society Conference-Invited Platform presentation*

Wickliffe JK Lichtler RC, Wilson MJ. Diet-induced obesity impacts genomic integrity. *1st Annual Southern Genome Maintenance Conference-**Invited** Platform presentation*

2019

Wickliffe J, Wilson M, Lichtler R. Transcriptional responses to polycyclic aromatic hydrocarbons found in crude oil in murine lung and liver cell lines. *Gulf of Mexico Oil Spill and Ecosystem Science Annual Conference-Platform presentation*

Abdoel Wahid F, Hindori-Mohangoo AD, Wilson M, Wickliffe J, Zijlmans CWR, Lichtveld M. Social determinants and dietary exposure to pesticides in tannia in pregnant Surinamese women. *Consortium of Universities for Global Health-Poster presentation*

Ouboter P, Landburg G, Lichtveld M, Zijlmans W, Harville E, Drury S, Wickliffe J. Mercury levels in hair from pregnant women in Suriname, South America, including sources of exposure. *Consortium of Universities for Global Health-Poster presentation*

Sewberath Misser VH, Wickliffe J, Shankar A, Lichtveld MY, Mans DRA. A pharmaco-epidemiologic approach to link medication use with environmental contaminant exposure. *Consortium of Universities for Global Health-Poster presentation*

Soares L, Ouboter P, Abdoel Wahid F, Hindori-Mohangoo A, MacDonald-Ottevanger S, Zijlmans C, Lichtveld M, Wickliffe J. Fish consumption patterns among pregnant women in the CCREOH cohort and fatty acid profiles in select freshwater and marine species of fish in Suriname. *The Caribbean Public Health Agency*

Alcala C. Zijlmans C, Lichtveld M, Abdoel Wahid F, MacDonald-Ottevanger S, Muller A, Wickliffe J. Urinary pesticide metabolite concentrations in pregnant women from Suriname. *The Caribbean Public Health Agency*

Wickliffe J, Lichtveld M, Ouboter P, Landburg G, MacDonald-Ottevanger S, Zijlmans C. Sources and concentrations of mercury and methylmercury in pregnant women from Suriname: Implications for public health. *The Caribbean Public Health Agency*

REFERENCES:

Dr. Maureen Y. Lichtveld, Professor and Chair
Department of Global Environmental Health Sciences
Tulane University
New Orleans, LA 70112
504-988-7904
mlichtve@tulane.edu

Dr. Charles Miller III, Professor
Department of Global Environmental Health Sciences
Tulane University
New Orleans, LA 70112
504-988-9061
rellim@tulane.edu

Dr. Sherif Z. Abdel-Rahman, Associate Professor
Department of Preventive Medicine and Community Health
University of Texas Medical Branch
Galveston, TX 77555-1110
409-772-1803
sabdelra@utmb.edu

From:	Marc Rumpler
To:	Knott, Steven
Subject:	US EPA SACC Committee
Date:	Wednesday, April 15, 2020 12:05:21 PM
Attachments:	image001.png RumplerMJ_CV_SACC.pdf Interests and Biographical Sketch_SACC.pdf Letter of Interest_SACC.pdf

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Good Morning,

I would like to submit a nomination for the US EPA SACC committee.

I believe I have attached the necessary information for consideration. Should you require anything additional, please let me know.

Best Regards,

Marc

Marc J Rumpler, MSc, PhD,
NRCC (TC,CC), DLM(ASCP)^{CM}SC^{CM}
Director, Environmental Laboratories
Division of Laboratory Services
R.S. Gass Building, 7th Floor
630 Hart Lane, Nashville, TN 37216
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MARC J. RUMPLER, M.S., PH.D.

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630 Hart Lane
Nashville, TN 37216

E-mail: mrumpler@outlook.com;
marc.rumpler@tn.gov

Office: 615.262.6302

Mobile: (b) (6)

DISCIPLINE & CURRENT INTERESTS

Toxicology
Human Health Assessment
Risk Assessment
Pharmacokinetic Modeling
Chemical Exposure Monitoring
Environmental Exposure Monitoring

BIOGRAPHICAL SKETCH

Dr. Rumpler is an experienced scientist board certified in chemistry and toxicology. He obtained his bachelor's degree in toxicology at Northeastern University at the Bouve College of Pharmacy. After five years practicing as a bench level chemist, he pursued his master's and doctorate degrees in toxicological sciences at the University of Florida where he studied drug pharmacokinetics and toxicity. Currently, Dr. Rumpler is the Division Director for Environmental Chemistry at the State of TN Public Health Laboratory where they perform analysis to understand environmental and biological monitoring of chemicals and substances.

Marc Rumpler, Ph.D.
630 Hart Lane
Nashville, TN 37216
April 15, 2020

Mr. Knott,

I am writing to express my interest in serving on the Science Advisory Committee on Chemicals (SACC) for the US Environmental Protection Agency. I believe that I can meet the duties and responsibilities in the committee's charter as a representative with subject matter expertise in the areas of toxicology, public health, environmental exposure and PBPK modeling as they relate to chemical risk assessments.

In my current role, I am the Division Director for the Environmental Chemistry Public Health Laboratories in the Tennessee Department of Health. The Environmental Division consists of five distinct areas that include radiochemistry, chemistry (inorganic, organic, heavy metals), environmental microbiology, aquatic biology and chemical terrorism. As the Director and lead toxicologist for these sections I am routinely engaged in environmental monitoring, exposure monitoring and biological monitoring of chemicals and contaminants.

With my previous work experience in analytical chemistry and toxicology, pharmacokinetic evaluations and risk assessments I am able review toxicity information, identify toxicity data gaps, analyze structure-activity relationships to potentially toxic chemicals and prepare health assessment reports. I also have interests and previous experience in biostatistics, pharmacology, and toxicologic pathology. My board certifications emphasize expertise in clinical chemistry and toxicology.

In closing, I have education and experience that may be directly beneficial to aid the SACCs mission and purpose. Additionally, I'm confident that involvement and membership to the committee would also benefit my professional development, networking and opportunities. If you agree my experience and qualifications to be beneficial to the committee, I hope to find an opportunity to serve.

Please review the included materials and I look forward to hearing from you.

Sincerely,

Marc Rumpler, Ph.D.

MARC J. RUMPLER, M.S., PH.D.

Work Address:
630 Hart Lane
Nashville, TN 37216

E-mail: mrumpler@outlook.com;
marc.rumpler@tn.gov

Office: 615.262.6302

Mobile: (b) (6)

EDUCATION

University of Florida 2012-2013
Department of Pathology, Immunology & Laboratory Medicine
College of Medicine
Postdoctoral Fellow in Toxicology

University of Florida 2008-2012
Department of Physiological Sciences
College of Veterinary Medicine
Doctor of Philosophy (Toxicology)
Dissertation: "The Pharmacokinetics and Pharmacodynamics of Glycopyrrolate in the Horse"

University of Florida 2006-2008
Department of Physiological Sciences
College of Veterinary Medicine
Master of Science (Toxicology)

Northeastern University 1996-2001
Bouvé College of Health Sciences
Bachelor of Science (Toxicology)
Areas of concentration: Environmental

INDEPENDENT BOARD CERTIFICATIONS

Toxicological Chemist (TC) 7/2012
National Registry of Certified Chemists (NRCC) (Registrant No: 3840)

Clinical Chemist (CC) 10/2018
National Registry of Certified Chemists (NRCC) (Registrant No: 4578)

Specialist in Chemistry (SC)
American Society for Clinical Pathology (ASCP) (Certificate # 1846) 11/2019

LICENSURE

Tennessee
Clinical Laboratory Director 4/2014
State of Tennessee, Department of Health
Medical Laboratory Board, (No. 23706)
Subspecialties: Toxicology, Clinical Chemistry

AWARDS & HONORS

Post-doctoral Engagement Award 4/2013
Department of Pathology, Immunology and Laboratory Medicine
UF College of Medicine

Excellence in Doctoral Studies 3/2012
UF College of Veterinary Medicine Graduate School

Science Program for Excellence in Science Award 12/2011
American Academy for the Advancement of Science

Best Graduate Presentation 2/2010
Phi-Zeta Day, UF College of Veterinary Medicine

UF CVM Veterinary Graduate Association Travel Grant 2/2010

UF Graduate School Travel Grant 1/2010

Travel and Attendance Grant (Toxicology Symposium) 10/2004
Federal Bureau of Investigation / Department of Justice

TEACHING EXPERIENCE

University of Florida, College of Arts and Sciences, Department of Chemistry Fall/2011
Teaching Assistant – Instrumental Analysis Lab
Assisted undergraduate students with laboratory procedures.

University of Florida, College of Veterinary Medicine, Large Animal Clinical Sciences Spring/2012
Teaching Assistant – Aquatic Animal Toxicology
Oversaw a weekly journal club with veterinary and graduate students
and administered all grades.

University of Florida, College of Veterinary Medicine, Large Animal Clinical Sciences Spring/2012
Lecturer – Aquatic Animal Clerkship
Provided seminars in the area of aquatic toxicology to veterinary students.

PROFESSIONAL EXPERIENCE

Laboratory Division Director 11/2019-Present
Environmental Chemistry
Public Health Laboratories
State of Tennessee Department of Health
Nashville, TN

Toxicology Consultant 8/2012-Present
Allied Analytical Associates, PC
Franklin, TN

- Toxicology
- Environmental Risk Assessment
- Chemical Contamination
- Pharmacokinetic Evaluations
- Risk Assessment
- Exposure Monitoring
- Biomonitoring

Toxicology Fellow 5/2012-7/2013
Department of Pathology, Immunology and Laboratory Medicine
College of Medicine, University of Florida

Research Scientist, Graduate Assistant 8/2008-5/2012
Drug Metabolism and Pharmacokinetics
Department of Physiological Sciences
College of Veterinary Medicine, University of Florida

Supervisor – Characterization Laboratory (2006-2008) 4/2004-8/2008
Analytical Scientist II (2004-2006)
Daystar Technologies, Inc.
Halfmoon, New York

Research Scientist I 8/2001-4/2004
Analytical Chemistry Department
Albany Molecular Research, Inc.
Albany, New York

Toxicologist 5/2000-6/2001
Forensic Toxicology Laboratory
University of Massachusetts Medical Center
Worcester, Massachusetts

PUBLICATIONS AND PAPERS

Journal Articles (refereed)

1. **Rumpler, M.J.**, Sams, RA., Colahan, P. (2011) Pharmacokinetics of glycopyrrolate following intravenous administration in the horse. *Journal of Veterinary Pharmacology and Therapeutics*. 34(6); 605-608.
2. **Rumpler, M.J.**, Sams, RA., Colahan, P. (2012) Regulatory control of glycopyrrolate in horses using validated UHPLC/MS-MS methods. *Journal of Chromatography B*. 889-890; 130-137.
3. **Rumpler, M.J**., Kandala, B., Vickroy, T., Hochhaus, G., Sams, R.A. (2013) Pharmacokinetics and pharmacodynamics of glycopyrrolate following a continuous rate infusion in the horse. *Journal of Veterinary Pharmacology and Therapeutics*. Apr; 37(2): 133-44.
4. **Rumpler, M.J**., Sams, RA., Colahan, P. (2013) The pharmacokinetics of methocarbamol and guaifenesin after single intravenous and multiple dose oral administration in the horse using a validated stable isotope dilution LC/MS/MS method. *Journal of Veterinary Pharmacology and Therapeutics*. Feb; 37(1): 25-34.
5. **Rumpler, M.J**., Sams, RA., Colahan, P. (2013) The pharmacokinetics of glycopyrrolate in Standardbred horses. *Journal of Veterinary Pharmacology and Therapeutics*. Jun; 37(3): 260-8
6. **Rumpler, M.J**. (2014) Quantitative analysis of 11-nor-9-carboxy-tetrahydrocannbinol (THC-COOH) in urine by LC-MS/MS following a simple filtration. *Journal of Chromatography B*. Apr 15; 957: 77-83

PRESENTATIONS

1. **Rumpler, M.J.** *Regulatory control of glycopyrrolate in the horse*. Physiological Sciences Seminar, College of Veterinary Medicine, University of Florida, 10/2010.
2. **Rumpler, M.J.** *The pharmacokinetics and pharmacodynamics of glycopyrrolate following a continuous rate infusion in the horse*. Physiological Sciences Seminar, College of Veterinary Medicine, University of Florida, 1/2012.
3. **Rumpler, M.J.** The toxicology of marine mammals. Aquatic Animal Clerkship, College of Veterinary Medicine, University of Florida. 3/2012.

4. **Rumpler, M.J.** *The pharmacokinetics and pharmacodynamics of glycopyrrolate in horses*. College of Veterinary Medicine, 4/2012.
5. Sams, R.A., **Rumpler, M.J.** *Comparative pharmacokinetics of glycopyrrolate in Thoroughbred and Standardbred horses*. Association of Official Racing Chemists, Windsor, United Kingdom, 9/2013.

Posters

1. **Rumpler, M.J.**, Colahan, P., Sams, R.A. *The pharmacokinetics of glycopyrrolate in Thoroughbred horse*s. Graduate Research Day, University of Florida, 9/2010
2. **Rumpler, M.J**., Sams, R.A. *Comparative pharmacokinetics for glycopyrrolate between Standardbred and Thoroughbred horses*. College of Pharmacy, University of Florida, 1/2011
3. **Rumpler, M.J.**, Colahan, P., Sams, R.A. *The pharmacokinetics of firocoxib following a multiple dose oral administration in horses*. International Conference of Racing Analysts and Veterinarians, Philadelphia, Pennsylvania, 9/2012.
4. **Rumpler, M.J.**, Garrett, T.J., Goldberger, B. *Method development and validation for forty-one drugs for clinical toxicology and pain management analysis*. Postdoctoral Research Day, UF College of Medicine, 3/2013.

SERVICE

Laboratory Inspections

College of American Pathologists (CAP)

Ameritox Laboratories, Greensboro, NC (Lead Inspector, April 2015)
NYS Medical Examiner's Office of Genetic Testing, NYC (Lead Inspector, May 2017)
Innovative Diagnostic Solutions, Richmond, VA (Lead Inspector, April 2018)
Wake Forest North Carolina Baptist Hospital, Winston-Salem, NC (Team Member, March 2019)
Baylor Miraca Genetics Laboratory, Houston, TX (Team Member, April 2019)
Indiana University Health System Pathology Laboratories, Indianapolis, IN (Team Member, April 2019)
Pikeville Medical Center, Pikeville, KY (Team Member, August 2019)
Memphis VA Medical Center, Memphis, TN (Team Member, September 2019)
Access DX, Houston, TX (Team Leader, January 2020)

Committees

University of Florida Veterinary Graduate Student Organization (Vice President), 2009-2010
National Science Foundation UF I-Cubed – Graduate Student Advisory Committee - Member (GSAC), 2010-2012
National Science Foundation UF I-Cubed – Ethics Advisory Sub-committee, 2011-2012
SOFT Annual Meeting Organizing Committee (Orlando, FL), 2013
Clinical and Laboratory Standards Institute (CLSI)

- EP 40 Document Development Committee on Sample and Reagent Carryover – Member/Author, 12/2019-Present

Association of Public health Laboratories (APHL)

- Citizen Science Committee – Member, 03/2020-Present

Mentoring

Gator Launch Mentoring Program, 8/2012-present

Mentor for underrepresented 2nd and 3rd yr UF students in the STEM fields

Mentee - Marc Evenst Jn Jacques (8/2012 – 5/2013)

Mentee – Savannah Wheless (9/2013 – 5/2014)

Ad-Hoc Reviewer

Journal of Analytical Toxicology, 2011-present

Journal of Veterinary Pharmacology and Therapeutics, 2013-present

Journal of Toxicology, 2015-present

SCIENTIFIC & PROFESSIONAL SOCIETIES

Association of Public Health Laboratories (AHPL)

Member

American Society for Mass Spectrometry (ASMS)

Full Member

American Association for the Advancement of Science (AAAS)

Full Member

Society of Toxicology (SOT)

Professional Member

CURRICULUM VITAE

Charles V. Vorhees, Ph.D.

Department of Pediatrics
College of Medicine
University of Cincinnati

and

Division of Neurology (MLC 7044)
Cincinnati Children's Research Foundation
Cincinnati Children's Hospital Medical Center

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Children: (b) (6)

ORCID #0000-0003-3558-8812

CURRENT POSITION

Professor of Pediatrics and Environmental Health, University of Cincinnati College of Medicine and Division of Neurology, Cincinnati Children's Hospital Research Foundation (CCRF), Cincinnati Children's Hospital Medical Center (CCHMC)

Professor, Dept. of Pediatrics and Environmental Health, UC College of Medicine
Professor, Division of Neurology, CCRF, CCHMC
Program Director, Training Program in Teratology
Co-Director, Animal Behavior Core, CCRF
Faculty, Graduate Program in Neuroscience
Faculty, Graduate Program in Molecular and Developmental Biology
Faculty, MSTP Program (Medical-Scientist Training Program) (NIH T32)

EDUCATION

B.A. University of Cincinnati, 1971, Psychology/Biology (honors)
M.A. Vanderbilt University, 1973, Neurobiology
Ph.D. Vanderbilt University, 1976, Neurobiology
Post.D. Cincinnati Children's Research Foundation, 1978, Developmental Neurotoxicology

PROFESSIONAL EXPERIENCE

2015 - Editorial Board, ***Brain, Behavior and Immunity***
2018 - Editorial Board, ***Neurotoxicology***

2011 - 2014 Section Editor for Drugs, ***Neurotoxicology and Teratology***
2010 – date Member, Admissions Committee, Graduate Program in Neuroscience
2007 – date: Moved to Division of Pediatric Neurology from Developmental Biology
2004 – date Member, Executive Committee, Grad. Program in Mol. & Dev. Biology (MDB)
1996 - 2005: Editor-in-Chief, ***Neurotoxicology and Teratology***
1996 - 2008: Section Editor, ***Neurotoxicology and Teratology***
1998 - 2004: Program Director, MDB Graduate Program
1999 - 2001: Chair, CCRF Neurobiology Planning Committee
2000 - 2001: Co-Chair, UC Millennium Task Force for Neuroscience
1997 - 2001: Member, Natl. Research Council, Committee on Reprod. & Dev. Toxicology
1994 - 1998: Member, Neurophysiology and Neuroanatomy Study Section, NIH
1995 - 1998: Director of Graduate Studies, MDB Graduate Program
1994 - 1998: Director of Graduate Studies, Graduate Program in Neuroscience
1994 - 1997: Member, Steering Committee, Graduate Program in Neuroscience
1992 - 1995: Director of Admissions, MDB Graduate Program
1992 - date: Faculty, MSTP Program (M.D./Ph.D.)
1989 - date: Elected to All University Graduate Faculty
1988 - date: Faculty, the Graduate Program in Neuroscience
1988 - date: Professor, Department of Environmental Health
1988 - date: Professor, Department of Pediatrics
1984 - date: Tenured, Department of Pediatrics
1983 - date: Faculty, MDB Graduate Program
1982 - 1988: Associate Professor, Department of Pediatrics, Div. of Developmental Biology
1978 - 1982: Assistant Professor, Department of Pediatrics, Div. of Metabolic Diseases
1976 - 1978: Research Scholar, Div. of Metabolic Diseases, CCRF
1971 - 1976: Graduate Research Assistant, VA Med. Ctr., Nashville
1974 - 1976: Grad. Res. Asst., Tennessee Neuropsychiatric Institute
1971 - 1973: Graduate Teaching Assistant, Vanderbilt University
1969 – 1971: Research Assistant, CCRF

PUBLICATIONS (Peer Reviewed)

1970 (1)

1. Butcher, R., **Vorhees, C**. and Berry, H. (1970). A learning impairment associated with induced phenylketonuria. ***Life Sci.*****, 9**, 1261-1268.

1972 (3)

2. Butcher, R.E., **Vorhees, C.V**. and Kimmel, C.A. (1972). Learning impairment from maternal salicylate treatment in rats. ***Nature***, **236**, 211-212.
3. **Vorhees, C.V**., Butcher, R.E. and Berry, H.K. (1972). Reduced activity in rats with induced phenylketonuria. ***Dev. Psychobiol.***, **5**, 175-179.
4. Butcher, R.E., **Vorhees, C.V**., Kindt, C.W. and Keenan, W.J. (1972). An experimental evaluation of phototherapy for hyperbilirubinemia in the Gunn rat. ***Am. J. Dis. Child***., **123**, 576-578.

1974 (3)

5 Schaefer, G.J., Barrett, R.J., Sanders-Bush, E. and **Vorhees, C.V**. (1974). p-Chloroamphetamine: Evidence against a serotonin mediated learning deficit in PKU. ***Pharmacol. Biochem. Behav***., **2**, 783-789.
6. **Vorhees, C.V**. (1974). Some behavioral effects of maternal hypervitaminosis A in rats. ***Teratology***, **10**, 269-273.
7. Kimmel, C.A., Butcher, R.E., **Vorhees, C.V**. and Schumacher, H.J. (1974). Metal-salt potentiation of salicylate-induced teratogenesis and behavioral changes in rats. ***Teratology***, **10**, 293-300.

1975 (2)

8. **Vorhees, C.V**., Schaefer, G.J. and Barrett, R.J. (1975). p-Chloroamphetamine: Behavioral effects of reduced cerebral serotonin in rats. ***Pharmacol. Biochem. Behav***., **3**, 279-284.
9. **Vorhees, C.V**., Barrett, R.J. and Schenker, S. (1975). Increased muricide and decreased avoidance and discrimination learning in thiamine deficient rats. ***Life Sci***., **16**, 1187-1199.

1977 (3)

10. Butcher, R.E., **Vorhees, C.V**., Kindt, C.W., Kazmaier-Novak, K.J. and Berry, H.K. (1977). Induced PKU in rats: Effects of age and melatonin treatment. ***Pharmacol. Biochem. Behav***., **7**, 129-133.
11. Parker, T.H., Roberts, P.K., **Vorhees, C.V**., Schmidt, D.E. and Schenker, S. (1977). The effect of acute and subacute ammonia intoxication on regional cerebral acetylcholine levels in rats. ***Biochem. Med***., **18**, 235-244.
12. **Vorhees, C.V**., Schmidt, D.E., Barrett, R.J. and Schenker, S. (1977). Effects of thiamin deficiency on acetylcholine levels and utilization in vivo in rat brain. ***J. Nutr***., **107**, 1902-1908.

