Attachment 1: Widecast List of Nominees for 2017 CASAC Annual Membership

Person	Organization	City	State	Special Expertise Needed	Who Referred	Comment
Allen,George A.	Northeast States for Coordinated Air Use Management (NESCAUM)	Boston	MA		Dan Greenbaum, Health Effects Institute	Interested; Former CASAC Member, 2010-2016
Andrews,Nancy C.	Duke University	Durham	NC	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAS
Appel,Lawrence J.	Johns Hopkins University	Baltimore	MD	Physician; Member of the National Academy of Sciences	Dr. Jonathan Samet, University of Southern California	No Response; NAM
Arnett, Jr.,Jerome C.		Elkins	WV	Physician	Steve Milloy, Energy & Environment Legal Institute	No Response
Austen,K. Frank	Brigham and Women's Hospital	Boston	MA	Physician; Member of the National Academy of Sciences	DFO	No Response; NAM
Balmes,John R.	University of California, San Francisco	San Francisco	CA	Physician	Gary Ewart, American Thoracic Society; Dr. Joel Kaufman, University of Washington	Interested
Bascom,Rebecca	Pennsylvania State University	Hershey	PA	Physician	Gary Ewart, American Thoracic Society	Interested
Baylin,Stephen B.	Johns Hopkins School of Medicine	Baltimore	MD	Physician; Member of the National Academy of Sciences	DFO	No Response; NAS
Berg,Alfred	University of Washington School of Medicine	Seattle	WA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Bibbins-Domingo,Kirsten	University of California, San Francisco School of Medicine	San Francisco	CA	Physician; Member of the National Academy of Sciences	Dr. Jonathan Samet, University of Southern California	No Response; NAM
Boat,Thomas F.	Cincinnati Children's Hospital Medical Center	Cincinnati	OH	Physician; Member of the National Academy of Sciences	DFO	Interested; NAM
Boylan,James	Georgia Department of Natural Resources	Atlanta	GA		Self	Interested
Braveman,Paula	University of California, San Francisco School of Medicine	San Francisco	CA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Brown,Myles	Harvard University	Boston	MA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAS
Brugge,Doug	Tufts University School of Public Health	Boston	MA		Self	Interested
Buckley,Rebecca H.	Duke University School of Medicine	Durham	NC	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Chameides,William L.	Duke University	Durham	NC	Member of the National Academy of Sciences	DFO	No Response; NAS
Colditz,Graham A.	Washington University School of Medicine	St. Louis	MO	Physician; Member of the National Academy of Sciences	DFO	Interested; NAM
Cooper,Lisa A.	Johns Hopkins University Bloomberg School of Public Health	Baltimore	MD	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Cortese,Denis A.	Arizona State University	Scottsdale	AZ	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM

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Cory-Slechta,Deborah	University of Rochester	Rochester	NY		Dr. Michael McGinnis, National Academy of Medicine	Interested
Cox, Jr.,Louis Anthony (Tony)	Cox Associates	Denver	CO	Member of the National Academy of Sciences	Dan Byer, United States Chamber of Commerce	Interested; NAE
Croes,Bart	California Air Resources Board	Sacramento	CA		Dan Greenbaum, Health Effects Institute	Interested
Cullen,Mark R.	Stanford University School of Medicine	Palo Alto	CA	Physician; Member of the National Academy of Sciences	Dr. Jonathan Samet, University of Southern California	Not Interested; NAM
Delfino,Ralph J.	University of California, Irvine	Irvine	CA	Physician	Dr. Joel Kaufman, University of Washington	No Response
Dennery,Phyllis A.	Brown University Warren Alpert School of Medicine	Providence	RI	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
DePinho,Ronald	University of Texas MD Anderson Cancer Center	Houston	TX	Physician; Member of the National Academy of Sciences	Dr. Patrick Moore, University of Pittsburgh	Not Interested; NAS
Diaz,Angela	Mount Sinai Icahn School of Medicine	New York	NY	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Dietz, III,Harry C.	Johns Hopkins University School of Medicine	Baltimore	MD	Physician; Member of the National Academy of Sciences	DFO	No Response; NAS
Diez Roux,Ana V.	Drexel University	Philadelphia	PA	Physician; Member of the National Academy of Sciences	DFO	Interested; NAM
Drazen,Jeffrey	New England Journal of Medicine	Boston	MA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Eaton,David L.	University of Washington	Seattle	WA	Physician	Dr. Joel Kaufman, University of Washington; Dr. Michael McGinnis, National Academy of Medicine	Not Interested; NAM
Elias,Jack A.	Brown University	Providence	RI	Physician; Member of the National Academy of Sciences	DFO	No Response; NAM
Evans,Ronald	Salk Institute for Biological Studies	La Jolla	CA	Member of the National Academy of Sciences	Dr. Patrick Moore, University of Pittsburgh	Not Interested; NAS
Feinleib,Manning	Johns Hopkins University Bloomberg School of Public Health	Baltimore	MD	Physician; Member of the National Academy of Sciences	DFO	No Response; NAM
Fiore,Michael	University of Wisconsin School of Medicine and Public Health	Madison	WI	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Frampton,Mark	University of Rochester	Rochester	NY	Physician	Dr. Richard Yamada, USEPA	Interested
Garcia,Joe	University of Arizona College of Medicine	Tucson	AZ	Physician; Member of the National Academy of Sciences	Dr. Jonathan Samet, University of Southern California	Interested; NAM
Garshick,Eric	Veterans Administration Boston Health Care System	West Roxbury	MA	Physician	Dr. Michael McGinnis, National Academy of Medicine	Interested
Glass,Christopher K.	University of California, San Diego School of Medicine	La Jolla	CA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAS
Goldie,Sue J.	Harvard University T.H. Chan School of Public Health	Boston	MA	Physician; Member of the National Academy of Sciences	DFO	No Response; NAM

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Goldman,Lynn R.	George Washington University	Washington	DC	Physician; Member of the National Academy of Sciences	DFO	No Response; NAM
Goldstein,Bernard	University of Pittsburgh	Pittsburgh	PA	Physician; Member of the National Academy of Sciences	Self	NAM; Withdrew nomination on July 2, 2017
Goosby,Eric	University of California, San Francisco School of Medicine	San Francisco	CA	Physician; Member of the National Academy of Sciences	DFO	No Response; NAM
Gould,Robert M.	Physicians for Social Responsibility	San Francisco	CA	Physician	Dr. Paula Braveman, University of California, San Francisco	No Response
Green,Michael R.	University of Massachusetts Medical School	Worcester	MA	Physician; Member of the National Academy of Sciences	DFO	No Response; NAS
Hayworth,Nan	Independent Consultant	NY		Physician	Dr. Richard Yamada, USEPA	Interested
Henry,Carol	Independent Consultant	Portland	OR		Dan Greenbaum, Health Effects Institute	Interested
Jobe,Alan H.	Cincinnati Children's Hospital Medical Center	Cincinnati	OH	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Johnson,Robert Eugene	Vidalia ENT Associates	Vidalia	GA	Physician	Dr. Richard Yamada, USEPA	Interested
Kahn,Barbara	Harvard University School of Medicine	Boston	MA	Physician; Member of the National Academy of Sciences	DFO	No Response; NAS
Kastan,Michael B.	Duke University School of Medicine	Durham	NC	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAS
Kaufman,Joel	University of Washington	Seattle	WA	Physician	Dr. Bruce Psaty, University of Washington; Dr. Michael McGinnis, National Academy of Medicine	Not Interested
King, Jr.,Talmadge E.	University of California San Francisco	San Franciso	CA	Physician; Member of the National Academy of Sciences	Dr. Jonathan Samet, University of Southern California	Not Interested; NAM
Kipen,Howard	Rutgers University School of Public Health	Piscataway	NJ	Physician	Gary Ewart, American Thoracic Society	Interested
Krasnow,Mark	Stanford University School of Medicine	Stanford	CA	Physician; Member of the National Academy of Sciences	DFO	No Response; NAM
Kuppermann,Nathan	University of California, Davis Health System	Sacramento	CA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Landrigan,Philip	Mount Sinai Icahn School of Medicine	New York	NY	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Lange,Sabine	Texas Commission on Environmental Quality	Austin	TX		Richard Hyde, Texas Commission on Environmental Quality	Interested
Laumbach,Robert	Rutgers University School of Public Health	Piscataway	NJ	Physician	Gary Ewart, American Thoracic Society	Not Interested
Layish,Daniel	Central Florida Pulmonary Group, P.A.	Orlando	FL	Physician	Dr. Richard Yamada, USEPA	Not Interested
Lazar,Mitchell A.	University of Pennsylvania Perelman School of Medicine	Philadelphia	PA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAS

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Lee,Jeanne T.	Harvard University School of Medicine	Boston	MA	Physician; Member of the National Academy of Sciences	DFO	No Response; NAS
Lewis,R. Jeffrey	ExxonMobil Biomedical Sciences, Inc	Annandale	NJ		Dan Byers, United States Chamber of Commerce	Interested
Lichtveld,Maureen	Tulane University	New Orleans	LA	Physician; Member of the National Academy of Sciences	DFO	Interested; NAM; SAB CAAC Member, 2012-2018
Lieu,Tracy A.	Kaiser Permanente Northern California	Oakland	CA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Lopez,Manuel A.	Medical Center of Trinity	Trinity	FL	Physician	Dr. Richard Yamada, USEPA	Withdrew nomination on 8/27/17
McClellan,Mark B.	Duke University	Durham	NC	Physician	Al McGartland, USEPA	Not Interested
McClellan,Roger O.	Independent Consultant	Albuquerque	NM	Member of the National Academy of Sciences	Dr. Michael McGinnis, National Academy of Medicine	Withdrew nomination on 8/21/17; NAM; Former CASAC Chair (1989-1992)
McConnell,Rob	University of Southern California	Los Angeles	CA	Physician	Dr. Joel Kaufman, University of Washington	Interested
McNeil,Barbara J.	Harvard University Medical School	Boston	MA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Merchant,James A.	University of Iowa Carver College of Medicine	Iowa City	IA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Merson,Michael	Duke University School of Medicine	Durham	NC	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Mittleman,Murray	Harvard University T.H. Chan School of Public Health	Boston	MA	Physician	Dr. Joel Kaufman, University of Washington	Not Interested
Molina,Mario J.	University of California, San Diego	La Jolla	CA	Member of the National Academy of Sciences	DFO	No Response; NAS
Moore,Patrick S.	University of Pittsburgh	Pittsburgh	PA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAS
Nikalson,Laura E.	Yale University	New Haven	CT	Physician; Member of the National Academy of Sciences	DFO	Interested; NAM
Ortega,Victor	Pulmonary Associates Bay County	Panama City	FL	Physician	Dr. Richard Yamada, USEPA	Interested, but no response for biosketch and cv; Not included on List of Candidates
Packham,Steven	Utah Department of Environmental Quality	Salt Lake City	UT		Dr. Michael Honeycutt, Texas Commission on Environmental Quality	Interested
Pape,Jean W.	Cornell University Weill Medical College	New York	NY	Physician; Member of the National Academy of Sciences	DFO	No Response; NAM
Peel,Jennifer	Colorado State University	Fort Collins	CO		Dan Greenbaum, Health Effects Institute	Interested
Perrin,James M.	Harvard University Medical School	Boston	MA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Peters,Gregory C.	Tallahassee Memorial Hospital	Tallahassee	FL	Physician	Dr. Richard Yamada, USEPA	Interested

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Phalen,Robert F.	University of California Irvine	Irvine	CA		Dan Byers, United States Chamber of Commerce	Interested
Poirot,Richard L.	Independent Consultant	Burlington	VT		Dr. Sverre Vedal, University of Washington	Interested
Polasky,Stephen	University of Minnesota	St. Paul	MN	Member of the National Academy of Sciences	DFO	No Response; NAS
Pollak,Martin R.	Harvard University Medical School	Boston	MA	Physician; Member of the National Academy of Sciences	DFO	Interested; NAS
Powe,Neil	University of California, San Fancisco School of Medicine	San Francisco	CA	Physician; Member of the National Academy of Sciences	Dr. Jonathan Samet, University of Southern California	No Response; NAM
Prives,Carol	Columbia University	New York	NY	Member of the National Academy of Sciences	Dr. Patrick Moore, University of Pittsburgh	No Response; NAS
Psaty,Bruce M.	University of Washington	Seattle	WA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Ramos,Kenneth	University of Arizona	Tucson	AZ	Physician; Member of the National Academy of Sciences	Dr. Jonathan Samet, University of Southern California; Dr. Joel Kaufman, University of Washington; Dr. Michael McGinnis, National Academy of Medicine	Not Interested; NAM
Ramsey,Bonnie W,	University of Washington School of Medicine	Seattle	WA	Physician; Member of the National Academy of Sciences	DFO	No Response; NAM
Ravishankara,A. R. (Ravi)	Colorado State University	Fort Collins	CO	Member of the National Academy of Sciences	DFO	Interested; NAS
Reingold,Arthur L.	University of California, Berkeley	Berkeley	CA	Physician; Member of the National Academy of Sciences	Dr. Jonathan Samet, University of Southern California	Interested; NAM
Rice,Mary B.	Harvard University	Boston	MA	Physician	Gary Ewart, American Thoracic Society	Not Interested
Rich,David	University of Rochester	Rochester	NY		Dr Philip Hopke, Clarkson University	Interested
Ritz,Beate	University of California at Los Angeles	Los Angeles	CA	Physician	Dr. Michael McGinnis, National Academy of Medicine	Interested
Rivers,Emanuel	Henry Ford Hospital	Detroit	MI	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Rohan, Sr.,Michael	Panama City Orthopedics	Panama City	FL		Dr. Richard Yamada, USEPA	No Response
Rohr,Annette	Electric Power Research Institute	Redmond	WA		Dan Greenbaum, Health Effects Institute	Interested
Rosenstock,Linda	University of California, Los Angeles Fielding School of Public Health	Los Angeles	CA	Physician; Member of the National Academy of Sciences	DFO; Dr. Joel Kaufman, University of Washington	Not Interested; NAM
Rothman,Paul B.	Johns Hopkins University School of Medicine	Baltimore	MD	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Rowe,John W.	Columbia University Mailman School of Public Health	New York	NY	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM

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Rudolph,Linda	Public Health Institute	Oakland	CA	Physician	Dr. Paula Braveman, University of California, San Francisco	Interested
Russell,Armistead (Ted)	Georgia Institute of Technology	Atlanta	GA		Dan Greenbaum, Health Effects Institute	Interested; Former CASAC Member, 2006-2012
Savitz,David	Brown University	Providence	RI		Dr. Michael McGinnis, National Academy of Medicine	Not Interested
Schroeder,Steven A.	University of California, San Francisco School of Medicine	San Francisco	CA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Seinfeld,John	California Institute of Technology	Pasadena	CA	Member of the National Academy of Sciences	DFO	Not Interested; NAS
Semenza,Gregg L.	Johns Hopkins University School of Medicine	Baltimore	MD	Physician; Member of the National Academy of Sciences	Dr. Patrick Moore, University of Pittsburgh	Not Interested; NAS
Smith,Kirk R.	University of California, Berkeley	Berkeley	CA	Member of the National Academy of Sciences	DFO; Dr. Michael McGinnis, National Academy of Medicine	Not Interested; NAS
Sommer,Alfred	Johns Hopkins University Bloomberg School of Public Health	Baltimore	MD	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAS
Speizer,Frank	Brigham and Women's Hospital and Harvard Medical School	Boston	MA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM; Former CASAC Member, 2003-2007
Stahlman,Mildred T.	Vanderbilt University School of Medicine	Nashville	TN	Physician; Member of the National Academy of Sciences	DFO	No Response; NAM
St. Geme III,Joseph W.	Children's Hospital of Philadelphia	Philadelphia	PA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Thurston,George	New York University	Tuxedo	NY		Gary Ewart, American Thoracic Society	Interested
Tolbert,Paige E.	Emory University	Atlanta	GA		Dan Greenbaum, Health Effects Institute	Not Interested; Former SAB, 2009-2015
Turner,Jay	Washington University	St. Louis	MO		Dan Greenbaum, Health Effects Institute	Not Interested; Current SAB, 2015-2018
Upson,Dona	New Mexico Veterans Affairs Health Care System	Albuquerque	NM	Physician	Gary Ewart, American Thoracic Society	Interested
Utell,Mark	University of Rochester Medical Center	Rochester	NY	Physician	Dan Greenbaum, Health Effects Institute; Dr. Michael McGinnis, National Academy of Medicine	Not Interested
Vedal,Sverre	University of Washington	Seattle	WA	Physician	Dan Greenbaum, Health Effects Institute	Not Interested; Former CASAC, 1999-2003
Waldman,Deane	Texas Public Policy Foundation	Austin	TX	Physician	Dr. Richard Yamada, USEPA	Interested
Weiss,Noel S.	University of Washington School of Public Health	Seattle	WA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Wellenius,Gregory	Brown Univeristy	Providence	RI		Dr. David Savitz, Brown University	Not Interested
Welsh,Michael J.	University of Iowa Carver College of Medicine	Iowa City	IA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM

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West,John B.	University of California, San Diego School of Medicine	La Jolla	CA	Physician; Member of the National Academy of Sciences	DFO	Not Interested; NAM
Whitsett,Jeffrey A.	Cincinnati Children's Hospital Medical Center	Cincinnati	OH	Physician; Member of the National Academy of Sciences	DFO	Interested; NAM
Wolk,Larry	Colorado Department of Public Health & Environment	Denver	CO	Physician	Dr. Richard Yamada, USEPA	Interested
Young,S. Stanley	CGStat	Raleigh	NC		Dan Byers, United States Chamber of Commerce	Interested
Zeger,Scott	Johns Hopkins University	Baltimore	MD	Member of the National Academy of Sciences	DFO	Interested; NAM

George A. Allen, Senior Scientist
Northeast States for Coordinated Air Use Management
89 South St., Suite 602, Boston MA 02111
(617) 259-2035 Email: gallen@nescaum.org

Education: B.S. in Electrical Engineering, Tufts University, Medford, MA, 1974

Research Experience:

2002 - Present Senior Scientist, Nescaum; Chair of the Monitoring and Assessment Committee. Responsible for monitoring and assessment activities, including regional haze, wood smoke, on and off-road Diesel, and PM-mapping. CASAC AAMMS member; AIRNow and NACAA Monitoring Steering Committee member.

1986 - 2001 Engineering Supervisor and Project Manager, Harvard University School of Public Health, Exposure Assessment and Engineering Program. Supervise technical operations within and between program sub-groups. Oversee selection, installation, and operation of field monitoring sites for studies of health effects of air pollution. Develop and coordinate Quality Assurance procedures, reviews, and data processing procedures. Responsible for design and development of air pollution monitoring instrumentation for special projects.

Patents:

6,852,543 Method and apparatus for measurement of sulfate
6,764,857/6,503,758 Systems and methods for measuring nitrate levels

Publications:

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Gold, D.; Litonjua,A.; Schwartz, J.; Lovett, E.; Larson, A.; Nearing, B.; Allen,G.; Verrier, M.; Cherry, R.; Verrier,R. (2000). "Ambient Pollution and Heart Rate Variability". *Circulation*, **101**:(11).

Hoek, G., Mennen, M., Allen, G.A., Hofschreduer, P., Meulen, T. (1996). "Concentrations of Acidic Air Pollutants In the Netherlands". *Atmos. Env.*, **30**:18, pp. 3141-3150.

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Wang B, Peng Z, Zhang X, Xu Y, Wang H, Allen G, Wang L, Xu X (1999). "Particulate matter, sulfur dioxide, and pulmonary function in never-smoking adults in Chongqing, China". *Int J Occup Environ Health*, **5**(1):14-9.

Weber R, Bergin M, Kiang CS, Chameides W, Orsini D,, St John J, Chang M, Carrico C, Lee YN, Dasgupta P, Slanina J, Turpin B, Edgerton E, Hering S, Allen G, Solomon P (2003). "Short-term temporal variation in PM2.5 mass and chemical composition during the Atlanta supersite experiment 1999". *J. Air Waste Manage. Assoc.* 53 (1): 84-91

Selected Conference Presentations:

"Empirical Evaluation of the Aethalometer Spot Matrix Effect on Ambient Air Using a Thermodenuder: Study Design and Preliminary Results". Presentation #13C.2, AAAR Annual Meeting, Reno NV, USA, September 27, 2007.

"Overview of Commercially Available "On-Line" Aerosol Carbon Field Instruments". MANE-VU and Midwest RPO Science Meeting, July 10, 2007, Timonium, MD http://www.marama.org /calendar/events/presentations/2007_07Science/AllenMVScience07.pdf

"The Aethalometer for BC: What it is, What it does, Where it's Going". 2006 National Air Monitoring Conference, Las Vegas NV, Nov. 6, 2006. http://www.epa.gov /ttn/amtic/files/ambient/2006conference/allenaethalometer.pdf

"Enhanced Methods for Routine Monitoring of Ambient Air Pollution". Foro de Monitoreo Atmosférico y Calidad del Aire de la Ciudad de México, April 20, 2006.

"Approaches to Controlling Residential Wood Smoke PM Emissions And Exposures in the USA: Issues and Obstacles". Presented at the NORDAIR-BIOS Workshop, Helsinki Finland, October 28, 2005.

"From CASM to SPA: A Brief History of the HSPH/Thermo 5020 Continuous Sulfate Method." SERMACS/American Chemical Society Meeting, RTP, NC, November 11, 2004.