1978 (4)

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291. Gutierrez, A., Jablonski, S.A., Amos-Kroohs, R.M., Barnes, A.C., Williams, M.T., and Vorhees, C.V. (2017). Effects of housing on methamphetamine-induced neurotoxicity and spatial learning and memory. ***ACS Chem. Neurosci***., **8**, 1479-1489. PMID: 28287691
292. Jablonski, S.A., Williams, M.T., and **Vorhees, C.V**. (2017). Learning and memory effects of neonatal methamphetamine exposure in rats: Role of reactive oxygen species and age at assessment. ***Synapse***, **71**(11). PMID: 28686793
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297. Sprowles, J.L.N., Amos-Kroohs, R.M., Braun, A.A., Sugimoto, C., Skelton, M.R., **Vorhees, C.V**., and Williams, M.W. (2018). Developmental manganese, lead and barren cage exposure have adverse long-term neurocognitive, behavioral and monoamine effects in Sprague-Dawley Rats. ***Neurotoxicol. Teratol***., **67**, 50-64. PMID: 29631003
298. **Vorhees, C.V.**, Sprowles, J.N., Regan, S.L., and Williams, M.T. (2018). A better approach to in vivo developmental neurotoxicity assessment: Alignment of rodent testing with effects seen in children after neurotoxic exposures. ***Toxicol. Appl. Pharmacol***., **354**, 176-190. PMID: 29544898
299. **Vorhees, C.V.** (2018). A test of dietary monosodium glutamate (MSG) developmental neurotoxicity in rats: A reappraisal. ***Ann. Nutr. Metabol***., **73**, Suppl 5, 36-42.
300. Williams, M.T., Gutierrez, A., and **Vorhees, C.V**. (2019). Effects of acute exposure of permethrin in adult and developing Sprague-Dawley rats on acoustic startle response and brain and plasma concentrations. ***Toxicol. Sci***., **165**(2), 361-371. PMID: 29893952

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302. Amos-Kroohs, R.M., Usach, V., Piñero, G., **Vorhees, C.V**., Vivot, R.M., Soto, P.A., Williams, M.T., and Setton-Avruj, P. (2019). Metal bashing: Iron deficiency and manganese overexposure impact on peripheral nerves. ***J. Toxicol. Environ. Hlth, Part A: Current Issues***, **82**(2), 99-112. PMID: 30652531
303. Bailey, R.A., Gutierrez, A., Kyser, T.L., Hemmerle, A.M., Hufgard, J.R., Seroogy, K.B., **Vorhees, C.V**., and Williams, M.T. (2019). Effects of early manganese exposure with or without 6-hydroxydopamine treatment on monoamines, BDNF, TrkB, and cognitive function in rats. ***Neurotox. Res***., **35**(3), 606-620. PMID: 30612279
304. Jablonski, S.A., Williams, M.T., and **Vorhees, C.V**. (2019). Learning and memory effects of neonatal methamphetamine exposure in Sprague-Dawley rats: Test of the role of dopamine D1 receptors in mediating the long-term effects. ***Dev. Neurosci***., **41**(1-2):44-55. PMID: 31212274
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309. Regan, S.L., Hufgard, J.R., Pitzer, E.M., Sugimoto, C., Williams, M.T., and **Vorhees, C.V**. (2019). Knockout of brain-specific *Latrophilin-3* (*Lphn3*) in rats disrupts striatal dopamine resulting in hyperactivity, hyper-reactivity, and under-response to dopamine activation by amphetamine. ***Neurobiol. Dis.***, **130**, 104494. PMID: 31176715
310. Mann, E.A., Sugimoto, C., Williams, M.T., and **Vorhees, C.V**. (2019). Mouse knockout model of Guanylyl Cyclase-C: recognition memory deficits in the absence of hyperactivity. ***Genes Brain Behav.***, **18**(5): e12573. PMID: 30953414
311. Yermakov, L.M., Griggs, R.B., Drouet, D., Sugimoto, C., Williams, M.T., **Vorhees, C.V**., and Susuki, K. (2019). Impairment of cognitive flexibility in type 2 diabetic *db/db* mice. ***Behav. Brain Res***., **371**, 111978. PMID: 31141724

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312. Zoubovsky, S.P., Hoseus, S., Schulkin, J.O., Williams, M.T., **Vorhees, C.V**., Muglia, L.J. (2020). Chronic psychosocial stress during pregnancy affects maternal behavior and neuroendocrine function and modulates hypothalamic CRH and nuclear steroid receptor expression. ***Transl. Psychiatr***., (In press).
313. Williams, M.T., Amos-Kroohs, R.M., and **Vorhees, C.V**. (2020). Prolonged methamphetamine exposure during a critical period in neonatal Sprague-Dawley rats does not exacerbate egocentric and allocentric learning but increases reference memory impairment. ***Int. J. Dev. Neurosci***., (In press).

314. Tiwari, D., Schaefer, T.L., Schroeder-Carter, L.M., Krzeski, J.C., Bunk, A.T., Snider, A., Danzer, R., Williams, M.T., **Vorhees, C.V**., Danzer, S.C., and Gross, C. (2019). The potassium channel Kv4.2 regulates dendritic morphology, electroencephalographic characteristics and seizure susceptibility in mice. ***Exp. Neurol***., (Submitted).
315. Pitzer, E.M., Regan, S.L., Hufgard, J.R., Sugimoto, C., Williams, M.T., **Vorhees, C.V**. (2020). A novel role for the ADHD risk gene latrophilin-3 in learning and memory in Lphn3 knockout rats. ***J. Neurosci.*** (In prep).
316. Regan, S.L., Cryan, M.T., Williams, M.T., Vorhees, C.V., and Ross, A.E. (2020). Enhanced transient striatal dopamine release and reuptake in *Lphn3* KO rats. ***ACS Chem. Neurosci.*** (In press).
317. Atanasova, N.A., Williams, M.T., and Vorhees, C.V. (2020). Science-in-Practice in Neuroscience: Cincinnati water maze in the making. ***Studies Hist. and Phil., Part C***, (Submitted).

CHAPERS AND INVITED PAPERS

1984-present (24)

318. Butcher, R.E. and **Vorhees, C.V**. (1984). Behavioral testing in rodents given food additives. In: L.D. Stegink and L.J. Filer (Eds.), ***Aspartame: Advances in Biochemistry and Physiology*** (pp. 379-404). New York: Marcel Dekker.
319. **Vorhees, C.V**. (1986). Origins of behavioral teratology. In: E.P. Riley and **C.V. Vorhees** (Eds.), ***Handbook of Behavioral Teratology*** (pp. 3-22). New York: Plenum Press.
320. **Vorhees, C.V**. (1986). Principles of behavioral teratology. In: E.P. Riley and **C.V. Vorhees** (Eds.), ***Handbook of Behavioral Teratology*** (pp. 23-48). New York: Plenum Press.
321. **Vorhees, C.V**. (1986). Comparison and critique of government regulations for behavioral teratology. In: E.P. Riley and **C.V. Vorhees** (Eds.), ***Handbook of Behavioral Teratology*** (pp. 49-66). New York: Plenum Press.
322. **Vorhees, C.V**. (1986). Behavioral teratology of anticonvulsant and antianxiety medications. In: E.P. Riley and **C.V. Vorhees** (Eds.), ***Handbook of Behavioral Teratology*** (pp. 211-240). New York: Plenum Press.
323. **Vorhees, C.V**. (1987). Dependence on the stage of gestation: Prenatal drugs and offspring behavior as influenced by different periods of exposure in rats. In: T. Fujii and P.M. Adams (Eds.), *Functional Teratogenesis: Functional Effects on the Offspring after Parental Drug Exposure* (pp. 39-51). Tokyo: Teikyo University Press.
324. **Vorhees, C.V**. and Mollnow, E. (1987). Behavioral teratogenesis: Long-term influences on behavior from early exposure to environmental agents. In: J.D. Osofsky (Ed.), ***Handbook of Infant Development,*** Second Edition (pp. 913-971). New York: John Wiley & Sons, Inc.
325. **Vorhees, C.V**. (1990). Evaluation of behavioral effects. In R.D. Hood (Ed.), ***Developmental Toxicology:*** *Risk Assessment and the Future* (pp. 81-89). New York: Van Nostrand Reinhold.
326. **Vorhees, C.V**. (1992). Developmental neurotoxicology. In: H.A. Tilson and C.L. Mitchell (Eds.), ***Target Organ Toxicology Series: Neurotoxicology*** (pp. 295-329). New York: Raven Press.
327. **Vorhees, C.V**. (1994). Behavioral and functional ontogeny: Biomarkers of neurotoxicity. In: L.W. Chang (Ed.), ***Principles of Neurotoxicology*** (pp. 733-763). New York, Marcel Dekker, Inc.
328. **Vorhees, C.V**. (1995). A review of developmental exposure models for CNS stimulants: Cocaine. In: M. Lewis and M. Bendersky (Eds.), *Mothers, Babies and Cocaine: The Role of Toxins in Development* (pp. 71-94). Lawrence Erlbaum Associates, Hillsdale, NJ.
329. Acuff-Smith, K.D. and **Vorhees, C.V**. (1996). Neurobehavioral teratology. In R.J.M. Niesink and R.M.A. Jaspers (Eds), *Neurobehavioral Toxicology and Addiction: Vol. 1: Food, Drugs and Environment* (pp. 26-68). Open University of The Netherlands Press, Heerlen, The

Netherlands.

330. Acuff-Smith, K.D. and **Vorhees, C.V**. (1999). Neurobehavioral teratology. In: R.J.M. Niesink, R.M.A. Jaspers, L.M.W. Kornet, J.M. van Ree, and H.A. Tilson (Eds.), ***Introduction to Neurobehavioral Toxicology: Food and Environment*** (pp. 26-69). CRC Press, Boca Raton, FL.
331. **Vorhees, C.V**. (2005). Can prenatal exposure to a teratogen have delayed long-term effects on behavior? In: Scialli, A.R. and Hales, B.F. (Eds.), ***Teratology Primer****, 2nd Edition* (pp. 12-15). Teratology Society, Reston, VA.
332. **Vorhees, C.V.** (2010). Prenatal exposure that have effects on the brain and behavior. In: Hales, B.F, and Scialli, A.R. (Eds.), ***Teratology Primer****, 3rd* Edition (pp. 14-16). Teratology Society, Reston, VA.
333. Graham, D.L., Schaefer, T.L., and **Vorhees, C.V**. (2012). Neurobehavioral Testing for Developmental Toxicity. In: Hood, R.D. (Ed.), ***Developmental and Reproductive Toxicology****, A Practical Approach*, Third Edition (pp. 346-387). Informa Healthcare, London.
334. **Vorhees, C.V**. and Williams, M.T. (2015). Value of water mazes for assessing spatial and egocentric learning and memory in rodent basic research and regulatory studies. ***Neurotoxicol. Teratol***., **52** (Pt A), 93-108. (Republished in a Special Issue). PMID: 26071087
335. Jablonski, S.A., Williams, M.T., and **Vorhees, C.V**. (2016). Neurobehavioral effects from developmental methamphetamine exposure. In: Kostrzewa, R.M. and Archer, T. (Eds.), *Neurotoxin Modeling of Brain Disorders – Life-long Outcomes in Behavioral Teratology*, (pp. 183-230); Series: ***Current Topics in Behavioral Neuroscience***. Springer-Verlag, Heidelberg. PMID: 26520437.
336. **Vorhees, C.V**. (2017). Assessment of learning, memory, and attention in developmental neurotoxicology regulatory testing: Commentary on essentiality of cognitive assessment for protecting child health. ***Neurotoxicol. Teratol.***, **61**, 135-137. PMID: 28109771
337. **Vorhees, C.V**. and Williams, M.T. (2018). Prenatal exposures affecting brain development and behavior. In: *Teratology Primer, Third Edition* (online: Teratology Society website), Tassinari, M., Scialli, A.R., Hales, B.F. (Eds.). Teratology Society, Reston, VA.
338. Cynober, L., Fernstrom, J.D., Koletzko, B., Rietjens, I.M.C.M., Roberts, A., Tennant, D.R., Tome, D., and **Vorhees, C.V**. (2018). Introduction and summary of the 2018 dietary glutamate workshop. ***Ann. Nutr. Metab.,*** **73** (Suppl. 5), 1-4.
339. **Vorhees, C.V**. (2020). Teratogens and birth defects. In: Evans, A.T. and DeFranco, E. (Eds.), ***Manual of Obstetrics*** (pp. x-y). Wolters Kluwer Publishers, New York. PMID: TBD.
340. **Vorhees, C.V**. and Williams, M.T. (2020). Litter effects: Comments on Golub and Sobin's "Statistical modeling of litter as a random effect in mixed models to manage "intralitter likeness"". ***Neurotoxicol. Teratol***., **77**, 106852. PMID: 31837394.
341. Kwan, L.Y., Eaton, D.L., Andersen, S.L., Dow-Edwards, D., Levin, E.D., Talpos, J., **Vorhees, C.V.,** and Li, A.A. (2020). This is your teen brain on drugs: In search of biological factors unique to dependence toxicity in adolescence. ***Neurotoxicol. Teratol.,*** (Submitted).

EXTRAMURAL RESEARCH SUPPORT

Current

NIH T32 ES007051-40S3 Vorhees 07/01/12-06/30/20
Training Grant in Teratology
Goals are to train graduate students and postdoctoral fellows in teratology and developmental neurotoxicology for careers in academics, government, or the private sector.
Role: PD/PI

NIH T32 NS007453 Herman 07/01/16-06/30/21
Predoctoral Training Program in Neuroscience
Goals are to support graduate students during their first two years of graduate study with the long-term aim of training the next generation of highly-productive neuroscientists
Role: Training Faculty

NIH R01 NS088529 Waclaw 04/01/15-02/29/20 (NCE 2/28/21)
Signaling pathways regulating oligodendrocyte development and function
The goal is to identify cooperating signaling pathways that affect stages of OL development. Aim 1: Determine if Shp2 phosphatase and/or adaptor function(s), independent of phosphatase activity, are critical in OPC/OLs and determine if the OPC and myelination abnormalities caused by altered Shp2 phosphatase activity impact behavior. Aim 2: Determine the role of MAPK pathway in Shp2 LOF and GOF mutants during OPC/OL development. Aim 3: Identify the role of the WNT pathway in abnormal OL development caused by Shp2 RASopathy mutations and link WNT signaling to RASopathy Shp2/MAPK signaling during OPC/OL development.
Role: Co-I

Varian Medical Systems Vorhees/Williams 9/17/18-4/30/20
Neonatal neurocognitive effects of FLASH vs. conventional proton exposure
The aim is to determine the effects of different proton exposure rates on developing rat brain and their long-term effects on cognitive function as a model of the long-term cognitive effects found in children irradiated for early live brain tumors.
Role: MPI

FDA R13 FD004252-06 Vorhees 7/1/19-06/30/24
Annual Meeting of the Developmental Neurotoxicology Society
The aim is to provide support for student travel awards and partial support for outside invited special speakers to the Annual Meeting of the Society relevant to the mission of FDA and the National Center for Toxicological Research.
Role: PI

Varian Medical Systems Vorhees/Williams 12/1/19-2/28/21
Adult neurocognitive effects of conventional vs. FLASH proton exposure
The aim is to compare the long-term effects of conventional vs. Flash proton exposure on adult brain in relation to short- and long-term neurocognitive, neurobehavioral, and neurochemical effects (Amendment-3).
Role: MPI

Pending

NIH R01 ES032270-01 Vorhees, Williams 8/01/20-7/31/25
Gene-pesticide interactions and ADHD
The central aim is to test GxE interactions using two models we have established. One is our developmental exposure to deltamethrin and permethrin and the other is our new rat *latrophilin-3* (*Lphn3*) KO model. *LPHN3* variants in children confers increased risk for ADHD. This application will address PAR-19-386 "Environmental Risks for Psychiatric Disorders: Biological Basis of Pathophysiology" from NIEHS.
Role: MPI
Impact score = 13

NIH R21 DA050836 Sable 4/1/20-3/31/25
Substance abuse vulnerability in *Lphn3* KO rats
R21 aims are to determine if *Lphn3* KO rats are more vulnerable to cocaine preference and self-administration and determine changes in dopamine dynamics in n. accumbens by amperometry; R33 aims are to determine inhibitory control, determine phasic dopamine signaling during cocaine self-administration, and determine impulsivity in transgenic naïve vs. transgenic cocaine exposed global *Lphn3* KO rats vs. TH conditional *Lphn3* KO rats.
Role: Co-I

Recently Completed

Varian Medical Systems Vorhees/Williams 4/1/19-12/31/19
Adult neurocognitive effects of conventional proton exposure
The aim is to determine the long-term effects of conventional proton exposure in adult brain to later neurocognitive, neurobehavioral, and neurochemical effects (Amendment-2).
Role: MPI

PROFESSIONAL AFFILIATIONS

Developmental Neurotoxicology Society
Charter member (1977-present), Treasurer (1977-1983); President-Elect (1983-1984); **President** (1984-1985); Constitution Committee (Chair 1978-79, 1980-81, 1982-83, 1990-91); Nominations Committee (1984-85, Chair 1985-86 and 1986-87); Developmental Neurotoxicity Protection and Safety Committee (1985 -1987 [chair], *ad hoc* member 1987-88 and 1988-89); Journal Committee (1987-1989 [chair]); Publications Committee (1989-93 [chair]); Councilor (2005-2009). Constitution Committee (2009-2011); President-Elect (2011-2012); **President** (2012-13); Secretary (2016-2018).

Society for Birth Defects Research and Prevention (BRDP) (formerly Teratology Society) (1977-date): Associate Editor, ***Teratology***, 1987-1991 Liaison to the Developmental Neurotoxicology Society (1989-1990); Ad Hoc Committee on Harmonization of International Guidelines (1991-92); Publications Committee (1993-1999)

American Association for the Advancement of Science (1980-date)

Society for Neuroscience (1983-date)

International Brain Research Organization (1984-date)

International Behavioral Neuroscience Society (2005-date)

Society of Toxicology (1995-date)

SCIENTIFIC ADVISORY PANELS

Food and Drug Administration (**FDA**), Scientific Advisory Panel, Special Government Employee (SGE), Panel Member, Food Advisory Committee, Certified Color Additives in Food and Possible Association with Attention Deficit Hyperactivity Disorder in Children, March 2011, Washington, D.C.

Duke University, NIH/EPA Children's Environmental Health Center Grant, Scientific Advisory Committee, Member, March 2014; March 2015, Durham, NC.

Environmental Protection Agency (**EPA**), FIFRA Scientific Advisory Panel, Special Government Employee (SGE), Panel Member, Office of Pesticide Programs, Chlorpyrifos Health Effects, April 2012, Environmental Protection Agency Conference Center, Arlington, VA.

Environmental Protection Agency (**EPA**), Science Advisory Board (SAB), Chemical Assessment Advisory Committee (CAAC), Special Government Employee (SGE), Toxicological Review of Benzo[a]pyrene, Integrated Risk Information System (IRIS). April 2015, Environmental Protection Agency Conference Center, Arlington, VA.

Environmental Protection Agency (**EPA**), Scientific Advisory Committee on Chemicals TSCA for risk evaluation of 1,4-Dioxane and HBCD, Washington, D.C., July 29-August 2, 2019.

Environmental Protection Agency (**EPA**),. Scientific Advisory Committee on Chemicals under TSCA for Risk Evaluation of 1-Bromopropane, Washington, D.C., Sept. 9-12, 2019.

Office of Environmental Health and Hazard Assessment, **CalEPA**, on Synthetic Food Dyes and Children's Neurological or Behavioral Health, Sacramento, CA, Sept. 19-20, 2019.

Scientific Advisory Committee, National Academy of Science (**NAS**) on Fluoride and Cognitive Effects, Washington, D.C., November 6-7, 2019.

Environmental Protection Agency (**EPA**), Scientific Advisory Committee on Chemicals under TSCA for Risk Evaluation of 2-methylene chloride and N-methyl-pirrolidone, Washington, D.C., Dec. 2-6, 2019.

Environmental Protection Agency (**EPA**), Scientific Advisory Committee on Chemicals under TSCA for Risk Evaluation of trichloroethylene (TCE), Virtual Meeting, March 24-27, 2020.

EDITORIAL BOARDS

Brain, Behavior and Immunity
Neurotoxicology

TEACHING

Graduate Program Leadership

Graduate Program in Molecular and Developmental Biology:

Program Director: 1998-2004
Director of Graduate Studies: 1995-1998
Director of Admissions: 1992-1995
Director of Recruitment: 1989-1992
Director of Teratology Training Grant: 2002-present
Member of the Executive Committee: 2004-present

Graduate Program in Neuroscience:

Director of Graduate Studies and Admissions: 1994-1998
Member of the Executive Committee: 2009-present
Member of the Admissions Committee: 2009-present

College of Medicine:

Member, Committee on Graduate Education: 1994-2004

Teaching

Undergraduate Courses:

Psychology 30-055-175, University of Cincinnati:
Quarters: 1976-77 winter; 1977-78 winter and summer; 1978-79 through 1982-83 autumn, winter and summer; 1983-84 winter and summer; 1984-85 winter; 1985-86 and 1986-87 autumn (2 sections) and winter; 1987-88 autumn (2 sections).
Pharmacology of Psychoactive Drugs 30-055-383, University of Cincinnati:
Quarters: 1979-80 through 1981-82 spring; 1982-83 autumn and spring; 1983-84 spring.
Psychology as a Natural Science 30-055-176, University of Cincinnati
Quarters: 1987-88 autumn (2 sections)
FSEM (Freshman Seminar) 101, UC College of Arts and Sciences, Introduction to Neuroscience (course director John Bickle). 1 lecture, Spring quarter 2003.
College of Medicine, HHMI ExSel Program, Section on Neuroscience, (Sarah Pixely, course director: lecture), Summer 2002-present every year.

Graduate Courses:

Neurobehavioral Toxicology, Dept. of Environmental Health, UC College of Medicine:
Quarters: spring 1977-78; 1980-81
Teratology 854/Reproductive Toxicology 896, MDB & Dept. of Obstetrics & Gynecology, UC
Quarters: spring 1982-83; winter 1984-85; 2 lectures

Teratology 854, MDB Program
Quarters: every other year 1987-88 through 2009; every year 2009-2014; and every spring semester **2015-present**.
Mol. Dev. Biology Graduate Program, Journal Club:
Quarters taught: spring 1983-84, 2015
Fundamentals of Toxicology 904:
Quarters: summer 1989-90; 1990-91; 2016
Neuroscience II: Development and Plasticity [1-3 lectures/qtr.]
Quarter: autumn 1992-93; 1993-94; 1995-96; 1996-97; 1997-98; 2001-02; 2002-03
Intro. to Developmental Biology:
Quarter: spring 1992-93, autumn 1994-95; 1995-96; 1996-97; 1997-98; 1998-99; 1999-2000; 1 lecture/qtr.
Survey of Neuroscience Research (26NS840):
Every year: autumn **1994-present**
Methods in Functional Genomics:
Quarters: spring 2001-02, 2002-03; 1 lecture/qtr.
Mol. & Dev. Biology Graduate Program: Course "Development and Disease" Lecture S. Danzer: Brain Development and Behavior. 2009-10, 2010-11, 2012-13, 2013-14, 2014-15.
Mol. & Dev. Biology Graduate Program: Teratology course
Every year: 2006-2018
Fundamental of Neuroscience, Graduate Program in Neuroscience
Every year, spring semester: **2016-present**.
Safety Pharmacology, Dept. of Pharmacology and Systems Physiology
Every year, spring semester: **2014-present**.

Graduate Student Advising:

Dept. of Environmental Health, Graduate Program in Molecular Toxicology:

Committees:

Thesis Committee of Charles O. Shore, M.S., 1983.
Candidacy and Dissertation Committees of John F. Risher, Ph.D. 1993. (Research Toxicologist, CDC, ATSDR)
Thesis Committee for Kevin Miller, 1999-2003, M.S. (Res. Asst., Shriner's Hospital)
Dissertation Committee of Christine Curran, Ph.D., 2007. (Assistant Professor, Dept. of Biology, Northern Kentucky University)

Advisor:

Co-Advisor and Dissertation Co-Chair for B. K. Nelson, Ph.D. 1987. (Staff scientist NIOSH, CDC [retired])
Co-Advisor and Dissertation Co-Chair for Richard A. Cassidy, Ph.D. 1993. (Toxicologist, Captain, U.S. Army Medical Corps)

Graduate Program in Molecular and Developmental Biology:

Committees

Dissertation Committee of Carol Duggan, Ph.D.. 1989. (Pfizer Pharmaceutical Co. [retired])
Candidacy and Dissertation Committee for Claudia Henemyer, Ph.D., 1998. (Scientist,

Lieutenant, U.S. Army.)
Dissertation Committee for Ronald Waclaw, Ph.D., 2005. (Assistant Professor, Div. of Experimental Hematology and Cancer Biology, Cincinnati Children's Research Foundation)
Candidacy Committee of Katherine Eaton, Ph.D., 2007. (Postdoctoral Research Fellow, UC Dept. of Surgery).
Candidacy and Dissertation Committees for Kevin Burns, Ph.D., 2007. (Postdoctoral Research Fellow, Div. of Developmental Biology, CCRF)
Dissertation Committee for Lei (Will) Chen, Ph.D., 2007. (Postdoctoral Research Fellow, MD Anderson Cancer Institute, Dallas, TX).
Candidacy and Dissertation Committee for Tori L. Schaefer, Ph.D., 2009. (Postdoctoral Research Fellow, Div. of Neurology, CCRF).
Dissertation Committee of Hongyan Zhu, 2007-2013.
Candidacy and Dissertation Committees for Robyn Amos-Kroohs, 2010-2014
Dissertation Committee of Angela White, 2016-present
Candidacy and Dissertation Committee for Emma Parkins, 2019-present

Advisor:

Advisor and Dissertation Chair for Daniel R. Minck, Ph.D., 1990. Senior Toxicologist, U.S. Food and Drug Administration, Washington, D.C..
Advisor and Dissertation Chair for Karen D. Acuff, Ph.D., 1993. (Senior Toxicologist, Procter & Gamble Company, Cincinnati, OH.)
Advisor and Dissertation Chair for Mary A. Schilling, Ph.D., 1995. (currently raising a family.)
Advisor and Dissertation Chair for Sandra L. Inman-Wood, Ph.D. 1999. (International Regulatory Affairs office, Merck Pharmaceutical Co., Philadelphia, PA.)
Advisor and Dissertation Chair for LaRonda L. Morford, Ph.D., 1999. (Study Director, Eli Lilly and Company, Lilly Research Laboratories, Indianapolis, IN.)
Advisor and Dissertation Chair for Tracy M. Reed-Kessler, Ph.D., 1999. Study Manager, CTI Clinical Trial and Consulting Services, Cincinnati, OH.)
Advisor and Dissertation Chair for Carrie Brown-Strittholt, Ph.D., 2005. (Toxicologist, Procter & Gamble Co., Cincinnati, OH)
Advisor for Matthew Skelton, Ph.D., 2006. (Assistant Professor, Div. of Neurology, Cincinnati Children's Research Foundation).
Advisor for Curtis Grace, Ph.D., 2010. (Study Director, Merck, Philadelphia, PA).
Advisor for Jillian Hufgard, 2012-2016. (Postdoctoral Fellow, Dept. of Obstetrics & Gynecology, Indiana School of Medicine, Indianapolis, IN).

N = 10

Graduate Program in Neuroscience:

Committees

Candidacy Committee for Shubada Joshi, 1994. (Research Associate, CCRF)
Candidacy Committee for David Pettigrew, 1996. (Current position unknown)
Candidacy Committee for Jennifer L. Nelms, 1997. (Current position unknown)
Candidacy Committee for Laurel Pritchard, 2001. (Current position unknown)
Candidacy Committee for Jon Davis, 2001-02. (Current position unknown)
Candidacy Committee for Mary Nguyen, 2003. (Current position unknown)
Candidacy and Thesis Committee for Jessica Able, 2004-2006, M.S., 2006. (Res. Asst.)

Candidacy and Dissertation Committee for Nicole Herring, Ph.D. 2007; Assistant Professor, Dept. of Cell Biology and Anatomy, University of Louisville).
Candidacy Committee for Alex Cancelliere, 2005-2006. (Current position unknown).
Candidacy Committee for Brian Terpstra, 2005-2006. Postdoctoral Fellow, Michigan State
Candidacy Committee for Chris Brubaker, 2006. Returned to medical school
Candidacy Committee for Jennifer O'Malley, 2006. (Current position unknown)
Candidacy & Dissertation Committees for Amanda Braun, 2009-present
Candidacy & Dissertation Committees for Nick Jury, 2009-2013.
Candidacy & Dissertation Committees for Lauren Larke-Vollmer, 2009-2014
Candidacy & Dissertation Committees for Kenea Udobi, 2013-2019
Candidacy & Dissertation Committees for Rebecca Bailey, 2012-present

Advisor:

Advisor and Dissertation Chair Cunfeng (Frank) Pu, Ph.D. 1991-1995. (Chief of Neuropathology and Surgical Pathology, Pennsylvania State University Health Sciences, Hershey, PA)
Advisor and Dissertation Chair to Gregg D. Cappon, Ph.D. 1992-1997. (Senior Scientist, Pfizer Pharmaceutical Company, Groton, CT.)
Advisor and Dissertation Chair for Tanya L. Wallace, Ph.D. 1996-2000 (Recipient, Scottish Rite Society Fellowship and NIDA individual NRSA (F31); postdoctoral fellow, Yale University (advisor Ronald Duman, Ph.D.), 2000-2002; Study Director, Drug Discovery, Bristol-Meyers Squibb, NJ. Currently, Director of Primate Research, SRI, Menlo Park, CA.
Advisor to Arnold Gutierrez, 2012-2018 (current position: Postdoctoral Research Fellow, Scripps Biomedical Research Institute, La Jolla, CA)
Advisor to Emily Pitzer, 2015-present.
Advisor to Samantha Regan, 2017-present; winner of the University-wide Dean's Doctoral Dissertation Completion Fellowship Award (2020-21).

N = 6

Graduate Program in Biological Sciences:
Candidacy and Dissertation Committee, Marica Bernstein, 2001-2007 (transferred to another university).

Physician-Scientist Training Program (MD/PhD Program):
Candidacy Committee for Margaret Balfour (Neuroscience), 1998-1999.
Candidacy Committee for Nate Evanson (Neuroscience), 2005-2007.

Dept. of Cell and Cancer Biology:
Candidacy and Dissertation Committees of Wendy Strother, Ph.D. 1993-1997. (current position unknown)

Neuroscience Graduate Program at Rush University (Chicago), outside member Dissertation Committee of James B. Koprich, 2002-2004. (Postdoctoral Fellow, Harvard Medical School, Boston, MA, 2004-2007; postdoctoral fellow Oregon Health and Science University, 2007-present)

Total doctoral committees = 32
Total doctoral advisees = **16**

Postdoctoral Fellows:

Virginia Wootten (Ph.D., 1977, Purdue), 1978-1980. (Professor Emeriti, Mass. College of Pharmacy, Boston, MA.)
Kathleen Fernandez (Ph.D., 1982, Vanderbilt), 1982-1984. (Married, living in Germany.)
Walter P. Weisenburger (Ph.D., 1985, Washington State), 1987-1989. (former Study Director, Pfizer Pharmaceutical Company; current position unknown)
J. Edward Fisher (Ph.D., 1986, Univ. of Georgia), 1990-1993. (Senior Pharmacologist, Div. of Neuropharmacological Drug Products, Center for Drug Evaluation and Research, U.S. Food and Drug Administration, Washington, DC.)
Harry W. Broening (Ph.D., 1994, Univ. of Arkansas), 1994-1997. (Toxicologist, Procter and Gamble Company, Cincinnati, OH.)
Masao Fukumura (D.V.M., 1988, Tokyo Agriculture and Technology College; Ph.D., 1999), Postdoctoral Fellow, 1995-96. Staff Scientist, Shiseido Ltd, Yokahama, Japan.
Cunfeng Pu (Ph.D., 1995, Univ. of Cincinnati), 1996-1997. (Assistant Professor of Neuropathology, Dept. of Pathology, Pennsylvania State University School of Medicine, Hershey, PA; Chief, Surgical and Neuropathology Div., Dept. of Pathology, Alleghany General Hospital, Pittsburgh, PA, 2005-present).
Michael T. Williams (Ph.D., 1997, Wright State University), 1997-2000. (Associate Professor, Cincinnati Children's Research Foundation, Cincinnati, OH)
Stephanie Rock (Ph.D., 1998, Indiana University-Purdue University Indianapolis), 1998-2001. (Scientist: Nutraceuticals Co., Northern Kentucky)
Tracy M. Reed (Ph.D., 1999, University of Cincinnati), 2000. Study Manager, CTI Clinical Trial and Consulting Services, Cincinnati, OH.)
Lisa Ehrman (Ph.D., 2001, University of Cincinnati), 2001-2003. (Research Associate, Cincinnati Children's Research Foundation)
Martha Cohen (Ph.D., 1983, Virginia Polytechnic Institute), 2003-2005 (co-advisor with Michael T. Williams). (Position unknown)
Tori L. Schaefer (Ph.D., 2009, University of Cincinnati): 2009-2012; Recruitment specialist, Cincinnati Children's Hospital Medical Center, Cincinnati, OH.
Jennifer Daily (Ph.D., 2012, University of South Florida): 2012-2014. Study Director, MedPace Inc., Cincinnati, OH.
Laurie Eckart-Davenport (Ph.D., 2012, University of Iowa): 2013-2013.
Sarah Jablonski (Ph.D., 2014, University of Delaware): 2014-2017. Scientific Associate, ProEd Communications, Inc., Cleveland, OH.
Jenna Sprowles (Ph.D., 2014, University of Memphis): 2015-2018. Senior Fellow, University of Illinois, Urbana-Champaign, laboratory of Dr. Susan Schantz.

N = **17**

Visiting Scientists

Masao Fukumura (D.V.M., 1988, Tokyo Agriculture and Technology College; Ph.D., 1999), Visiting scientist, 1996-1997. Staff Scientist, Shiseido Ltd, Yokahama, Japan.
Tracy M. Reed, Ph.D., Sabbatical Visiting Scientist, 2009.

Medical Students:
Advisor, medical student Joan M. Rindler, 1987, summer research.
Advisor, medical student Betsy L. Kendis, 1989, summer research.
Advisor, medical student Kirsten G. Ahrens, 1991, summer research
Co-advisor, medical student Elizabeth Ho, 2009, summer research.

Undergraduate advising: **>70**

REVIEWING

Editorships and Editorial Boards:
Editorial Board, *Brain, Behavior and Immunity* (2015-2021)
Section Editor for Drugs, ***Neurotoxicology and Teratology*** (2011-2014)
Editor-in-Chief, ***Neurotoxicology and Teratology*** (1996-2005)
Section Editor for Development, ***Neurotoxicology and Teratology*** (1996-2005)
Editorial Board of ***Neurotoxicology and Teratology*** (1979-1995 and 2005-2010).
Editorial Board of ***Fundamental and Applied Toxicology*** (1992-1997).
Section Editor, ***Teratology*** (1986-1991)
Publications Committee, ***Teratology*** (1994-1999)
Editorial Board for ***Neurotoxicology*** (2018-present)

Manuscript Reviewer for:

Aging and Disease
Am. J. Obstetrics & Gynecology
Animal Behaviour
Behavioural Brain Research
Behavioral Neuroscience
Behavioural Pharmacology
Birth Defects Research
Biochemical Pharmacology
Biological Psychiatry
Behavior and Brain Function
Brain, Behavior & Immunity
Brain Research
Brain Research, Dev. Brain Research
Brain Research, Molecular Brain Research
British Journal of Pharmacology
Cognitive Processing
Child Neuropsychology
Current Eye Research
Developmental Neuroscience
Dev. Pharmacology & Therapeutics
Developmental Psychobiology
Drug and Alcohol Dependence
Drug and Chemical Toxicology
Drugs
Environmental Health
Environmental Health Perspectives
Environmental Toxicology & Pharmacology
Epilepsia
European Journal of Neuroscience
Exp. & Clinical Psychopharmacology
Experimental Neurology
Expert Opinion in Pharmacotherapy
Food & Chemical Toxicology
Free Radical Biology & Medicine
Fundamental & Applied Toxicology
Genes, Brain & Behavior
Human Psychopharmacology
Int. J. of Developmental Neuroscience
Int. J. of Neuropsychopharmacology
Int. J. of Toxicology
JAMA Pediatrics
Journal of Drug & Alcohol Research
Journal of Neurochemistry
Journal of Neuroscience
Journal of Pediatrics
J. of Pharmacology & Exp. Therapeutics
J. of Psychiatric Research
Life Sciences
Molecular Medicine
Molecular Pharmacology
Nature Communications
Nature Protocols
Neurobiology of Disease
Neurobiology of Learning & Memory
Neurochemical Research
Neurochemistry International
Neurological Research
Neuropsychopharmacology
NeuroReport
Neuroscience
Neuroscience Letters
Neuroscience & Biobehavioral Reviews
Neurotoxicology
Neurotoxicology and Teratology
Nutrition Research
Pediatrics

Pharmacological Research
Pharmacology, Biochemistry & Behavior
Physiological Research
Physiology & Behavior
PLoS Medicine
PLoS One
Prog. in Neurobiology
Prog. NeuroPsychopharm. & Biol. Psychiatry
Proc. Soc. Experimental Biology & Medicine
Psychiatry Research
Psychopharmacology
Regulatory Peptides
Regulatory Toxicology & Pharmacology
Scientific Reports
Schizophrenia Bulletin
Science
Social Neuroscience
Somatosensory & Motor Research
Synapse
Teratology
Trends in Pharmacological Sciences
Toxicological Sciences
Toxicology & Applied Pharmacology
Toxin Reviews

Manuscript Reviewer: 86 journals

Grant Application Reviewer for:

NICHD (Natl. Inst. of Child Health & Human Development), Site Visit Team, Univ. of Rochester, July 1984.
NICHD, Site Visit Team, Boston University, May 1986.
NIDA (Natl. Inst. on Drug Abuse), Member, Special Review Committee D, Rockville, MD, February 1987.
NICHD, Member, Special Reproductive Biology Study Section, Bethesda, MD, March 1987.
NSF, *ad hoc* grant reviewer, 1981, 1982, and 1985.
March of Dimes Birth Defects Foundation, *ad hoc* grant reviewer, 1980, 1982, 1983, 1985, 1986, 1987, 1989.
Veterans Administration, *ad hoc* grant reviewer, September 1986.
Veterans Administration, Merit Scientist Award application reviewer, October 1986.
NIDA, Member, Special Review Committee D, Rockville, MD, February 1989.
NICHD, Member, Special Human Embryology and Development Study Section, May 11, 1989.
U.S. Congress, Office of Technology Assessment, *ad hoc* reviewer, Report on Neurotoxicity, May 1989.
NICHD, Member, HED Special Study section and Site Visit Team, University of Wisconsin, Madison, August 30 to September 1, 1989.
NICHD, Member, HED Special Study section AHR-S2, Bethesda, MD, April 20, 1990.
Wellcome Trust, *ad hoc* reviewer, June 1991.
NIDA, *ad hoc* member of NIDA-1 study section, Palm Beach, FL, June 12-14, 1991
NIDA, *ad hoc* member of NIDA-1 study section, Washington, DC, Feb. 11-13, 1992.
NIDA, *ad hoc* member, of NIDA-3 study section, Feb. 9-11, 1993, and Oct. 12-14, 1993, Washington, DC.
NIDA, *ad hoc* member, NIDA-1 and NIDA-3 study sections, Feb. 15-17, 1994, Bethesda, MD.
NIDA, *ad hoc* member of NIDA-3 study section, June 13-15, 1994, Bethesda, MD.
NIDA, regular member, Neurophysiology & Neuroanatomy (NIDA-C) study section, Oct. 1994 to June 1998, Rockville, MD.
NIDA, temporary member, AIDS Biomedical and Clinical Research Review Committee (NIDA-I), Nov. 17-18, 1998, Rockville, MD.
NIDA, temporary member, AIDS Biomedical and Clinical Research Review Committee (NIDA-I), March 9-10, 1998, Rockville, MD.
NIDA, temporary member, Special Emphasis Panel for Training and Career Development Awards, June 29-July 1, 1998, Arlington, VA.
NIH, CSR, temporary member, IFCN-1 study section, Oct. 10-11, 2000, Rockville, MD.

Wellcome Trust, *ad hoc* reviewer, Oct. 2000.
Irish MRC, 2001.
NIH, temporary member, ALTX-3 study section, Feb. 26, 2001, Bethesda, MD.
NIH, member, ZHD1 MRG-C (10) HD-01-110 Special Emphasis Panel, Programs of Excellence in Autism, March 18-20, 2002, Washington, DC.
American Chemistry Council reviewer of applications in response to RFP on The Impact of Maternal Toxicity on Development of the Nervous, Reproductive, Endocrine, and Immune Systems, Arlington, VA, March 27, 2003.
NIH, member, ZDA TXL-Q Special Emphasis Panel CEBRA (Cutting Edge Basic Research Awards), April 15, 2003.
NIH, member, ZES1 RAM-C (KN) Special Emphasis Panel, November 20, 2003.
NIH, ad hoc member, ZRG1 CNNT (01) Clinical Neuroscience and Neurotransmitters Cmte., June, 24-25, 2004
NIH, Chair IFCN-C (04) M study section, Monoamines and Drugs of Abuse member conflicts Cmte., November 8, 2004.
Ad hoc reviewer, Irish Health Board, February, 2005.
NIH, Chair IFCN-C (03) Member conflicts: Neurotransmitters and Drugs of Abuse Cmte., July 19, 2005.
NIH, ad hoc, CSR, NDPR (Neurodifferentiation, Plasticity & Regeneration) Study Section, Oct. 26, 2005.
March of Dimes, ad hoc, January 15, 2007.
New Zealand Neurological Foundation, grant application reviewer, Nov. 2007.
March of Dimes, ad hoc, January 2009.
NIH, member, SEP review committee, NIEHS, March, 2009.
UK MRC, Sept. 2010
State of Rhode Island, Nov. 2010 and Feb. 2012
NIH, member, SEP review committee, NIEHS, March 2010.
NIH, member, SEP review committee, NIEHS, March 2011.
NIH, member, SEP ZRG-1MCN-J (04), August 2012.
Ad hoc reviewer for Oak Ridge National Laboratory International Grant Program, May 2012.
Ad hoc reviewer for Wayne State University School of Medicine and Michigan Children's Hospital internal grant program, August 2012.
EPA, member, study section for STAR extramural research grants, March 2013.
New Zealand Neurological Foundation; ad hoc grant reviewer, Oct. 2013
NIH, member, SEP panel ZES1 SET-J (K9) 1, NIEHS, K99/R00 applications, Nov. 2013.
NIH, member, SEP panel ZRG1 MDCN-T (06), CSR, March 2014.
NIH, member, SEP, panel, conflict committee MDCN, Oct. 2015.

INTERNATIONAL PRESENTATIONS

1. Vorhees, C.V. Sponsored presenter: Fetal anticonvulsant syndrome in rats: Effects on postnatal behavior. Symposium: "Perinatal Actions of Psychotropic Drugs and Environmental Chemicals and their Behavioral Effects in Later Life," Collegium Internationale Neuro-Psychopharmacologicum, Florence, Italy, June 1984.
2. Vorhees, C.V. Sponsored speaker: Postnatal evaluation and behavioral teratogenesis. Canadian Toxicology Society Annual Meeting, Symposium: "Toxicology 1985: Pharmacokinetics, Immunotoxicology and Teratology, Session III, Recent Advances in Teratology." Ottawa, Canada, December 1985.
3. Vorhees, C.V. Sponsored speaker: Prenatal anticonvulsants and offspring behavior. Symposium: "Functional Teratogenesis: Functional Effects in the Offspring after Parental Drug and Chemical Exposure." Fourth International Congress of Toxicology. Tokyo, Japan, July 1986.
4. Vorhees, C.V. Sponsored speaker: Cincinnati test battery and water maze. "Advances in Behavioral Teratology Testing," Conference of the Behavioral Teratology Meeting of the Japanese Teratology Society. Tokyo, Japan, July 1986.
5. Vorhees, C.V. Sponsored speaker: Anticonvulsants and brain development. Fifteenth Summer School of the Netherlands Institute for Brain Research, "Neurochemical Effects of Functional Neuroteratology." Amsterdam, Aug. 30 - Sept. 4, 1987.
6. Vorhees, C.V. and Minck, D.R. Behavioral teratogenesis of phenytoin in rats. Fifteenth European Teratology Society Conference, Fribourg, Switzerland, Sept. 7-10, 1987.
7. Vorhees, C.V. Member, Organizing Committee for the International Conference on "Chemically-induced Neurotoxicity: Concepts, Criteria, and Methods." Cernay la Ville (France), July 6-10, 1990.
8. Vorhees, C.V. Sponsored speaker: Preclinical effects--Mechanisms and site of action: Interactions with the developing nervous system. Workshop on Developmental Toxicology--Preclinical and Clinical Data in Retrospect; the Association of the Swedish Pharmaceutical Industry and the Swedish Medical Products Agency. Stockholm, Aug. 26-28, 1992.
9. Paulson, R., Vorhees, C.V. and Shanfeld, J. Complex maze learning in rat offspring after prenatal smokeless tobacco exposure. International Association for Dental Research, Glasgow, Scotland, July 1-4, 1992.
10. **Vorhees, C.V**., Herring, N.R., Schaefer, T.L., Skelton, M.R., Grace, C.E., Miranowski, S.K., and Williams, M.T. Path integration and spatial learning deficits induced by developmental methamphetamine. International Brain Research Organization 7th Quadrennial Meeting, Melbourne, Australia, July 12-17, 2007.
11. Williams, M.T., Herring, N.R., Schaefer, T.L., and **Vorhees, C.V**. Methamphetamine exposure in adult rats results in path integration deficits that are independent of increased corticosterone release. International Brain Research Organization 7th Quadrennial Meeting, Melbourne, Australia, July 12-17, 2007.
12. Schaefer, T.L., Herring, N.R., Grace, C.W., Skelton, M.R., Johnson, H.L., **Vorhees, C.V**., and Williams, M.T. Learning and memory effects following neonatal exposure to 5-methoxy-diisopropyltryptamine or (±)3,4-methylenedioxymethamphetamine in rats. International Brain Research Organization 7th Quadrennial Meeting, Melbourne, Australia, July 12-17, 2007.
13. Williams, M.T. (Invited speaker), Herring, N.R., Schaefer, T.L., and **Vorhees, C.V**. Effects of (+)-methamphetamine on learning and memory and neurotoxicity in adult rats. University of Sydney, Mini-Symposium “Party Drugs: Effects on Brain and Behavior,” Sydney, Australia, July 20, 2007.
14. **Vorhees, C.V**. (Invited speaker), Herring, N.R., Schaefer, T.L., Skelton, M.R., Grace, C.E., Miranowski, S.K., and Williams, M.T. Developmental methamphetamine: Effects of dose

and rearing condition on later path integration and spatial learning. University of Sydney, Mini-Symposium "Party Drugs: Effects on Brain and Behavior," Sydney, Australia, July 20, 2007.