"Measurement of Real-time Sulfate at the Summit of Mt. Washington (NH) During the 2002 Summer Regional Haze Intensive Study". AAAR Annual Meeting, Charlotte NC, October, 2002.

"A New Method for Continuous Measurement of Sulfate in the Ambient Atmosphere." Presented at the American Association for Aerosol Research Annual Meeting, Portland OR, October 2001.

"Relationships among Hourly PM2.5, Sulfate, Black Carbon, and Count Concentrations During the Summer 1999 Philadelphia Ne-ops Study." Presented at the AWMA/EPA Specialty Conference on PM2000, Charleston SC, January 2000.

"A New Method for Semi-continuous Measurement of Ambient Ammonium Nitrate". Presented at the American Association for Aerosol Research Annual Meeting, Takoma Washington, October 1999.

"Visual Range Impairment in Boston MA and its Association with Local and Regional PM2.5 and Black Carbon Soot". Proceedings of AWMA/EPA Specialty Conference on Visual

Air Quality: Aerosols and Global Radiation Balance, Bartlett, NH, September 9-12, 1997, AWMA publication # VIP-76 (Pittsburgh, PA).

“Estimation and Implications of Semi-volatile Mass Loss from Low-Volume Teflon Filter PM2.5 Samplers in Urban Environments.” Presented at the American Association for Aerosol Research Annual Meeting, October 1997, Denver, CO.

“PM2.5 Method Comparisons in Birmingham, AL”. Proceedings of the AWMA/EPA Specialty Conference on Measurement of Toxic and Related Air Pollutants, RTP, NC, May, 1997, AWMA publication # VIP-74.

“Assessment of the Temporal relationship between Daily Summertime Ultra-fine Particulate Count Concentration with PM2.5 and Black Carbon Soot in Washington, DC”. In: Proceedings of the Annual Meeting of the Air and Waste Management Association, Nashville, TN, June 1996.

“Characteristics of Urban Ambient Aerosol Measured by Real-time Particle Sizing systems”. Presented at the American Association of Aerosol Research Annual Conference, Pittsburgh, PA, October 1995.

“Temporal variation in components of particle mass in Philadelphia”, presented at the “Colloquium on particulate air pollution and human mortality and morbidity”, Irvine, CA, January 1995.

"Estimation of Short-Term Concentrations and Diurnal Patterns of Fine Particle Mass in the Valley of Mexico." Presented at the 4th Annual Meeting of the International Society for Environmental Epidemiology and the International Society of Exposure Analysis, Cuernavaca, Morelos, Mexico, August 26-29, 1992.

"Development and Validation of a Model for Predicting Short Term Acid Aerosol Concentrations from the HSPH Continuous Sulfate/Thermal Speciation Monitor. " Presented at the 1992 EPA/A&WMA Symposium on "Measurement of Toxic and Related Air Pollutants", Durham, NC, May 3-8, 1992.

"Spatial variation of aerosol strong acidity in the Kanawah Valley, WV." Presented at the 82nd annual meeting of the Air and Waste Management Association, Anaheim, CA June 25-30, 1989.

"Components of particle scattering extinction coefficient and their seasonal variation." Presented at the Air Pollution Control Association International Specialty Conference on Visibility Protection, Grand Teton National Park, Wyoming, September 7-10, 1986.

"Description of a continuous sulfuric acid/sulfate monitor." Presented at the US EPA Fourth Annual Symposium on Recent Advances in Pollutant Monitoring of Ambient Air and Stationary Sources, Raleigh, NC, May, 1984. Proceedings published in EPA publication # EPA-600/9-84-019.

University of California, San Francisco

CURRICULUM VITAE

Name: John R Balmes

Position: Professor In Residence, Step 7
Medicine
School of Medicine

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EDUCATION

1972 - 1972	University of Illinois, Urbana	B.A.	
1976 - 1976	Mt. Sinai School of Medicine, City University of NY	M.D.	
1976 - 1979	Mt. Sinai Hospital, New York City	Resident	Internal Medicine
1979 - 1981	Yale University	Post-graduate fellow	Pulmonary Medicine

LICENSES, CERTIFICATION

1982	California #G48421
1979	American Board of Internal Medicine, 1979
1984	Board Certified, Pulmonary Medicine, 1984

PRINCIPAL POSITIONS HELD

1998 - present	University of California, San Francisco	Professor of Medicine in Residence
1992 - 1998	University of California, San Francisco	Associate Professor of Medicine in Residence
1986 - 1992	University of California, San Francisco	Assistant Professor of Medicine in Residence

2002 - present	University of California, Berkeley	Professor of Environmental Health Sciences in Residence	School of Public Health

OTHER POSITIONS HELD CONCURRENTLY

2014-	UC Berkeley-UCSF Joint Medical Program	Interim Director
2008 – present	California Air Resources Board	Member
2002 – present	Northern California Center for Occupational and Environmental Health (COEH) (Acting Director, 2000-2002)	Director
1992 – 2014	Division of Occupational and Environmental Medicine, San Francisco General Hospital	Chief
1990 – 2003	Occupational Medicine Residency Program, UCSF	Director
1990 – present	Human Exposure Laboratory, Lung Biology Center, UCSF	Director

HONORS AND AWARDS

1976	Alpha Omega Alpha, elected
1980	Fellowship, American Lung Association
1983	Pulmonary Academic Award, NHLBI, 1983-1986
1991	Environmental/Occupational Medicine Academic Award, NIEHS, 1991-1996
1997	Clean Air Research Award, American Lung Association of San Francisco and San Mateo
1999	Clean Air Award, American Lung Association of California
2002	Jean Spencer Felton Award for Excellence in Scientific Writing, Western Occupational and Environmental Medicine Association
2006	Robert A. Kehoe Award of Merit, American College of Occupational and Environmental Medicine
2006	Carl Moyer Award for Scientific Leadership and Technical Excellence, Coalition for Clean Air
2010	Rutherford T. Johnstone Award for Significant Contributions to Furthering of Occupational and Environmental Medicine, Western Occupational and

Environmental Medicine Association

2012 Robert M. Zweig Memorial Award for Outstanding Contributions in Air Pollution Health Effects Research, South Coast Air Quality Management District

KEYWORDS/AREAS OF INTEREST

Occupational and environmental respiratory disease, air pollution, asthma, COPD, airway inflammation, acute cardiovascular effects, gene-environment interactions, exposure-response relationships

PROFESSIONAL ACTIVITIES

CLINICAL

1986-present Attending Physician, Pulmonary and Critical Care Service, San Francisco General Hospital (SFGH); I typically attend 1 month per year in the Medical ICU and 1 month per year on the inpatient Pulmonary Consult Service. I have been doing this since 1989.

1998-present Attending Physician, Occupational Medicine Clinic, SFGH

SUMMARY OF CLINICAL ACTIVITIES

For the past 16 years, I have been conducting outpatient clinical evaluations of current and former workers with beryllium sensitization from Lawrence Livermore National Laboratory and other Department of Energy (DOE) facilities for the presence of chronic beryllium disease. This activity led to my participation in a DOE-funded effort to develop a national Beryllium BioBank for future genetic epidemiological research.

PROFESSIONAL ORGANIZATIONS

Memberships

1980 - present American Thoracic Society

1981 - present American College of Occupational and Environmental Medicine

1981 - present American College of Chest Physicians

1988 - present Society for Occupational and Environmental Health

1998 - present European Respiratory Society

2002 - present International Society for Environmental Epidemiology

Service to Professional Organizations

2015	Ad Hoc Committee on What Constitutes an Adverse Health Effect of Air Pollution, American Thoracic Society/European Respiratory Society	Member
2011 - present	Environmental Health Policy Committee, American Thoracic Society	Member, 2010-2011; Chair, 2011-present
2004 – 2010	Publications Policy Committee, American Thoracic Society	Member, 2004-2006;Chair, 2007-2010

1999 – 2004	Nominating Committee, American Thoracic Society	Member, 1999-2000; Chair, 2001-2004
1997 – 2008	Health Care Policy Committee, American Thoracic Society	Member, 1997-1998; 2002-2008
1997 – 1999	Scientific Assembly on Environmental and Occupational Health, American Thoracic Society	Chair
1997 – 1999	Board of Directors, American Thoracic Society	Member
1998 – 2002	Ad Hoc Committee on the Occupational Contribution to the Burden of Airway Disease, American Thoracic Society	Chair
2007 – 2013	Ad Hoc Committee on the Diagnosis and Management of Beryllium Sensitization and Chronic Beryllium Disease	Chair
2007 – 2010	Ad Hoc Committee on Novel Risk Factors and the Global Burden of Non-smoking COPD	Co-chair
2001 – 2004	Ad Hoc Committee on the Diagnosis of Asbestos-related Diseases, 2001-2004	Member
2000 – 2001	Ad Hoc Committee on Legislation re: Compensation of Asbestos-related Diseases, 2000-2001	Member
1988 – 1997	Program Committee, Scientific Assembly on Environmental and Occupational Health, American Thoracic Society	Member, 1988-1993; Chair 1996-1997
1993 – 1997	Committee on Pulmonary and Critical Care Training, American Thoracic Society	Member
1993 – 1995	Long-Range Planning Committee, Scientific Assembly on Environmental and Occupational Health, American Thoracic Society	Member
1991 – 1992	Scientific Assembly on Environmental and Occupational Health, American Thoracic Society	Secretary
1991 – 1992	Ad Hoc Committee on Evaluation of Disability/Impairment in Persons with Asthma, American Thoracic Society	Member
1989 – 2006	Ad Hoc Committee on the Health Effects of Tremolite, Scientific Assembly on Environmental and Occupational Health, American Thoracic Society	Member, 1989-1990; 2002-2006
1998 – 2002	California Thoracic Society	Treasurer, 1998-1999; Secretary, 1999-2000; President-elect, 2000-2001; President, 2001-2002
2002 – 2008	Nominating Committee, California Thoracic Society	Chair, 2002; Member, 2008

1988 – 1990	Ad Hoc Committee on Occupational Lung Disease, California Thoracic Society	Chair
1988 – 1989	Ad Hoc Committee on Evaluation of Pulmonary Impairment, California Thoracic Society	Member
1996 – 1999	Health Care Policy Committee, California Thoracic Society	Member
1994 – 2004	Network (formerly Section) on Occupational and Environmental Health Steering Committee, American College of Chest Physicians	Member

SERVICE TO PROFESSIONAL PUBLICATIONS

1996 – 2007 Editorial Board: International Journal of Occupational and Environmental Health

2005 - present Editorial Board: Archives of Environmental and Occupational Health

2013 – present Editorial Board: American Journal of Respiratory and Critical Care Medicine

1988 – present Ad hoc referee: American Journal of Industrial Medicine, American Journal of Medicine, American Journal of Physiology: Lung Cellular and Molecular Physiology, American Journal of Public Health, American Journal of Respiratory and Critical Care Medicine (20 papers in 5 years), Archives of Environmental Health, Archives of Internal Medicine, Arthritis Care and Research, Atmospheric Environment, Cancer Research, Chemosphere, Chest (20 papers in 5 years), Circulation, European Journal of Clinical Investigation, European Respiratory Journal (10 papers in 5 years), Environmental Health, Environmental Health Perspectives (8 papers in 5 years; listed as a 2013 Reviewer of the Year), Environmental Research, Experimental Gerentology, Indoor Air, Inhalation Toxicology, International Journal of Tuberculosis and Lung Disease, Journal of Aerosol Medicine and Pulmonary Drug Delivery, Journal of Allergy and Clinical Immunology (5 papers in 5 years), Journal of the American Medical Association (3 papers in 5 years), Journal of Applied Physiology, Journal of Chronic Obstructive Pulmonary Disease, Journal of Clinical Pharmacology, Journal of Exposure Science and Environmental Epidemiology, Journal of Laboratory and Clinical Medicine, Journal of Occupational and Environmental Health, Journal of Occupational and Environmental Medicine, Lung, New England Journal of Medicine (3 papers in 5 years), Occupational and Environmental Medicine, Particle and Fiber Toxicology, Pediatric Pulmonology, Preventing Chronic Diseases, Respiration, Respiratory Research, Risk Analysis, Thorax (5 papers in 5 years), Toxicological Sciences

INVITED PRESENTATIONS (last 5 years)

INTERNATIONAL

2014	Indicators and Biomarkers of NCDs, Global Alliance for Clean Cookstoves, Washington, DC	Invited speaker
2014	World Air Day/Seoul National University, South Korea	Invited speaker/Visiting professor
2014	Pan-African Thoracic Society-MECOR/BREATHE consortium, Brackenhurst, Kenya	Instructor/Invited speaker
2014	Indo-US Workshop on Chronic Obstructive Pulmonary	Invited speaker

	Disease, Pune, India	
2011	Department of Environmental and Occupational Medicine, Aarhus University, Denmark	Visiting professor
2011	British Thoracic Society, London	Invited speaker
2010	International Society for Exposure Science-International Society for Environmental Epidemiology joint conference, Seoul	Invited speaker
2010	Northeast Asian Air Pollution Workshop, Seoul Metropolitan Government, Seoul	Keynote speaker

NATIONAL

2014 Webinar presenter, Collaborative on Health and the Environment (July, 2014)

2014 Moderator, US EPA/NIEHS Children's Centers webinar on social determinants of health (July, 2014)

2014 Health Effects Institute annual conference (Boston, 2011; Chicago, 2012; Alexandria, VA, 2014)

2014 American Thoracic Society, International Scientific Conference (Philadelphia, 2013; San Diego, 2014)

2013 US EPA workshop on sulfur dioxide (Research Triangle Park, NC, 2013)

2013 New York University School of Medicine, Department of Medicine, Grand Rounds (New York City, 2013)

2012 U.S. Department of Energy site medical directors annual meeting, Lawrence Berkeley Laboratory (Berkeley, 2012)

2012 US EPA workshop on nitrogen dioxide health effects (Chapel Hill, NC, 2012)

2011 Centers for Disease Control and Prevention, National Environmental Public Health Tracking conference/workshop (Albuquerque, 2007; New York City, 2011)

2011 US EPA workshop on multi-pollutant exposures and health effects (Chapel Hill, NC, 2011)

2011 University of Cincinnati National Institute for Occupational Safety and Health ERC Pilot Research Project Symposium

2011 NIOSH Work-Related Asthma meeting (Oakland, 2011)

2010 US Department of Energy Former Worker Medical Surveillance Program meeting (Livermore, 2010)

2010 American Association of Aerosol Research (San Diego,

2010)

REGIONAL AND OTHER INVITED PRESENTATIONS

2015 UCSF Occupational and Environmental Medicine Grand Rounds, 2013 and 2015

2015 Children's Environmental Health Symposium, Cal/EPA, 2012, 2013 and 2015

2013 American Lung Association of California webinar, 2011, 2012 and 2013

2012 Occupational and Environmental Medicine Symposium, UC Davis, Sacramento, 2010 and 2012

2011 Pulmonary Research Conference, UCSF

2010 Western Occupational Health Conference (Napa, 2008; Newport Beach, 2010)

2010 California Department of Health Services, Occupational Health Branch

2010 UCLA Institute of the Environment, Oppenheim Lecture

2010 Guest lecture, UC Davis Epidemiology Program

CONTINUING EDUCATION COURSES ATTENDED (last 5 years)

2014 American Thoracic Society annual meeting (2010-2014)

2014 Update in Occupational and Environmental Medicine, UCSF (2010-2014)

2014 Occupational and Environmental Medicine Grand Rounds, UCSF (2010-2014)

2014 Department of Medicine Grand Rounds, San Francisco General Hospital (2008-2014)

2010 Western Occupational Health Conference (22010)

GOVERNMENT AND OTHER PROFESSIONAL SERVICE

2004 – 2012 Member, Steering Committee, California Asthma Partners, Environmental Health Investigations Branch, California Department of Public Health

2005 – 2011 Member, Clean Air Scientific Advisory Committee (CASAC) Ozone Review Panel, CASAC, Science Advisory Board, U.S. Environmental Protection Agency (2005-2007; 2010-2011)

2004 – 2011 External peer reviewer, Agency for Toxic Substances and Disease Registry

2006 – 2010 Chair, External Scientific Advisory Committee, Southern California Particle Center, UCLA

2006 – 2008 Member, National Research Council Committee to

	Review the NIOSH Respiratory Disease Program
2007 – 2010	Member, Clean Air Scientific Advisory Committee (CASAC) Nitrogen Oxides and Sulfur Oxides Review Panel, CASAC, Science Advisory Board, U.S. Environmental Protection Agency
2007 – 2008	Vice-Chair, Green Chemistry Science Advisory Panel, Department of Toxic Substances Control, Cal/EPA
2008 – 2009	Member, Institute of Medicine Committee for the Review of the NIOSH Research Roadmap on Asbestos and Other Elongated Mineral Particles
2008 - present	Member, California Air Resources Board
2009 – 2010	Member, National Research Council Committee for the Review of the Army's Enhanced Particulate Matter Surveillance Project
2009 - present	Member, Scientific Advisory Committee, Multi-Ethnic Study of Atherosclerosis-Air (MESA-Air), University of Washington
2010 – 2011	Member, Institute of Medicine Committee on the Long-Term Health Consequences of Exposure to Burn Pits in Iraq and Afghanistan
2010 – 2011	Member, Scientific Advisory Group, Epidemiological Study of Asbestos Exposure in Libby, MT, Mount Sinai School of Medicine
2011	Invited participant, NIH Workshop on Health Burden of Indoor Air Pollution on Women and Children in Developing Countries
2011 - present	Chair, Scientific Advisory Committee, Center for Clean Air Research (CCAR), University of Washington
2011 - present	Member, Scientific Advisory Committee, Southeastern Center for Air Pollution and Epidemiology (SCAPE), Emory University
2012 – 2013	Member, Institute of Medicine Committee on Review of the Department of Labor's Site Exposure Matrix (SEM) Database
2012	Member, Review Panel for Toxicological Review of Libby Amphibole Asbestos, U.S. Environmental Protection Agency
2013	Reviewer, Human Health Risk Assessment for Sulphur Dioxide, Health Canada
2013	Ad hoc member, NIEHS Board of Scientific Counselors, Review of Epidemiol. Branch, NIEHS

2014 -	Member, Clean Air Scientific Advisory Committee (CASAC) Sulfur Oxides Review Panel, Science Advisory Board, U.S. Environmental Protection Agency

UNIVERSITY AND PUBLIC SERVICE

UNIVERSITY SERVICE

UC SYSTEM-WIDE

2000 - present	Program Directors' Committee, Northern California Center for Occupational and Environmental Health, UC Berkeley-UC Davis-UCSF	Chair
1998 - present	Northern California Center for Occupational and Environmental Health Continuing Medical Education Committee, UC Berkeley-UC Davis-UCSF	Chair
2005 - 2014	Research Committee, School of Public Health, UC Berkeley; Chairperson 2007-2011	Member
2012 - 2013	MPH Management Committee, School of Public Health, UC Berkeley	Chair
2014 - 2015	Education Policy and Curriculum Committee, UC Berkeley	Member

SCHOOL OF MEDICINE

1995 - present	Ethics Committee, San Francisco General Hospital	Member
2014 - present	PRIME Oversight Committee	Member

DEPARTMENTAL SERVICE

2013 - present	Department of Medicine faculty search committees	Chair (2 searches)
2010 - 2011	Department of Medicine faculty search committee	Member
2011 - present	Nina Ireland Fund Executive Committee	Member
1987 - present	Residency Advisory Committee, Occupational Medicine Residency Program, UCSF	Member

PUBLIC SERVICE (last 5 years)

2010 - present	The American Lung Association of California, the Bay Area Air Quality Management District, and the California Air Resources Board	Media spokesperson

SUMMARY OF SERVICE ACTIVITIES

I actively advise governmental agencies at local, state, and national levels regarding air pollution health effects, climate change health effects, and occupational health. I serve on multiple advisory committees to both governmental agencies and academic research centers. I regularly review documents for agencies and scientific papers for medical and other scientific journals. I am regularly interviewed by both print and broadcast journalists about air pollution health effects. Because I have a multi-location appointment (UCSF and UC Berkeley), I serve on departmental committees on both campuses. I direct a multi-campus education and research consortium (the Northern California Center for Occupational and Environmental Health; UC Berkeley-UC Davis-UCSF).

TEACHING AND MENTORING (last 5 years)

TEACHING

FORMAL SCHEDULED CLASSES FOR UCSF and UC BERKELEY STUDENTS

Qtr	Academic Yr	Course Number and Title	Teaching Contribution	Units	Class Size
Winter quarter	2002 - present	Interdepartmental Studies 102b	1 lecture		entire MS Y1 class
Fall and Spring semesters	2008 - 2010	UCSF-UC Berkeley Joint Medical Program Thesis Working Group HMEDSCI 298	Instructor	1 unit per semester (2 per year)	6-8 students
Fall semester	2010 - present	Introduction to Research seminar HMEDSCI 261	Instructor	1 unit	8 students
Fall semester	2010-present	Introduction to Environmental Health Sciences PH270	Instructor	3 units	12-20 students
Fall semester	2010-present	Introduction to Environmental Health Sciences PH150B	Co-instructor	3 units	120-140 students

POSTGRADUATE AND OTHER COURSES

2008 - 2013	UCSF Update in Occupational and Environmental Medicine	1-2 lectures per year
2001 - 2014	UCSF Pulmonary Physiology Seminar	2 lectures per year
2007 - 2014	UCSF Pulmonary Fellowship summer didactic lecture series	1 lecture per year

INFORMAL TEACHING

2010 - 2014 UCSF Occupational and Environmental Grand Rounds and Journal Club, 3-4 residents/year

2010 - 2014 SFGH Pulmonary Service Case Conference, 6 fellows/year, 6 residents/year, 6 medical students/year

2010 - 2014 SFGH Pulmonary Consult Service, 4 fellows, 1 resident, and 2 students/year

2010 - 2014 SFGH Medical Intensive Care Unit, 4 residents and 6 interns/year

TEACHING NARRATIVE

My teaching load at UCSF has been stable over the past 5 years. In contrast, my teaching load at the School of Public Health at UC Berkeley (UCB) has been increasing. At UCB since 2011, I have been the course instructor for PH270, the Introduction to Environmental Health Sciences graduate-level course, as well as for PH150B, the undergraduate Introduction to Environmental Sciences course. Since 2011, I also have been leading one of the two sections of HMEDSCI261, the Introduction to Research seminar for the UCSF-UCB Joint Medical Program Y1 students. In addition, I regularly give guest lectures at UC Berkeley and mentor graduate students at both the master's and doctoral levels.

MENTORING (last 5 years)

PREDOCTORAL STUDENTS SUPERVISED OR MENTORED

Dates	Name	Program or School	Role	Current Position
2008 - 2010	Matthew Pantell	UCSF-UCB Joint Medical Program	Thesis advisor	UCSF MS Y4
2008 - 2010	Camha Le	UCSF-UCB Joint Medical Program	Thesis advisor	PGY-2, Pediatrics, UC Davis
2009 - 2011	Marga Glasser	UCSF-UCB Joint Medical Program	Thesis advisor	PGY1, Anesthesia, Highland Hospital
2009 - 2012	Nathan Sackett	UCSF-UCB Joint Medical Program	Thesis advisor	UCSF MS Y4
2009 - 2012	Micheal Mangahas	UCSF-UCB Joint Medical Program	Thesis advisor	UCSF MS Y4
2010 - 2014	Joshua Lang	UCSF-UCB Joint Medical Program	Thesis advisor	UCSF MS Y3
2011-2014	Julie Selezneva	UCSF-UCB Joint Medical Program	Thesis advisor	UCSF MS Y3
2012-2014	Callan Elswick	UCSF-UCB Joint Medical Program	Thesis advisor	UCSF MS Y3
2013-present	Theo Slomoff	UCSF-UCB Joint Medical Program	Thesis advisor	JMP Y3
2014-present	Alyssa Baccarella	UCSF-UCB Joint Medical Program	Thesis advisor	JMP Y2
2014-present	Julie Mirzabekov	UCSF-UCB Joint Medical Program	Thesis advisor	JMP Y2
2014-present	Elizabeth Bruns	UCSF-UCB Joint Medical Program	Thesis advisor	JMP Y2
2009-2013	Alberto Ortega Hinojosa	Environmental Health Sciences, UC Berkeley School of Public Health	Co-dissertation advisor	Graduated with PhD in 2013
2010-2014	Colleen Reid	Environmental Health Sciences, UC Berkeley School of Public Health	Co-dissertation advisor	Graduated with PhD in 2014; Robert Woods Johnson fellow at Harvard
2011-present	Kathleen Navarro	Environmental Health Sciences, UC Berkeley School of	Dissertation advisor	Doctoral student

Dates	Name	Program or School	Role	Current Position
		Public Health		
2011-present	Candace Vahlsang	Environmental Health Sciences, UC Berkeley School of Public Health	Co-dissertation advisor	Doctoral student

POSTDOCTORAL FELLOWS AND RESIDENTS DIRECTLY SUPERVISED OR MENTORED

Dates	Name	Fellow	Faculty Role	Current Position
2012 - present	Michael Guarnieri	Pulmonary/Critical Care	Research mentor	PGY-7
2012 - present	Robert Blount	Pulmonary/Critical Care	Research mentor	PGY-9
2011-2013	Sarah Muni	Pulmonary/Critical Care	Research mentor	Staff physician, Evergreen Hospital Medical Center, Seattle, WA

FACULTY MENTORING

Dates	Name	Position While Mentored	Mentoring Role	Current Position
2006 - present	Merhdad Arjomandi, MD	Associate Clinical Professor	Research mentor	SFVAMC Pulmonary/Critical Care Medicine
2007 - present	Suzaynn Schick, PhD	Assistant Adjunct Professor	Research mentor	SFGH Occupational and Environmental Medicine
2001 - 2009	Niklas Krause, MD, PhD	Assistant Adjunct Professor, Assistant Professor in Residence, Associate Professor in Residence	Career advisor and research mentor	Professor of Environmental Health Sciences, UCLA
2012-2014	Colette Auerswald, MD, MS	Associate Professor of Pediatrics, UCSF	Career advisor	Associate Professor of Clinical X, UC Berkeley School of Public Health

MENTORING NARRATIVE

I have mentored fewer UCSF post-doctoral fellows in the last several years because of increased graduate student mentoring at UC Berkeley, where I am currently advising four Joint Medical Program students on their masters research theses, four Environmental Health Sciences (EHS) masters students, and two doctoral students.

TEACHING AND MENTORING AWARDS AND NOMINATIONS

2011 UCSF-UC Berkeley Joint Medical Program Research Mentor of the Year

SUMMARY OF TEACHING AND MENTORING HOURS (UCSF)

2011 - 2012	242 total hours of teaching (including preparation) Formal class or course teaching hours: 22 Informal class or course teaching hours: 170 Mentoring hours: 50
2012 - 2013	282 total hours of teaching (including preparation) Formal class or course teaching hours: 22 Informal class or course teaching hours: 170 Mentoring hours: 90
2013 - 2014	222 hours of teaching (including preparation) Formal class or course teaching hours: 22 Informal class or course teaching hours: 110 Mentoring hours: 90

RESEARCH AND CREATIVE ACTIVITIES

RESEARCH AWARDS

CURRENT

Subcontract (PI) American College of Medical Toxicology Pediatric Environmental Health Specialty Unit (Region 9)	02/01/15-09/29/2019 $158,000 direct/yr1
T42 OH008429-10 (PI) CDC/NIOSH Northern California Education and Research Center	07/01/2010 - 06/30/2015 $1,769,880 direct/yr1 $8,844,000 total
4803-RFA10-1/11-4 (PI) Health Effects Institute Multicenter Ozone Study of Elderly Subjects (MOSES)	07/01/2011 - 12/31/2015 $342,348 direct/yr1 $1,200,000 total
1P01ES022849-02 (Hammond, Shaw, Balmes) NIEHS/EPA UC Berkeley/Stanford Children's Environmental Health Center	07/17/2013-05/31/2018 $1,200,000 direct/yr1 $6,000,000 total
R56ES023566 (Balmes) NIEHS Cluster Randomized Controlled Trial of an Advanced Stove	09/01/14-8/31/15

to Reduce Risk of COPD	$100,000 direct total
P0501698 (Balmes) Enterprise Community Partners, Inc. Evaluating the Health Benefits of Green Affordable Housing	05/01/2014 - 04/30/2015 $136,618 total/yr1

RECENTLY COMPLETED

Subcontract A118679 (PI)	02/01/2000 - 012/31/2014
Association of Occupational and Environmental Clinics	$64,000 direct/yr1
(Cooperative Agreement with the Agency for Toxic Substances And Disease Registry and the U.S. EPA) California Pediatric Environmental Health Specialty Unit	$896,000 total
R01 ES010906 (Blanc) (Co-investigator) NIEHS Physical and Social Environmental Factors in Adult Asthma Outcomes	09/01/2007-06/30/2013 $583,904 direct/yr1 $2,920,000 total
P20 ES018173 UC Berkeley (Tager) (Co-investigator)	05/07/2010-03/31/2013
NIEHS/US EPA Berkeley/Stanford Children's Environmental Health Center	$560,000 direct/yr1 $1,800,000 total
R01 ES014038 (Bates) (Co-investigator) NIEHS Effects of Long-term Low Level Hydrogen Sulfide Exposure	09/28/2007-12/31/12 $478,828 direct/yr 1 $2,394,000 total
DE-FC02-96SF21261 (Harrison) (Co-investigator)	12/01/2005 - 1/31/2013
Queens College/Dept. of Energy	$92,657 direct/yr1
Medical Surveillance for Former Department of Energy Workers	$651,000 total
CoE 2001 (Benowitz) (Co-investigator)	10/01/2002 - 09/03/2012
Flight Attendant Medical Research Institute	$300,000 direct/yr1
UCSF Center for Excellence on Second Hand Smoke: Impact of ETS Exposure on Adults with Chronic Obstructive Pulmonary Disease (2002-2007); Effects of Secondhand Smoke in the Upper and Lower Respiratory Tract (2007-2012)	$1,500,000 total
R01 HL081521 UC Berkeley (Tager) (Co-investigator)	05/15/2010 - 03/31/2012
NHLBI	$192,953 direct/yr1

Fresno Asthmatic Children's Environment Study (FACES)	$964,764 total
03-315 (PI)	06/20/2004 - 05/19/2011
California Air Resources Board	$132,271 direct/yr1
Effect of GSTM1 Genotype on Ozone-induced Allergic Airway Inflammation	$712,944 total
04-321 (PI)	06/01/2005 - 12/01/2009
California Air Resources Board	$104,000 direct/yr1
Effects of Wood Smoke Exposure on Cardiopulmonary Responses in Healthy and Susceptible Humans	$364,000 total
04-322 (PI)	06/01/2005 - 11/30/2010
California Air Resources Board	$104,000 direct/yr1
Effects of Ozone Exposure on Cardiovascular Responses in Healthy and Susceptible Humans	$364,000 total
R01 ES010178 UC Berkeley (Smith, KR) (Co-PI)	10/01/2005 - 09/30/2011
NIEHS	$560,000 direct/yr1
Chronic Respiratory Effects of Early Life PM Exposure	$2,800,000 total
R01 HL081520 UC Berkeley (Smith, A) (Co-investigator)	05/01/2007 - 04/30/2012
NHLBI	$550,000 direct/yr1
Arsenic and Child Respiratory Health in Bangladesh	$2,200,000 total

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53. Balmes J. Outdoor air pollution. In: LaDou J, and Harrison R, eds. Current Occupational & Environmental Medicine, ed. 5. NY, NY: McGraw-Hill, 2014.

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Other Publications

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ABSTRACTS (last 5 years)

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31. Beckman S, Costello S, Picciotto S, Balmes J, Katharine Hammond S, Eisen E. Direct exposure to metalworking fluid aerosols and chronic obstructive pulmonary disease in a cohort of U.S. automotive industry workers. Occup Environ Med 2014;71 Suppl 1:A30-1.

RESEARCH PROGRAM

For over 35 years, I have been studying the effects of exposures to occupational and environmental agents on respiratory and cardiovascular health. In the UCSF Human Exposure Laboratory, I have been conducting controlled human exposure studies with sampling of respiratory tract lining fluid to characterize acute exposure-response relationships for oxidant pollutant-induced airway inflammation, and more recently, investigation of acute cardiovascular responses. We were the first group to show that experimental exposure to ozone can cause decreased heart rate variability and brief exposures to secondhand tobacco smoke (SHS) can induce increased blood pressure, epithelial injury, and epithelial dysfunction. In follow-up to our earlier pilot work, we are currently funded to determine whether experimental exposure to ozone induces cardiovascular toxicity (decreased heart rate variability, epithelial dysfunction, and a pro-thrombotic state) and whether any of these effects are associated with airway inflammation, systemic oxidative stress, and systemic inflammation. We are also studying potential mechanisms of SHS-induced acute cardiovascular effects, including the use of the innovative technique of endothelial biopsy to obtain tissue for immunocytochemistry.

To study the chronic effects of occupational and environmental agents on respiratory health, I have developed collaborative relationships with epidemiologist colleagues at UCSF (Dr. Paul Blanc) and UC Berkeley (Drs. Ira Tager, Kirk Smith, Allan Smith, and Michael Bates). With Dr. Blanc, I have collaborated in the analysis of cohort data regarding the effects of occupational exposure to respiratory tract irritants and exposure to SHS on COPD outcomes and the effects of exposure to traffic and air pollutants on asthma outcomes. With Dr. Tager, I have investigated the effects of exposures to air pollutants on growth of lung function and disease severity in children with asthma in Fresno. With Dr. Kirk Smith, I have contributed to the first randomized controlled trial of a chimney stove to prevent pneumonia among infants in Guatemala and co-led a follow-up study on the effects of exposure to biomass smoke on growth of lung function in the cohort children. With Drs. Allan Smith and Craig Steinmaus, I have been investigating the role of ingested arsenic from contaminated drinking water on respiratory health in Chile and Bangladesh. With Dr. Michael Bates, I have been investigating whether chronic environmental exposure to hydrogen sulfide is associated with adverse effects on respiratory health in Rotarura, New Zealand.

At UC Berkeley, I have been PI of several CDC-funded projects to develop methods for surveillance of health outcomes that are or may be related to exposures to hazardous environmental agents. This project involved collaborating with multiple state health departments to conduct a case-crossover study of the association of fine particulate pollution with hospitalization for acute cardiovascular events. We are also assessing whether exposure to particulate pollution is associated with biomarkers of risk (e.g., C-reactive protein and fibrinogen).

I am one of the multiple PIs (SK Hammond, G Shaw, JR Balmes) recently awarded a Children's Environmental Health Center grant (NIEHS/EPA) to study the adverse effects of air pollution on children living in the San Joaquin Valley. The Center project that I lead is investigating the potential effects of polycyclic aromatic hydrocarbons on risk of obesity and glucose dysregulation.

My newest collaboration is with colleagues at the Liverpool School of Tropical Medicine (Drs. Kevin Mortimer and Stephen Gordon) to conduct a randomized controlled trial of the efficacy of an advanced cook stove for the prevention of childhood pneumonia in rural Malawi that is funded by UK sources. I have successfully applied for additional NIEHS funding to begin studying the exposure-response relationship between biomass smoke and lung health among adults in the villages participating in the trial.

JOHN R. BALMES, MD
SIGNIFICANT RECENT PUBLICATIONS

Heiss C, Amabile N, Lee AC, Real WM, Schick SF, Lao D, Wong ML, Sarah Jahn S, Angeli FS, Minasi P, Springer ML, Hammond SK, Glantz SA, Grossman W, **Balmes JR**, Yeghiazarians Y. Brief secondhand smoke exposure depresses EPC activity and endothelial function: sustained vascular injury and blunted NO production. J Am Coll Cardiol 2008;51:1760-1771.
This is the first study to demonstrate that brief exposures to a real-world level of secondhand tobacco smoke (SHS) could cause epithelial injury and dysfunction. As co-senior author of this paper, my laboratory did the controlled exposures of human subjects to SHS. Dr. Yeghiazarians' laboratory did the biological assays for this study. I designed and supervised the SHS exposures. I assisted in the writing/editing of the manuscript.

Balmes JR, Earnest G, Katz PP, Yelin EH, Eisner MD, Chen H, Trupin L, Lurmann F, Blanc PD. Exposure to traffic: Lung function and health status in adults with asthma. J Allergy Clin Immunol 2009;123:626-31.
As primary author, I designed and supervised the analysis, interpreted the results of the analysis, and wrote the paper with editorial assistance from the co-authors.

Nadeau K, McDonald-Hyman C, Noth EM, Pratt B, Hammond SK, **Balmes J**, Tager I. Ambient air pollution impairs regulatory T-cell function in asthma. J Allergy Clin Immunol 2010;126:845-852.
This is the first study to show that exposure to air pollution can cause Treg dysfunction in children and that this effect may be due to hypermethylation of the FOXP3 gene. I assisted in the design of the study, the collection of lung function and asthma symptom data, the interpretation of results, and the writing/editing of the paper.

Smith KR, McCracken JP, Weber MW, Hubbard A, Jenny A, Thompson L, **Balmes J**, Diaz A, Arana B, Bruce N. RESPIRE: A Randomised Controlled Trial of the impact of reducing household air pollution on childhood pneumonia in Guatemala. The Lancet 2011;378(9804):1717-1726.
This is the first randomized controlled trial of an improved chimney stove for the prevention of pneumonia in infants exposed to biomass smoke from indoor cooking. We showed efficacy comparable to vaccination for pneumococcal pneumonia. I read all the chest radiographs, assisted in the interpretation of the results, and assisted in the writing/editing of the manuscript.

Nishimura KK, Galanter JM, Roth LA, Oh SS, Thakur N, Nguyen EA, Thyne S, Farber HJ, Serebrisky D, Kumar R, Brigino-Buenaventura E, Davis A, Lenoir MA, Meade K, Rodriguez-Cintron W, Avila PC, Borrell LN, Bibbins-Domingo K, Rodriguez-Santana JR, Sen S, Lurmann F, **Balmes JR**, Burchard E. Early life air pollution and asthma risk in minority children: The GALA II and SAGE II Studies. Am J Respir Crit Care Med 2013;188(3):309-318.
This is the first study of Latino and African-American children to provide evidence that early-life exposure to traffic-related air pollution increases risk of developing asthma. As co-senior author of this paper with Dr. Burchard (PI of GALA and SAGE), I provided leadership to the multi-center team with regard to this air pollution-asthma incidence analysis. I assisted in the design of the study, the analysis of the data, the interpretation of results, and the writing/editing of the paper.

CURRICULUM VITAE

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EDUCATION:

1971 – 1975	B.A.	Radcliffe College, Harvard University, Cum Laude, French Studies
1975 – 1979	M.D.	The University of Oregon Health Sciences Center
1983 – 1985	M.P.H.	The Johns Hopkins University School of Hygiene and Public Health

Internship (Internal Medicine)

1979 – 1980 The Johns Hopkins University
The Johns Hopkins Hospital, Baltimore, Maryland

Residency (Internal Medicine)

1980 – 1982 The Johns Hopkins University
The Johns Hopkins Hospital, Baltimore, Maryland

Fellowship: Joint Fellowship in Pulmonary Medicine and Residency in Occupational Medicine

1982 – 1985 The Johns Hopkins University
The Johns Hopkins Hospital, Department of Medicine
The Johns Hopkins School of Hygiene and Public Health, Department of Environmental Health Sciences, Division of Occupational Medicine

Research Fellowship

1984 – 1986 The Johns Hopkins University
Department of Medicine
Division of Clinical Immunology

CERTIFICATIONS:

1979	Diplomate, National Board of Medical Examiners
1982	Diplomate, American Board of Internal Medicine, #87996
1987	American Board of Preventive Medicine Specialty Boards in Occupational Medicine, #22229
1988	American Board of Internal Medicine, Subspecialty Boards in Pulmonary Disease #87996
1998	American Board of Internal Medicine, Subspecialty Boards in Critical Care # 87996
1999	Advanced Cardiac Life Support – C#H1639-99

LICENSURE:

1979 – 1998	Maryland	D32421
1997 – Present	Pennsylvania	064481-L

RESEARCH INTERESTS:

Bronchoscopy Navigation Systems
Upper Respiratory Tract Inhalation Toxicology
Effects of Air Pollution on Susceptible Subpopulations
Idiopathic Pulmonary Fibrosis (IPF) and Interstitial Lung Disease (ILD)

CLINICAL INTERESTS:

Occupational and Environmental Respiratory Disease
Consultation in Pulmonary Medicine
Interstitial Lung Disease

FACULTY POSITIONS:

2012 – Present	Penn State University Faculty Senate College of Medicine Delegate to Faculty Senate Council 2012 - Committee on Libraries, Information Systems, and Technology 2012 -
2013 – 2018	PSU Tobacco Centers of Regulatory Science (TCORS) Internal Advisory Committee
1997 – Present	Professor of Medicine (with tenure) Division of Pulmonary, Allergy and Critical Care Department of Medicine Penn State University College of Medicine Milton S. Hershey Medical Center

1998 – Present	Graduate Faculty, Penn State University, College of Medicine The Huck Institutes of the Life Sciences Faculty member, Integrative Biosciences graduate program Biomolecular Transport Dynamics 1998-2005 Molecular Medicine 2006-2008 Systems Biology 2008-2011
1992 – 1997	Adjunct Faculty in Toxicology University of Maryland System-wide Program in Toxicology
1991 – 1997	Associate Professor of Medicine The University of Maryland School of Medicine
1986 – 1991	Assistant Professor of Medicine The University of Maryland School of Medicine
1987 – 1997	Assistant Professor of Medicine The Johns Hopkins School of Medicine
1985 – 1987	Instructor in Medicine The Johns Hopkins School of Medicine

CLINICAL PRIVILEGES:

2010 – Present	Consulting Staff, PennState Hershey Rehabilitation Hospital Hershey, PA
1997 – Present	Active Staff, Milton S. Hershey Medical Center 500 University Drive, MC HO41, Hershey, PA
1999 – 2005	Honorary Staff (2001 – 2005), Consulting Staff Physician (1999 – 2001) Interim Medical Director of Ventilator Weaning Unit, 1999 HealthSouth SubAcute Care Hospital HealthSouth Rehabilitation of Mechanicsburg Mechanicsburg, PA
1987 – 1997	Active Staff, University of Maryland Medical Center 22 S. Green Street Baltimore, MD 21201 500 bed facility Medical Critical Care Unit, Pulmonary Consultation, Outpatient Clinic
1987 – 1997	Active Staff, Baltimore Veteran's Administrative Hospital Medical Critical Care Unit (attending staff by University of Maryland Faculty)

Early 1990s	Active Staff, Deaton Chronic Care Facility, Baltimore, MD Provided consultative service for chronic ventilator unit
1985 – 1987	Attending Clinician The Good Samaritan Hospital, Occupational Pulmonary Clinic 5601 Loch Raven Blvd, Baltimore, MD
1979 – 1984	Johns Hopkins Medicine Resident/Fellow Rotations at Johns Hopkins Hospital, Johns Hopkins Bayview Medical Center (then Baltimore City Hospital), and Good Samaritan Hospital

MAJOR ACADEMIC TASKS:

2008 – 2010	Penn State College of Medicine Promotion and Tenure Committee
1998 – Present	Interviewer Penn State College of Medicine Admissions Committee Internal Medicine Residency Program Pulmonary Critical Care Fellowship Program
1997 – 2003	Program Director, Pulmonary/Critical Care Fellowship Program Milton S. Hershey Medical Center Accomplishments include the first joint Pulmonary/Critical Care Fellowship program accreditation 1999 (previously *Accomplishments*: PSMSHMC had separate Pulmonary and Critical Care training programs; establishing Lehigh Valley Hospital as a secondary site for Pulmonary Fellowship training (2001), and increasing the complement of fellows from 3 to 6, with approval for 9 fellows(beginning 2006). Two fellows received NIH K08 awards and joined the Penn State faculty on the Clinician Investigator track, and three completed the Clinical Investigator Program in the Department of Health Evaluation Sciences, leading to the Master of Health Science degree.
1997 – 2003	Medical Director, Pulmonary Function Laboratory and Respiratory Therapy Milton S. Hershey Medical Center *Accomplishments*: included the acquisition of first body plethysmograph at Penn State, updating of all protocols, creation of an accessible Respiratory Care Website (Michael Mihailoff RRT, Sitemaster) for posting of all protocols, and a clinical study that assessed and demonstrated physician willingness to accept respiratory therapy assessment and treatment recommendations (conducted with Deborah Olson RRT).
2000 – 2003 2011 – 2014	Course Director, PLM 726 Medical Student Year 2 Pulmonary Pathophysiology Course *Accomplishments*: included introducing the use of the Simulation Laboratory to teach principles of respiratory pathophysiology using a simulated patient on a ventilator (developed with Boisseau Murray MD and Jody Henry RN, PSU Simulation Laboratory).