15. Schaefer, T.L. (Invited speaker), Skelton, M.R., Herring, N.R., **Vorhees, C.V**., and Williams, M.T. The effects of developmental psychostimulant exposure on serotonin and corticosterone. University of Sydney, Mini-symposium "Party Drugs: Effects on Brain and Behavior," Sydney, Australia, July 20, 2007.
16. **Vorhees, C.V**. (Invited speaker), Schaefer, T.L., Skelton, M.R., and Williams, M.T. Developmental effects of MDMA on learning and memory. Seminar at the Victoria University of Wellington, Wellington, New Zealand, July 24, 2007.
17. **Vorhees, C.V**., He, E., Skelton, M.R., Graham, D.L., Schaefer, T.L., Grace, C.E., Braun, A.A., Amos-Kroohs, R., and Williams, M.T. Comparison of amphetamines following binge dosing on multiple-T water maze learning. Annual Meeting of the International Behavioral Neuroscience Society, Villasimus, Sardinia, Italy, June 8-13, 2010.
18. Williams, M.T., Grace, C.E., Schaefer, T.L., Graham, D.L., Skelton, M.R., and **Vorhees, C.V**. Inhibiting neonatal methamphetamine (MA)-induced corticosterone release in rats by adrenal autotransplantation: Effects on later learning, memory, and plasma corticosterone levels. Annual Meeting of the International Behavioral Neuroscience Society, Villasimus, Sardinia, Italy, June 8-13, 2010.
19. Braun, A.A., Herring, N.R., Schaefer, T.L., Hemmerle, A.M., Dickerson, J.W., Seroogy, K.B., **Vorhees, C.V**., and Williams, M.T. Acute (+)-methamphetamine (MA) exposure selectively increases brain-derived neurotrophic factor (BDNF) and modulates TrkB expression in the adult rat brain. Annual Meeting of the International Behavioral Neuroscience Society, Villasimus, Sardinia, Italy, June 8-13, 2010.
20. Schaefer, T.L., Grace, C.E., Graham, D.L., Skelton, M.R., **Vorhees, C.V**., and Williams, M.T. Neonatal MDMA and/or citalopram exposure produces long-term deficits in egocentric learning, but only MDMA affects allocentric learning. Annual Meeting of the International Behavioral Neuroscience Society, Villasimus, Sardinia, Italy, June 8-13, 2010.
21. Skelton, M.R., Schaefer, T.L., Grace, C.E., deGrauw, T.J., **Vorhees, C.V**., and Williams, M.T. Creatine transporter (CrT) knockout mice show learning and memory deficits: modeling human CrT deficiency. Annual Meeting of the International Behavioral Neuroscience Society, Villasimus, Sardinia, Italy, June 8-13, 2010.
22. Cole, J., Paulson, R., Shanfeld, J., Vorhees, C., Sweazy, A., Bales, R. and Paulson, J. Behavioral effects of smokeless tobacco (ST) in pre-weaned rats. International Association for Dental Research/American Association for Dental Research, Acapulco, Mexico, April 17-21, 1991.
23. Pendell, B., Paulson, R., Hamilton, B., Shanfeld, J. Vorhees, C., and Paulson, J. Postnatal effects of smokeless tobacco (ST) in weaned rats. International Association for Dental Research/American Association for Dental Research, Acapulco, Mexico, April 17-21, 1991.
24. Williams, M.T., Klaber, F.L., Brown, C. and Vorhees, C.V. "Performance in the Cincinnati water maze: Relation to lighting conditions, strain differences, test order, and intertrial interval." Annual Meeting of the International Behavioral Neuroscience Society, Nancy, France, July, 2000.
25. Braun, A.A., Schaefer, T.L., **Vorhees, C.V**., and Williams, M.T. Functional alterations in the $5HT_{1A}$ receptor following neonatal (±)3,4-methylenedioxymethamphetamine (MDMA) exposure in rats. Annual Meeting of the International Behavioral Neuroscience Society, Nassau, Bahamas, June 9-14, 2009.
26. Skelton, M.R., **Vorhees, C.V**., Graham, D.L., Schaefer, T.L., Grace, C.E., Braun, A.A., and Williams, M.T. Examining critical periods of neonatal 3,4-±-methylenedioxymethamphetamine (MDMA) administration on behavior. Annual Meeting of the International Behavioral Neuroscience Society, Nassau, Bahamas, June 9-14, 2009.

27. **Vorhees, C.V**., Member, External Advisory Board, Synergistix Consortium for Fonterra Ltd., Zyspri Ltd., and the University of Aukland. May 12-17, 2011, Aukand, New Zealand.
28. **Vorhees, C.V**. (presenter), Skelton, M.R., and Williams, M.T. Seminar: Ubiquitous Deletion of the Creatine Transporter Gene (Slc6a8) in Mice: A new model of X-Linked Human Creatine Transporter Deficiency, Liggins Institute, University of Aukland, May 18, 2011, Aukland, New Zealand.
29. **Vorhees, C.V**. Invited speaker: Dietary MSG developmental neurotoxicity: Experimental evidence from rodents. IGTC conference on glutamate and glutamate food additives, June 25, 2018, Paris, France.
30. **Vorhees, C**.V. Invited presenter: Safety of dietary MSG in relation to developmental neurotoxicity: A reappraisal. European Commission and European Food Safety Agency, Brussels, October 2, 2018.

NATIONAL PRESENTATIONS

1970-1979

31. Schaefer, G.J., & Vorhees, C.V. Effects of p-chloroamphetamine administration on biogenic amine levels, open field activity and active avoidance in rats. Eastern Psychological Association, Washington, D.C., 1973.
32. Vorhees, C.V., Brunner, R.L., McDaniel, C.R. and Butcher, R.E. The relationship of gestational age to vitamin A induced postnatal dysfunction. *Teratology*, 1977, **15**, 19A-20A. Teratology Society Annual Meeting, Reston, Virginia, June 1977.
33. Vorhees, C.V. Techniques in behavioral teratology. Midwest Teratology Association, Chicago, April 1978.
34. Vorhees, C.V., Brunner, R.L. and Butcher, R.E. Early postnatal behavioral effects from prenatal exposure to psychotropic drugs. *Teratology*, 1978, **17**, 39A-40A. Teratology Society Annual Meeting, Mackinac Island, MI, June 1978.
35. Vorhees, C.V. Invited speaker: Standardization of procedures in behavioral teratology. Behavioral Teratology Society Annual Meeting, Mackinac Island, MI, June 1978.
36. Vorhees, C.V. Invited speaker: Psychotropic drugs as potential behavioral teratogens. Neurobiology Program, Vanderbilt University, Nashville, Tennessee, September 1978.

1980-1989

35. Vorhees, C.V. Invited speaker: Behavioral teratology. Wilmington College, Wilmington, Ohio, March 1980.
36. Butcher, R.E., Wootten, V., and Vorhees, C.V. Developmental effects of chronic coffee and caffeine exposure in the rat. *Teratology*, 1980, **21**, 32A. Behavioral Teratology Society Annual Meeting, Portsmouth, New Hampshire, June 1980.
37. Vorhees, C.V. Sponsored speaker: Data analysis in behavioral teratology. Pharmaceutical Manufacturers Association Annual Meeting, Biostatistics Section, Tarpon Springs, Florida, October 1980.
38. Vorhees, C.V. Sponsored presenter: An evaluation of the psychoteratogenic potential of seven centrally acting prescription drugs. Symposium on "Behavioral Teratology and its Importance for Child Development," at the Biennial Meeting of the Society for Research on Child Development, Boston, April 1981.
39. Butcher, R.E., Nolen, G..A., Robertson, R.T., Stuckhardt, J.E., Vorhees, C.V. and Woo, D.C. An inter-laboratory comparison of behavioral teratology methods. *Teratology*, 1981, **24**, 53A. Behavioral Teratology Society Annual Meeting, Stanford University, Stanford, California, June 1981.
40. Vorhees, C.V. Sponsored speaker: Methods for the assessment of behavioral teratogenesis in rats. Stuart Pharmaceutical Corp., Division of ICI Americas, Wilmington, Delaware, November 1981.

41. Vorhees, C.V. Invited speaker: Behavioral teratology. Symposium entitled "Environmental Assaults on the Nervous System and Human Behavior: A New Health Challenge"; American Association for the Advancement of Science Annual Meeting, Washington, D.C., January 1982.
42. Vorhees, C.V. Sponsored presenter: Effects of food additives on development: Evaluation of their psychotoxic potential using a psychoteratogenicity assessment system in rats. NIH Consensus Development Conference: "Defined Diets and Childhood Hyperactivity," - National Institute of Allergy and Infectious Diseases and National Institute of Child Health and Human Development, NIH, Bethesda, Maryland, January 1982.
43. Vorhees, C.V. Invited faculty: Behavioral teratology--postnatal dysfunction. Institute for Applied Pharmaceutical Science course entitled "Teratology: Principles and Procedures Related to Fetal Development," Center for Professional Advancement, East Brunswick, New Jersey, April 1982.
44. Fernandez, K., Caul, W.F., Vorhees, C.V., and Haenlein, M. An examination of the synchronous maternal-infant interaction in rats. International Society for Developmental Psychobiology Annual Meeting, Minneapolis, November 1982.
45. Vorhees, C.V., and Butcher, R.E. Sponsored speaker: Developmental effects of food additives on behavior. Nutrition Foundation, Coronado, California, January 1983.
46. Vorhees, C.V. Sponsored speaker: Developmental behavioral toxicity of food additives. Flavors and Extracts Manufacturers Association Annual Scientific Meeting, Boca Raton, Florida, April 1983.
47. Vorhees, C.V., Fernandez, K., Dumas, R.M. and Haddad, R.K. Increased activity and aversively motivated acquisition deficits in rats with prenatally induced microencephaly from methylazoxymethanol (MAM) acetate. *Teratology*, 1983, **27**, 82A. Behavioral Teratology Society Annual Meeting, Atlantic City, New Jersey, June 1983.
48. Vorhees, C.V. Invited speaker: Behavioral teratology. Symposium: "Danger to the unborn fetus from environmental agents and drugs." Alpha Zetta Omega Professional Pharmacists Fraternity, Cincinnati, October 1983.
49. Vorhees, C.V. Sponsored participant, Resource Conference: "Diet and Behavior," American Medical Association, the Nutrition Foundation, and the International Life Sciences Institute. Washington, D.C., November 1983.
50. Vorhees, C.V. Fetal anticonvulsant syndromes in rats: Postnatal effects on behavior. *Teratology*, 1984, **29**, 8B. Behavioral Teratology Society Annual Meeting, Boca Raton, Florida, June 1984.
51. Vorhees, C.V. Sponsored presenter: Methods for assessing the adverse effects of foods and other chemicals on animal behavior. Symposium: "Diet and Behavior: A Multidisciplinary Evaluation." American Medical Association, the Nutrition Foundation, and the International Life Sciences Institute, Washington, D.C., November 1984.
52. Vorhees, C.V. Sponsored presenter: Behavioral teratology: Its importance in safety assessment. Parke-Davis/Warner-Lambert Pharmaceutical Research Center, Ann Arbor, Michigan, November 1984.
53. Vorhees, C.V. Invited speaker: Behavioral teratogenesis: Its relationship to malformations and growth impairments in rats. U.S. Food and Drug Administration, Division of Toxicology. Washington, D.C., May 1985.
54. Vorhees, Charles V. Sponsored speaker: Fetal anticonvulsant exposure: Effects on behavioral and physical development. Symposium: Mental Retardation and Developmental Disabilities: Research, Education, and Technology Transfer. New York State Office of Mental Retardation and Developmental Disabilities, New York State Institute for Basic Research in Developmental Disabilities, and National Institute of Child Health and Human Development, NIH. New York, New York, May 1985.
55. Vorhees, C.V. Invited speaker: Comparison of the NCTR Collaborative Behavioral

Teratology and Cincinnati Test Systems for detecting behavioral teratogenesis in rats. Symposium and Workshop: "Design Considerations in Screening for Behavioral Teratogens: Results of the Collaborative Behavioral Teratology Study." Cincinnati, Ohio, Sept. 3-6, 1985.

56. Vorhees, C.V. Invited presenter: Results of behavioral teratogenesis testing conducted in parallel to the NCTR Collaborative Behavioral Teratology Study in rats using alternative tests: Findings with D-amphetamine and methylmercury. Symposium and Workshop: "Design Considerations in Screening for Behavioral Teratogens: Results of the Collaborative Behavioral Teratology Study." Cincinnati, Ohio, Sept. 3-6, 1985.
57. Vorhees, C.V. Workshop discussion leader: Practical issues for behavioral teratology testing, a) incorporation into current reproduction and teratology testing guidelines, and b) primary versus secondary level screening. Workshop: "Design Consideration in Screening for Behavioral Teratogens: Results of the Collaborative Behavioral Teratology Study." Cincinnati, Ohio, Sept. 3-6, 1985.
58. Vorhees, C.V. Invited speaker: Developmental effects of anticonvulsants. Fourth International Conference on Neurotoxicology of Selected Chemicals: Neurotoxicology in the Fetus and Child. Little Rock, Arkansas, Sept. 9-13, 1985.
59. Vorhees, C.V. Sponsored speaker: Reliability of behavioral indices of neurotoxicity. Symposium and Workshop: "Neurotoxicity and Behavioral Dysfunction from Preclinical Toxicologic Data." Federation of American Societies for Experimental Biology and U.S. Food and Drug Administration. Washington, D.C., Sept. 30 - Oct. 1, 1985.
60. Nelson, B.K., Vorhees, C.V. and Hastings, L. Development of a liquid diet exposure model for investigating the behavioral and structural teratogenicity of 2-methoxyethanol in rats. Behavioral Teratology Society Tenth Annual Meeting, Boston, July 1986. *Teratology*, 1986, **33**, 97C.
61. Vorhees, C.V. Dose-effect relationships of prenatal phenytoin exposure on behavior in rats. Behavioral Teratology Society Tenth Annual Meeting, Boston, July 1986. *Teratology*, 1986, **33**, 98C.
62. Vorhees, C.V. Invited speaker: Model of the fetal hydantoin syndrome in rats: Effects on neurological and behavioral development. Department of Anatomy, Ohio State University. Columbus, Ohio, January 1987.
63. Minck, D.R., Erway, L.C. and Vorhees, C.V. Effects of prenatal phenytoin exposure: Effects on inner ear development. Midwest Developmental Biology Society Annual Meeting, South Bend, Indiana, May 1987.
64. Vorhees, C.V. and Minck, D.R. Effects of prenatal phenytoin exposure: Long-term effects on postnatal behavior. *Teratology*, 1987, **35**, 9B. Behavioral Teratology Society Eleventh Annual Meeting, Rancho Mirage, California, June 1987.
65. Minck, D.R., Erway, L.C. and Vorhees, C.V. Effects of prenatal phenytoin exposure: Relationship between inner ear development and behavior. *Teratology*, 1987, **35**, 9B. Behavioral Teratology Society Eleventh Annual Meeting, Rancho Mirage, California, June 1987.
66. Vorhees, C.V. The role of behavioral analyses in investigations of drug-induced teratogenesis. Seminar, Department of Psychology, University of Cincinnati, Jan. 1988.
67. Vorhees, C.V. Invited speaker: Effects of prenatal phenytoin exposure on behavior and inner ear development. Midwest Teratology Association, Cincinnati, April 1988.
68. Minck, D.R. and Vorhees, C.V. Prenatal phenytoin exposure: Effects on the otoconia of the inner ear. *Teratology*, 1988, **37**, 520. Presented at the Twelfth Annual Meeting of the Behavioral Teratology Society, Palm Beach, Florida, June 1988.
69. Vorhees, C.V. Invited speaker: Behavioral effects from prenatal phenytoin exposure in rats. *Teratology*, 1988, **37**, 513-514. Symposium entitled "Anticonvulsant Update," Twelfth Annual Meeting of the Behavioral Teratology Society, Palm Beach, Florida, June 1988.

70. Vorhees, C.V. Sponsored speaker: Concepts in teratology and developmental toxicology derived from animal research. Symposium of the New York Academy of Sciences entitled "Prenatal Abuse of Licit and Illicit Drugs," Bethesda, Maryland, September 1988.
71. Vorhees, C.V. Sponsored speaker: Behavioral indices of fetal neurotoxicity. Workshop "Fetal Toxicity of Methanol and Carbon Monoxide," Health Effects Institute, Cambridge, Massachusetts, October 1988.
72. Vorhees, C.V. Behavioral teratogenesis of anticonvulsants. Invited speaker, Division of Biomedical and Behavioral Science, National Institute of Occupational Safety and Health, Centers for Disease Control, Cincinnati, OH, December 1988.
73. Vorhees, C.V. Developmental neurotoxicity of phenytoin. Sponsored speaker, Division of Neurotoxicology, U.S. Environmental Protection Agency, Research Triangle Park, NC, February 1989.
74. Weisenburger, W.P, Minck, D.R. and Vorhees, C.V. Behavioral teratology of thalidomide. Annual Meeting of the Society of Toxicology, Atlanta, Georgia, March 1989.
75. Minck, D.R., Weisenburger, W.P. and Vorhees, C.V. Inner ear effects of prenatal exposure to phenytoin and the relationship to offspring behavior. Annual Meeting of the Society of Toxicology, Atlanta, Georgia, March 1989.
76. Vorhees, C.V. Behavioral teratology of the antiepileptic drug phenytoin. Sponsored seminar speaker, Center for Behavioral Teratology and Department of Psychology, SUNY at Albany, Albany, NY, April 3, 1989.
77. Vorhees, 0C.V. Anticonvulsants: Developmental neurotoxicity in animals. Sponsored speaker for U.S. Environmental Protection Agency workshop "Qualitative and quantitative comparability of human and animal developmental neurotoxicity." Williamsburg, VA, April 11-13, 1989.
78. Minck, D.R., Weisenburger, W.P. and Vorhees, C.V. Further effects of phenytoin on the inner ear. *Teratology*, 1989, **39**, 504-505. Thirteenth Annual Meeting of the Behavioral Teratology Society, Richmond, Virginia, June 1989.
79. Vorhees, C.V., Weisenburger, W.P. and Minck, D.R. Analysis of factors influencing water maze learning in rats: Effects of escape assistance, task complexity, and path order using prenatal exposure to phenytoin as a positive control. *Teratology*, 1989, **39**, 513. Thirteenth Annual Meeting of the Behavioral Teratology Society, Richmond, Virginia, June 1989.
80. Weisenburger, W.P., Minck, D.R., Acuff, K.D. and Vorhees, C.V. Prenatal phenytoin exposure in rats: Circling behavior and memory deficits. *Teratology*, 1989, **39**, 504. Thirteenth Annual Meeting of the Behavioral Teratology Society, Richmond, Virginia, June 1989.
81. Weisenburger, W.P., Minck, D.R. and Vorhees, C.V. Behavioral evaluation of rats prenatally exposed to thalidomide. *Teratology*, 1989, **39**, 504. Thirteenth Annual Meeting of the Behavioral Teratology Society, Richmond, Virginia, June 1989.
82. Vorhees, C.V. Sponsored speaker: Effects of exposure period on the developmental neurotoxicity of anticonvulsants in rats: Short and long-term effects. Seventh International Neurotoxicology Conference: "Neurotoxicology and Risk Assessment"; Little Rock, Arkansas, Sept. 18-21, 1989.
83. Minck, D.R., Acuff, K.D. and Vorhees, C.V. A new method for measuring the air-righting reflex in developing rats. Presented at the conference "Methods in Behavioral Toxicology/Teratology" sponsored by the National Center for Toxicological Research, Little Rock, Arkansas, Oct. 4-6, 1989.
84. Acuff, K.D., Minck, D.R., Weisenburger, W.P. and Vorhees, C.V. An analysis of factors influencing water maze learning in rats: Effects of escape assistance, task complexity and path order using prenatal exposure to phenytoin as a positive control. Presented at the conference "Methods in Behavioral Toxicology/Teratology" sponsored by the National Center for Toxicological Research, Little Rock, Arkansas, Oct. 4-6, 1989.

85. Vorhees, C.V. Sponsored speaker: Validity of the Biel water maze for detecting developmentally-induced learning impairments. Presented at the conference "Methods in Behavioral Toxicology/Teratology" sponsored by the National Center for Toxicological Research, Little Rock, Arkansas, Oct. 4-6, 1989.
86. Vorhees, C.V. Sponsored speaker: Behavioral teratology methodology: New EPA and International Proposed Guidelines. Midwest Teratology Association, Purdue University, West Layfayette, Indiana, Nov. 17, 1989.

1990

87. Weisenburger, W.P., Minck, D.R., Acuff, K.D. and Vorhees, C.V. The radial-arm maze in behavioral teratology: Effects of prenatal phenytoin and maternal phenylketonuria in rats. *Toxicologist*, 1990, **10**, 305. Twenty-ninth Annual Meeting of the Society of Toxicology, Miami, Florida, February, 1990.
88. Acuff, K.D. and Vorhees, C.V. (presented by Acuff). Invited speaker for panel "Seizure disorder and their treatment: Developmental toxicity of Tegretol" on the "Teratogenicity of carbamazepine in experimental animals." Winter Meeting on Chemicals and Abnormal Development, Lake Placid, NY, Feb. 25-28, 1990.
89. Vorhees, C.V. Distinguished Speaker in the Lilly Toxicology Research Seminar Series, "Phenytoin-induced behavioral teratogenicity." Lilly Research Laboratories, Greenfield, IN, May 2, 1990.
90. Pendell, B., Paulson, R., Shanfeld, J., Travers, S., Vorhees, C., Prause and Paulson, J. Postnatal Effects of Smokeless Tobacco in Rats. International Association of Dental Research/American Association of Dental Research, Cincinnati, Ohio, March 7-11, 1990.
91. Weisenburger, W.P., Minck, D.R., Acuff, K.D. and Vorhees, C.V. Behavioral teratology of phenytoin: Circling behavior and memory deficits. Michigan Regional Chapter of the Society of Toxicology, Lansing, MI, May, 1990.
92. Acuff, K.D., Minck, D.R. and Vorhees, C.V. A new method for evaluating the air-righting reflex in developing rats. *Teratology*, 1990, **41**, 616. Fourteenth Annual Meeting of the Neurobehavioral Teratology Society, Victoria Canada, June, 1990.
93. Minck, D.R., Acuff, K.D. and Vorhees, C.V. Structure-activity behavioral teratogenic analysis of the hydantoin anticonvulsants. *Teratology*, 1990, **41**, 615. Fourteenth Annual Meeting of the Neurobehavioral Teratology Society, Victoria, Canada, June, 1990.
94. Weisenburger, W.P., Minck, D.R., Acuff, K.D. and Vorhees, C.V. Working memory and the Olton radial-arm maze: Effects of maternal phenylketonuria and prenatal phenytoin in rats. *Teratology*, 1990, **41**, 615. Fourteenth Annual Meeting of the Neurobehavioral Teratology Society, Victoria, Canada, June, 1990.
95. Vorhees, C.V. A comparison of retinoid teratogenesis in animals and humans. *Teratology*, 1990, **41**, 614-615. Fourteenth Annual Meeting of the Neurobehavioral Teratology Society, Victoria, Canada, June, 1990.
96. Vorhees, C.V. Sponsored speaker: Issues in Neurotoxicity/Neurobehavior: Selection and validation of neurobehavioral tests. Tenth Annual International Research and Development Corporation Symposium, Kalamazoo, Michigan, October 3-5, 1990.
97. Smith, N.B., Vorhees, C.V., Meyer, R.A. and O'Brien, W.D. Jr. (1990). An automated ultrasonic exposure system to assess the effects of *in utero* diagnostic ultrasound. IEEE 1990 Annual Meeting, Honolulu, Hawaii, December 1990.