2000 – 2003	Division Chief, Pulmonary, Allergy, and Critical Care Penn State University College of Medicine Milton S. Hershey Medical Center, Hershey, PA *Accomplishments*: established an Interdisciplinary Lung Cancer Clinic; established a new Allergy Fellowship training program (Timothy Craig, program director)
1999 – 2001	Outpatient Clinical Site Director, Suite 2400 Milton S. Hershey Medical Center *Accomplishments*: Reconfigured staffing to have an office manager, LPNs and medical assistants, providing a budget neutral increase in the staff:provider ratio
1998 – 2000	Member, Asthma Oversight Team (Disease State Management Task Force) Penn State Geisinger Health System *Accomplishments*: Participated in the creation of a systemwide, integrated approach to asthma care delivery. Elements included inpatient treatment pathways, outpatient nurse educators, and modification of the CareLine algorithms to reflect the NAEPP guidelines (Timothy Craig MD and Sabrina Gerolani, Team Co-chairs)
1997 – 2000	Section Chief, Pulmonary, Allergy, and Critical Care Penn State Geisinger Health System, Hershey, PA *Accomplishments*: Established exchange with Geisinger Pulmonary/Critical Care physicians, recruited faculty and fellows
1991 – 1997	Interviewer, University of Maryland School of Medicine Admission Committee, Department of Medicine Intern Selection Committee
1988 – 1997	Director, Environmental Research Facility University of Maryland School of Medicine Baltimore, Maryland *Accomplishments*: Directed use of a controlled human exposure facility with the capacity to generate pollutants including ozone, nitrogen dioxide, formaldehyde, sidestream tobacco smoke
1986 – 1988	Medical Director, Environmental Research Facility University of Maryland School of Medicine Baltimore, Maryland
1985 – 1986	Director, Occupational Pulmonary Clinic The Johns Hopkins Division of Occupational Medicine Baltimore, Maryland
1980 – 1981	Johns Hopkins Hospital Housestaff Council President

PROFESSIONAL MEMBERSHIPS:

1982 – 1985	American College of Physicians (#078602)
1983 – Present	American Thoracic Society (#00009621)
1983 – 1998	Maryland Thoracic Society
1985 – 1992	The Johns Hopkins Immunology Council
1987	American Public Health Association (#4512935)
1988	American Conference of Governmental Industrial Hygienists (#3926)
1988 – 1998	Medical and Chirugical Faculty of the State of Maryland
1987 – 1988	American Industrial Hygiene Association
1989 – 2004	American Academy of Allergy, Asthma and Immunology (#39856), Fellow 2000
2000	Pennsylvania Thoracic Society
1999 – 2000	American College of Chest Physicians (#141342), Elected Fellow 10/31/99

HONORS AND AWARDS:

1971	National Merit Scholarship
1975	A.B., Cum Laude, Harvard
1984 – 1985	Research Fellowship Award, American Lung Association of Maryland
1986	Young Investigator Award, American Academy of Allergy and Immunology
1987 – 1989	Richard L. Riley Scholar Award, American Lung Association of Maryland
1990	Distinguished Service Award in Environmental and Occupational Health, American Lung Association of Maryland
1992	State of Maryland Department of the Environment, Environmental Excellence Award: "In recognition for contribution to the improvement and preservation of Maryland's environment"
1992, 1995	State of Maryland Governor's Salute to Excellence
2003	Best Professor of the Block, Awarded by the Second Year Medical Students for the Respiratory Pathophysiology Block
2003 – Present	Doctors in America® 2003-2004 (top 5% of doctors)
2003 – Present	HMC Physician Patient Satisfaction Leader (top 10% of Press-Ganey database; top 1% 2006-2008)
2003 – 2008	America's Top Doctors, Pulmonary Medicine selected by Castle Connolly
2010 – 2014	Medical, Ltd.

EDITORIAL TASKS: Manuscript Reviewer

American Review of Respiratory Disease
Chest
Journal of the American Medical Association
Journal of Allergy and Clinical Immunology
Journal of Clinical Nutrition
American Journal of Respiratory and Critical Care Medicine
Environmental Health Perspectives

1991 Congress of the United States, Office of Technology Assessment
Study for Congress on Identifying and Controlling Pulmonary Toxicants (Reviewer)

1995 International Union Against Tuberculosis and Lung Disease
European Health Effects of Air Pollution Report reviewer.

2006 Center for Disease Control and Prevention, Office on Smoking and Health, The Health Consequences of Involuntary Exposure to Tobacco Smoke. (Peer Reviewer, Chapter 9, Involuntary Smoking and Adverse Respiratory Effects in Adults). 2006ISBN 0-16-076152-2.

RESEARCH REVIEW TASKS:

1991, 2004	Health Effects Institute, Cambridge Mass. 1993 Study Section: Epidemiology Studies of Long-term Exposure to Ozone 2004 Study Section: Measuring the Health Impact of Actions Taken to Improve Air Quality RFA 04-1
1994	National Institutes of Environmental Health Sciences NIEHS Center Site Visit: Center for Ecogenetics and Environmental Health (David L. Eaton, Ph.D., Principal Investigator) June 21.
1995 – Present	The Johns Hopkins Center for Alternatives to Animal Testing (CAAT) Annual Research Review Meetings
1995	Medical Research Council of Canada Ad Hoc Reviewer
1997	Veterans Administration Ad hoc reviewer
1997, 1998 2000	California Tobacco Related Disease Research Program General Medical Study Section (Chair), 1997, 1998; Respiratory (2000) NOTE: The California legislature established this research program with a portion of the cigarette tax.
2000 – 2001	Johns Hopkins University, Center for Childhood Asthma in the Urban Environment, Scientific Outside Advisory Board
2001 – 2007	National Institutes of Health, Center for Scientific Review, Epidemiology and Disease Control-3 Study Section (2001-2004) Health of the Population Integrated Review Group, Epidemiology of Clinical Disorders and Aging Study Section (2004-2005) Health of the Population Integrated Review Group, Infectious Diseases, Reproductive Health, Asthma and Pulmonary Study Section (2005-2007)

MAJOR CONSULTANTSHIPS:

1984	National Institute for Occupational Safety and Health (NIOSH), Field Study: Occupational Asthma Due to Exposure to "Superglue"
1986 – 1987	United States Government General Services Administration, Consultant on Indoor Air Quality

1986 – 1996	W. L. Gore and Associates, Occupational Health Consultant
1987	University of Maryland College Park, Consultant on Indoor Air Quality
1989	State of Maryland Department of the Environment Chemical Hypersensitivity Syndrome Study
1990	United States Environmental Protection Agency Data Analysis Team, "Indoor Air Quality and Work Environment Study: EPA Headquarters Building"
1990 – 1991	The Johns Hopkins University Institute for Policy Studies Environmental Working Group; Technical Advisor
1991 – 1993	Health Direct, Inc., Occupational Health Consultant
1993 – 1995	Department of Veterans Affairs (VA) Persian Gulf Expert Scientific Persian Gulf Expert Scientific Panel 1993 Persian Gulf Chartered Committee, member (1994-1995) Subcommittee for the Oversight of the Study "A National Health Survey of Persian Gulf War Veterans," member (1994)
1995 – 1997	National Heart Lung and Blood Institute Lung Health Study II. Data Safety Monitoring Board
1995 – Present	The Johns Hopkins Center for Alternatives to Animal Testing CAAT Advisory Board
1997 – 1998	University of Maryland Medical Systems Latex Risk Group
1998 – 2002	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. Member/Physician, Environmental Health Committee Technology Awards – Judging Panel
1999 – 2000	US Environmental Protection Agency Consultant to National Health & Environmental Effects Research Laboratory Research Triangle Park, NC
2005	Pfizer Sanofi-Aventis Exubera Mock III AC Meeting Review of planned presentation to FDA New York, NY
2006	SAIC Review Panel Evaluation of White Paper: Malodorants as Non-Lethal Deterrents: Psychological vs. Physiological Effects, P. Dalton and J.O'Donoghue

2005 – 2008 City of Alexandria, Virginia
Air Quality and Health Effects of the Mirant Power Plant

2008 – Present Broncus, Inc. Consultant for "Lung Point"
http://www.broncus.com/physicians.asp; http://www.broncus.com/products.asp.

2008 American Chemistry Council Task Group on Olefins

CAMPUS ACTIVITIES:

University of Maryland School of Medicine
- Department of Medicine Research Committee, (1986 - 1998)
  - (Chaired first Annual Research Retreat, 1995)
- Department of Medicine Work and Family Committee (Chairman), (1988-1990)
- School of Medicine Short-Term Research Training Program Committee, (1991-1993)
- Medical School Council (alternate, 1992-1994)
- Tuesday Research Group (organizer, 1995 - 1998)
  - Participants: Paul Castellanos, otolaryngology, Paula Dobbs, speech pathology; Robert Kane, VA Neuropsychology ANAM battery team, Anne Solomon doctoral student

Research Mentor (original institution/position; current position)
- Stuart R. Willes
  - (UMd /pulmonary fellow; Baltimore; private practice)
- Anna Rigopoulou
  - (Greece/Visiting researcher; private practice)
- Karen Brown
  - (UMd/medical student; Yale, internal medicine faculty)
- Paul Raford
  - (UHUHS /occupational medicine resident; Primary Care, Thornton, CO)
- Earl Ford
  - (UHUHS/ occupational medicine resident; Internist, Preventive Medicine / Wellness, Atlanta, GA)
- Joan Leonard Hudgins
  - (RWJohnson/resident; private practice, Newark NJ)
- Isis Rivera
  - (UMd/ minority student research program summer research student; University of Puerto Rico, basic science faculty)
- Alisha Burton
  - (UMd /minority student research program summer research student; Senior Group Leader at Target, Huntsville AL)
- Michael Dias
  - (UMd/otolaryngology resident; Physician at Sheppard Enoch Pratt Hospital, Towson, MD)
- Perry Alexion
  - (UMd/otolaryngology resident; ENT-otolaryngologist, Greenbelt, MD)

Juan Pardo
(UMd/medical student; Otolaryngologist, Annapolis, MD)
Pathma Sukumar
(England;visiting research physician; unknown)

Co-mentor (original institution/position; current position)

Jana Kesavan
(previously Nadarajah, Kesavanathan) (JHU School of Hygiene and Public Health/doctoral student; US Army researcher) (Johns Hopkins University, Department of Environmental Health Sciences, Baltimore, MD).
Anne Solomon
(UMBC/ psychology; clinical practice)

Penn State University Hershey Medical Center

Occupational Health and Safety Committee for the Laboratory Animal Facility, 2005
Member, Medical Records Committee, 1998-2002
Chair, Forms Subcommittee, 1999 – 2002
Chair, 2000-2002 Initiated representation by information technology staff on the medical records committee.
Member, CUMED Oversight Committee,
Years I and II Integrated Curriculum Committee, 2000 – 2003
Member, Local Government Review Committee, 2000 - 2003
Vice-Chair, Medical Critical Care Committee, 1998 – 1999
Member, Practice Site Medical Directors Committee, 1999 – 2000
Member, Department of Anesthesia Chair Search Committee, 1997 - 1998
Member, Residency Directors Committee, 1998 – 2003
Member, Nephrology Chair Search Committee, 2000
Member, Respiratory Care Clinical Standards Committee, 1999 – 2001
Member, Core Standing Committee on Clinical Improvements, 1999 – 2000

Research Advisor (original institution/position; current position)

Timothy Lucas
(PSU/COM fellow; Assistant Professor of Neurosurgery at Penn Medicine, Philadelphia, PA)
Timothy Clark
(PSU/PCCOM fellow; President/CEO: Sleep Disorder Centers of PA and Central PA Pulmonary Associates, L.L.C.; Harrisburg, PA)
Maria Gesualdo
(PSU/PCCM fellow; Private practice, PA)
Maria Pettinger
(PSU/radiology resident; Radiologist at J.C. Blair Memorial Hospital, Huntingdon, PA)
Andrews Paul
(PSU/PCCM fellow; Private practice, Knoxville TN)
Milos Tucakovic

(PSU/PCCM fellow; Private practice, Athens, GA)

KJ Wesenberg
(OHSU/PCCM fellow; Private practice, Portland OR)

MD Rasmussen
(PSU/medical student; Private Practice, San Diego, CA

CJ Coley
(PSU/medical student; PCCM fellow, U of Mich; Private practice, Charlotte, NC)

Marina Dolina
(PSU/PCCM fellow; Private practice, York PA)

Seema Jain
(PSU/medical student; Private Practice, Atlanta, GA)

Justin Fisher
(PSU/medical student; practicing neurologist, Lancaster PA)

Cathy Karchner
(PSU/medical student; Private practice, Pediatrics, Gettysburg, PA)

Larisa Buyantseva
(PSU/master of health sciences student, epidemiologist, Canada Occupational Health Bureau, Toronto Canada, resident in medicine, Harrisburg PA; Allergy and Immunology at PinnacleHealth, Harrisburg, PA)

Jennifer Toth
(PSU/PCCM fellow; assistant professor, PSUCOM)

Rohini Sharma
(Pinnacle Hospital/medicine resident; QDDP Residential Director at Wheat Ridge Regional Center, Denver, CO)

George Shahinian
(PSU/PCCM fellow; Critical Care Medicine; Laguna Beach Sleep Center; Laguna Beach, CA

Janette Foster
(PSU/PCCM fellow; Medical Director, Critical Care Services, Holy Spirit Hospital; Harrisburg,PA)

Michael Benninghoff
(PSU/PCCM fellow; Critical Care Medicine, Pulmonary Associates; Newark, DE.)

JH Chang
(Ewha University/ visiting researcher; faculty South Korea)

Viral Patel
(PSU research assistant; Family Medicine, Chestnut Hill Hospital; Lebanon, PA)

Muhammad S. Khan
(PSU research assistant; Instructor (Junior Faculty), Massachusetts General Hospital; Boston, MA)

Rebecca Warren
(PSU/ medical student; VCU medicine resident; Internal Medicine, PSU; Hershey, PA)

Lusine Simonyants
(PSU/PCCM fellow; private practice, Glendale, CA)

Saeid Safaee-Semiromi
(PSU/PCCM fellow; private practice, Glendale, CA)
RyaLynn Carter
(PSU/medical student; Obstetrician, Gynecologist; Private Practice; Fairfax, VA)
Anju Sinha
(PSU/molecular medicine graduate student, PSU MHA and MBA Graduate Student; Harrisburg, PA)
Duane Cornish
(research intern; doctoral student in Computer Engineering; Senior Software Developer; Johns Hopkins University Applied Physics Lab; Laurel, MD)
Manuel Betancourt-Ramirez
(PSU/CCM fellow; Private Practice in Lady Lake, Fl)
Krista Hammaker
(research intern; B.S. Biology from Juniata College; Naturopathic Medical Student at Bastyr University, Kenmore WA)
Anne Dimmock
(was student research intern; now research coordinator, Penn State College of Medicine)
Patrick Gleeson
(was research intern while in college; now Penn State Medical student)
Jim Hsieh
(research intern; ENT resident; Founded the MSKCC Translational Kidney Cancer Research Program (MSKCC-TKCRP); Englewood Cliffs, NJ)
Jennifer Frielle
(research intern; BS Biochemistry & Molecular Biology from Gettysburg College)
Anit Rastogi
(research intern; Duke University student, medical student; General Surgery PriMed LLC, Livingston, NJ)
Kathryn Bedard
(research intern; Barnard College student)
Abby Sido
(research intern; Ursinus college student; M.S. Candidate in Food Science, PSU College of Agricultural Sciences; University Park, PA)
Trevor Kuhlengel
(research intern; BS in Bioengineering at Lehigh University)
Christian McEvoy
(summer research intern while Penn State medical student)
Steven Swavely
(summer research intern while Penn State medical student)
Michael Amthor
(research intern; BS Electrical Engineering Penn State University Honors College; Consultant with Althus Group's Research Valuation and Advisory Groups)

Doctoral Thesis Committees

Lizzie Santiago
(PSU/Chem Eng doctoral student/ University of Puerto Rico basic science faculty)

Ali Fazzih
(PSU/Chem Eng doctoral student; The Princeton Review MCAT Instructor; Principal Scientist at Johnson & Johnson)

Timothy Brenza
(PSU/Chem Eng doctoral student;UIowa post-doc)

Melissa Bates
(PSU/Chem Eng doctoral student;UWisc postdoc; Associate Scientist at University of Wisconsin-Madison)

Benafsheh Keshvarzi
(PSU/Chem Eng doctoral student and post doc)

Rebecca Jean Watts
(PSU/Molecular Medicine doctoral student)
Volunteer, French Interpreter

COMMITTEE ACTIVITIES:

1985 – 1998 American Lung Association of Maryland
- Indoor Air Quality Sub-Committee (1985 - 1987)
- Environmental and Occupational Health Committee Chairman (1989 - 1993)
- Board of Directors (1991 - 1994)
- Strategic Planning Committee (1991 - 1992)
- Strategic Planning Implementation Committee (1992 - 1993)
- Advocacy Committee Chairman (1993 - 1995)
- Government Relations Committee (1995-1996)
- Maryland Thoracic Society Board of Directors (1996 - 1997)

1986 – Present American Thoracic Society
- Member 1986 – present

- Membership Committee (Chairman, 1990-1995)
- Board of Directors (1995 - 1997)
- International Conference Committee (2008, 2009)
- Assembly on Environmental and Occupational Health
  - Program and Planning Committee (1987 – 1990, 2005-6)
  - Long Range Planning Committee (1990 - 1997)
    - Intiated revision of Lung Disease Questionnaire
  - Secretary (1992 - 1993)
  - Chairman (1995 - 1997)
  - Program and Planning Chair-elect, Chair and Past-chair (2006-2009)
- Chairman, Writing Committee: Health Effects of Air Pollution, (1992 - 1993)
- ATS Statement Committee "Guidelines as to what constitutes an adverse health effect of air pollution" (1996 - 1998)

International Conference Scientific Program Co-organizer and co-chair
1990: Scientific Symposium: Occupational Lung Disease due to Low Molecular Weight Substances
1991: Scientific Symposium: Variability of Individual Susceptibility to Respiratory Disease
1994: Scientific Symposium: Molecular Epidemiology in Environmental and Occupational Health
2007: Mini-Symposium: Nanoparticles: What are those little guys doing?
2009: Scientific Symposium: Health and the Environment in a Globalized World. May, San Diego
Environmental and Occupational Health Assembly of the ATS (1996).