1991

98. Vorhees, C.V. Sponsored speaker: Behavioral teratogenic effects of methamphetamine in rats. Seminar, Department of Oral Biology, Ohio State University, Columbus, Ohio, February 4, 1991.
99. Vorhees, C.V., Acuff-Smith, K.D., Weisenburger, W.P., Meyer, R.A., Smith, N.B., and O'Brien, W.D., Jr. A teratologic evaluation of continuous wave, daily ultrasound exposure in unanesthetized rats. *Pediatr. Res.*, 1991, **29**, 72A.

100. Vorhees, C.V. Invited speaker: *In utero* teratology: Multiple exposure behavioral studies. Conference for Ultrasonics in Biophysics and Bioengineering, Allerton Park, Monticello, Illinois, May 28-31, 1991.
101. Acuff-Smith, K.D. and Vorhees, C.V. Prenatal methamphetamine-induced functional neurotoxicity. *Teratology*, 1991, **43**, 488-489. Fifteenth Annual Meeting of the Neurobehavioral Teratology Society, Boca Raton, FL, June 22-25, 1991.

1992

102. Vorhees, C.V. Invited speaker: Developmental neurotoxicity of methamphetamine and phenytoin. Meeting of the Toxin Core Study Group, The David and Lucile Packard Foundation, Center for the Future of Children, Los Altos, California, January 15-17, 1992.
103. Vorhees, C.V. Invited speaker: Methamphetamine-induced developmental neurotoxicity in rats. Seminar, Dept. of Pharmacology, University of Kentucky, Lexington, February 20, 1992.
104. Bravo, F.J., Mani, C., Ball, W.S., Vorhees, C.V., Stanberry, L.R., Bernstein, D.I. and Meyers, M.G. Neurologic sequelae of experimental neonatal HSV-2 infection. International Society for Antiviral Research, Vancouver, B.C., Canada, March 8-13, 1992.
105. Vorhees, C.V. Invited speaker: Screening for methamphetamine-induced developmental neurotoxicity. Mid-Atlantic Reproduction and Teratology Association, New Brunswick, NJ, March 12, 1992.
106. Cassidy, R.A., Hastings, L. and Vorhees, C.V. Effects of chronic pre- and postnatal chlordane exposure, food deprivation and caffeine on neurobehavioral indices in the rat. *Teratology*, 1992, **45**: 535. Sixteenth Annual Meeting of the Neurobehavioral Teratology Society, Boca Raton, FL, June 27-30, 1992.
107. Fisher, J.E., Acuff-Smith, K.D., Schilling, M.A., O'Brien, W.D., Smith, N.B., Meyer, R.A. and Vorhees, C.V. Teratologic evaluation of rats prenatally exposed to continuous wave or pulsed ultrasound. *Teratology*, 1992, **45**: 533-534. Sixteenth Annual Meeting of the Neurobehavioral Teratology Society, Boca Raton, FL, June 27-30, 1992.
108. Fisher, J.E., Acuff-Smith, K.D., Schilling, M.A., O'Brien, W.D., Smith, N.B., Meyer, R.A. and Vorhees, C.V. Behavioral evaluation of rats prenatally exposed to continuous wave ultrasound. *Teratology*, 1992, **45**: 534. Sixteenth Annual Meeting of the Neurobehavioral Teratology Society, Boca Raton, FL, June 27-30, 1992.
109. Schilling, M.A., Acuff-Smith, K.D. and Vorhees, C.V. At lower doses sodium phenytoin-induced behavioral teratogenesis is comparable to that of phenytoin given as the free acid. *Teratology*, 1992, **45**: 533. Sixteenth Annual Meeting of the Neurobehavioral Teratology Society, Boca Raton, FL, June 27-30, 1992.
110. Acuff-Smith, K.D., Ahrens, K. Schilling, M.A., Fisher, E. and Vorhees, C.V. Developmental effects of d-methamphetamine (MA) exposure in neonatal rats. *Teratology*, 1992, **45**: 527. Sixteenth Annual Meeting of the Neurobehavioral Teratology Society, Boca Raton, FL, June 27-30, 1992.
111. Vorhees, C.V., Acuff-Smith, K.D., Schilling, M.A., Fisher, E. and Buelke-Sam, J. Evaluation of the behavioral teratogenic potential of fluoxetine in rats. *Teratology*, 1992, **45**: 526-527. Sixteenth Annual Meeting of the Neurobehavioral Teratology Society, Boca Raton, FL, June 27-30, 1992.

1993

112. Vorhees, C.V. Invited speaker. Developmental neurotoxicity induced by therapeutic and illicit drugs. Thirtieth Annual Conference of the Learning Disabilities Association, Workshop: Tots and Toxins: Altered Brains, San Francisco, February 25-26, 1993.
113. Vorhees, C.V. Invited speaker: An analysis of developmental exposure models for CNS stimulants: Cocaine and methamphetamine. Third Annual Conference of the Center for Human Development and Developmental Disabilities, Developmental Outcomes and Toxins, University of Medicine and Dentistry of New Jersey, Robert Wood Johnson Medical

School, Dept. of Pediatrics, New Brunswick, NJ, June 4-6, 1993.

114. Acuff-Smith, K.D., Schilling, M.A., Fisher, J.E., and Vorhees, C.V. Developmental neurotoxicity of prenatal d-methamphetamine (MA) exposure in rats. *Teratology*, 1993, **47**: 458. Seventeenth Annual Meeting of the Neurobehavioral Teratology Society, Tucson, AZ, June 26-29, 1993.
115. Fisher, J.E., Schilling, M.A., Acuff-Smith, K.D., Vorhees, C.V., and Nau, H. Developmental neurotoxicity of trans-2-ene valproic acid compared to valproic acid in rats. *Teratology*, 1993, **47**: 458. Seventeenth Annual Meeting of the Neurobehavioral Teratology Society, Tucson, AZ, June 26-29, 1993.
116. Schilling, M.S., and Vorhees, C.V. A search for the site of neurotoxicity from prenatal phenytoin exposure using glial fibrillary acidic protein. *Teratology*, 1993, **47**: 458-459. Seventeenth Annual Meeting of the Neurobehavioral Teratology Society, Tucson, AZ, June 26-29, 1993.
117. Vorhees, C.V. Invited speaker. Long-term effects of developmental exposure to cocaine on learned and unlearned behaviors. NIDA Technical Review Workshop "Behaviors of drug-exposed offspring: Research update. Washington, DC, July 12-13, 1993.

1994

118. Vorhees, C.V. Invited speaker. Methamphetamine developmental neurotoxicity. Midwest Teratology Association. Spencerville, OH at Springborn Laboratories, April 14-15, 1994.
119. Vorhees, C.V. Invited speaker. Behavioral Effects from Exposure to Developmental Neurotoxins. Rhone-Poulenc Rorer, Central Research, Drug Safety Division, Collegeville, PA, May 5-6, 1994.
120. Vorhees, C.V. and Pu, C. Invited speaker. Ontogeny of methamphetamine-induced neurotoxicity in the rat model. NIDA Technical Review: Biological Mechanisms and Perinatal Exposure to Abused Drugs: Research Update. National Institutes of Health, National Institute on Drug Abuse, Washington, D.C., May 25-26, 1994.
121. Reed, T.M., Acuff-Smith, K.D., Schilling, M.A., Cappon, G.D., Fisher, J.E., Pu, C., and Vorhees, C.V. Pharmacokinetic and stage-specific behavioral effects from prenatal cocaine exposure. *Neurotoxicol. Teratol.*, 1994, **16**: 321. Eighteenth Annual Meeting of the Neurobehavioral Teratology Society, Las Croabas, Puerto Rico, June 24-27, 1994.
122. Schilling, M.A., and Vorhees, C.V. Early postnatal exposure to phenytoin increases cerebellar external granular layer thickness. *Neurotoxicol. Teratol.*, 1994, **16**: 319. Eighteenth Annual Meeting of the Neurobehavioral Teratology Society, Las Croabas, Puerto Rico, June 24-27, 1994.
123. Vorhees, C.V. Pre- and postnatal exposure to methamphetamine (MA): Neurobehavioral and neurochemical alterations. *Neurotoxicol. Teratol.*, 1994, **16**: 326. Eighteenth Annual Meeting of the Neurobehavioral Teratology Society, Las Croabas, Puerto Rico, June 24-27, 1994.

1995

124. Vorhees, C.V. Invited participant, Conference "Psychopharmacology in Children and Adolescents: Current Problems, Future Prospects." Work groups to develop written recommendations for FDA for preclinical pediatric drug safety studies and guidelines for pediatric clinical trials of new drugs. National Institute of Mental Health, NIH, Washington, D.C., January 24-25, 1995.
125. Vorhees, C.V. Invited speaker "Methamphetamine-induced developmental neurotoxicity." Neuroscience Seminar, Albert Einstein College of Medicine, Bronx, New York, March 15, 1995.
126. Vorhees, C.V. Invited speaker: "Behavioral testing for nervous system toxicity in rodents with special emphasis on extrapolation between rodents and humans. TAP Pharmaceuticals, Chicago, IL, May 11, 1995.
127. Inman, S.I., Morford, L.L., Moran, M.S., Cappon, G.D., Pu, C., Reed, T.M., Nebert, D.W.

and Vorhees, C.V. Genetic differences in neonatal methamphetamine-induced spatial learning in the Morris maze. *Neurotoxicol. Teratol*., 1995, **17**: 380-381. Nineteenth Annual Meeting of the Neurobehavioral Teratology Society, Newport Beach, CA, June 25-28, 1995.

128. Morford, L.L., Broening, H.W. and Vorhees, C.V. Quantitative GFAP changes in rat neostriatum after subcutaneous or intraperitoneal methamphetamine exposure. *Neurotoxicol. Teratol*., 1995, **17**: 382-383. Nineteenth Annual Meeting of the Neurobehavioral Teratology Society, Newport Beach, CA, June 25-28, 1995.
129. Schilling, M.A. and Vorhees, C.V. Prenatal phenytoin exposure at doses which induce behavioral teratogenicity do not induce alterations in fetal (E15) CNS using immunostains for NST, MAP-2 or on H&E stained sections in rats. *Neurotoxicol. Teratol*., 1995, **17**: 384. Nineteenth Annual Meeting of the Neurobehavioral Teratology Society, Newport Beach, CA, June 25-28, 1995.
130. Vorhees, C.V. Invited speaker "Development of standardized batteries." NIH, NICHD Conference on "Animal Models for the Study of Mental Retardation. Bethesda, MD, September 21-22, 1995.
131. Vorhees, C.V. Invited speaker "Methamphetamine-induced developmental neurotoxicity." Duke University Integrated Toxicology Program. Durham, NC, October 9, 1995.

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132. Strother, W.N., Norman, A.B., Vorhees, C.V. and Lehman, M.N. "Early cocaine exposure may result in altered phase responsiveness to light in the adult Syrian hamster." Annual Meeting of the Society for Research on Biological Rhythms, Amelia Island, FL, May 9-12, 1996.
133. Broening, H.W., Pu, C. and Vorhees, C.V. "Methamphetamine selectively reduces tyrosine hydroxylase immunoreactivity in the core of the nucleus accumbens while sparing the shell region. *Neurotoxicol. Teratol*., 1996, **18**, 333-334. Twentieth Annual Meeting of the Neurobehavioral Teratology Society, Keystone, CO, June 23-26, 1996.
134. Fukumura, M., Sethi, N. and Vorhees, C.V. "3,3'-Iminodiproprionitrile (IDPN)-induced neurotoxicity: Comparison of two methods of detecting drug-induced startle impairment and accompanying hyperactivity in rats. *Neurotoxicol. Teratol*., 1996, **18**, 335-336. Twentieth Annual Meeting of the Neurobehavioral Teratology Society, Keystone, CO, June 23-26, 1996.
135. Vorhees, C.V. Invited speaker "Comparison of the developmental neurotoxicity of phenytoin and methamphetamine." Pfizer Central Research, Pfizer Pharmaceutical Company, Groton, CT, September 17-18, 1996.
136. Vorhees, C.V. Invited speaker "Methamphetamine-induced hyperthermia and dopaminergic terminal degeneration." Sixth Cincinnati Neurofest, October 4-5, 1996, Cincinnati, OH.
137. Vorhees, C.V. Invited speaker "The peculiar ontogeny of methamphetamine-induced neurotoxicity." Dept. of Pharmacology and Toxicology, University of Oklahoma Health Sciences Center, Oklahoma City, November 3-4, 1996.
138. Fukumura, M., Cappon, G.D., Broening, H.W., and Vorhees, C.V. "Lack of gender differences in methamphetamine-induced reduction in striatal neurotransmitter content in rats. 26th Annual Meeting of the Society for Neuroscience, Washington, D.C., November 17-21, 1996.
139. Broening, H.W., Pu, C., and Vorhees, C.V. "Dopaminergic innervation to the nucleus accumbens core and shell is differentially vulnerable to methamphetamine-induced neurotoxicity. 26th Annual Meeting of the Society for Neuroscience, Washington, D.C., November 17-21, 1996.
140. Cappon, G.D., Morford, L., and Vorhees, C.V. "Ontogeny of methamphetamine-induced neurotoxicity and associated hyperthermic response. 26th Annual Meeting of the Society for Neuroscience, Washington, D.C., November 17-21, 1996.

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141. Fukumura, M., Sethi, N., and Vorhees, C.V. "Effects of the neurotoxicant 3,3'-iminodipropionitrile (IDPN) on acoustic startle and locomotor activity in rats: A comparison of functional observational and quantitative startle assessment methods." 36th Annual Meeting of the Society of Toxicology, Cincinnati, March 9-13, 1997. *Fund. Appl. Toxicol*., **36** (Suppl. 1), 65.
142. Broening, H.W., Morford, L., and Vorhees, C.V. "D1 and D2 dopaminergic receptor antagonists prevent methamphetamine-induced neurotoxicity in rats by blocking methamphetamine-induced thermogenesis. 36th Annual Meeting of the Society of Toxicology, Cincinnati, March 9-13, 1997. *Fund. Appl. Toxicol*., **36** (Suppl. 1), 70.
143. Vorhees, C.V. Invited speaker "Methods for detecting long-term CNS dysfunction after prenatal exposure to neurotoxins." Conference on Issues and Applications in Toxicology and Risk Assessment, Wright-Patterson Air Force Base, April 7-10, 1997.
144. Vorhees, C.V. Invited seminar speaker "Methamphetamine-induced neurotoxicity: Adult versus developmental effects." Dept. of Anatomy and Neurobiology, University of Kentucky College of Medicine, Lexington, April 14, 1997.
145. Vorhees, C.V. Invited symposium speaker "A comparison of the developmental effects of cocaine and methamphetamine," for Symposium IV "The Effects of Prenatal Cocaine Exposure on CNS Development." Fifty-ninth Annual Meeting of the College on Problems of Drug Dependence, Nashville, June 14-19, 1997.
146. Fukumura, M., Cappon, G.D., Broening, H.W. and Vorhees, C.V. "Lack of gender differences in methamphetamine (MA)-induced caudate-putamen (CPu) dopamine and serotonin reductions in rats. Twenty-first Annual Meeting of the Neurobehavioral Teratology Society, Palm Beach, FL, June 21-25, 1997. *Neurotoxicol. Teratol*. **19**: 245-246, 1997.
147. Broening, W.H., St. Clair, C., Morford, L., Inman, S., Moran, M., Fukumura, M. and Vorhees, C.V. "Developmental exposure to 3,4-methylenedioxymethamphetamine (MDMA) in rats produces persistent deficits in Cincinnati water maze performance." Twenty-first Annual Meeting of the Neurobehavioral Teratology Society, Palm Beach, FL, June 21-25, 1997. *Neurotoxicol. Teratol*. **19**: 246, 1997.
148. Morford, L.L., Cappon, G.D, and Vorhees, C.V. "Ontogeny of methamphetamine-induced neurotoxicity and associated hyperthermic response." Twenty-first Annual Meeting of the Neurobehavioral Teratology Society, Palm Beach, FL, June 21-25, 1997. *Neurotoxicol. Teratol*. **19**: 248, 1997.
149. Inman, S.L., Morford, L.L., Vorhees, C.V. "The Barnes maze: A technique for evaluating the spatial learning strategies in prenatally treated mice." Twenty-first Annual Meeting of the Neurobehavioral Teratology Society, Palm Beach, FL, June 21-25, 1997*. Neurotoxicol. Teratol.* **19**: 255-256, 1997).
150. Schilling, M.A., Inman, S., Moran, M.S., Morford, L., and Vorhees, C.V. "Effect of prenatal phenytoin exposure in rats on forms of spatial and non-spatial learning and memory as determined by the Morris water maze and its modifications." Twenty-first Annual Meeting of the Neurobehavioral Teratology Society, Palm Beach, FL, June 21-25, 1997. *Neurotoxicol. Teratol*. **19**: 258, 1997.
151. Wortman, M., Porter-Gill, P., Busald, C., Hondo, H., Kuczenski, R., Segal, D., Vorhees, C., and Richtand, N. "Identification of amphetamine behavior related gene transcripts by differential display PCR." 27th Annual Meeting of the Society for Neuroscience, October 25-30, 1997, New Orleans. *Soc. Neurosci. Abstr*. 1997, **23**, 523 (#204.5).
152. Broening, H.W., Morford, L., Inman, S., Moran, M. St. Clair, C., Fukumura, M., and Vorhees, C.V. "Developmental exposure to 3,4-methylenedioxymethamphetamine (MDMA) disrupts learning in the Morris water maze in rats. 27th Annual Meeting of the Society for Neuroscience, October 25-30, 1997, New Orleans. *Soc. Neurosci. Abstr*. 1997, **23**, 2406 (#935.13).
153. Fukumura, M., Cappon, G.D., Pu, C., Broening, H.W., and Vorhees, C.V. "A single dose

model of methamphetamine-induced neurotoxicity in rats: Effects on body temperature, dopamine, and serotonin in neostriatum." 27th Annual Meeting of the Society for Neuroscience, October 25-30, 1997, New Orleans. *Soc. Neurosci. Abstr*. 1997, **23**, 272 (#109.10).

154. Reed, T.M., Browning, J.E., Blough, R.A., Vorhees, C.V., and Repaske, D.R. "Characterization of the genomic structure of the murine 63 Kda calmodulin-dependent phosphodiesterase." 27th Annual Meeting of the Society for Neuroscience, October 25-30, 1997, New Orleans. *Soc. Neurosci. Abstr*. 1997, **23**, 698 (#276.16).
155. Wallace, T., Vorhees, C.V., and Gudelsky, G. "Methamphetamine induces a delayed increase in hydroxyl radical formation in the rat striatum." 27th Annual Meeting of the Society for Neuroscience, October 25-30, New Orleans. *Soc. Neurosci. Abstr*. 1997, **23**, 2141 (#831.3).

1998

156. Morford, L.L. and Vorhees, C.V. "Glial fibrillary acid protein concentrations after D-fenfluramine exposure under hyperthermic conditions." Society of Toxicology Annual Meeting, March 1-5, 1998, Seattle. *Toxicologist*, 1998, **42**, 303-304.
157. Inman, S.L., Morford, L.L., and Vorhees, C.V. "The Barnes maze: A technique for evaluating spatial learning strategies in prenatally treated mice." Society of Toxicology Annual Meeting, March 1-5, 1998, Seattle. *Toxicologist*, 1998, **42**, 221.
158. Cappon, G.D., Pu, C., Morford, L.L., and Vorhees, C.V. "Methamphetamine-induced tyrosine hydroxylase depletion in rat caudate-putamen and brainstem." Society of Toxicology Annual Meeting, March 1-5, 1998, Seattle. *Toxicologist*, 1998, **42**, 304.
159. Vorhees, C.V. Invited seminar: "Neurochemical and behavioral effects of developmental and adult methamphetamine treatment," Department of Anatomy, Indiana University School of Medicine and Indiana Univ./Purdue Univ. March 31, 1998, Indianapolis, Ind.
160. Inman, S.L., Morford, L.L., Williams, M.T., and Vorhees, C.V. "Prenatal cocaine treatment in C57BL/6 mice affects Barnes maze performance." Twenty-second Annual Meeting of the Neurobehavioral Teratology Society, June 21-24, 1998, San Diego. *Neurotoxicol. Teratol*. 1998, **20**, 359.
161. Morford, L.L., Inman, S.L., Moran, M., and Vorhees, C.V. "Neonatal exposure to d-fenfluramine produces deficits in Cincinnati maze performance in rats." Twenty-second Annual Meeting of the Neurobehavioral Teratology Society, June 21-24, 1998, San Diego. *Neurotoxicol. Teratol*. 1998, **20**, 364-365.
162. Vorhees, C.V., Morford, L.L., Inman, S.L., Fukumura, M., Moran, M.S., and Broening, H.W. "Effects of dose-rate on Morris maze cued and place learning in rats treated with d-methamphetamine (MA) on postnatal (P) days 11-20. Twenty-second Annual Meeting of the Neurobehavioral Teratology Society, June 21-24, 1998, San Diego. *Neurotoxicol. Teratol*. 1998, **20**, 356.

1999

163. Morford, L.L., Inman-Wood, S.L., McCrea, A.E., and Vorhees, C.V. "Persistent increase in adrenal output without concurrent gonadal alterations in male rats three days following acute d,l-fenfluramine exposure." Thirty-eighth Annual Meeting of the Society of Toxicology, March 14-18, 1999, New Orleans, LA. *Toxicol. Sci*., 1999, **48** (1-S), 267 (#1258).
164. Invited speaker, "Ontogeny of methamphetamine-induced neurotoxicity and its functional correlates" for symposium "Neurotoxicity of Amphetamines and Related Stimulants" at Annual Meeting of the American Society of Pharmacology and Experimental Therapeutics, held in conjunction with FASEB-99, Washington, D.C., April 16-17, 1999.
165. Invited speaker, "Comparative behavioral effects from developmental exposure to phenytoin or methamphetamine." Seminar at the National Institutes of Health in the Birth Defects and Teratology series, sponsored by NIAAA and NIEHS. Bethesda, MD, April 16, 1999.
166. Williams, M.T., Inman-Wood, S.L., Morford, L.L., McCrea, A.E., Ruttle, A.M., Moran, M.S.,

Rock, S.L., and Vorhees, C.V. "A possible mechanism for Morris water maze deficits in adult rats which were administered methamphetamine during postnatal days 11-20." Eighth Annual Meeting of the International Behavioral Neuroscience Society, June 24-27, 1999, Nancy, France.