1986 – 1988 Maryland State Department of Education
Task Force on Indoor Air Quality (1987 - 1988)

1987 – 1998 State of Maryland
Governor's Radon Task Force (1987 - 1988)
Department of the Environment (MDE), Speakers List (1991 - 1994)
MDE 2000 Steering Committee (1994 - 1998)

1990 – Present American Lung Association
Federal Lung Program Committee (1990 - 1991)
Annual Research Fund Dinner Committee (1991 - 1994)
Lung Disease Program Committee (1993 - 1994)
Environmental Health Core Program Work Group (1998)
National Air Conservation Commission (1998)
Program Coordinating Committee (1998-1999)
Asthma /Tobacco Control Programs Work Group (1998-1999)

Session Co-chair: Joint ALA/ATS International Conference session: Current Issues in Air Pollution Health Effects Research. (1994)
Planning Committee (1995 - 1996)
Council (1995 - 7)

1990 ILSI Risk Science Institute/United States Environmental Protection Agency
Organizing Committee for Conference: Methodology for Assessing Health Risks From Complex Mixtures in Indoor Air

1991 American College of Occupational and Environmental Medicine
Seminar Director, State of the Art Fall Conference
Multiple Chemical Sensitivities. Consensus and Controversy

1991 – 1992 National Academy of Sciences/Institute of Medicine
Committee on the Health Effects of Indoor Allergens

1992 – 1993 National Association of County Health Officials
Maryland Department of the Environment, Program Advisor, "Risk

Communication: A Necessary Skill for Working with Communities"

1992 – 1994 National Research Council Commission on Life Sciences
Institute of Laboratory Animal Resources
Committee on Occupational Safety and Health of Research Animal Facilities

1992 – 2000 American Academy of Allergy, Asthma and Immunology
Environmental Control and Air Pollution Committee
(Chairman (1992 - 1993)
Ad Hoc Committee on Multiple Chemical Sensitivity
(Chairman (1993 - 1994)
Seminar Committee (1997)
Air Pollution Committee (1993 - 2000)
EOD Interest Section – Seminars Committee Representative (1997-2000)

1993 American College of Chest Physicians
Consensus Conference: Assessment of Occupational Airway Disorders

1993 National Institute for Occupational Safety and Health (NIOSH Workshop)
"Preventing Occupational Asthma," Workshop Chair:
Research Needs, Pittsburgh, PA, March 9, 1993

1993 – 1998 Baltimore Women's Forum

1996 – Present The Johns Hopkins Center for Alternatives to Animal Testing
Advisory Board, member

2002 Chemical Industry Institute of Toxicology
The Nose Knows Workshop
Member, Organizing Committee
Session Chair for Clinical Pathology and Epidemiology
September 3-6, 2002
Research Triangle Park, NC

2002 Pennsylvania Thoracic Society Annual Meeting Committee
September 6-7, 2002
Pittsburgh, PA

2002, 2005, 2007 Bethesda Mission Health Clinic
Attending (volunteer)

2008 – 2009 The National Academies Board on Environmental Studies and Toxicology
Member, Committee on Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants.

2011 Institute of Medicine of the National Academies
Committee on the Health of Populations

Project Title: Scientific Standards for Studies on Modified Risk Tobacco Products, IOM-BPH-10-08

TEACHING ACTIVITIES:

Penn State University, College of Medicine

2012-present	Responsible for weekly didactic lecture series for Pulmonary/Critical Care Fellowship program, with monthly themes covering the ACGME syllabus including month-long focus on interstitial lung disease
2007- present	Clinical case conferences for Pulmonary Medicine: Monthly pulmonary-pathology interdisciplinary conference with pathology, radiology and pulmonary; weekly case conference commonly reviewing interstitial lung disease cases
2011-2014	PULM 726: Extensive revision of curriculum including creating cases for problem based learning with topics including interstitial lung diseases, bronchiectasis, pulmonary embolism, pneumothorax, asthma, COPD, ARDS. Created problem sets for arterial blood gas, and pulmonary function testing. Created experiential learning sessions for lung auscultation, ventilator based assessment of airwasy resistance and lung compliance, mucus mobilization and x-ray interpretation. Delivered lectures on occupational and environmental lung disease, and non-pharmacologic treatment of lung disease.
1999 –2008	Clerkship in Medicine (2nd year students), "Pneumonia" several times each year
2004 – Present	Respiratory Pathophysiology Course (MS II) Problem based learning small group facilitator
2004 –2011	Division of Pulmonary, Allergy and Critical Care Medicine Grand Rounds, Occupational and Environmental Health Lecture Series. One lecture every two months covering the span of topics over a three year period.
2004	Department of Medicine Research Conference - The Health of "First Responders": New York Police Officers (NYPO) after 9/11
2008	Oncology Research Conference/Molecular Medicine— "Bronchoscopy Guidance Systems for Lung Cancer Diagnosis"

Penn State University, College of Medicine – Penn State Geisinger Health System

1998	Oncology Clinical Conference – "Peering down the barrel of tobacco's great Russian roulette".
1999	Research Conference – Section of Pulmonary, Allergy, & Critical Care Medicine, "Breathing Disorders Study"
1/11/99	Clerkship in Medicine (2nd year students), "Pneumonia (1/11/99; 9/7/99)
1/18/99	Cancer Center Inservice, "Susceptibility to Lung Caner"
2/23/99	Pulmonary Research Lecture, "Raxar Study Update"

9/14/99	Current Concepts in Family Medicine “Asthma Guidelines”
10/13/99	Department of Veteran’s Affairs, Wilkes-Barre, PA “Occupational Lung Diseases”
7/1/99	Clinical Skills Course – “The Critically Ill Patient” (year 3 students)
1997-9	Case Conference (2nd year medical students) “Pneumonia” (3-4 times each year)
9/21/99	Department of Medicine Grand Rounds, “Harnessing Whitewater”

University of Maryland School of Medicine

Medical Students

1987 – 1990	Sophomore Student Lecture: "Toxic Gas Inhalation"
1987 – 1989	Second Year pathophysiology lecture: "Hypersensitivity Pneumonitis and Occupational Asthma" (1987, 1988); Immunological Lung Diseases" (1989) Pulmonary Responses to the Environment (1996, 1997)
1987	Department of Medicine Third Year Clinical Lectures: Pulmonary Function Tests, Asthma
1990 – 1994	Department of Medicine's Ambulatory Care Seminar: "The director of medical records can't breathe at work: What do you do, doctor?" (1990); "How do I know if my patient’s asthma is made worse by the environment?" (1991); "Allergy testing: When, if ever, does your patient need it?" (1992); "Evaluation of Cough" (1994)
1992	Department of Medicine Morbidity and Mortality Conference. "Silicosis, sarcoidosis or both" May 1, 1992

Department of Epidemiology and Preventive Medicine

1987 – 1988	"Outdoor Air Pollution, Indoor Air Pollution"
1992	Introduction to Environmental Health (Graduate Course) Air Pollution: Sources and Solutions.

University of Maryland at Baltimore Graduate School

1992 – 1998	University of Maryland System-Wide Program in Toxicology, TOXI 601 "Toxic Responses of the Respiratory System, Toxic Effects of Air Pollutants"
1997	University of Maryland System-Wide Program in Preventive Medicine, PRE 668 Occupational and Environmental Medicine, Lecture, “Health Effects of Air Pollution”.

University of Maryland

1993	College Park Campus: Analytical/Nuclear/Environmental Chemistry Group "Air pollution is bad for your health: The data," November 12, 1993
1994	Baltimore County Campus: Biochemistry and Engineering Seminar "Respiratory Effects of Toxicants." October 17

Johns Hopkins School of Hygiene and Public Health, Division of Occupational Medicine

1986	Clinical Toxicology: Toxic Gas Inhalation
1985 – 1998	Occupational Lung Disease Course, "Immunologic Lung Diseases: Hypersensitivity Pneumonitis and Occupational Asthma" (annual lecture)
1987 – 1990	Occupational Medicine (Clinical), 188.684 Spirometry" and "Occupational Pulmonary Diseases" (annual lectures)
1990	Occupational Diseases Course (4/19/90 and 4/26/90) Lectures on: Occupational Lung Diseases, Pulmonary Function, Asbestos-Related Disorders, Silicosis, Occupational Asthma, Impairment and Disability Evaluation, Pneumoconioses
1994 – 1995	Clinical Occupational Medicine Course Clinical Tools for Pulmonary Assessment

Uniformed Services University of the Health Sciences, Bethesda, Md.

1990	Occupational Lung Disease, Spirometry
1991 – 1998	Occupational Asthma, Hypersensitivity Pneumonitis (annual lecture)

Union Memorial Hospital Medical House Staff

1988 – 1998	Occupational Lung Disease (annual lecture)

Courses:

1986 – 1991	Course Co-director. Intensive Training in Spirometry (NIOSH Certified) The Johns Hopkins School of Hygiene and Public Health (20 students annually)
1988 – 1991	Course Co-director. U.S. Army Intensive Training in Spirometry (NIOSH Certified) (20-30 students annually)
1989 – 1991	Course Co-director. American Thoracic Society International Conference Postgraduate Course: Occupational Respiratory Disorders
1991	Seminar Director. American College of Occupational Medicine Multiple Chemical Sensitivity: Consensus and Controversy

1992	Course Co-director: American Thoracic Society International Conference Postgraduate Course: Scientific Frontiers in Occupational Lung Disease
1993	Course Co-Director; American Thoracic Society International Conference Postgraduate Course: Occupational Respiratory Disorders
1996	Course Co-Director; Evaluation of Asthma and Upper Airways Diseases in the Workplace. Sponsored by Johns Hopkins and the University of Maryland

COMMUNITY ACTIVITIES:

2012 - Present	Member of St. Stephen's Cathedral Chior
2014	Founder of St. Stephen's Community Garden

GRANT SUPPORT:

1984	The Ames Rubber Corporation, "Evaluation of the Respiratory Health of a Group of Synthetic Rubber Workers", **R. Bascom**, Co-investigator, $22,524.
1985	The Ames Rubber Corporation, "Longitudinal Effects of Employment in a Rubber Thermoinjection Process", **R. Bascom**, Co-investigator, $21,084.
1987 – 1989	American Lung Association, "Effects of Ozone Inhalation on Nasal Challenge with Antigen", **R. Bascom**, Principal Investigator, $50,000.
1987	University of Maryland Special Research Initiative Award, "Physiologic and Biochemical Response of the Upper Airway to C-fiber Afferent Stimulation", **R. Bascom**, Principal Investigator, $4,492.
1988	Maryland Industrial Partnerships, "Removal of Sidestream Cigarette Smoke", **R. Bascom**, Principal Investigator, $7,414.
1988	University of Maryland Pangborn Fund, "Respiratory Sensitivity to Environmental Tobacco Smoke", **R. Bascom**, Principal Investigator, $2,400.
1989	American Cancer Society Institutional Research Grant, "Modulation of Hydrogen Peroxide Induced Human Tracheal Epithelial Injury by Neutrophils *in vitro"*, **R. Bascom**, Principal Investigator, 11/1/88 - 6/30/89, $4,000.
1989 – 1991	American Lung Association, "Modulation of Epithelial Cytotoxicity by Neutrophils", **R. Bascom**, Principal Investigator, $35,000.
1989 –1995	National Institutes of Health, National Heart Lung and Blood Institute First Award, "Respiratory Sensitivity to Environmental Tobacco Smoke", **R. Bascom,** Principal Investigator, $499,560.
1990 – 1997	Center for Indoor Air Research, "Environmental Tobacco Smoke: Nasal Response and Aerosol Deposition Effect", **R. Bascom**, Principal Investigator, $461,078.

1992 – 1993	National Institute for Occupational Safety and Health, "Index System for a Compendium of Occupational and Environmental Respiratory Questionnaires", $13,016.
1994 – 1995	Special Research Initiative Support (SRIS), University of Maryland School of Medicine, "Effects of Smoke on Nasal Function and Mucociliary Clearance in Healthy Non Smoking Adults", **R. Bascom**, Principal Investigator, $14,950.
1998 – 1999	Glaxo Wellcome Inc. – Raxar Study Initiation, "Pharmacokinetics of Grepafloxacin (Raxar) and Ciprofloxacin (Cipro) in the Lung", **R. Bascom**, Principal Investigator, $63,970.
1998 – 2000	Glaxo Wellcome, Inc. – "A Randomized Double-blind, Parallel Group Trial Evaluating the Safety and Efficacy of the DISKUS Formulations of Salmeterol 50mcg BID and Fluticasone Propionate 500mcg BID Individually and in combination as Compared to Placebo in COPD Studies", **R. Bascom**, Principal Investigator, $75,324.
1999 – 2000	Smith Kline Beecham, "An open, non-comparative multicenter study to assess the efficacy and safety of oral Augmentin SR 2000/125mg twice daily for 7 days for the treatment of bacterial community acquired pneumonia in adults", **R. Bascom**, Investigator, $50,800.
1999 – 2000	Smith Kline Beecham, "Multicenter Study of Safety & Efficacy in CAP", **R. Bascom**, Principal Investigator. 11/1/1999-5/31/2000, $65,500.
2003 – 2003	Ortho Biotech, Inc. "A Virtual Medical Education Center", **R. Bascom**, Principal Investigator, 11/20/02-11/19/03, $15,000.
2003 – 2005	Dean's Feasibility Grant Application, "Health Effects of Exposure to Air Pollution among Asthmatics Treated with an Inhaled Corticosteroid, an Inhaled long-Acting Beta-Agonist, or Placebo", Zhengmin Qian, MD – Principal Investigator, **R. Bascom** Co-investigator, $30,000.
2004 – 2005	American College of Allergy, Asthma & Immunology, "Duration of action of local anesthetics in cough suppression", Soheil Chegini, MD - Principal Investigator, **R. Bascom -** Co-investigator.
2004 – 2007	Philip Morris, "Ozone Dose to the Human Respiratory Tract: Effects of Cigarette Smoking", James Ultman PI, **R. Bascom**, consultant, 3% effort, September 1, 2004 -8/31/07, $9,246.
2005 – 2007	National Institutes of Health, National Cancer Institute, "Synergistic CT-Bronchoscopy for Lung Cancer Assessment", William E. Higgins, Principal Investigator, Grant # NIH-NCI RO1-CA074325 (**R. Bascom** 11% effort as Co-Investigator FY ending 5/31/05, $50,207), (20% effort as Co-Investigator, FY

6/1/05-5/31/06, $132,827), (FY 2/1/05-12/31/07, $62,246), (FY 2/1/05-12/31/07, $69,669).

2005 – 2007 Endographics Imaging Systems, Inc., "CT-Bronchoscopy Workstation for Lung Cancer Assessment", (project funded through a grant from National Institutes of Health, National Cancer Institute, SBIR CA91534), **R. Bascom** 11% effort as co-Investigator, 2/5/05-1/31/2007, $69,669.

2006 – 2007 Barsumian Trust, "Effect of HMG CoA reductase inhibitors on tobacco induced heart dysfunction in rats", Andrew Sumner, MD, Principal Investigator, **R. Bascom**, Co- Investigator 1/1/06-12/31/07, 1/1/07-12/31/2007, $15,000.

2007 – 2010 Pennsylvania Department of Health, "Idiopathic Pulmonary Fibrosis (IPF) Disease Registry", Primary Recipient University of Pittsburgh, Naftali Kaminski, PI, (Subrecipient Penn State University, **R. Bascom**, PI, Subcontract 5/1/07-12/31/10, $68,000). Other collaborating sites: Geisinger Health System, University of Pennsylvania and Temple University.

2010 – 2015 National Institutes of Health, National Cancer Institute, "Multimodal Image-Guided Intervention System for Lung-Cancer Diagnosis and Staging"William E. Higgins, Principal Investigator, Grant #NIH NCI RO1-CA151433, **R. Bascom** Co-Investigator, 8/24/10-1/31/16, $213,496.

2011 - 2013 Pennsylvania Department of Health SAP# 4100054920, "Pennsylvania Lung Fibrosis Registry", Primary Recipient University of Pittsburgh, Naftali Kaminski, PI, $425,000; **R. Bascom**, Principal Investigator, Penn State University Sub-award 1/1/11-12/31/13, PI $73,000.

2012 – 2013 United BioSource Corporation, "Evaluation and Modification of the Exacerbations of Chronic Pulmonary Disease Tool (EXACT) for Use as a Measure of Symptoms in Patients with Idiopathic Pulmonary Fibrosis", **R. Bascom**, Principal Investigator, 6/4/12-6/30/13, $12,200.

2012 – 2015 National Institute of Nursing Research, "Preparing Family Caregivers of Very Ill Patients for End-of-Life Decision Making", Michael J. Green, PI, 9/27/12-6/30/15, $1,731,673. **R. Bascom**, Co- Investigator.

2012 – 2015 InterMune, Inc., "A Randomized, Double-blind, Placebo-controlled, Phase 3 Study of the Efficacy and Safety of Drug A in Patients with Idiopathic Pulmonary Fibrosis", **R. Bascom**, Principal Investigator, 9/26/12-3/31/15, $135,245.

2013 – 2016 InterMune, Inc., "An Open-label Extension Study of the Long-term Safety of Drug A in Patients with Idiopathic Pulmonary Fibrosis", **R. Bascom**, Principal Investigator, 9/17/13-9/30/16, $22,919.

2013 – 2018 Genentech, Inc., "A Phase II, Randomized, Double-Blind, Placebo-controlled, Study to Assess the Efficacy and Safety of Drug A in Patients with Idiopathic Pulmonary Fibrosis", **R. Bascom**, Principal Investigator, 11/25/13-11/30/18, $86,670.

2014 – 2016 InterMune, Inc. "A Treatment Protocol to Allow Patients in the US With Idiopathic Pulmonary Fibrosis Access to Drug X," **R. Bascom,** Principal Investigator, 5/15/2014-11/30-2016, $43,124.

2014 -2016 Commonwealth of Pennsylvania, Department of Public Health, Tobacco Settlement Fund ("CURE"); "Genetic Analysis of a Multigenerational Cohort with Familial Interstitial Pneumonia", **R. Bascom,** Principal Investigator, 8/1/2014-12/31/2016, $50,000.

PUBLICATIONS:

Books:

1. **Indoor Allergens: Assessing and Controlling Adverse Health Effects.**
   A report of the Committee on the Health Effects of Indoor Allergens. A committee of the Institute of Medicine. Andrew M. Pope, Roy Patterson, and Harriet Burge, editors. National Academy Press, Washington, DC, 1993; 308 pages. ISBN-13: 978-0309048316.

2. **Occupational Health and Safety in the Care and Use of Research Animals.**
   Committee on Occupational Safety and Health in Research Animal Facilities, Institute of Laboratory Animal Resources, Commission on Life Sciences, National Research Council. National Academy Press, Washington, DC, 1997, 154 pages. ISBN-13: 978-0309052993.

3. **Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants. Volume 3.**
   Committee on Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants; Committee on Toxicology; National Research Council ISBN: 0-309-14380-2, 192 pages, 6x9, 2009. ISBN-13: 978-0-309-14379-0.

4. **Scientific Standards for Studies on Modified Risk Tobacco Products.**
   Committee on Scientific Standards for Studies on Modified Risk Tobacco Products, Institute of Medicine. National Academies Press, Washington, DC, 2012, 350 pages. ISBN-13: 978-0309223980.

Chapters:

1. **Bascom R**, Johns CJ. *The Natural History and Management of Sarcoidosis*. **Adv Intern Med.** Year Book Medical Publishers, Inc. 1986; 213-241.

2. Naclerio RM, Pipkorn U, Iliopoulos O, **Bascom R**, Kagey-Sobotka A, Proud D, Lichtenstein LM. *The Response to Nasal Challenge with Antigen Does Not End Within Minutes*. **Proc: Immunobiol in Otol Rhinol Laryngol**. 1987; 333-339.

3. Peters SP, **Bascom R**, Warner, JA, Freeland HS, Pipkorn U, Proud D, MacGlashan Jr DW, Naclerio RM, Kagey-Sobotka A, Lichtenstein LM. *The Role of Arachidonic Acid Metabolites and Mast Cell and Basophil Activation in Human Allergic Reactions*. **A Perspective on Biology**

and Medicine in the 21st Century. I.S. Johnson and Y. Rue, editors, Royal Society of Medicine Services, Ltd. London/New York. 1988; 167-177.

4. **Bascom R**, Ford E. *Don't just "Do Spirometry" -- Closing the Loop in Workplace Spirometry Programs.* In: Beckett WS, **Bascom R**, editors. **Occupational Lung Disease**. **Occupational Medicine**: **State of the Art Reviews**. Hanley & Belfus, Inc., Philadelphia. 1992; 7:347-363.

5. **Bascom R**. *Occupational and Environmental Respiratory Disease: A Medicolegal Primer for Physicians.* In: Beckett WS, **Bascom R**, editors**. Occupational Lung Disease. Occupational Medicine: State of the Art Reviews**. Hanley & Belfus, Inc., Philadelphia. 1992; 7:331-345.

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7. Raford P, **Bascom R.** *Disorders of the Upper Airway*. In: Cullen MR, Rosenstock L, editors. **Textbook of Clinical and Occupational Medicine**. W.B. Saunders Company, Philadelphia 1994; 315-328.

8. Dias M, Shusterman D, Kesavanathan J, **Bascom R**. *Upper Airway Diagnostic Methods.* In:Harber P, Schenker M, Balmes J, editors. **Occupational and Environmental Respiratory Disease.** CV Mosby, St. Louis, 1995; 6:67-89.

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10. **Bascom R**, Kesavanathan J, Swift DL. *Indoor Air Pollution: Understanding the Mechanisms of the Effects*. In, Gammage RB, Berven BA, editors. **Indoor Air and Human Health.** CRC Press, Boca Raton 1996; 513:742-2020.

11. **Bascom R,** Shusterman D. *Occupational and Environmental Exposures and the Upper Respiratory Tract. Air Pollution and the Nose*. In Naclerio RM, Durham SR, Mygind N, eds. Rhinitis. Claude Lenfant, series editor. **Lung Biology in Health and Disease**. Marcel Dekker 1997, 65-94.

12. **Bascom R,** Ouellette, JJ. *Indoor Environment and Asthma*. In: **Lung Biology in Health and Disease,** Bush RK, editor Environmental Asthma. Claude Lenfant, series editor. Marcel Dekker, Chapter 8, pp 141-164, 2000.

13. Tucakovic M, **Bascom R**, Bascom PB. *Pulmonary Medicine and Palliative Care* [Review][65 refs]. **Best Practice & Research in Clinical Obstetrics and Gynaecology**. Harcourt Publishers Ltd. 15(2), 2001.

14. **Bascom R,** Ellaurie M. 20.3 *Upper Airway Disorders.* In: Rosenstock L, Cullen MR, Brodkin CA, Redlich C, editors. **Textbook of Clinical Occupational and Environmental Medicine, Second Edition**. Elsevier Saunders, Philadelphia 2005, 437-452.

15. **Bascom R, Dolina M**. *Upper Airway Disorders*. William Rom editor. **Environmental and Occupational Medicine, Fourth Edition**, Wolters Kluwer/Lippincott Williams & Wilkins, Philadelphia 2007, 582-616.

16. Simonyents L and **Bascom R**. Gastroes*ophageal Reflux Disease, In, In A Page.* **Ambulatory Medicine**, RJ Williams, S Kahan, eds., Lippincott Williams & Wilkins, 2008, 22-23.

17. Sharma R and **Bascom R.** *Pulmonary Function Testing, In, In A Page.* **Ambulatory Medicine**, RJ Williams, S Kahan, eds., Lippincott Williams & Wilkins, 2008, 94-95.

18. Rasmussen MD, **Bascom R**. *Silo Filler's Disease* **eMedicine Journal** [serial online]. 2002; updated 2006.

19. **Bascom R**, Benninghoff M, Alam S. *Pneumothorax*. **eMedicine Journal** [serial online]. 2003, updated 2006, 2008. Available at: http://emedicine.medscape.com/article/424547-overview 33814 page views Jan-June 2010.

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21. **Bascom R**, Tucakovic M, Flood W, Mehta SM. *Secondary Lung Tumors*. **eMedicine Journal** [serial online]. 2004; updated 2006.

22. Bates ML, **Bascom R.** *Air Pollution and Pulmonary Vasculature.* In: Yuan J X-J, Garcia JGN, Hales CA, Rich S, Archer SL, West JB, (eds). **Textbook of Pulmonary Vascular Disease.** DOI 10.1007/978-0-387-87429-6_67, Springer Science + Business Media LLC 2011.959-973.

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24. Cheirsilp R, **Bascom R**, Allen T, Higgins W. *3D Intrathoracic Region Definition and its Application to PET-CT Analysis*, **SPIE Medical Imaging 2014: Computer-Aided Diagnosis**, Stephen Aylward and Lubomir M. Hadjiiski, eds., Proc. Of SPIE Vol. 9035, pp. 90352J-1---90352J-11, DOI: 10.1117/12.2037076.

25. Zang X, **Bascom R**, Gilbert C, Toth J, Higgins W. *3D Endobronchial Ultrasound Reconstruction and Analysis for Multimodal Image-Guided Bronchoscopy*, **SPIE Medical Imaging 2014: Ultrasonic Imaging and Tomography**, Johan G. Bosch and Marvin M. Doyley, eds., Proc. Of SPIE Vol. 9040, pp. 90400X-1 --- 90400X-12, DOI:10.1117/12.2036115.

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1. Stark AR, **Bascom R**, Frantz ID. Muscle Relaxation in Mechanically Ventilated Infants. **J Pediatr** 1979; 94:439-443. PMID:423033.

2. **Bascom R**, Haponik E, Munster A. Inhalation injury Related to the Use of Petrolatum-Based Hair Grease. **J Burn Care Rehabil** 1984; 5:327-330.

3. **Bascom R**, Kennedy TP, Levitz D, Zeiss CR. Specific Bronchoalveolar Lavage IgG Antibody in Hypersensitivity Pneumonitis from Diphenylmethane Disocyanate. **Am Rev Resp Dis** 1985; 131:463-465. PMID:3977184.

4. **Bascom R**, Bleecker E. Bronchoconstriction Induced by Distilled Water: Sensitivity in Asthmatics and Relationship to Exercise-Induced Bronchospasm. **Am Rev Resp Dis** 1986; 134:248-253. PMID:3090916.

5. Thomas R, Yang W, **Bascom R**, Baser M, Baker J. Peripheral Eosinophilia and Respiratory Symptoms in Rubber Injection Press Operators: A Case-Control Study. **Am J Ind Med** 1986; 9:551-559. PMID:3740072.

6. Green DJ, Sauder LR, Kulle TJ, **Bascom R**. Acute Response to 3.0 ppm Formaldehyde in Exercising Healthy Nonsmokers and Asthmatics. **Am Rev Resp Dis** 1987; 135:1261-1266. PMID:3592401.

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8. **Bascom R**, Wachs M, Naclerio RM, Pipkorn U, Galli SJ, Lichtenstein LM. Basophil Influx Occurs After Nasal Antigen Challenge: Effects of Topical Corticosteroid Pretreatment. **J Allergy Clin Immunol** 1988; 81:580-589. PMID:2450113.

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10. Freeland HS, Pipkorn U, Schleimer RP, **Bascom R**, Lichtenstein LM, Naclerio RM, Peters SP. Leukotriene B_4 as a Mediator of Early and Late Reactions to Antigen in Humans: The Effect of Systemic Glucocorticoid Treatment *In Vivo*. **J Allergy Clin Immunol** 1989; 83:634-642. PMID:2466880.

11. Goings S, Kulle T, **Bascom R**, Sauder L, Green D, Hebel R, Clements ML. Effect of NO_2 Exposure on Susceptibility to Influenza a Virus in Healthy Adults. **Am Rev Resp Dis** 1989; 139:1075-1081. PMID:2712434.

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13. Churchill L, Chilton FH, Resau JH, **Bascom R**, Hubbard WC, Proud D. Cyclooxygenase Metabolism of Endogenous Arachidonic Acid by Cultured Human Tracheal Epithelial Cells. **Am Rev Resp Dis** 1989; 140:449-459, PMID:2504090.

14. Green D, **Bascom R,** Healey E, Hebel J, Sauder L, Kulle T. Acute Pulmonary Response in Healthy, Nonsmoking Adults to Inhalation of Formaldehyde and Carbon. **J Toxicol Environ Health** 1989; 28:261-275. PMID:2585534.

15. **Bascom R,** Naclerio R, Fitzgerald TK, Kagey-Sobotka A, Proud D. Effect of Ozone Inhalation on the Response to Nasal Challenge with Antigen of Allergic Subjects. **Am Rev Resp Dis** 1990; 142:594-601. PMID:2202248.

16. **Bascom R,** Baser M, Thomas R, Fisher J, Yang W, Baker J. Elevated serum IgE, Eosinophilia, Lung Function in Rubber Workers. **J Toxicol Environ Health** 1990; 45:15-19. PMID:2317085.

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23. Kesavanathan J, **Bascom R**, Swift DL. Nasal Pressure-Volume Relationships Determined with Acoustic Rhinometry. **J Appl Physiol** 1995; 79:547-553. PMID:7592216.

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Invited Non-refereed Articles:

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87. Lindell KO, Black T, Hoffman K, Richards T, Kaminski N, Gibson K, Tino G, Simonelli P, **Bascom R,** Cordova F, Patel N, Criner G. The Pennsylvania Idiopathic Pulmonary Fibrosis (PA-IPF) State Registry. **Am J Resp Crit Care Med** 2009; 181: A2964. Presented at the American Thoracic Society International Conference, May 2010, New Orleans, LA.

88. Kuhlengel TK, **Bascom R**, Qian ZM, Kaminski N, Lindell KO, Tino G, Criner GJ, Simonelli PF, Cordova FC, Patel N, Gibson KF. Exposure of Patients in the Pennsylvania Idiopathic Pulmonary Fibrosis (PA-IPF) State Registry. **Am J Resp Crit Care Med** 2010; 181: A4618. Presented at the American Thoracic Society International Conference, May 2010, New Orleans, LA.

89. Knorr L, Farling L, Kuhlengel TK, Toth JW, **Bascom R**. Nursing Assessment of Patients with Diagnosed Lung Cancer, **Am J Resp Crit Care Med** 2010; 181: A4797. Presented at the American Thoracic Society International Conference, May 2010, New Orleans, LA.

90. Higgins WE, **Bascom R**, Graham MW, Gibbs JD, Cornish DC. Experience with Image-Guided Ultrathin Bronchoscopy, **Am J Resp Crit Care Med** 2010; 181: A1607. Presented at the American Thoracic Society International Conference, May 2010, New Orleans, LA.

91. Higgins WE, **Bascom R**, Gibbs JD, Graham MW, Cornish DC, Khan M, Khare R. Image-Guided Bronchoscopic Sampling of Peripheral Lesions: A Human Study. **Am J Resp Crit Care Med** 2010; 81: A5171. Presented at the American Thoracic Society International Conference, May 2010, New Orleans, LA.

92. Higgins WE, Lu K, **Bascom R**, Mahraj RPM, Toth JW, Campbell D. Selection of Central-Chest Lymph Nodes in 3D MDCT Images: an Observer Study. **Am J Resp Crit Care Med** 2010; 181: A5518. Presented at the American Thoracic Society International Conference, May 2010, New Orleans, LA.

93. Hozella JB, **Bascom R**, Green MJ, Levi BH. Using an Interactive Computer Program to Create an Advanced Directive in Patients with Stage III-IV Chronic Obstructive Pulmonary Disease: A

Feasibility Study. **Am J Resp Crit Care Med** 2011; 183: A3691. Presented at the American Thoracic Society International Conference, May 2011. Denver CO.

94. Higgins, WE, Lu K, **Bascom R**, Mahraj. Automatic Lymph-Node Station Definition in 3D MDCT Images. **Am J Resp Crit Care Med** 2011; 183:A5381. Presented at the American Thoracic Society International Conference, May 2011, Denver CO.

95. Higgins, WE, Lu, K, **Bascom R**, Mahraj R, Campbell D, Toth JW. Toward Exhaustive Identification of the Central-Chest Lymph Nodes in 3D MDCT Scans. **Am J Resp Crit Care Med**., 2011; 183: A3071. Presented at the American Thoracic Society International Conference, May 2011, Denver CO.

96. Richards TJ, Kuhlengel TK, Choi J, Kaminski N, **Bascom R**. Does Ambient Air Pollution Exposure Modify Longitudinal Disease Outocmes in a Cohort of Patients with Idiopathic Pulmonary Fibrosis? **Am J Resp Crit Care Med** 2011; 183:A5433, Denver, CO.

97. Higgins WE, Khare R, Cornish DC, **Bascom R**. Physician-Controlled System For Image-Guided Bronchoscopy. **Am J Resp Crit Care Med** 2012; 185: A1116. Presented at the American Thoracic Society International Conference, May 2012, San Francisco, CA.

98. Bartsch S, Gleeson K, **Bascom R**, Haouzi P. Slow Conducting Diaphragmatic Afferent Fibers Produce Dyspnea In Humans. **Am J Resp Crit Care Med** 2012; 185: A3621. Presented at the American Thoracic Society International Conference, May 2012, San Francisco, CA.

99. Higgins WE, Cheirsilp R, **Bascom R**, Allen T, Dimmock AE, Kuhlengel T. Automated 3D PET/CT-Based Detection Of Suspect Central-Chest Lesions. **Am J Resp Crit Care Med** 2012; 185: A4431. Presented at the American Thoracic Society International Conference, May 2012, San Francisco, CA.

100. Higgins WE, Cornish DC, Khare R, **Bascom R**. Technician-Free Bronchoscopy Guidance Using External Sensor Measurements. **Am J Resp Crit Care Med** 2012; 185: A4495. Presented at the American Thoracic Society International Conference, May 2012, San Francisco, CA.

101. Khare R, **Bascom R**, and Higgins WE, ``Technician-free system for image-guided bronchoscopy," SPIE Medical Imaging 2013: Image-Guided Procedures, Robotic Interventions, and Modeling, David R. Holmes, III, and Ziv R. Yaniv, eds., vol. 8671, 9-14 February 2013. Presented at SPIE Medical Imaging, Feburary 2013, Orlando, FL.

102. Swavely SC, Dimmock AEF, McEvoy CS, **Bascom R**. Inter-Observer (Dis)agreement in Idiopathic Pulmonary Fibrosis Anchor Point Ascertainment. **Am J Resp Crit Care Med** 187; 2013:A1075. Presented at the 2013 American Thoracic Society Annual Meeting, Philadelphia, PA.

103. Dimmock AEF, Lindell KO, Criner GJ, Simonelli PF, Tino G, Black TR, Gardo L, Jones GM, Tusing L, Chinchilli VM, Kaminski N, **Bascom R**. The GAP Index is Symmetrically Distributed in a Statewide Idiopathic Pulmonary Fibrosis Cohort. **Am J Resp Crit Care Med** 187; 2013:A1091. Presented at the 2013 American Thoracic Society Annual Meeting, Philadelphia, PA.

104. Dimmock AEF, Chinchilli VM, Criner GJ, Simonelli PF, Tino G, Black TR, Gardo L, Jones GM, Lindell KO, Tusing L, Kaminski N, **Bascom R**. The GAP Index Predicts Mortality in a Statewide Cohort of Patients with Idiopathic Pulmonary Fibrosis. **Am J Resp Crit Care Med** 187; 2013:A6086. Presented at the 2013 American Thoracic Society Annual Meeting, Philadelphia, PA.

105. Walters KH, Dimmock AEF, **Bascom R**, Howrylak JA, Miller K, Yost BA. Biobehavioral Risk Factors for Asthma in the Amish and General Populations of Central Pennsylvania. **Am J Resp Crit Care Med**. Presented at the 2014 American Thoracic Society Annual Meeting, San Diego, CA.

106. Higgins WE, Zang X, Byrnes PD, Cheirsilp R, Kuhlengel TK, Dimmock AEF, Toth JW, Gilbert C, **Bascom R**. Multimodal Image-Guided Intervention System for Bronchoscopy and EBUS Fusion. **Am J Resp Crit Care Med**. Presented at the 2014 American Thoracic Society Annual Meeting, San Diego, CA.

107. Higgins WE, Cornish DC, Khare R, Toth JW, Reed MF, **Bascom R**. Sensor-Based Bronchoscopy Guidance System: Human Studies. **Am J Resp Crit Care Med**. Presented at the 2014 American Thoracic Society Annual Meeting, San Diego, CA.

108. Higgins WE, Khare R, Cornish DC, Byrnes PD, Cheirsilp R, Zang X, Toth JW, Reed MF, **Bascom R**. Technician-Free Image-Guided Bronchoscopy System: A Human Study. **Am J Resp Crit Care Med**. Presented at the 2014 American Thoracic Society Annual Meeting, San Diego, CA.

109. Kuhlengel TK, Rudegeair J, **Bascom R**, Howrylak JA. The Impact of Exhaled Breath Condensate Collection on Ventilation in Criticall Ill Patients: A Simulation Study. **Am J Resp Crit Care Med**. Presented at the 2014 American Thoracic Society Annual Meeting, San Diego, CA.

110. Moll M, Dolinay T, Choi AMK, Baron RM, Thomas NJ, Wong HR, **Bascom R**, Howrylak JA. A Comparative Genomics Analysis of Gene Expression Profiles Demonstrates a Distinct and Replicable Molecular Signature for ARDS. Presented at the 2014 Aspen Lung Conference, Aspen, CO.

MAJOR INVITED LECTURES, PRESENTATIONS, AND TESTIMONY:

Grand Rounds

1985 The Johns Hopkins Hospital Topics in Clinical Medicine. "Occupational Asthma"

1987 University of Maryland Medical Grand Rounds. "Chlorine Gas Inhalation"

1987 St. Agnes Hospital Grand Rounds. "Occupational Asthma and Pulmonary Evaluation of Toxic Gas Exposure"

1987 York Hospital, York Pennsylvania, Medical Grand Rounds. "Isocyanate Lung Disease and Silicosis"

1988 University of Maryland Medical Grand Rounds. "Occupational Asthma"

1989 University of Maryland Medical Grand Rounds. "Sarcoidosis"

1990 Medical Grand Rounds, Baltimore Department of Veterans Affairs Medical Center "NonMalignant Manifestations of Asbestos and Silica" December 11.

1991 Francis Scott Key Hospital Medical Grand Rounds. "Occupational Asthma"

1991 Naval Medical Center Grand Rounds." Occupational Asthma" September 11, Bethesda, MD

1991 University of Maryland Medical Grand Rounds, "Your Patient and Maryland's Air Quality" September 18

1992 Baltimore County Hospital Grand Rounds. "Environmental Lung Diseases" Sponsored by Agency for Toxic Substances and Disease Registry (ATSDR) June 16, Baltimore, MD.

1992 Christiana Hospital, Medical Grand Rounds. "Taking Another Look at Your Asthma Patient: The Role of Household and Occupational Allergens" August 20, Newark, DE.

1993 United States Uniformed University of Health Services Medical Grand Rounds. "Environmental Lung Diseases" May 12.

1994 Greater Baltimore Medical Center Medicine Grand Rounds. “Evaluation of Indoor Air and Health” November 17.

1995 University of Maryland Opthalmology Grand Rounds, “Mucosal Irritation.”

1996 Johns Hopkins School of Hygiene and Public Health Division of Occupational Medicine Grand Rounds. “Toxic Gas Inhalation”.

1997 University of Maryland Department of Medicine Grand Rounds. Latex Allergy January 22.

1997 Glaxo Speaker’s Bureau. Smoking Cessation Lectures
Maryland General Hospital Obstetrical and Gynecology Grand Rounds June 5
Inova Hospital Medical Grand Rounds, Falls Church, VA July 15
Blue Cross/Blue Shield Continuing Education, Owings Mills, MD October 1

1997 University of Maryland Department of Medicine Grand Rounds. Is it Asthma or is it Vocal Cord Dysfunction? September 10.

1998 1999 Wilkes-Barre VA Medical Center (Grand Rounds) – “Occupational Lung Disease”, sponsored by Astra Pharmaceutical, Wilkes-Barre, PA, October 8, 1999

Presentations

1984 The Johns Hopkins Division of Clinical Immunology Clinical Conference. "Toxic Gas Inhalation"

1986 American Academy of Occupational Medicine. "Airway Hyperreactivity after Toxic Gas Inhalation"

1986 The Johns Hopkins Division of Clinical Immunology Clinical Conference. "Sick Building Syndrome"

1987 The American Lung Association. "Health Effects of Air Pollution"

1987 The American Thoracic Society Annual Meeting Sunrise Seminar. "Occupational Asthma"

1988 University of Maryland Morbidity and Mortality Conference. "Smoke Inhalation"

1988 American Thoracic Society Annual Meeting Sunrise Seminar. "Occupational Asthma"

1988 Maryland Thoracic Society Annual Meeting. "Indoor Air Pollution, A Problem for the Next Decade"

1989 American Thoracic Society Annual Meeting Postgraduate Course. "Occupational Airways Diseases"

1989 State of Maryland Department of the Environment. "Chemical Hypersensitivity Syndrome"

1989 Universite de Paris, Hopital de Cochins Research Conference. "Upper Respiratory Responses to Air Pollution"

1990 Maryland Academy of Allergy and Immunology Annual Meeting. "Solving Your Patients' Indoor Air Quality Problems"

1990 ILSI Risk Science Institute/United States Environmental Protection Agency Conference. Methodology for Assessing Health Risks from Complex Mixtures in Indoor Air. (Organizing Committee) "Upper Respiratory Tract Mucosal Irritation Syndrome"

1990 American Thoracic Society Annual Meeting Postgraduate Course. "Impairment, Disability and Medico-Legal Issues"

1990 United States Environmental Protection Agency Health Effects Research Laboratory; Research Triangle Park, N.C. Research Conference. "Lessons from Studies of Environmental Tobacco Smoke Sensitivity"

1990 Yale University School of Medicine and the John B. Pierce Laboratory (New Haven, Conn). "Differential Responsiveness to Irritant Mixtures: Possible Mechanisms"

1990 The Johns Hopkins School of Hygiene and Public Health Department of Environmental Health Sciences. Educational Resource Center Seminar In Occupational Safety and Health, "Chemical Sensitivity. Fact or Fiction"

1991 American Thoracic Society Annual Meeting Postgraduate Course. "Pulmonary Surveillance Programs: How to Conduct a Program to Assess and Control Hazards in Industry"

1991 American Thoracic Society Annual Meeting Symposium. Variability of Individual Susceptibility to Respiratory Disease. “Differential Responses to Tobacco Smoke"

1991 American Thoracic Society International Conference. Symposium: Novel Approaches to Clinical Studies of Environmental Pollutants. "Upper Respiratory Tract: The First Mucosa" 1991 University of North Carolina at Chapel Hill, Ozone Scientific Exchange: Respiratory Function and Inflammation Following Ozone Exposure."Effect of Ozone Inhalation on the Upper Respiratory Tract of Allergic and Non-allergic Subjects" April 7-9

1991 IV Seminario Internazionale, Seminari Pneumologici dell-Universita di Ferrara, "Mechanisms of Occupational Asthma" May 30 - June 1, Ferrara Itlay.