167. Williams, M.T., Morford, L.L., McCrea, A.E., Inman-Wood, S.L., and Vorhees, C.V. "Exposure of male rats to d,l-fenfluramine alters the hypothalamic-pituitary-adrenal axis and learning in the Cincinnati water maze." Eighth Annual Meeting of the International Behavioral Neuroscience Society, June 24-27, 1999, Nancy, France.
168. Slane, J., Zhang, J., Tsien, J., Vorhees, C., and Xu, M. "Probing the role of immediate gene c-*fos* in spatial learning using a region-specific knockout mouse." Twenty-ninth Annual Meeting of the Society for Neuroscience, Oct. 23-28, 1999, Miami Beach, FL. Soc. Neurosci. Abstr., 1999, 25.
169. Walsh, R., Zhang, J., Guo, Y., Vorhees, C., and Xu, M. "The dopamine D1 receptor is crucial in molecular and behavioral responses to chronic administration of cocaine." Twenty-ninth Annual Meeting of the Society for Neuroscience, Oct. 23-28, 1999, Miami Beach, FL. Soc. Neurosci. Abstr., 1999, 25.
170. Wallace, T.L., Vorhees, C.V., and Gudelsky, G.A. "Lubeluzole prevents methamphetamine-induced dopamine neurotoxicity in the caudate nucleus of the rat. Twenty-ninth Annual Meeting of the Society for Neuroscience, Oct. 23-28, 1999, Miami Beach, FL. Soc. Neurosci. Abstr., 1999, 25.

2000

171. Invited speaker "Basic pharmacology, obstetric/gynecologic considerations, and ontogenetic effects of methamphetamine and MDMA: Whole animal approach." NIH Workshop "Effects of in utero Exposure to Methamphetamines" sponsored by the National Institute on Drug Abuse, Neuroscience Center, Rockville, MD, March 29, 2000.
172. Reed, T.M., Repaske, D.R. and Vorhees, C.V. "Phosphodiesterase 1B-deficient mice demonstrate hyperactivity and learning deficits. Twenty-fourth Annual Meeting of the Neurobehavioral Teratology Society, June 24-29, 2000, Palm Beach, FL.
173. Vorhees, C.V. Invited presenter: "Approaches to testing safety of medications: Animal models." NIH workshop on Psychopharmacology for Young Children: Clinical Needs and Research Opportunities, by the National Institute of Mental Health and US Food and Drug Administration, at the NIH Neuroscience Center, Rockville, MD, Oct. 2-3, 2000.
174. Slane, J.M., Lee, H.S., Vorhees, C.V., Zhang, J., and Xu, M. "DFF45 mutant mice display enhanced learning abilities." Thirtieth Annual Meeting of the Society for Neuroscience, Nov. 4-9, 2000, New Orleans, LA.
175. Rock, S.L., Vorhees, C.V. and Williams, M. "Dopamine-1 receptor alteration following postnatal methamphetamine treatment." Thirtieth Annual Meeting of the Society for Neuroscience, Nov. 4-9, 2000, New Orleans, LA.
176. Wallace, T.L., Gudelsky, G.A., and Vorhees, C.V. "A neurotoxic regimen of methamphetamine produces evidence of behavioral sensitization in the rat. Thirtieth Annual Meeting of the Society for Neuroscience, Nov. 4-9, 2000, New Orleans, LA.

2001

177. Vorhees, C.V., Morford, L.L., Broening, H.W., Fukumura, M., Inman-Wood, S.L., Wallace, T.L., and Williams, M.T. P11-20 d-methamphetamine treatment induces reference memory-based learning deficits while sparing sequential and cued learning and working memory. Twenty-fifth Annual Meeting of the Neurobehavioral Teratology Society, Montreal, Quebec, Canada, June 24-27, 2001.
178. Vorhees, C.V. Invited presenter: "Developmental Effects of MDMA." NIDA/NIH conference "MDMA/Ecstasy Research: Advances, challenges, future directions." Natcher Conference Center, NIH, Bethesda, MD, July 19-20, 2001.
179. Vorhees, C.V. Invited presenter: "Effects of methamphetamine, MDMA, fenfluramine and

cocaine on spatial learning after neonatal exposure in rats." FASEB Summer Research Conference "Commonalities and differences in the mechanisms of alcohol and other drugs of abuse, August 4-9, 2001, Tucson, AZ.

180. Vorhees, C.V., Morford, L.L., Broening, H.W., Fukumura, M., Inman-Wood, S.L., Wallace, T.L., and Williams, M.T. Neonatal d-methamphetamine treatment induces long-term reference memory-based learning deficits while sparing cued, sequential and working memory. Thirty-first Annual Meeting of the Society for Neuroscience, Nov. 10-15, 2001, San Diego, CA.
181. Faught, M.R., Williams, M.T. and Vorhees, C.V. Long-term changes in gene expression in the brain due to developmental exposure to 3,4-methylenedioxymethamphetamine. Thirty-first Annual Meeting of the Society for Neuroscience, Nov. 10-15, 2001, San Diego, CA.
182. Williams, M.T., Morford, L.L., Inman-Wood, S.L., Rock, S.L., McCrea, A.E., Fukumura, M., Wallace, T.L., Broening, H.W., Moran, M.S., Berry, H.K., and Vorhees, C.V. Learning and memory deficits in adulthood following administration of MDMA to preweaning rats: consideration of undernutrition and stress. Thirty-first Annual Meeting of the Society for Neuroscience, Nov. 10-15, 2001, San Diego, CA.
183. Gudelsky, G.A., Wallace, T.L., Vorhees, C.V. and Zemlan, F. Methamphetamine (d-METH) enhances the cleavage of the cytoskeletal protein Tau in the striatum and hippocampus of the rat. Thirty-first Annual Meeting of the Society for Neuroscience, Nov. 10-15, 2001, San Diego, CA.
184. Chapin, D.S., Repaske, D., Reed, T.M., Vorhees, C.V. and Siuciak, J.A. Dopamine and serotonin content and turnover in the CNS is altered in association with changes in locomotor activity in PDE1B knockout mice. Thirty-first Annual Meeting of the Society for Neuroscience, Nov. 10-15, 2001, San Diego, CA.
185. Snyder, G.L., Reed, T.M., Galdi, S., Greengard, P., Vorhees, C.V. and Repaske, D.R. Increased dopamine signaling in PDE1B-deficient mouse brain. Thirty-first Annual Meeting of the Society for Neuroscience, Nov. 10-15, 2001, San Diego, CA.

2002

186. Miller, K.A., Dalton, T.P., Vorhees, C.V., and Nebert, D.W. In utero toxicity of coplanar hexabromobiphenyl associated with presence of the aromatic hydrocarbon receptor. Annual Meeting of the Society of Toxicology, March, 2002, Nashville, TN.
187. Vorhees, C.V., Invited Lecturer. Two Tales: (1) Developmental effects of methamphetamine and MDMA on learning and memory and (2) Role of phosphodiesterase 1B (PDE1B) in the Dopamine-DARPP-32 Signal Transduction Pathway." Grass Traveling Scientist Award, East Tennessee State University and Society for Neuroscience sponsorship, April 14-16, 2002, Johnson City, TN.
188. Vorhees, C.V., Williams, M.T., Boon, F., Saber, A., and Cain, D.P. An analysis of factors contributing to P11-20 methamphetamine-induced spatial learning deficits. Annual Meeting of the Neurobehavioral Teratology Society, June 23-26, 2002, Scottsdale, AZ. *Neurotoxicol. Teratol.* 2002, **24**(3), 421.
189. Vorhees, C.V. (invited speaker). Developmental effects of selected substituted amphetamines: Methamphetamine and 3,4-methylenedioxymethamphetamine. Seminar, College of Veterinary Medicine, Mississippi State University, Starkville, MS, Oct. 7, 2002.
190. Brown, C.A., Williams, M.T., Skelton, M.R., and Vorhees, C.V. d-Methamphetamine-induced decreases in corticotropin-releasing factor in the hippocampus and hypothalamus of neonatal rats: Possible role in learning and memory deficits. Annual Meeting of the Society for Neuroscience, Nov. 2-7, 2002, Orlando, FL.
191. Erhman, L.A., Reed, T.R., and Vorhees, C.V. Analysis of the exaggerated locomotor hyperactivity exhibited by PDE1B deficient mice in response to methamphetamine. Annual Meeting of the Society for Neuroscience, Nov. 2-7, 2002, Orlando, FL.
192. Skelton, M.R., Ponniah, S., Wang, D. Z.-M., Doetschman, T., Vorhees, C.V., and Pallen,

C.J. Protein tyrosine phosphatase (PTP□) knockout mice show deficits in Morris water maze learning and decreased locomotor activity. Annual Meeting of the Society for Neuroscience, Nov. 2-7, 2002, Orlando, FL.

193. Vorhees, C.V., Reed, T.M., Morford, L.L., Fukumura, M., Wood, S.L., Brown, C.A., Skelton, M.R., McCrea, A.E., Rock, S.L., and Williams, M.T. D-Methamphetamine (MA) treatment during juvenile and adolescent stages of development induce age-dependent impairments of spatial learning in the Morris water maze. Annual Meeting of the Society for Neuroscience, Nov. 2-7, 2002, Orlando, FL.
194. Williams, M.T., Furay, A.R., and Vorhees, C.V. In pursuit of the critical period for d-methamphetamine-induced Morris maze deficits: Implications for the stress hyporesponsive period. Annual Meeting of the Society for Neuroscience, Nov. 2-7, 2002, Orlando, FL.

2003

195. Williams, M.T., Schaefer, T.L., Ehrman, L.A., Sah, R., Gudelsky, G.A., Vorhees, C.V. The time course of effects following the administration of methylenedioxymethamphetamine, 'ecstasy,' on central nervous system monoamine content, pituitary activation, and adrenal output on postnatal day 11 in rats. Annual Meeting of the International Behavioral Neuroscience Society, Puerto Rico, April 2003.
196. Schaefer, T.L., Williams, M.T., Ehrman, L.A., Gudelsky, G.A., Vorhees, C.V. Administration of various psychostimulants on P11 causes differential changes in corticosterone and monoamine levels 18 hours later: Effect of metyrapone. Annual Meeting of the International Behavioral Neuroscience Society, Puerto Rico, April 2003.
197. Vorhees, C.V. (Invited speaker) Learning and memory impairments induced by developmental exposure to substituted amphetamines. NIDA Workshop "Preclinical methods for evaluating compounds with potential for treating methamphetamine-induced cognitive impairment." Bethesda, MD, April, 29, 2003.
198. Vorhees, C.V. (Invited speaker) Conduct of behavioral testing/control procedures. Behavioral Test Methods Workshop sponsored by the Interagency Committee on Neurotoxicology at the 43rd Annual Meeting of the Teratology Society, Philadelphia, June 20-21, 2003.
199. Vorhees, C.V., Schaefer, T.L., Ehrman, L.A., Sah, R., Gudelsky, G.A., and Williams, M.T. Short-term effects of P11 MDMA treatment on monoamines, ACTH, corticosterone and serotonin transporter in rats. 27th Annual Meeting of the Neurobehavioral Teratology Society, Philadelphia, June 21-26, 2003, *Neurotoxicol. Teratol.*, **24**(3), 385-386.
200. Crawford, C.A., Kohutek, J.L., Choi, F.A., Yoshida, S.T., Williams, M.T., McDougall, S.A., & Vorhees, C.V. Long-term effects of preweanling exposure to MDMA exposure on the dopamine and serotonin systems in the adult rat. Annual Meeting of the Society for Neuroscience, New Orleans, Nov. 8-12, 2003.
201. Skelton, M.R., Williams, M.T., Vorhees, C.V. Exposure to 3,4-methylenedioxymethamphetamine during development leads to long-term changes in gene expression. Annual Meeting of the Society for Neuroscience, New Orleans, Nov. 8-12, 2003.
202. Ehrman, L.A., Reed, T.M., Fienberg, A.A., Greengard, P., Vorhees, C.V. Analysis of locomotor activity and spatial learning and memory in PDE1B x DARPP-32 double mutant mice. Annual Meeting of the Society for Neuroscience, New Orleans, Nov. 8-12, 2003.
203. Williams, M.T., Schaefer, T.L., Ehrman, L.A., Furay, A.R., Abel, J.A., Koscher, J.R., Herman, J.P., Vorhees, C.V. Long-term effects of methamphetamine on the HPA axis in developing rats. Annual Meeting of the Society for Neuroscience, New Orleans, Nov. 8-12, 2003.
204. Schaefer, T.L., Williams, M.T., Ehrman, L.A., Gudelsky, G.A., Berry, H.K., Vorhees, C.V. Adrenalectomy and metyrapone differentially affect drug-induced changes in monoamine levels in developing animals. Annual Meeting of the Society for Neuroscience, New Orleans, Nov. 8-12, 2003.

205. Brunskill, E.W., Ehrman, L., Klanke, J., Williams, M., Dorn, G., Hammer, D., Potter, S.S., Vorhees, C.V. *Npas3*-deficient mice: A molecular marker of schizophrenia? Annual Meeting of the Society for Neuroscience, New Orleans, Nov. 8-12, 2003.

2004

206. Schaefer, T.L., Able, J.A., Skelton, M.R., Gudelsky, G.A., Vorhees, C.V., and Williams, M.T. Changes in corticosterone and monoamines following exposure to methamphetamine and MDMA for 5 or 10 day periods in the developing rats. Thirteenth Annual Meeting of the International Behavioral Neuroscience Society, Key West, FL., June 2004.
207. Williams, M. T., Moran, M. S., and Vorhees , C. V. Behavioral and growth effects induced by low dose methamphetamine administration during the neonatal period in rats. Thirteenth Annual Meeting of the International Behavioral Neuroscience Society, Key West, FL., June 2004.
208. Vorhees, C.V. Invited seminar speaker "CNS effects of developmental exposure to MDMA ('ecstasy'). Dept. of Biological Sciences, University of Kentucky, Lexington, KY, April 1, 2004.
209. Vorhees, C.V. Invited speaker "Research on the prenatal effects of methamphetamine: Clinical and preclinical findings" for the symposium "Our young minds/Our future," Hastings, Nebraska, April 22-23, 2004.
210. **Vorhees, C.V**. Invited speaker "Assessment of Cognitive Function in Rats." Safety Pharmacology Society 4th Annual Meeting, Northern Kentucky Convention Center, Covington, KY, Sept. 27-29, 2004.
211. Able, J.A., Schaefer, T.L., Gudelsky, G.A., **Vorhees, C.V**., and Williams, M.T. Administration of MDMA to adult rats: effects on sequential but not spatial learning. Annual Meeting of the Society for Neuroscience, San Diego, Oct. 23-27, 2004.
212. Herring, N.R., Schaefer, T.L., Skelton, M.R., Able, J.A., Clark, J.F., **Vorhees, C.V**., and Williams, M.T. Neurotoxic methamphetamine (MA) administration increases plasma corticosterone and brain creatine levels. Annual Meeting of the Society for Neuroscience, San Diego, Oct. 23-27, 2004.
213. Moseley, A.E., Lingrel, J.B., Schaefer, T.L., Williams, M.T., and **Vorhees, C.V**. Genetically reduced Na,K-ATPase alpha isoforms induce specific behavioral alterations in mice. Annual Meeting of the Society for Neuroscience, San Diego, Oct. 23-27, 2004.
214. Schaefer, T.L., Burns, K.A., Quan, C., **Vorhees, C.V**., and Williams, M.T. Effects of methamphetamine administration on cell proliferation in the developing rat brain. Annual Meeting of the Society for Neuroscience, San Diego, Oct. 23-27, 2004.
215. Williams, M.T., Able, J.A., Schaefer, T.L., Gudelsky, G.A., and **Vorhees, C.V**. The combination of gestational stress and neonatal methamphetamine: effects on corticosterone and neurotransmitter content. Annual Meeting of the Society for Neuroscience, San Diego, Oct. 23-27, 2004.
216. Brunskill, E. Herring, N.R., Schaefer, T.L., Skelton, M.R., Able, J.A., Clark, J.F., **Vorhees, C.V**., and Williams, M.T. Npas3-deficient mice display behavioral, neuronal signally and brain abnormalities similar to schizophrenia. Annual Meeting of the Society for Neuroscience, San Diego, Oct. 23-27, 2004.

2005

217. **Vorhees, C.V**. (invited speaker). Assessment of learning and memory in safety evaluation studies. Special conference entitled "Safety Neuropharmacology: Approaching Standardization for the Evaluation of Neurotoxicity and Drug Development," Washington, D.C., April 11-12, 2005.
218. Moseley, A.E., Williams, M.T., Schaefer, T.L., Vorhees, C.V., Lingrel, J.B. (2005). Behavioral abnormalities in NA,K-ATPase alpha subunit haploinsufficient mice. *J. Gen. Physiol*., **126** (1), 7A, 2005.
219. Schaefer, T.L., Herring, N.R., McCrea, A.E., Lipton, J.W., Campbell, N.G., **Vorhees, C.V**.,

and Williams, M.T. Effects of 5-methoxy-diisoproplytryptamine on hormone and neurotransmitter levels in the adult rat. Annual Meeting of the International Behavioral Neuroscience Society, Santa Fe, June 1-5, 2005.

220. Skelton, M.R., Williams, M.T., and **Vorhees, C.V**. Neonatal exposure to 3,4-methylenedioxymethamphetamine alters NMDA receptor and associated proteins in adult rats. Annual Meeting of the International Behavioral Neuroscience Society, Santa Fe, June 1-5, 2005.
221. Herring, N.R., Schaefer, T.L., McCrea, A.E., **Vorhees, C.V**., and Williams, M.T. Behavioral effects of 5-methoxy-N,N-diisopropyltryptamine (Foxy) in adult rats. Annual Meeting of the International Behavioral Neuroscience Society, Santa Fe, June 1-5, 2005.
222. **Vorhees, C.V**., Pu, C., Fukumura, M., and Williams, M.T. Path integration versus spatial learning: What does the Cincinnati water maze (CWM) measure? Twenty-ninth Annual Meeting of the Neurobehavioral Teratology Society, St. Pete Beach, June 25-29, 2005.
223. Sun, Y., Jia, L., Williams, M., **Vorhees, C**., Witte, D.P., and Grabowski, G.A. Gene expression profiling in prosaposin deficient mice: molecular alterations precede neuronal pathology. Annual Meeting of the American Society of Human Genetics, Salt Lake City, UT, Oct. 25-29, 2005
224. Herring, N.R., Schaefer, T.L., Tang, P.H., **Vorhees, C.V**., and Williams, M.T. A comparison of the effects of methamphetamine and forced swim on markers of energy metabolism. Society for Neuroscience Annual Meeting, Washington, DC, Nov. 12-17, 2005.
225. Able, J.A., **Vorhees, C.V**., and Williams, M.T. The effects of MDMA administration on learning and memory in adult rats. Society for Neuroscience Annual Meeting, Washington, DC, Nov. 12-17, 2005.
226. Grace, C.E., Herring, N.R., Schaefer, T.L., **Vorhees, C.V**., Skelton, M.R., and Williams, M.T. Comparison of the effects of methamphetamine, forced swim and isolation in the developing rats. Society for Neuroscience Annual Meeting, Washington, DC, Nov. 12-17, 2005.
227. Schaefer, T.L., **Vorhees, C.V**., and Williams, M.T. A comparison of methamphetamine, methylenedioxymethamphetamine, and 5-methoxy-diisopropyltryptamine administration in developing adrenalectomized rats with adrenal autotransplantation. Society for Neuroscience Annual Meeting, Washington, DC, Nov. 12-17, 2005.
228. Skelton, M.R., Williams, M.T., and **Vorhees, C.V**. Increases in NMDA receptor subunit 1, nitric oxide synthase and postsynaptic density 95 in adult rats following neonatal MDMA exposure. Society for Neuroscience Annual Meeting, Washington, DC, Nov. 12-17, 2005.

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229. **Vorhees, C.V**., Schaefer, T.L., and Williams, M.T. Developmental exposure to MDMA results in long-term deficits in spatial vs. path integration learning as a function of dose distribution. International Behavioral Neuroscience Society Annual Meeting, Whistler, British Columbia, May 23-28, 2006.
230. Grace, C.W., Herring, N.R., Schaefer, T.L., Skelton, M.R., Williams, M.T., and **Vorhees, C.V**. Neonatal exposure to methamphetamine increases BDNF, but not NGF, in hippocampus and striatum. International Behavioral Neuroscience Society Annual Meeting, Whistler, British Columbia, May 23-28, 2006.
231. Skelton, M.R., Williams, M.T., and **Vorhees, C.V**. Treatment with MDMA from P11-20 disrupts spatial learning and path integration learning in adolescent rats and spatial learning in older rats. International Behavioral Neuroscience Society Annual Meeting, Whistler, British Columbia, May 23-28, 2006.
232. Schaefer, T.L., Moseley, A.E., Lingrel, J.B., **Vorhees, C.V**., and Williams, M.T. Loss of ouabain binding in the □2 isoform of Na,K-ATPase affects locomotor and startle behavior. International Behavioral Neuroscience Society Annual Meeting, Whistler, British Columbia, May 23-28, 2006.
233. **Vorhees, C.V**. (Invited speaker), Skelton, M.R., and Williams, M.T. (2006). Third trimester-

equivalent model of MDMA exposure: Effects on brain and behavioral development in rats. Neurobehavioral Teratology Society Annual Meeting, Tucson, AZ, June 24-28, 2006.

234. Longacre, I.D., Thompson, K.N., Maple, A.M., Brown, R.W., Skelton, M.R., **Vorhees, C.V**., and Williams, M.T. Reduction in spine density and length in the dentate gyrus and nucleus accumbens in adult rats after neonatal MDMA (Ecstasy) exposure. Society for Neuroscience Annual Meeting, Atlanta, GA, October 14-18, 2006.
235. Grace, C.E., Herring, N.R., Schaefer, T.L., Williams, M.T., and **Vorhees, C.V**. Effects of (+)-methamphetamine on motor performance, prepulse inhibition, and learning and memory in the adult mouse following a neurotoxic dose. Society for Neuroscience Annual Meeting, Atlanta, GA, October 14-18, 2006.
236. Hemmerle, A.M., Dickerson, J.W., Herring, N.R., Schaefer, T.L., **Vorhees, C.V**., Williams, M.T., Seroogy, K.B. Increased expression of BDNF and trk B mRNAs in adult rat prefrontal cortex and/or striatum after MDMA administration. Society for Neuroscience Annual Meeting, Atlanta, GA, October 14-18, 2006.
237. Herring, N.R., Schaefer, T.L., Dickerson, J.W., Hemmerle, A.M., **Vorhees, C.V**., Seroogy, K.B., and Williams, M.T. Neurotoxic methamphetamine (MA) administration increases BDNF in cortical regions and TrkB in striatum of adult rats. Society for Neuroscience Annual Meeting, Atlanta, GA, October 14-18, 2006.
238. Schaefer, T.L., Herring, N.R., Grace, C.E., Skelton, M.R., Johnson, H.L., **Vorhees, C.V**., and Williams, M.T. A comparison of preweaning 5-methoxy-diisopropyltryptamine and (±)3,4-methylenedioxymethamphetamine administration on postweaning anxiety, learning and locomotor activity in rats. Society for Neuroscience Annual Meeting, Atlanta, GA, October 14-18, 2006.
239. Skelton, M.R., Williams, M.T., and **Vorhees, C.V**. P11 exposure to 3,4-methylenedioxymethamphetamine does not increase CAM-KII or neuronal nitric oxide synthase phosphorylation in the rat hippocampus. Society for Neuroscience Annual Meeting, Atlanta, GA, October 14-18, 2006.

2007

240. Curran, C.P., Williams, M.T., Vorhees, C.V., Dalton, T.P., Nebert, D.W. (2007). The role of CYP1A2 and the aryl hydrocarbon receptor (AHR) in PCB-induced developmental neurotoxicity. Annual Metting of the Teratology Society, Pittsurgh, PA, June 23-27, 2007 (abstract published in: *Birth Defects Res. Part A-Clin. Mol. Teratol*., **79**(5), 371).
241. Skelton, M.R., Williams, M.T., Schaefer, T.L., and **Vorhees, C.V**. Neonatal (+)-methamphetamine increases brain derived neurotrophic factor, but not nerve growth factor, during treatment and results in long-term spatial learning deficits. Neurobehavioral Teratology Society 31st Annual Meeting, Pittsburgh, PA, June 23-27, 2007. (abstract published in: *Neurotoxicol. Teratol*. 2007, **29**(3), 405).
242. **Vorhees, C.V**., Herring, N.R., Schaefer, T.L., Skelton, M.R., Grace, C.E., Miranowski, S.K., and Williams, M.T. Developmental methamphetamine: Effects of dose and rearing conditions on later path integration and spatial learning. Neurobehavioral Teratology Society 31st Annual Meeting, Pittsburgh, PA, June 23-27, 2007. (abstract published in*: Neurotoxicol. Teratol*. 2007, **29**(3), 405).
243. Williams, M.T., Schaefer, T.L., Herring, N.R., Grace, C.W., Skelton, M.R., Johnson, H.L., and **Vorhees, C.V**. Differential effects of 5-methoxy-diisopropyltryptamine or (±)3,4-methylenedioxymethamphetamine during development in rats. Neurobehavioral Teratology Society 31st Annual Meeting, Pittsburgh, PA, June 23-27, 2007. (abstract published in: *Neurotoxicol. Teratol*. 2007, **29**(3), 405-406).
244. Schaefer, T.L., Skelton, M.R., Herring, N.R., Gudelsky, G.A., **Vorhees, C.V**., and Williams, M.T. Changes in corticosterone and monoamines following multiple days of (+)-methamphetamine or (±)-3,4-methylenedioxymethamphetamine exposure in the neonatal rat. Neurobehavioral Teratology Society 31st Annual Meeting, Pittsburgh, PA, June 23-27,

2007. (abstract published in*: Neurotoxicol. Teratol*. 2007, **29**(3), 409-410).

245. Skelton, M.R., Schaefer, T.L., **Vorhees, C.V**. and Williams, M.T. Methamphetamine (MA) causes differential increases in plasmatic CORT levels depending on developmental age and length of treatment. Society for Neuroscience Annual Meeting, San Diego, CA, November 14-3-7, 2007.
246. Seroogy, K.B, Hemmerle, A.M., Dickerson, J.W., Herring, N.R., Schaefer, T.L., Schaefer, T.L., **Vorhees, C.V**., and Williams, M.T. MDMA administration modulates expression of neurotrophins and their receptors in multiple regions of adult rat brain: expression of neurotrophins and their receptors in multiple regions of adult rat brain. Society for Neuroscience Annual Meeting, San Diego, CA, November 14-3-7, 2007.
247. Schaefer, T.L., Lingrel, J.B, Moseley, A.E., **Vorhees, C.V**., Williams, M.T. Loss of ouabain binding in the alpha-2 isoform of the Na,K-ATPase: Effects on locomotor activity, cognition, and response to dopamine receptor agonists. Society for Neuroscience Annual Meeting, San Diego, CA, November 14-3-7, 2007.
248. Grace, C.W., Schaefer, T.L., Herring, N.R., Gudelsky, G.A., Williams, M.T., and **Vorhees, C.V**. Adrenalectomy with adrenal autograft prevents serotonin depletions in methamphetamine-treated neonatal rats. Society for Neuroscience Annual Meeting, San Diego, CA, November 14-3-7, 2007.

2008

249. Grace, C.E., Williams, M.T., and **Vorhees, C.V**. Adult HPA axis reactivity is not altered by neonatal methamphetamine administration. International Behavioral Neuroscience Society Annual Meeting, St. Thomas, Virgin Islands, June 17-21, 2008.
250. Graham, D.L., Grace, C.E., Schaefer, T.L., Skelton, M.R., **Vorhees, C.V**., and Williams, M.T. Housing conditions but not Pb+2 during the neonatal period in rats interacts with an acute stressor on corticosterone release. International Behavioral Neuroscience Society Annual Meeting, St. Thomas, Virgin Islands, June 17-21, 2008.
251. Schaefer, T.L., **Vorhees, C.V**., and Williams, M.T. Cognition, anxiety and depressive-like behaviors in Pet-1 knock-out mice. International Behavioral Neuroscience Society Annual Meeting, St. Thomas, Virgin Islands, June 17-21, 2008.
252. Braun, A.A., Skelton, M.R., **Vorhees, C.V**., and Williams, M.T. A comparison of the elevated plus and elevated zero mazes before and after diazepam in rats. International Behavioral Neuroscience Society Annual Meeting, St. Thomas, Virgin Islands, June 17-21, 2008.
253. Skelton, M.R., Grace, C.E., Schaefer, T.L., **Vorhees, C.V**., and Williams, M.T. The role of angiotensinogen in behavioral deficits induced by neonatal MDMA exposure. International Behavioral Neuroscience Society Annual Meeting, St. Thomas, Virgin Islands, June 17-21, 2008.
254. Curran, C.P., Patel, K.V., Williams, M.T., **Vorhees, C.V**., and Nebert, D.W. Genetic susceptibility to PCB-induced developmental neurotoxicity. Teratology Society Annual Meeting, Monterey, CA, June 28-July 3, 2008. (Abstract published in: *Birth Defects Res. Part A-Clin. Mol. Teratol*., **82**(5), 290.
255. **Vorhees, C.V**. (Invited Speaker). CNS Functional Teratology: The relationship between structure and function. Teratology Society Annual Meeting, Monterey, CA, June 28-July 3, 2008.
256. Sun, Y., Kitatani, K., Witte, D.P., Ran, H., Liou, B., Zamzow, M., Skelton, M.R., Williams, M.T., **Vorhees, C.V**., Hannun, Y.A., Grabowski, G.A. Pathological studies and therapeutic testing of isofagomine in a viable mouse model of neuronopathic Gaucher disease. The 58th annual meeting of the American Society of Human Genetics, Philadelphia, PA, November, 2008.
257. Braun, A.A., Skelton, M.R., **Vorhees, C.V**., and Williams, M.T. A comparison of the elevated plus and elevated zero maze in rats under anxiogenic or anxiolytic conditions. Society for Neuroscience Annual Meeting, Washington, D.C., November 15-19, 2008.

258. Graham, D.L., Herring, N.R., Schaefer, T.L., Holland, K.D., **Vorhees, C.V**., and Williams, M.T. A comparison of seizure activity induced by (+)-methamphetamine, (±)-3,4-methylenedioxymethamphetamine, and 5-methoxydiisopropyltryptamine: an EEG study. Society for Neuroscience Annual Meeting, Washington, D.C., November 15-19, 2008.
259. Grace, C.W, Williams, M.T., and **Vorhees, C.V**. Adenalectomy combined with adrenal autografting prevents methamphetamine-induced corticosterone release in neonatal rats treated on P11-20 and restores subsequent basal corticosterone levels enabling normal growth. Society for Neuroscience Annual Meeting, Washington, D.C., November 15-19, 2008.
260. Schaefer, T.L., Deneris, E.S., **Vorhees, C.V**., and Williams, M.T. Decreased activity, increased anxiety, and an absence of learning deficits in Pet-1 knock out mice with a genetically-induced 80% serotonin deficiency. Society for Neuroscience Annual Meeting, Washington, D.C., November 15-19, 2008.
261. Skelton, M.R., Grace, C.E., Schaefer, T.L., Graham, D.L., Bader, M., **Vorhees, C.V**., and Williams, M.T. Blockade of behavioral deficits induced by neonatal MDMA exposure in angiotensinogen-depleted transgenic rats. Society for Neuroscience Annual Meeting, Washington, D.C., November 15-19, 2008.
262. **Vorhees, C.V**. (Invited speaker). Brain structure-function relationships for preclinical neurotoxicity testing: Can the selection process be improved? Visiting Professor Lecture Series, U.S. Food and Drug Administration, White Oak Campus, Sliver Spring, MD, November 19, 2008.

2009

263. **Vorhees, C.V.** (Invited speaker). Effects of methamphetamine and MDMA on brain development and behavior: Animal models of prenatal drug exposure. 2009 Hawaii Addictions Conference: Addiction and Related Issues: Focusing on Recent Research and Culturally Relevant Treatments Among Asian American Pacific Islanders. Honolulu, HI, May 11-12, 2009.
264. Curran, C.P., Williams, M.T., **Vorhees, C.V**., and Nebert, D.W. Differential PCB pharmacokinetics alters neonatal development and affects memory and learning as adults in mice having different *Ahr* and *Cyp1a2* alleles. Annual Meeting of the Teratology Society, San Juan, Puerto Rico, June 27-July 2, 2009.
265. Curran, C.P., Patel, K.V., Williams, M.T., **Vorhees, C.V**., and Nebert, D.W. Differential neurobehavioral responses in PCB-treated mice having different *Ahr* and *Cyp1a2* alleles. Annual Meeting of the Neurobehavioral Teratology Society, San Juan, Puerto Rico, June 27-July 1, 2009.
266. Braun, A.A., Schaefer, T.L., **Vorhees, C.V.**, and Williams, M.T. Functional alterations in the 5HT1A receptor following neonatal ±3,4-methylenedioxymethamphetamine (MDMA) exposure in rats (as accepted; but because of an error by the Program Committee an amended presentation was presented as follows: Braun, A.A., Schaefer, T.L., Grace, C.E., Graham, D.L., Skelton, M.R., Gudelsky, G.A., Vorhees, C.V. and Williams, M.T. Neonatal MDMA and/or citalopram exposure produces long-term deficits in path integration learning, but only MDMA affects spatial learning. Annual Meeting of the Neurobehavioral Teratology Society, San Juan, Puerto Rico, June 27-July 1, 2009.
267. **Vorhees, C.V**., Skelton, M.R., Graham, D.L., Schaefer, T.L., Grace, C.E., Braun, A.A., and Williams, M.T. Search for the critical period in rats neonatally treated with 3,4-methylenedioxymethamphetamine (MDMA): Effects on behavior. Annual Meeting of the Neurobehavioral Teratology Society, San Juan, Puerto Rico, June 27-July 1, 2009.
268. Amos-Kroohs, R., Graham, D.L., Braun, A.A., Skelton, M.R., Schaefer, T.L., Grace, C.E., **Vorhees, C.V**., and Williams, M.T. Maternal isolation in rats but not Pb2+ alters HPA axis function and reduces immune system organ weights. Annual Meeting of the Society for Neuroscience, Chicago, IL, Oct. 17-21, 2009.

269. Braun, A.A., Skelton, M.R., Grahan, D.L., Schaefer, T.L., Grace, C.E., **Vorhees, C.V.**, and Williams, M.T. Gestational polyinosinic-polycytidylic acid induced maternal immune response in pregnant Sprague-Dawley rats produces sexually dimorphic changes and mild path integration deficits in offspring after 1 or 5 days of exposure. Annual Meeting of the Society for Neuroscience, Chicago, IL, Oct. 17-21, 2009.
270. Graham, D.L., **Vorhees, C.V**, and Williams, M.T. Long-term alterations in dopamine and NMDA receptor function following methamphetamine exposure in the neonatal rat. Annual Meeting of the Society for Neuroscience, Chicago, IL, Oct. 17-21, 2009.
271. Schaefer, T.L., Grace, C.E., Graham, D.L., Skelton, M.R., Gudelsky, G.A., **Vorhees, C.V.**, and Williams, M.T. Neonatal MDMA and/or citalopram exposure produces long-term deficits in path integration learning, but only MDMA affects spatial learning. Annual Meeting of the Society for Neuroscience, Chicago, IL, Oct. 17-21, 2009.
272. Skelton, M.R. **Vorhees, C.V**., Graham, D.L., Schaefer, T.L., Grace, C.E., Braun, A.A., and Williams, M.T. Examining critical periods of neonatal 3,4-±)-methylenedioxymethamphetamine (MDMA) administration on behavior. Annual Meeting of the Society for Neuroscience, Chicago, IL, Oct. 17-21, 2009.
273. Sun, Y., Ran, H., Zamzow, M., Kitatani, K., Skelton, M.R., Williams, M.T., **Vorhees, C.V**., Witte, D.P., Hannum, Y.A., Xu, Y-H., and Grabowski, G.A. Role of saposin C in CNS impairment and in vivo function of acid β-glucosidase (GCase). Annual Meeting of the American Society of Human Genetics, Honolulu, HI, Oct. 20-24, 2009.
274. Hertzler, D.A., II, Patel, N., Yuan, W., McAllister, J., II, Deren, K.E., **Vorhees, C**., Williams, M., Holland, S., and Mangano, F.T. Correlated diffusion tensor imaging and locomotor behavior in an animal model of neonatal obstructive hydrocephalus. Annual Meeting of the American Association of Neurological Surgeons and Congress of Neurological Surgeons, Boston, MA, Dec. 1-4, 2009.

2010

275. **Vorhees, C.V**., Skelton, M.R., Graham, D.L., Schaefer, T.L., Grace, C.E., Braun, A.A., and Williams, M.T. Effects of exposure to 3,4-methylenedioxymethamphetamine (MDMA) in rats on later learning and behavior. Annual Meeting of the Neurobehavioral Teratology Society, Louisville, KY, June 26-30, 2010.
276. **Vorhees, C.V**., Skelton, M.R., Graham, D.L., Schaefer, T.L., Grace, C.E., Braun, A.A., Amos-Kroohs, R., and Williams, M.T. Effects of overlapping ages of exposure to (+)-methamphetamine (MA) in rats on later allocentric and egocentric learning. Annual Meeting of the Neurobehavioral Teratology Society, Louisville, KY, June 26-30, 2010.
277. Amos-Kroohs, R.M., Braun, A.A., Webb, C.L., Birtles, T.S., Greene, R.M., Pisano, M.M., Williams, M.T., and **Vorhees, C.V**. In utero exposure to cigarette smoking causes decreased anxiety in a mouse model. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 13-18, 2010.
278. Braun, A.A., Skelton, M.R., Burns, L.N., Graham, D.L., Schaefer, T.L., Amos-Kroohs, R., **Vorhees, C.V**., and Williams, M.T. Cognitive effects of chronic stress following acute (+)-methamphetamine treatment in adult rats. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 13-18, 2010.
279. Graham, D.L, **Vorhees, C.V**., and Williams, M.T. The combination of developmental amphetamine-type stimulants and barren cage alters corticosterone and neurochemical levels in rats. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 13-18, 2010.
280. Schaefer, T.L, Moseley, A.E., Lingrel, J.B., **Vorhees, C.V**., and Williams, M.T. Targeted mutation in the Na,K-ATPase alpha 2 isoform confers ouabain resistance and results in altered learning, acoustic startle, and locomotor behavior following a methamphetamine challenge. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 13-18, 2010.

281. Skelton, M.R., Schaefer, T.L., Grace, C.E., deGrauw, T.J., **Vorhees, C.V**., and Williams, M.T. Creatine transporter knockout mice show learning and memory deficits: modeling human CrT deficiency. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 13-18, 2010.

2011

282. **Vorhees, C.V**., Member, Food Advisory Committee Meeting for "Certified Color Additives and Hyperactivity in Children," U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition. Washington, D.C., March 29-31, 2011.
283. Williams, M.T.; Graham, D.L.; Amos-Kroohs, R.M.; Braun, A.A.; Grace, C.E.; Schaefer, T.L.; Skelton, M.R.; **Vorhees, C.V**. Developmental exposure to chronic stress and manganese in rats, but not low levels of lead, affects anxiety responses and egocentric learning. Annual Meeting of the International Behavioral Neuroscience Society, Steamboat Springs, CO, May 24-29, 2011.
284. Braun, A.A., Graham, D.L., Schaefer, T.L., **Vorhees, C.V**., and Williams, M.T. Dorsal striatal dopamine depletion impairs both allocentric and egocentric navigation. Annual Meeting of the International Behavioral Neuroscience Society, Steamboat Springs, CO, May 24-29, 2011.
285. Graham, D.L., Amos-Kroohs, R.M., Braun, A.A., Grace, C.E., Schaefer, T.L., Skelton, M.R., Williams, M.T., and **Vorhees, C.V**. Long-term receptor alterations from developmental methamphetamine exposure in rats by use of selective pharmacological agonists and antagonists. Thirty-fifth Annual Meeting of the Neurobehavioral Teratology Society, Coronado, CA, June 25-30, 2011.

2012

286. **Vorhees, C.V**. (Invited Symposium Speaker) Rat model of third trimester methamphetamine exposure: Effects on behavior, neurotransmitters, and receptors. Thirty-sixth Annual Meeting of the Neurobehavioral Teratology Society, Baltimore, MD, June 23-27, 2012; ***Neurotoxicol. Teratol***., **34**, 376.
287. **Vorhees, C.V**. (Invited Seminar Speaker) Assessment of Learning and Memory in Developmental Neurotoxicology Studies. NIH, NIEHS, Research Triangle Park, NC, Sept. 6, 2012.
288. **Vorhees, C.V**. (Invited Seminar Speaker) Cincinnati Animal Behavior (Collaborative) Core: Structure and Function. NIH, NIEHS, Research Triangle Park, NC, Sept. 6, 2012.
289. Amos-Kroohs, R.M., Skelton, M.R., **Vorhees, C.V**., and Williams, M.T. Locomotor activity and long-term potentiation in the rat pup are decreased by a perinatal iron deficient diet. Annual Meeting of the Society for Neuroscience, New Orleans, Oct. 13-17, 2012.
290. Braun, A.A., Amos-Kroohs, R.M., **Vorhees, C.V**., and Williams, M.T.. Selective Navigational impairments following dopamine depletion in the dorsomedial or dorsolateral striatum. Annual Meeting of the Society for Neuroscience, New Orleans, Oct. 13-17, 2012.

2013

291. Hautman, E.R., Kokegne, A.N., Udobi, K.C., Williams, M.T., **Vorhees, C.V**., and Skelton, M.R. Female mice heterozygous for creatine transporter deficiency show moderate cognitive deficits. Annual Meeting of the International Behavioral Neuroscience Society, Dublin, Ireland, June 22-24, 2013.
292. Williams, M.T., Braun, A.A., Amos-Kroohs, R.M, Udobi, K.C., Skelton, M.R., and **Vorhees, C.V**. Dopamine depletion in dorsomedial or dorsolateral striatum impairs egocentric Cincinnati water maze performance while sparing allocentric Morris water maze learning. Annual Meeting of the International Behavioral Neuroscience Society, Dublin, Ireland, June 22-24, 2013.
293. Amos-Kroohs, R.M., Bloor, C.P., Gutierrez, A., Hufgard, J.R., **Vorhees, C.V**. and Williams, M.T. Increased manganese and iron-deficiency during development in rats affect locomotor response following pharmacological challenge. Annual Meeting of the International

Behavioral Neuroscience Society, Dublin, Ireland, June 22-24, 2013.

294. **Vorhees, C.V**. (Invited Symposium Speaker) Value of water mazes for assessing spatial and egocentric learning and memory in regulatory studies. Annual Meeting of the Neurobehavioral Teratology Society, Tucson, AZ, June 22-26, 2013.
295. **Vorhees, C.V**. (Invited Speaker) Screening and testing for reproductive and developmental toxicity: Toxicologically relevant developmental windows in the rodent and human nervous system. Annual Meeting of the American College of Toxicology, San Antonio, TX, November 6-10, 2013.
296. Gutierrez, A., Amos-Kroohs, R.M., Williams, M.T., and **Vorhees, C.V**. Effects of methamphetamine on allocentric learning and memory in rats. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 9-13, 2013.
297. Amos-Kroohs, R.M., Davenport, L.L., Gutierrez, A., Atansanova, N., **Vorhees, C.V**., and Williams, M.T.. Cognitive and behavioral deficits in a developmental model of multifactorial environmental exposure. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 9-13, 2013.
298. Hufgard, J.R., Skelton, M.R., Williams, M.T., and **Vorhees, C.V**. Phosphodiesterase 1B knockout mice are resistant to the induction of depression. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 9-13, 2013.

2014

299. **Vorhees, C.V**. (Invited Lecturer). Cognitive and behavioral effects of developmental exposure to manganese in rats. Duke Children's Environmental Health and Disease Research Center, Duke University, Durham, NC, March 6-7, 2014.
300. **Vorhees, C.V**., Osimitz, T., Sheets, L., Minnema, D., Brooks, M., Gammon, D., and Williams, M.T. Effects of permethrin on the acoustic startle response in adult male Sprague-Dawley rats. Annual Meeting of the Society of Toxicology, Phoenix, AZ, March 23-27, 2014.
301. Amos-Kroohs, R.M., Davenport, L.L., Atansanova, N., **Vorhees, C.V**., and Williams, M.T. Interaction of Manganese, Iron, and Stress on Spatial Learning and Memory after Developmental Exposure. Annual Meeting of the Society of Toxicology, Phoenix, AZ, March 23-27, 2014.
302. **Vorhees, C.V**. (Invited speaker) Serial assessment of learning and memory in juvenile toxicology studies. Boston-area Pharmaceutical Toxicology Group (BAPTG), Andover, MA, May 9, 2014.
303. Amos-Kroohs, R.M., Davenport, L.L., Bloor, C.P., **Vorhees, C.V**., and Williams, M.T. Modeling complex environments in rats: Neurobehavioral phenotype of manganese overexposure, iron deficiency, and developmental stress interactions. Annual Meeting of the International Behavioral Neuroscience Society, Las Vegas, NV, June 10, 15, 2014.
304. **Vorhees, C.V**., Osimitz, T., Sheets, L., Minnema, D., Brooks, M., Gammon, D., and Williams, M.T. Effects of permethrin on the acoustic startle response in adult male Sprague-Dawley rats. Annual Meeting of the International Behavioral Neuroscience Society, Las Vegas, NV, June 10, 15, 2014.
305. Hufgard, J.R., Skelton, M.R., Williams, M.T., and Vorhees, C.V. Phosphodiesterase 1B knockout mice are resistant to the induction of depression. Annual Meeting of the International Behavioral Neuroscience Society, Las Vegas, NV, June 10, 15, 2014.
306. Gutierrez, A., Amos-Kroohs, R.M., Williams, M.T., and **Vorhees, C.V.** Effects of methamphetamine and Barren Housing on Allocentric Learning and Memory in Adult Rats. Annual Meeting of the International Behavioral Neuroscience Society, Las Vegas, NV, June 10, 15, 2014.
307. **Vorhees, C.V**., Osimitz, T., Sheets, L., Minnema, D., Brooks, M., Gammon, D., and Williams, M.T. Effects of permethrin on the acoustic startle response in adult male Sprague-Dawley rats. Annual Meeting of the Neurobehavioral Teratology Society, Bellevue, WA, June 29-July 2, 2014.

308. Amos-Kroohs, R.M., Davenport, L.L., Bloor, C.P., **Vorhees, C.V.,** and Williams, M.T. Modeling complex environments in rats: Neurobehavioral phenotype of manganese overexposure, iron deficiency, and developmental stress interactions. Annual Meeting of the Neurobehavioral Teratology Society, Bellevue, WA, June 29-July 2, 2014.
309. Mann, E.A., Alam, Z., Hufgard, J.R., Mogle, M., Williams, M.T., **Vorhees, C.V**., and Reddy, P. Chronic social defeat, but not restraint stress, alters bladder function in mice. Pediatric Urology Fall Congress, Miami Beach, FL, October 24-26, 2014.