1991 International Conference: Clinical Aspects of Allergic and Nonallergic Rhinitis. Mygind N and Naclerio RM, conveners. "Air Pollution" June 6-7, Copenhagen, Denmark.

1991 Association of Occupational and Environmental Health Clinics. "Multiple Chemical Sensitivity. A Respiratory Disorder?" September 21, Washington, D.C.

1991 American Industrial Hygiene Association Mid Atlantic Regional Conference. "Chemical Sensitivity Disorders" October 4, Ocean City, MD.

1991 Baltimore Veterans Hospital Grand Rounds. "Sarcoidosis" October 22

1991 American College of Occupational Medicine (ACOM) State-of-the-Art Fall Conference. Multiple Chemical Sensitivities. What Could This Be?" October 29, St. Louis, MO.

1991 Maryland Chamber of Commerce. Worker's Compensation Seminar. "Preventing Indoor Air Quality Problems" November 7, Baltimore, MD.

1991 American Lung Association Workshop on California Low Emission/Vehicle Legislation. “Health Effects of Automotive Pollution”, November 21, Washington, D.C.

1992 American Thoracic Society Postgraduate Course. Scientific Frontiers in Occupational Medicine. "Differential Responsiveness to Irritants" May 16, Miami, FL.

1992 American Occupational Health Conference, American College of Occupational and Environmental Medicine (ACOEM). Occupational Lung Disease Update. "Occupational Asthma and RADS" May 2 - May 8, Washington, D.C.

1992 Baltimore Regional Council of Governments Traveling to a Cleaner Environment. "Ozone - Health Watch" May 13, Baltimore, MD.

1992 American Lung Association of Delaware, Third Annual Symposium. Perspectives in Pulmonary Care - 1992. "Health Effects of Air Pollution" April 28, Wilmington, DE.

1992 Transportation Management Association of New Castle County, Clean Air Issues Symposium, Commuter Management Workshop. "Air Pollution: It's a Health Issue" June 29, Newark, DE.

1992 Topics in Pulmonary Medicine, Sponsored by the University of Maryland School of Medicine Division of Pulmonary and Critical Care Medicine. "Occupational Pulmonary Disease -- Diagnosis and Disability Standards for Office Practice" September 12 and September 13, Baltimore, MD.

1992 The Johns Hopkins University School of Hygiene and Public Health. Ozone Scientific Exchange. Airway and Cellular Responses to Environmental Stimuli, Session Moderator. September 28 - September 30, Baltimore MD.

1992 Association of Government Toxicologists/Society of Toxicology - National Capital Area Chapter. Symposium. Toxicology of Mixtures of Chemical Substances, Lister Hill Center Auditorium of the National Library of Medicine, National Institutes of Health, October 1, Bethesda, MD.

1992 Sierra Club of Maryland Clean Air and Energy Workshop. "California Clean Car Bill" November 14, Catonsville Community College, Baltimore, MD.

1993 Lane County (Oregon) Medical Society. "Health Effects of Air Pollution" January 13.

1993 Tennessee College of Occupational Medicine. "Don't Just 'Do Spirometry': Closing the Loop in Workplace Spirometry Programs" March 6 Knoxville, TN.

1993 Maryland Thoracic Society. "The Practical Clinician's Guide to Evaluating the Role of the Home and Workplace in Lung Disease" March 7 Baltimore, MD.

1993 American College of Occupational and Environmental Medicine Annual Meeting. "Indoor Air Pollution: An Overview" April 26.

1993 American College of Occupational and Environmental Medicine Annual Meeting. "Asthma Management in the Occupational Setting" April 29.

1993 American College of Occupational and Environmental Medicine Annual Meeting. "Nasal Provocation with Occupational Allergens and Irritants" (Distinguished Lecturer Series sponsored by The American Academy of Allergy and Immunology)

1993 American Thoracic Society Postgraduate Course. " Health Effects of Air Pollution" May

1993 University of Maryland School of Medicine, Postgraduate Course: Topics in Pulmonary Medicine. "Tools and Terminology for Evaluating Occupational Lung Disease" September 12, Baltimore, MD.

1993 Louis Hampton, M.D. Lecture Series, American Lung Association of South Central Pennsylvania. "Air Pollution: It's a Health Issue" November.

1993 The Association of School Business Officials of Maryland and the District of Columbia. "Presentation and Review of Technical Bulletin; Carpet and Indoor Air Quality in Schools" December 10.

1994 American Conference of Governmental Industrial Hygienists (ACGH). "Models for Understanding Variable Irritant Responsiveness" March 29, Knoxville, TN.

1994 American College of Laboratory Animal Medicine (ACLAM) 1994 Forum. "Reproductive Hazards"; "Occupational Medicine"; "Pre-Employment Medical Examinations, Medical Histories and Serum Banking" April 7 - April 9.

1994 The Persian Gulf Experience and Health Technology Workshop, A Presentation to the Persian Gulf - Expert Scientific Committee, National Institues of Health. "Environmental Respiratory Diseases" April 28, Bethesda, MD.

1994 Joint American Lung Association/American Thoracic Society International Conference Session. "Background and Overview of ATS State-of-the-Art Document on the Health Effects of Ambient Air Pollution" May 23.

1994 American Lung Association International Conference Plenary Session. "Outdoor Air Quality and Indoor Air Pollution" May 24.

1994 American College of Chest Physicians Occupational Lung Disease Course. "Chronic Airways Disease"; "Differential Upper and Lower Airway Responsiveness to Irritants - A Common Work-Related Problem"; "Stump the Professor - Case Presentations" June 16 - June 18, Florida.

1994 United States - German Workshop on Mechanisms of Airway Injury: Cellular and Molecular Interactions sponsored by the German Government and the National Heart, Lung, and Blood Institute (NHLBI),. "Differential Responsiveness to Irritants in the Respiratory Tract" Grosshansdorf, Germany. July 8.

1994 The Johns Hopkins Asthma and Allergy Center's 5th Annual Scientific Symposium. Presentation at session honoring Larry Lichtenstein's 60th birthday, “Studies of irritants” October 7.

1994 Speaker, Maryland Allergy Society Meeting. “Indoor Air” November 15.

1995 Society of Toxicology Inhalation Specialty Section,” Irritation: Nuisance or Warning” annual meeting address, March 6.

1995 The University of Maryland Topics in Pulmonary Medicine “Asthma and Upper Airway Dysfunction” September 17.

1995 “Respiratory Hypersensitivity and the Americas” December Oslo, Norway.

1995 University of Maryland Topics in Pulmonary Medicine “Asthma and Upper Airway Dysfunction”, September 17.

1996 American Academy of Asthma, Allergy, and Immunology. International Meeting, New Orleans “Air Pollution” March 19.

1996 Environmental Protection Agency Health Effects Research Laboratory Conference Asthma and the Environment. Workshop Summarizer, May 7 Chapel Hill, North Carolina

1996 International Rhinitis Workshop July 18-21. Lecture:
Air pollution, occupation and the nose.” Chicago, IL.

1996 Northeast States Clean Air (NESCAUM) Conference.
Lecture: “Health Effects of Air Pollution” Boston, MA.

1996 Environmental Protection Agency Symposium: “Susceptibility to Respiratory Hazards.” Research Triangle Park, NC September 24-27.

1996 International Union Against Tuberculosis and Lung Disease (IUATLD) “Respiratory Environmental Hazards” Paris, France October 3.

1996 Rotterdam University Department of Otolaryngology Research Conference: “Studies of Tobacco Smoke Sensitivity” Rotterdam, The Netherlands October 4.

1996 Environmental and Occupational Health and Safety Institute, “Mechanisms of Chemical Sensitivity” New Jersey.

1996 United States Biosafety Conference, “Occupational Health Program”, “Effective Management of an Occupational Health Program”.

1996 American Academy of Allergy Asthma & Immunology International Conference Annual Meeting, “Overview: Air Pollution and Asthma” New Orleans, Louisiana March 19.

1997 Health Effects Institute Workshop. May 17 Laurel Heights Conference Center, San Francisco. Current Approaches to the Study of Subclinical Cardio-Respiratory Effects of Air Pollution, Workshop Summarizer.

1997 The Bryn Maw Lower School Assembly "Bryn Mawr Values and Cigarette Smoking".January 17.

1997 American Academy of Asthma, Allergy and Immunology Annual Meeting Workshop. Tobacco Abuse: What to do? San Francisco February 24.

1997 Clinical Conference, Johns Hopkins Asthma and Allergy Center. "Occupational Asthma: Medical and Legal Issues." Baltimore MD, May 30.

1997 Medical-Chirugical Faculty of the State of Maryland Annual Meeting. "Occupational Asthma: What's New" May 3.

1997 10th Annual Mid Atlantic Biosafety Conference, New Jersey Occupational Health in the Laboratory Animal Facility" Lecture and Seminar. June 4.

1997 Mid-Atlantic Regional Conference on Occupational Medicine. "Upper Respiratory Diseases", Lower Respiratory Diseases" Baltimore September 6.

1998 Asthma Awareness Day – Wildwood Conference Center, Harrisburg Area Community College, "Asthma and Pregnancy" - Sponsored by the American Lung Association of Central Pennsylvania, April 4, 1998.

1999 Performance Standards and Animal Welfare: Definition, Application and Assessment – Part II, Baltimore Inner Harbor, "Occupational Health and Safety and Medical Surveillance" May 6, 1998.

1998 The Fifth Great Lakes Lung Conference – "Environmental Lung Diseases" University at Buffalo CME Program, September 13, 1998

1998 Temple University School of Medicine 22nd Annual Fall Family Practice Review Program, Lancaster, "Occupational Medicine – Clinical Considerations", October 20, 1998.

1998 NIOSH Workshop, "Clinical Picture, Recognition, and Prevention of Pneumoconioses and Other Occupational Lung Diseases" McLean, VA, October 30, 1998.

1998 The University of Texas @ Houston Health Science Center, "Upper Airway Disorders" Houston, TX, November 8, 1998.

2000 Penn State Geisinger Health System and Penn State College of Medicine, 9th Annual Symposium in Clinical Medicine. "Lung Cancer: Prevention, Diagnosis and Treatment"

1999 Girl Talk – Chic Hair Design, "Asthma and COPD Management", Camp Hill, PA, February 6, 1999

1999 Health Professionals Network, "New Medical Strategies for Smoking Cessation" Hershey, PA, February 13, 1999.

2001 Third Annual Women's Health Ages and Stages, "Gender Differences in Adult Lung Disease", Hershey Hotel, Hershey, PA (sponsored by the Penn State University Department of Continuing Education) April 22, 1999

2000 Penn State University - Biomolecular Transport Dynamics Life Science Consortium, "The effect of antigen on the nasal mucosal response to environmental tobacco smoke", University Park, December 8, 1998.

1999 Second-year Medicine Clerkship Case Conference, "Pneumonia", Hershey Medical Center, September 7, 1999

1999 Current Concepts in Family Medicine, "Asthma Guidelines", Hershey Medical Center, September 14, 1999

1999 American Lung Association Speaker's Bureau– "Lung Medications and New Advances", Linglestown, PA, October 4, 1999

1999 Case Study Program, "Diagnosis and Treatment of Asthma", Hershey Lodge & Convention Center, Hershey, PA July 10, 1999

2000 American Academy of Allergy Asthma & Immunology 56th Annual Meeting – "Understanding Irritant Toxicity: Acute and Chronic Endpoints" Breakfast Seminar #4015, North Tower, Marriott, March 4, 2000

2000 Penn State University – Life Sciences Consortium, 3rd Annual Biomolecular Transport Dynamics Symposium "Allergen exposure dysregulates the nasal airway surface fluid response to tobacco smoke exposure. December 1, 2000

2002 Symposium in Clinical Medicine, "Lung Cancer: Prevention, Diagnosis and Treatment", Radisson Resort, Hilton Head, N.C., June 16, 1999

2001 New York Academy of Sciences – The Role of Neural Plasticity in Chemical Intolerance", Rockefeller University, New York City, NY June 16, 2000

2001 American Contact Dermatitis Society of PA, "Mechanisms of Respiratory Irritants & Allergens", Hershey, PA July 12,

2001 Temple University School of Medicine 22nd Annual Fall Family Practice Review Program, Lancaster, "Indoor Air", February 7, 2001.

2001 Pennsylvania Thoracic Society, Scientific Session – "Occupational Respiratory Medicine: 2001 Update. Philadelphia, PA, September 7, 2001.

2002 Chemical Industry Institute of Toxicology, The Nose Knows Workshop. Background presentation: Clinical Pathology and Occupational Epidemiology, September 4, 2002, Research Triangle Park, NC.

2002 American College of Occupational and Environmental Medicine State-of-the-Art Conference. "Occupational Disease Series – Occupational Exposures and the Upper Respiratory Tract. October 28, 2002, Baltimore, MD

2006 State of Pennsylvania Department of Health. Clinical Aspects of TB: Its Currents Needs and Trends. World TB Day 2006, March 24, 2006, Harrisburg, PA

2006 State University of New York New Paltz Conference: The Toxic Aftermath of 9/11: An Emerging Health Crisis. "The LHF/PSU New York Police Officer (NYPO) Health Screening: Looking forward by looking back, June 12, 2006, New Paltz, NY.

2008 American Thoracic Society International Conference 2008: Clinical Year in Review. "Occupational and Environmental Respiratory Disease." Toronto, Canada. May 20.

2008 American Thoracic Society International Conference: Mini Symposium. Mechanisms and Consequences of Nasal Exposures and Disease. Co-chair and speaker: "Introduction: What the Nose Knows." Toronto, Canada. May 21.

2008 Dow Chemical Corporation. "Olefins and the Nose".

2009 Penn State Pulmonary and Critical Care Medicine Research Conference. "Image-Guided Peripheral Bronchoscopy" October 6.

2009 Pennsylvania IPF Registry: Conference on Idiopathic Pulmonary, Harrisburg Pennsylvania. "IPF and Occupational/Environmental Factors." September 14.

2011 National Academy of Science. "Scientific Standards in Pulmonary Disease Research" a presentation to the Committee on Scientific Standards for Studies on Modified Risk Tobacco Products. March 30.

2011 National Academy of Science, "Frameworks from OSHA and EPA" a presentation to the Committee on Scientific Standards for Studies on Modified Risk Tobacco Products. March 31.

2011 Technical Workshop. Chemical and Consumer Product Industry. Asthma Science Forum. "Clinical Perspectives in Asthma Etiology and Diagnosis. Arlington, VA. May 10, 2011

2012 Geisinger Pulmonary Grand Rounds: "Occupational Pulmonary Diseases: Tools for Diagnosis in 2012", Danville PA, October 18, 2012

2012 Geisinger Medical Grand Rounds: "Interstitial Lung Disease: I hear those crackles, now what do I do?", Danville PA October 19, 2012

2013 Idiopathic Pulmonary Fibrosis Educational Conference, Sheraton, Harrisburg, PA. "IPF: Environmental Considerations" (one lecture to health care professionals, one lecture to patients and caregivers). October 8

Testimony

1992 Dr. Bascom provided testimony before the subcommittee Senate Committee on Appropriations, on behalf of the American Lung Association. On May 22, 1992 her expert testimony commented on appropriations for the Environmental Protection Agency for fiscal year 1993.

1993 *Low Emission Vehicle Bill*
Dr. Bascom provided testimony, before the Maryland General Assembly, in support of the Low Emission Vehicle Bill.

1994 *Hearing Room – Annapolis M.D.*
Dr. Bascom provided a status report, of Clean Air Pollutants, to the United States Senate Appropriations Committee (Senator Baucus, Chairman). On May 20th 1994, her report made the case for cleaner air at the Hearing Room in Annapolis and was covered by the American Lung Association National Press Club briefing.

1997 *NAACP v. Engler,* Circuit Court No. 95-38228-CV
Flint, M.I.
Dr. Bascom was qualified by the court as an expert in toxicology, the health effects of air pollution, and the Clean Air Act. The Court . . adopted by reference the comment of Rebecca Bascom . . . "Because there are a substantial number of individual children who already have a toxic level of lead in their body and are living in areas that have soil reservoirs. And in the context of the NAAQ Standard, additional exposure would not protect their health. The only thing that would protect their health would be reducing exposure."

2008 – 2009 *North Middleton Township Board of Supervisors v. Thurd Time World Partners,*
North Middleton, PA
Dr. Bascom served as an Occupational and Environmental Medicine Consultant for the assessment of health risks associated with a proposed Newville Road truck terminal site. The report that she prepared was presented to the North Middleton Township Board of Supervisors on February 24, 2009 by Nathan C. Wolf.

2009 National IPF Awareness Week Event. Commonwealth of Pennsylvania, State Legislature Visitation*: IPF Awareness Day*, Coordinated by Dan Beren,attorney, lobbyist and IPF advocate, September 15

2013 Pennsylvania-IPF Advocacy Event: Pennsylvania Idiopathic Pulmonary Fibrosis Conference. Parallel events for patients and health care providers, October 8, 2013.

2014 *Dickinson Township Board of Supervisors v. Ritner Highway Warehouse Complex,*
Carlisle, PA.
Dr. Bascom served as an Occupational and Environmental Medicine Consultant for the assessment of health risks associated with a proposed Ritner Highway Road Warehouse Complex Site. The report that she prepared was presented to the Dickinson Township Board of Supervisors on February 17, 2014 by Nathan C. Wolf.

Thomas F. Boat, M.D.
Dean Emeritus and
Professor of Pediatrics
University of Cincinnati and
Cincinnati Children's Hospital Medical Center

Office Phone: (513)803-7483

Education:

College:	Central College, Pella, Iowa, 1957-61, B.A., Chemistry
Graduate School:	University of Iowa, Iowa City, 1962-64, M.S., Anatomy
Medical School:	University of Iowa, Iowa City, 1961-66, M.D.
Postgraduate:	Pediatric House Officer, 1966-68, University of Minnesota Hospitals
	Clinical Associate, 1968-70, Pediatric Metabolism Branch. NIAMDD, NIH, Bethesda, Maryland
	NIH Basic Research Fellow, 1970-72, in Pulmonary Disease. Department of Pediatrics, Case Western Reserve University

Academic and Hospital Appointments:

Senior Instructor in Pediatrics Case Western Reserve University	07/1972-06/1973
Assistant Professor of Pediatrics Case Western Reserve University	07/1973-06/1976
Associate Professor of Pediatrics Case Western Reserve University	07/1976-06/1981
Associate Pediatrician University Hospitals of Cleveland	07/1976-06/1981
Professor of Pediatrics Case Western Reserve University	07/1981-06/1982
Pediatrician University Hospitals of Cleveland	07/1981-06/1982
Co-Director, Cystic Fibrosis Center Rainbow Babies and Children's Hospital	1976-06/1982
Professor and Chairman of Pediatrics University of North Carolina School of Medicine	07/1982-06/1993
Professor and Chairman Department of Pediatrics University of Cincinnati College of Medicine	07/1993-05/2007

Director Children's Hospital Research Foundation Cincinnati, Ohio	07/1993-05/2007
Associate Senior Vice President for Children's Hospital Affairs	07/2001-05/2007
Interim Provost, Health Affairs Campus University of Cincinnati	1/2003-9/2003
Associate Dean for Faculty Career Development and Education University of Cincinnati	2007-2008
Executive Associate Dean University of Cincinnati College of Medicine	2008-06/2011
CEO, UC Physicians	2008-06/2011
Vice President for Health Affairs and Dean, College of Medicine University of Cincinnati	07/2011-10/2014
President and Chairman, UC Physicians	07/2011-10/2014
Dean Emeritus and Professor of Pediatrics University of Cincinnati and Cincinnati Children's Hospital Medical Center	11/2014-
Attending Staff Privileges, Children's Hospital Medical Center	07/1993-Present
Professor, Department of Pediatrics Children's Hospital Medical Center and University of Cincinnati	07/1993-Present
Director, CF WELL, Division of Pulmonary Medicine, Cincinnati Children's Hospital Medical Center	2015-Present

Licensure and Board Certification:

Certified by Iowa State Board of Medical Examiners	1967
Licensed by States of Iowa, Ohio, North Carolina	
Pediatric Board Certification	1972
Pediatric Pulmonary Sub-Board Certification	1985
Pediatric Pulmonary Sub-Board Re-Certification	1995, 2002

Professional Society Memberships:

Alpha Omega Alpha
American Academy of Pediatrics
Society for Pediatric Research
American Association for the Advancement of Science
American Thoracic Society
American Pediatric Society
American Medical Association
Cincinnati Pediatric Society
Association of American Medical Colleges

Honors and Awards:

Alpha Omega Alpha	1966
Sigma Xi Research Award Case Western Reserve University	1978
Elected to Council of Society for Pediatric Research	1978
Elected to Council of American Pediatric Society	1992
Elected to Institute of Medicine	2001
Joseph St. Geme Award of the Federation of Pediatric Organizations	2003
Daniel Drake Medal, University of Cincinnati College of Medicine	2005
Global Ronald McDonald House Charities Award of Excellence	2006
Founder's Award, Women's Faculty Association, University of Cincinnati College of Medicine	2007
Frank H. Morris, Jr Leadership Award, Department of Pediatrics, University of Iowa	2009
Honorary Doctor of Science, Central College, Pella, Iowa	2011
University of Cincinnati Central Clinic 90th Anniversary Distinguished Service Award	2013
American Thoracic Society Assembly on Pediatrics Founder's Day Award	2013
William Cooper Procter Medallion Award Cincinnati Children's Hospital Medical Center	2015
Distinguished Alumnus Award, University of Iowa College of Medicine	2017