2015

310. Hufgard, J.R., Williams, M.T., and **Vorhees, C.V**. Lack of depression-like phenotypes in C57BL-6J mice subjected to different types of chronic stressors. Annual Meeting of the International Behavioral Neuroscience Society, Victoria, BC, June 2-7, 2015.
311. Jablonski, S.A., Gutierrez, A., Tee, T.M., Suttling, K.L., Williams, M.T., and **Vorhees, C.V**. Neonatal (+)-methamphetamine exposure impairs egocentric learning in the Cincinnati water maze (CWM) and working memory in the radial water maze (RWM) in rats. Annual Meeting of the International Behavioral Neuroscience Society, Victoria, BC, June 2-7, 2015.
312. **Vorhees, C.V**., Jablonski, S.A., Gutierrez, A., Tee, T.M., Suttling, K.L., and Williams, M.T. Neonatal (+)-methamphetamine exposure impairs egocentric, allocentric, and working memory in rats. Annual Meeting for the Neurobehavioral Teratology Society (Developmental Neurotoxicology Society), Montreal, QC, June 27-July1, 2015.
313. Bailey, R.A., Gutierrez, A., Amos-Kroohs, R.M., **Vorhees, C.V**., and Williams, M.T. Egocentric learning deficits in rats produced by developmental manganese overexposure or adulthood 6-hydroxydopamine toxicity are exacerbated in combination. Annual Meeting of the Society for Neuroscience, October 7-11, 2015.
314. Jablonski, S.A., Gutierrez, A., Tee, T.M. , Suttling, K.L., Williams, M.T., and **Vorhees, C.V**. Neonatal (+)-methamphetamine exposure in rats: Impairments in egocentric, allocentric, working, and contextual fear memory. Annual Meeting of the Society for Neuroscience, October 7-11, 2015.
315. Gutierrez, A., Jablonski, S.A., Amos-Kroohs, R.M., Braun, A.A., Williams, M.T., and **Vorhees, C.V**. Methamphetamine-induced changes to monoamine neurotransmission and allocentric learning and memory in barren-housed adult rats. Annual Meeting of the Society for Neuroscience, October 7-11, 2015.
316. Sprowles, J.L.N., Hufgard, J.R., Gutierrez, A., Bailey, R.A., Jablonski, S.A., Williams, M.T. and **Vorhees, C.V.** Effects of perinatal administration of antidepressants on behavior of the adult offspring in Sprague-Dawley Rats. Annual Meeting of the Society for Neuroscience, October 7-11, 2015.
317. Hufgard, J.R., Williams, M.T., and **Vorhees, C.V**. Lack of depression-like phenotypes in C57BL/6J mice subjected to different types of chronic stressors. Annual Meeting of the Society for Neuroscience, October 7-11, 2015.
318. **Vorhees, C.V**. (invited speaker). Neurotoxicity assessment: What tests are best and why. Annual Meeting of the Mid-Atlantic Reproduction and Teratology Association, Denver, PA, October 15-16, 2015.
319. **Vorhees, C.V**. (invited speaker). Assessment of core of learning and memory systems in Regulatory studies. Annual Meeting of the American College of Toxicology, Summerlin, NV, Nov. 8-11, 2015.

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320. **Vorhees, C**. **V.** (Invited speaker). Use of startle in genetic and drug and environmental agent exposure research. Webinar: Startle Response Flexibility: Employing Acoustic, Tactile and PPI Procedures to detect Neurotoxicity in Rodents. Inside Scientific, Inc., June 23, 2016.

321. **Vorhees, C.V.** (Invited speaker). CE Course: Embryology in Modern Times: The fetal period: Functional consequences. 56th Annual Meeting of the Teratology Society, San Antonio, TX, June 25, 2016.
322. **Vorhees, C.V.**, (Invited speaker). Origins of the Developmental Neurotoxicology Society. 40th Annual Meeting of the Developmental Neurotoxicology Society, San Antonio, TX, June 15-29, 2016.
323. **Vorhees, C.V**. (Invited speaker and co-chair) Wiley-Blackwell Symposium: Neurodevelopmental deficits from exposure to methamphetamine, cocaine and alcohol: Emerging mechanisms and human consequences; Vorhees: Effects of methamphetamine on brain and behavioral development. 40th Annual Meeting of the Developmental Neurotoxicology Society, San Antonio, TX, June 15-29, 2016.
324. **Vorhees, C**.V. (Invited speaker) Common problems in analyzing developmental data. 56th Annual Meeting of the Teratology Society, San Antonio, TX, June 25, 2016.
325. Sprowles, J.L., Hufgard, J.R., Gutierrez, A., Bailey, R.A., Jablonski, S.A., Williams, M.T., & **Vorhees, C.V**. Perinatal Exposure to the SSRI Citalopram Alters Spatial Learning and Memory, Anxiety, Depression, and Startle in Sprague-Dawley Rats. 40th Annual Meeting of the Developmental Neurotoxicology Society, San Antonio, TX, June 15-29, 2016.
326. **Vorhees, C.V**., (Invited speaker) Developmental Neurotoxicity Testing: An Introduction to the State of the Science and Opportunities for Improvement. Colloquium "Emerging Toxicological Science Challenges in Food and Ingredient Safety: State of the Science Supporting Regulatory Decision-Making in Developmental Neurotoxicology. U.S. Food and Drug Administration, Washington, D.C., Oct. 11-12, 2016.
327. Bailey, R.A., Gutierrez, A., Hufgard, J.R., Kyser, T.L., Hemmerle, A.M., Seroogy, K.B., **Vorhees, C.V**., and Williams, M.T. Additive deficits on egocentric and allocentric learning induced after developmental manganese overexposure combined with 6-hydroxydopamine striatal lesions. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 12-16, 2016.
328. Gutierrez, A., **Vorhees, C.V**., and Williams, M.T. Assessment of working memory and monoamine neurotransmitters in methamphetamine-treated adult male rats. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 12-16, 2016.
329. Hufgard, J.R., Williams, M.T., and **Vorhees, C.V**.. Role of Pde1b in depressive-like behavior: A mouse model. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 12-16, 2016.
330. Jablonski, S.A., LaSance, K., Lemen, L. , Thomas, S.J., Sanchez, S.C., Aschner, M., Williams, M.T., and **Vorhees, C.V**. Neurotoxic and cognitive effects of neonatal (+)-methamphetamine: Role of reactive oxygen species (ROS). Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 12-16, 2016.
331. Pitzer, E., Williams, M.T., and **Vorhees, C.V**. Developmental deltamethrin exposure alters adult learning and behavior. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 12-16, 2016.
332. Sprowles, J.L.N., Hufgard, J.R., Gutierrez, A., Bailey, R.A., Jablonski, S.A., Williams, M.T. & **Vorhees, C.V**. Developmental exposure to the selective serotonin reuptake inhibitor citalopram alters spatial learning and memory, anxiety, sociability, and acoustic startle response in the offspring adult of Sprague-Dawley rats as adults. Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov. 12-16, 2016.

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333. **Vorhees, C.V**. (invited speaker). Developmental neurotoxicity of pyrethroids. Battelle Memorial Institute, Columbus, OH, Feb. 23, 2017.
334. Williams, M.T., Sugimoto, C., Fritz, A.L. & **Vorhees, C.V**. Acute effects of deltamethrin on acoustic startle, learning, and memory in developing rats. Annual Meeting of the Society of Toxicology, Baltimore, MD, March 12-16, 2017.

335. **Vorhees, C.V**. (invited speaker) and Williams, M.T. Developmental effects of pyrethroids on acoustic startle and on learning and memory. Annual Meeting of the Society of Toxicology, Baltimore, MD, March 12-16, 2017.
336. **Vorhees, C.V**. (organizer and Co-Chair) and Gammon, D. (Co-Chair) Workshop: New findings on pyrethroid developmental neurotoxicity: an alternate approach to characterizing age-related differences to hazard identification. Annual Meeting of the Society of Toxicology, Baltimore, MD, March 12-16, 2017.
337. Vorhees, C.V. (invited speaker). Normal and abnormal development of the nervous system. Conference: Practical Reproductive and Developmental Toxicology sponsored by the American College of Toxicology and the Teratology Society. Philadelphia, PA, May 8-12, 2017.
338. Pitzer, E.M., Williams, M.T., and **Vorhees, C.V.** Developmental stress and lead and/or manganese produces behavioral deficits in adult Sprague-Dawley rats. Annual Meeting of the Developmental Neurotoxicology Society, Denver, CO, June 24,29, 2017.
339. Sprowles, J.L.N., Hufgard, J.R., Gutierrez, A., Bailey, R.A., Jablonski, S.A., Williams, M.T., and **Vorhees, C.V**. Perinatal antidepressant exposure influences spatial learning and memory, acoustic startle response, anxiety, and locomotor activity in adult Sprague-Dawley rats. Annual Meeting of the Developmental Neurotoxicology Society, Denver, CO, June 24,29, 2017.
340. Williams, M.T., Jablonski, S.A., **Vorhees, C.V**. Learning and memory deficits from neonatal methamphetamine in Sprague-Dawley rats are not ameliorated by blockade of reactive oxygen species. Annual Meeting of the Developmental Neurotoxicology Society, Denver, CO, June 24,29, 2017.
341. **Vorhees, C.V.**, Hufgard, J.R., Sprowles, J.L.N., Gudelsky, G., and Williams, M.T. Latrophilin-3: A new model of ADHD-like behavior in a rat knockout model. Annual Meeting of the Developmental Neurotoxicology Society, Denver, CO, June 24,29, 2017.
342. **Vorhees, C.V.** (invited seminar speaker). Paradox of Methamphetamine-induced Neurotoxicity: Developmental vs. Adult Effects in Rats. Toxicology Program Seminar, University of Illinois, Champagne-Urbana, IL, September 7-8, 2017.
343. Gutierrez, A., Williams, M.T., and **Vorhees, C.V**. (2017). Methamphetamine produces deficits in egocentric and allocentric learning and memory and in brain monoamines after a single dose in rats. Annual Meeting of the Society for Neuroscience, Washington, D.C., Nov. 11-15, 2017.
344. Kyser, T.L., Dourson, A.J., Lundgren, K.H., Gulati, R., Gutierrez, A., **Vorhees, C.V**., and Seroogy, K.B. Neuronal degeneration in non-dopaminergic brain regions and neurochemical alterations in the DJ-1 knockout rat model of Parkinson's disease. Annual Meeting of the Society for Neuroscience, Washington, D.C., Nov. 11-15, 2017.

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345. **Vorhees, C.V.** (Invited speaker). Developmental and Reproductive Toxicology: Reviewer Update, "Relevance of animal behavioral testing to humans." Food & Drug Administration, Center for Drug Evaluation and Review. FDA White Oak facility, Silver Springs, MD, Feb. 15, 2018.
346. **Vorhees, C.V.** (Invited speaker). Juvenile toxicology neurobehavioral assessments: When and what should be assessed. Annual Meeting of the Society of Toxicology Annual Meeting, San Antonio, TX, March 10-14, 2018.
347. **Vorhees, C.V**. (Invited speaker). Gordon Research Conference: Cyclic Nucleotide Phosphodiesterases: Role of *Pde1* in depression. Jordan Hotel at Sunday River, Newry, ME, June 10-15, 2018.
348. Pitzer, E.M., Williams, M.T., and **Vorhees, C.V**. Developmental deltamethrin exposure alters dopaminergic activity and long-term potential in rats. Annual Meeting of the Developmental Neurotoxicology Society, Clearwater, FL, June 24-27, 2018.

349. Regan, S.L. Sugimoto, C., Williams, M.T., and **Vorhees, C.V**. *Latrophilin-3* (*Lphne3*) and ADHD: A rat knockout model. Annual Meeting of the Developmental Neurotoxicology Society, Clearwater, FL, June 24-27, 2018.
350. Sprowles, J.L.N., Pitzer, E.M., Regan, S.L., Williams, M.T., and **Vorhees, C.V**. Perinatal exposure to the selective serotonin reuptake inhibitor (SSRI) citalopram alters serotonergic circuitry in the hippocampus. Annual Meeting of the Developmental Neurotoxicology Society, Clearwater, FL, June 24-27, 2018.
351. Williams, M.T, Jablonski, S.A., and **Vorhees, C.V.** Neurocognitive effects of postnatal (+)-methamphetamine administration combined with a dopamine D1 receptor antagonist in Sprague-Dawley rats. Annual Meeting of the Developmental Neurotoxicology Society, Clearwater, FL, June 24-27, 2018.
352. **Vorhees, C.V**. and Williams, W.T. An improved approach to regulatory developmental neurotoxicity testing (DNT). Annual Meeting of the Developmental Neurotoxicology Society, Clearwater, FL, June 24-27, 2018.
353. **Vorhees, C**.V. (invited speaker). Developmental neurotoxicity in rats exposed to high levels of dietary MSG. International Glutamate Technical Committee, Paris, June 22-27, 2018.
354. **Vorhees, C**.V. (invited speaker). Analysis of the developmental neurotoxicity potential of dietary MSG in rats. International Glutamate Technical Committee, Brussels, September 29-October 4, 2018.
355. Yermakov, L.M., Drouet, D.E., Griggs, R.B., Elased, K.M., Sugimoto, C., Williams, M.T., **Vorhees, C.V**., and Susuki, K. Structural changes in axon initial segment in diabetic brain. Society for Neuroscience Annual Meeting, San Diego, CA, Nov. 4-7, 2018.
356. Regan, S.L., Pitzer, E.M., Sugimoto, C., Ross, A.E., Cryan, M., Williams, M.T., and **Vorhees, C.V**. Latrophilin-3 and ADHD: A rat knockout model. Society for Neuroscience Annual Meeting, San Diego, CA, Nov. 4-7, 2018.
357. Pitzer, E.M., Williams, M.T., and **Vorhees, C.V**. Developmental deltamethrin exposure alters dopaminergic activity and long-term potentiation in Sprague-Dawley rats. Society for Neuroscience Annual Meeting, San Diego, CA, Nov. 4-7, 2018.
358. Bailey, R.A., Gutierrez, A., Hufgard, J.R., **Vorhees, C.V**., and Williams, M.T. Dopaminergic dysfunction in Sprague-Dawley rats as a potential mechanism for deficits in egocentric and allocentric learning and memory following developmental manganese overexposure. Society for Neuroscience Annual Meeting, San Diego, CA, Nov. 4-7, 2018.
359. **Vorhees, C.V.** (Invited speaker). Neurotoxicology: Progress and challenges. National Center for Toxicological Research, Food & Drug Administration, Dept. of Health and Human Services, Jefferson, AR, Nov. 28-29, 2018.

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360. **Vorhees, C.V**. (Invited speaker). Association of altered LPHN3 with ADHD. Cincinnati Children's Hospital Medical Center, Neurology Grand Rounds, Cincinnati, OH, Jan. 2, 2019.
361. **Vorhees, C.V.** (Invited speaker). Developmental neurotoxicity: Principles and methods. Proton Center seminar series, Liberty Township, February 15, 2019.
362. **Vorhees, C**.V. (Invited panelist and discussant). This is your teen brain on drugs: In search of unique biological markers of teenage vulnerability to dependence toxicity. Society of Toxicology Annual Meeting, Baltimore, MD, March 10-14, 2019.
363. **Vorhees, C.V.,** Hufgard, J., Sprowles, S., Pitzer, E., Koch, S., Jiang, M., Wang, Q., Zhang, X., Biesiada, J., Rubinstein, J., and Williams, M.T. Prenatal exposure to PCBs in Cyp1a2 knock-out mice interferes with F1 fertility, impairs long-term potentiation, reduces acoustic startle, and impairs conditioned freezing contextual memory with minimal transgenerational effects. Developmental Neurotoxicology Society Annual Meeting, San Diego, CA, June 23-26, 2019. Abstract in: ***Neurotoxicol. Teratol.,* 73**, 83.

364. Pitzer, E., Sugimoto, C., Gudelsky, G., Williams, M., and **Vorhees, C.V**. Deltamethrin exposure to Sprague-Dawley rats from postnatal day 3-20 alters dopaminergic and glutamatergic activity and long-term potential when tested as adults. Developmental Neurotoxicology Society Annual Meeting, San Diego, CA, June 23-26, 2019. Abstract in: ***Neurotoxicol. Teratol.,*** **73**, 88.
365. Sprowles, J., Amos-Kroohs, R., Braun, A., Sugimoto, C., **Vorhees, C.V**., and Williams, M. Exposure to manganese, lead, and barren cage stress during development has long-term effect on neurocognitive, behavioral, and monoamine outcomes in adult Sprague-Dawley rats. Developmental Neurotoxicology Society Annual Meeting, San Diego, CA, June 23-26, 2019. Abstract in: ***Neurotoxicol. Teratol.,*** **73**, 89.
366. Williams, M., Amos-Kroohs, R., and **Vorhees, C.V**. Prolonged methamphetamine exposure during a critical period in neonatal Sprague-Dawley rats does not exacerbate egocentric and allocentric learning but increases reference memory impairment. Developmental Neurotoxicology Society Annual Meeting, San Diego, CA, June 23-26, 2019. Abstract in: ***Neurotoxicol. Teratol.,*** **73**, 94.
367. Regan, S., Cryan, M., Ross, A., Williams, M., and **Vorhees, C.V.** Altered dopaminergic markers and striatal dopamine release dynamics in hyperactive *Lphn3* KO rats. Developmental Neurotoxicology Society Annual Meeting, San Diego, CA, June 23-26, 2019. Abstract in: ***Neurotoxicol. Teratol.,*** **73**, 83.
368. **Vorhees, C.V**. Invited member of the Scientific Advisory Committee on Chemicals under the amended Toxic Substances Control Act, U.S. Environmental Protection Agency, review of EPA Draft Risk Evaluations for 1,4-Dioxane and HBCD, Washington, D.C., July 29-August 2, 2019.
369. **Vorhees, C.V**. Invited member of the Scientific Advisory Committee on Chemicals under the amended Toxic Substances Control Act, U.S. Environmental Protection Agency, review of EPA Draft Risk Evaluation of 1-Bromopropane, Washington, D.C., Sept. 9-12, 2019.
370. **Vorhees, C.V**. Invited speaker and panel member, Office of Health and Hazard Assessment, CalEPA, State of California, "Do Synthetic Food Dyes Impact Children's Neurological or Behavioral Health? Use of animal neurotoxicological studies to evaluate environmental stressors. Sacramento, CA, Sept. 19-20, 2019.
371. **Vorhees, C.V**. Member, Scientific Advisory Committee, National Academy of Science on "Fluoride and Behavior: Review of the National Toxicology Program Report: Effects of Fluoride on Brain and Behavior. Washington, D.C., November 6-7, 2019.
372. Tiwari, D., Schaefer, T.L., Schroeder-Carter, L.M., Krzeski, J.C., Bunk, A.T., Snider, A., Danzer, R., Williams, M.T., **Vorhees, C.V**., Danzer, S.C., Gross, C. (2019). The potassium channel Kv4.2 regulates dendritic morphology, seizure susceptibility, and electrographic dynamics in mice. Society for Neuroscience Annual Meeting, Chicago, IL, Oct. 19-23, 2019.
373. Pitzer, E., Sugimoto, C., Gudelsky, G., Williams, M.T., and **Vorhees, C.V**. (2019). Developmental deltamethrin exposure to Sprague-Dawley rats alters dopaminergic and glutamatergic systems and long-term potentiation when tested as adults. Society for Neuroscience Annual Meeting, Chicago, IL, Oct. 19-23, 2019.
374. Regan, S.L., Sugimoto, C., Williams, M.T., and **Vorhees, C.V**. (2019). Latrophilin-3 (LPHN3) knockout and heterozygous Sprague Dawley rats show hyperactivity, response to ADHD medication, and cognitive deficits. Society for Neuroscience Annual Meeting, Chicago, IL, Oct. 19-23, 2019.
375. **Vorhees, C.V**. Invited member of the Scientific Advisory Committee on Chemicals under the amended Toxic Substances Control Act, U.S. Environmental Protection Agency, review of EPA Draft Risk Evaluation of 2-methylene chloride and N-methyl-pirrolidone, Washington, D.C., Dec. 2-6, 2019.

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376. Mascia, A. Breneman, J., Sertorio, M., Kalin, T., **Vorhees, C.V**., Williams, M.T., Lu, R., Vatner, R., Speth, J., Girdhani, S, Abel, E, Perentesis, J. Invited lecture: Ultra-High Dose Rate FLASH Radiotherapy: Current Technology and Translational Science in Cincinnati. 119th Scientific Meeting of the Japan Society of Medical Physics, Tokyo, Japan, April 9-12, 2020.
377. **Vorhees, C.V**. Invited member of the Scientific Advisory Committee on Chemicals under the amended Toxic Substances Control Act, U.S. Environmental Protection Agency, review of EPA Draft Risk Evaluation of tetrachloroethylene (TCE), Washington, D.C., March 24-27, 2020.
378. Williams, M.T., Sugimoto, C., Regan, S., Pitzer, E., Fritz, A., Mascia, A., Sertorio, M., Vatner, R., Perentesis, J., **Vorhees, C.V**.. Dose-dependent cognitive and behavioral effects from single fraction whole brain conventional proton irradiation in adult Sprague-Dawley rats. Annual Meeting of the International Behavioral Neuroscience Society, Glasgow, Scotland, June2-6, 2020.
379. **Vorhees, C.V**., Sugimoto, C., Regan, S.L., Pitzer, E.M., Fritz, A.L., Sertorio, M., Mascia, A.E., Vatner, R.E., Perentesis, J.P., Williams, M.T. Comparison of single fraction whole brain conventional or FLASH proton irradiation in neonatal Sprague-Dawley rats: Cognitive and behavioral effects. Annual Meeting of the Developmental Neurotoxicology Society, Charleston, S.C., June 27-July1, 2020.
380. Williams, M.T., Sugimoto, C., Regan, S.L., Pitzer, E.M., Fritz, A.L., Mascia, A.E., Sertorio, M., Vatner, R.E., Perentesis, J.P., **Vorhees, C.V**. Dose-dependent cognitive and behavioral effects from single fraction whole brain conventional proton irradiation in adult Sprague-Dawley rats. 59th Annual Conference of the Particle Therapy Co-Operative Group (PTCOG), Taipei, Taiwan, Sept. 6-11, 2020.
381. Williams, M.T., Sugimoto, C., Regan, S.L., Pitzer, E.M., Fritz, A.L., Sertorio, M., Mascia, A.E., Vatner, R.E., Perentesis, J.P., **Vorhees, C.V**. Comparison of single fraction whole brain conventional or FLASH proton irradiation in neonatal Sprague-Dawley rats on cognitive and behavioral effects. 59th Annual Conference of the Particle Therapy Co-Operative Group (PTCOG), Taipei, Taiwan, Sept. 6-11, 2020.
382. **Vorhees, C.V**., Sugimoto, C., Regan, S.L., Pitzer, E.M., Fritz, A.L., Sertorio, M., Mascia, A.E., Vatner, R.E., Perentesis, J.P., & Williams, M.T. FLASH vs. conventional proton irradiation in neonatal Sprague Dawley rats: Sparing of egocentric learning and working memory at 5 Gy FLASH compared with 5 Gy conventional proton irradiation. ASTRO Annual Meeting (American Society for Radiation Oncology), Miami Beach, October 25-28, 2020.