Editorial and Grant Review Responsibilities:

Editorial Board, American Review of Respiratory Disease	1977-83
Editorial Board, Lung Research	1983-
NHLI Pulmonary Young Investigator Grant Review Panel	1975-77
Section Editor, Current Opinion in Pediatrics	1989-93
American Thoracic Society Research Review Panel	1977-79
Biochemistry II Study Section, NIH	1981-84
Chairman, Biochemistry II Study Section, NIH	1984-85
Chairman, Research Development Program	1983-2014

Review Committee, Cystic Fibrosis Foundation	
Member, Pediatric Scientist Training Program Selection Committee	1991-95
Member, Robert Wood Johnson Generalist Physician Faculty Scholars Program National Advisory Committee	1992-2007
Chair, Academic Advisory Board, Pfizer Scholars Program in Pediatric Health	2000-02
Editorial Board, Journal of Biomedical Research (China)	2010-Present
Judge, Best Practice Award Panel, Health Improvement Institute, Award for Excellence in Human Research	2009-10
Editorial Board, Archives Diseases Childhood	2004-Present

Activities, National Organizations:

Vice Chairman, Young Adult Committee National Cystic Fibrosis Foundation	1973-75
Chairman, Young Adult Committee National Cystic Fibrosis Foundation	1975-77
Vice Chairman, Research and Research Training Committee National Cystic Fibrosis Foundation	1977-79
Chairman, Research and Research Training Committee National Cystic Fibrosis Foundation	1979-81
Medical Advisory Council National Cystic Fibrosis Foundation	1979-2015
Vice Chairman, Medical Advisory Council National Cystic Fibrosis Foundation	1980-81
Chairman, Medical Advisory Council National Cystic Fibrosis Foundation	1981-84
Chairman, Research Development Program Advisory Committee National Cystic Fibrosis Foundation	1984-2015
President's Advisory Council National Cystic Fibrosis Foundation	1980-81
Pediatric Lung Disease Committee American Lung Association	1976-77
Counselor-At-Large American Thoracic Society	1977-80
Chairman, Pediatric Assembly American Thoracic Society	1983-84

Member, Medical Advisory Council of the Federal Lung Committee American Thoracic Society	1984-86
President Elect, Society for Pediatric Research	1983-84
President, Society for Pediatric Research	1984-85
Member, Pulmonology Sub-Board of American Board of Pediatrics	1984-87
Examiner, American Board of Pediatrics	1985-90
Member of Executive Committee, American Society of Pediatric Department Chairs, (AMSPDC)	1985-89
Member, Pediatric Scientist Training Subcommittee of AMSPDC	1984-88
Member, National Heart, Lung, and Blood Institute Council	1988-92
Trustee, American Board of Pediatrics (ABP)	1990-96
Chair, Long Range Planning Committee, American Board of Pediatrics (ABP)	1995-2010
Liaison Member (AMSPDC) to the Council on Pediatric Research American Academy of Pediatrics	1987-91
Member, Council of the American Pediatric Society	1992-99
Member, National Advisory Council, Robert Wood Johnson Generalist Physician Faculty Scholar Program	1992- 2005
Chairman-Elect, American Board of Pediatrics	1993
Chairman, American Board of Pediatrics	1994
President-Elect, American Society of Pediatric Department Chairs	1995-97
President, American Society of Pediatric Department Chairs	1997-99
Member of COCERT, American Board of Medical Specialties	1994-2000
Chair, COCERT American Board of Medical Specialties	1998-2000

Chair, Financing Graduate Medical Education Workgroup, Task Force on the Future of Pediatric Education	1996-99
President-Elect, American Pediatric Society	1999-2000
President, American Pediatric Society	2000-2001
Member, National Advisory Council, National Jewish Medical and Research Center	1995-2005
Member, Physician Leadership Committee on National Drug Policy, Center for Alcohol and Addiction Studies, Brown University	1996-2003
Chair, Data and Safety Monitoring Board, CARE Asthma Network, NHLBI, NIH	2001-2011
Member, Research Advisory Committee American Board of Pediatrics (ABP)	2001-2010
Chair, Academic Advisory Board, Pfizer Scholars Grants for Faculty Development in Pediatric Health	2000-2003
Planning Committee, The Future of Pediatric Education, Macy Foundation Conference	2002-2003
Chair, Institute of Medicine Committee on Incorporating Research into Psychiatry Residency Training	2002-2003
Chair, Data Safety Monitoring Board, Wisconsin Cystic Fibrosis Neonatal Network	2003-2008
Member, National Advisory Council, Robert Wood Johnson Physician Faculty Scholar Program	2004-2009
Founder's Award Cincinnati Pediatric Society	2005
Member, Institute of Medicine Committee on Sleep Medicine and Research	2005-2006
Co-Chair, National Research Council, Institute of Medicine Board on Children, Youth and Families Planning Meeting on the Delivery of Mental Health Services for Children in Primary Care Settings	2006
Co-Chair, Institute of Medicine Forum on the Science of Health Care Quality Improvement and Implementation	2006-2008
Vice Chair, Institute of Medicine Committee on Prevention of Mental Disorders and Substance Abuse Among Children, Youth, and Young Adults: Research Advances and Promising Interventions	2007-2009

President, Board of Directors, Association for the Accreditation of Human Research Protection Programs, (AAHRPP)	2007-2009
Co-Chair, National Research Council – Institute of Medicine Board on Children, Youth, and Families, Children's Mental Health Services in Primary Care Forum Planning Meeting	2009
Past President, Board of Directors, Association for the Accreditation of Human Research Protection Programs, (AAHRPP)	2009-2010
Chair, Institute of Medicine Committee on Accelerating Rare Diseases Research and Orphan Product Development	2009-2010
Member, Board of Children, Youth and Families, National Research Council and IOM	2010-2016
Member, Search Committee for Director of the NICHD (NIH)	2010-2011
Member, Lung Division, NHLBI Workshop on Comparative Effectiveness Research	2010
Member, BioOhio Board of Trustees	2011-2012
Chair, Institute of Medicine Committee on Safe and Effective Medicine for Children	2011-2012
Chair, Institute of Medicine Consensus Committee on Mental Disorders and Disability in Children	2014-2015
Member, Forum on Children's Cognitive, Affective and Behavioral Health, Board of Children, Youth and Families, National Research Council and IOM	2014-
Co-Chair, Forum on C-CAB Health Workshop: Training The Future Child Healthcare Workforce to Improve Behavioral Health Outcomes for Children, Youth and Families	2016
Member, Steering Committee, Healthy Parenting in Primary Care Collaborative, Forum on C-CAB Health	2016-

Institutional Review/Advisory Roles

Stanford University School of Medicine National Advisory Committee	2004-2012
Case Western Reserve University School of Medicine Visiting Committee	2008-2011

External Advisory Board, National Jewish Hospital for Respiratory Disease	2002-2010
Advisory Committees for NIH Clinical and Translation Science Awards (CTSAs)	
• Duke University	2008-Present
• University of Washington (Seattle) Chair	2008-Present
• Stanford University	2008-Present
Arkansas Children's Research Institute Scientific Advisory Board	2003-2008
Lucile Packard Children's Hospital Foundation	2008

Pediatric Department Reviews (1990-2010)

University of Maryland Hospital for Children

Harvard Medical School, Massachusetts General Hospital

University of Geneva

Children's Mercy Hospital Clinics, Kansas City, Missouri

University of Toronto (Sick Children's Hospital)

University of Colorado School of Medicine

University of Alabama School of Medicine

Columbia University, College of Physicians and Surgeons

University of North Carolina, Chapel Hill (5 year review)

C.S. Mott Children's Hospital, University of Michigan

University of Virginia School of Medicine

University of Oklahoma, Department of Pediatrics

University of Arizona College of Medicine

Medical College of Georgia

Saban Research Institute of the Los Angeles Children's Hospital

Akron Children's Hospital Department of Pediatrics

King Fahad Medical City Children's Hospital, Riyadh, Saudia Arabia

Medical College of South Carolina

University of Washington, Seattle

University of Illinois

University of Chicago

University of Minnesota

University of Tennessee

University of Melbourne (Royal Children's Hospital Research Institute)

Stanford University School of Medicine

Research Interests:

Tracheobronchial secretions
Mucous glycoprotein biosynthesis, structure
Pathophysiology of lung disease in cystic fibrosis
Effect of infection on developing airways
Prevention of behavioral disorders of children

Grants and Fellowship (recent and active, principal investigator):

NIH, S03 RR03125 PI: Thomas F. Boat, M.D., Minority High School Student Research Apprentice Program. 7/1/93 - 2/28/98.

NIH, K12 HD28827-12 PI: Thomas F. Boat, M.D., Pediatric Center for Gene Expression and Development. 12/01/01-11/30/06.

NIH, MO1 RR08084-10 PI: Thomas F. Boat, M.D., General Clinical Research Center. 12/01/01-11/30/06.

NIH, T32 HD43005-02 PI: Thomas F. Boat, M.D., Research Training for Pediatric Subspecialists. 7/1/02 – 4/30/04.

NIH, NHLBI, #R01HL088503-01 Overall PI: Rita Mangione-Smith; University of Washington; Do High Quality Processes of Respiratory Care Result in Better Outcomes? 12/01/08-11/30/13

Publications (peer reviewed):

1. Boat, T., and Halmi, N.S.: Studies of particulate iodoproteins in the rat thyroid. Endocrinology 77:537,1965.

2. Boat, T.F., di Sant'Agnese, P., Warwick, W., and Handwerger, S.: Pneumothorax in cystic fibrosis. JAMA 209:1948, 1969.

3. Weisman, U.N., Boat, T.F., and di Sant'Agnese, P.: Sodium concentration in unstimulated parotid saliva and on oral mucosa in normal subjects and in patients with cystic fibrosis. J Pediatr 76:444, 1970.

4. Simopoulous, A.P., Lapey, A., Boat, T.F., di Sant'Agnese, P., and Bartter, F.C.: ReninAngiotension Aldosterone system in patients with cystic fibrosis. Pediatr Res 5:626, 1971.

5. Weisman, U.N., Boat, T.F., and di Sant'Agnese, P.: Flow rates and electrolytes in minor salivary gland saliva in normal subjects and patients with cystic fibrosis. Lancet ii:520, 1972.

6. Boat, T.F., Kleinerman, J.I., Fanaroff, A.A., and Matthews, L.W.: Toxic effects of oxygen on cultured human neonatal respiratory epithelium. Pediatr Res 7:607, 1973.

7. Kattwinkel, J., Taussig, L.M., McIntosh, C.L., di Sant'Angnese, P.A., Boat, T.F., and Wood, R.E.: Intrapleural instillation of quinacrine for recurrent pneumothorax. JAMA 226:557, 1973.

8. Boat, T.F., Doershuk, C.F., and Stern, R.C.: Serum alkaline phosphatase interpretation of elevated values based on electrophoretic isoenzyme analyses in cystic fibrosis. Clin Pediatr 13(6):505, 1974.

9. Boat, T.F., Weismann, U.N., and Pallavicini, J.C.: Purification and properties of the calcium precipitable protein in submaxillary saliva of normal and cystic fibrosis subjects. Pediatr Res 8:531, 1974.

10. Boat, T.F., Kleinerman, J.I., Carlson, D.M., Maloney, W.H., and Matthews, L.W.: Human respiratory tract secretions. 1. Mucous glycoproteins secreted by cultured nasal polyp epithelium from subjects with allergic rhinitis and cystic fibrosis. Am Rev Respir Dis 110(4):428, 1974.

11. Boat, T.F., Polmar, S.H., Whitman, V., Kleinerman, J.I., Stern, R.C., and Doershuk, C.F.: Hyperreactivity to cow's milk in young children with pulmonary hemosiderosis and cor pulmonale secondary to nasopharyngeal obstruction. J Pediatr 87:23, 1975.

12. Boat, T.F., and Kleinerman, J.I.: Human respiratory tract secretions. 2. Effect of cholinergic and adrenergic agents on in vitro release of protein and mucous glycoprotein. Chest 67:325, 1975.

13. Taylor, A., Mayo, J.W., Boat, T.F., and Matthews, L.W.: Standardized assay for the sodium reabsorption inhibitory effect and studies of its salivary gland distribution in patients with cystic fibrosis. Pediatr Res 8:861-865, 1974.

14. Stowe, S.M., Boat, T.F., Mendelsohn, H., Stern, R.C., Tucker, A.S., Doershuk, C.F., and Matthews, L.W.: Open thoracotomy for pneumothorax in cystic fibrosis. Am Rev Respir Dis 111:611, 1975.

15. Whitman, V., Stern, R.C., Bellet, P., Doershuk, C.F., Liebman, J., Boat, T.F., Borkat, G., and Matthews, L.W.: Studies on cor pulmonale in cystic fibrosis. 1. Effect in diuresis. Pediatrics 55:83, 1975.

16. Lough, M., Boat, T.F., and Doershuk, C.F.: The Nose, Respiratory Care 20(8):844, 1975.

17. Stern, R.C., Stevens, D.P., Boat, T.F., Doershuk, C.F., Izant, R.J., and Matthews, L.W.: Symptomatic hepatic disease in cystic fibrosis: Incidence, course, and outcome of portal systemic shunting. Gastroenterology 70:645, 1976.

18. Orenstein, D.M., Boat, T.F., Stern, R.C., Doershuk, C.F., and Light, M.: Progesterone treatment of the obesity hypoventilation syndrome in a child. J Pediatr 90:477, 1977.

19. Stern, R.C., Doershuk, C.F., Boat, T.F., Tucker, A.S., Primiano, F.P., and Matthews, L.W.: Course of cystic fibrosis in black patients. J Pediatr 89:412, 1976.

20. Boat, T.F., Cheng, P.W., Iyer, R.N., Carlson, D.M., and Polony, I: Human respiratory tract secretions: Mucous glycoproteins of nonpurulent tracheobronchial secretions and sputum of patients with bronchitis and cystic fibrosis. Arch Biochem Biophys 177:95, 1976.

21. Orenstein, D.M., Boat, T.F., Stern, R.C., Tucker, A.S., Charnock, E.L., Matthews, L.W., and Doershuk, C.F.: The effect of early diagnosis and treatment on progression of the pulmonary disease in cystic fibrosis. Am J Dis Child 131:973, 1977.

22. Wood R.E., Boat, T.F., and Doershuk, C.F.: State of the Art: Cystic Fibrosis. Am Rev Respir Dis 113:833, 1976.

23. Boat, T.F., and Cheng, P.W.: Mucous glycoproteins in tracheobronchial secretions of healthy individuals and patients with chronic bronchitis and cystic fibrosis. Proceedings of the 7th International Cystic Fibrosis Congress, Paris, 1976, pp. 8-14.

24. Stern, R.C., Boat, T.F., Doershuk, C.F., Tucker, A.S., Primiano, F.P., and Matthews, L.W.: Course of cystic fibrosis in 95 patients. J Pediatr 89: 406, 1976.

25. Boat, T.F., Kleinerman, J.I., Fanaroll, A.A., and Stern, R.C.: Human tracheobronchial secretions. 4. Development of mucous glycoprotein and lysozyme secreting systems. Pediatr Res 11:977, 1977.

26. Boat, T.F., Cheng, P.W., and Wood, R.E.: Tracheobronchial mucus secretion in vivo and in vitro by epithelial tissues from cystic fibrosis and control subjects. Modern Problems in Pediatrics 19:141-152, 1977.

27. Boat, T.F., and Petty, T.L.: Chronic bronchitis and cystic fibrosis: Two chronic obstructive lung of disease adults. Am Rev Respir Dis 116:1, 1977.

28. Stafford, H.A., Polmar, S.H., and Boat, T.F.: Immunologic studies in cow's milk-induced pulmonary hemosiderosis. Pediatr Res 11:898, 1977.

29. Cheng, P.W., and Boat, T.F.: An improved method for the determination of galactosminitol, glucosaminitol, glucosamine, and galactosamine on an amino acid analyzer. Anal Biochem 85:276, 1978.

30. Alvarado, C.S., Boat, T.F., and Newman, A.J.: Late onset severe pulmonary fibrosis and chest deformity in two children treated with cyclophosphamide. J Pediatr 92:443, 1978.

31. Stern, R.C., Boat, T.F., Doershuk, C.F., Tucker, A.S., Miller, R.B., and Matthews, L.W.: Cystic fibrosis diagnosed after age 13. Ann Int Med 87:188, 1977.

32. Boat, T.F., Davis, J., Stern, R.C., and Cheng, P.W.: Effect of blood group determinants on binding of human salivary mucous glycoproteins to influenza virus. Proceedings of the 4th International Symposium on Glycoconjugates, Woods Hole, 1979.

33. Boat, T.F., Davis, J., Stern, R.C., and Cheng, P.W.: Effect of blood group determinants on binding of human salivary mucous glycoproteins to influenza virus. Biochem Biophys Acta 540:127, 1978.

34. Stern, R.C., Wood, R.E., Boat, T.F., Matthews, L.W., Tucker, A.S., and Doershuk, C.F.: Treatment and prognosis of massive hemoptysis in cystic fibrosis. Am Rev Respir Dis 117:825, 1978.

35. Knoke, J.D., Stern, R.C., Doershuk, C.F., Boat, T.F., and Matthews, L.W.,: Cystic Fibrosis: The prognosis for five-year survival. Pediatr Res 12:676, 1978.

36. Stern, R.C., Boat, T.F., Abramowsky, C.R., Matthews, L.W., Wood, R.E., and Doershuk, C.F.: Intermediate range sweat chloride concentration and pseudomonas bronchitis. A cystic fibrosis variant with preservation of exocrine pancreatic function. JAMA 239:2676, 1978.

37. Nussbaum, E., Hirschfield, S.S., Wood, R.E., and Boat, T.F.: Echocardiographic changes in children with pulmonary hypertension due to upper airway obstruction. J Pediatr 93:931, 1978.

38. Fink, R.J., Doershuk, C.F., Tucker, A.S. Stern, R.C., Boat, T.F., and Matthews, L.W.: Pulmonary function and morbidity in 40 adult patients with cystic fibrosis. Chest 74:643, 1978.

39. Nussbaum, E., Fleming, D.G., Wood, R.E., Boat, T.F., and Doershuk, C.F.: Respiratory symptoms in children due to radiolucent foreign body in the esophagus. Am J Dis Child 138:1081, 1984.

40. Stern, R.C., Boat, T.F., Orenstein, D.M., Wood, R.E., Matthews, L.W., and Doershuk, C.F.: Treatment and prognosis of lobar and segmental atelectasis in cystic fibrosis. Am Rev Respir Dis 118:821, 1978.

41. Drotar, D., Boat, T.F., Doershuk, C.F., Stern, R.C., and Matthews, L.W.: Home observation of family interaction and childhood adjustments to cystic fibrosis. J Ped Psychology 4:179-189, 1979.

42. Will, P., Hopfer, U., and Boat, T.F.: Evidence against a specific effect of serum from patients with cystic fibrosis on sodium-dependent glucose transport in the rat jejunum. J Pediatr Res 13:1129-1133, 1979.

43. Boat, T.F.: Studies of oxygen toxicity in cultured human neonatal respiratory epithelium. J Pediatr 95:916-919, 1979.

44. Boat, T.F., and Cheng, P.W.: Biochemistry of airway mucous secretions, Federal Proceedings 39:3067-3074, 1980.

45. Nussbaum, E., Boat, T.F., Wood R.E., and Doershuk, C.F.: Cystic fibrosis presenting with acute hypoelectrolytemia and metabolic alkalosis in early infancy. Am J Dis Child 133:965-966, 1979.

46. Stern, R.C., Borkat, G., Hirschfeld, S.S., Boat, T.F., Matthews, L.W., Liebman, J., and Doershuk, C.F.: Heart failure in cystic fibrosis. Am J Dis Child 134:267, 1980.

47. Wagener, J.S., Taussig, L.M., Burrows, B., Hernied, L., and Boat, T.F.: Comparison of lung function and survival patterns between cystic fibrosis and emphysema or chronic bronchitis patients. Perspectives in Cystic Fibrosis: Proceedings of the 8th International Cystic Fibrosis Congress, Imperial Press, Ltd., Mississauga, Ontario, Canada, 1980, pp. 236-245.

48. Orenstein, D.M., Boat, T.F., Owens, R.P., Horowitz, J.G., Primiano, F.P., Germann, K., and Doershuk, C.F.: The obesity hypoventilation syndrome in children with the Prader-Willis Syndrome: A possible role for familial decreased response to carbon dioxide. J Pediatr 97(5):765-767, 1980.

49. Konstan, M.W., Cheng, P.W., Sherman, J.M., Thomassen, M.J., Wood, R.E., and Boat, T.F.: Human lung lysozyme: Sources and Properties. Am Rev Respir Dis 123:120-124, 1981.

50. Reed, M.D., Vermeulen, M.W., Stern, R.C., Cheng, P.W., Powell, S.H., and Boat, T.F.: Are measurements of urine enzymes useful during aminoglycoside therapy. Pediatr Res 15:1234-1239, 1981.

51. Tandler, B., Sherman, J., and Boat, T.F.: Surface architecture of the cat tracheal mucosa. 1. Cartilageous portion. Amer J Anat 168:119-131, 1983.

52. Margolies, R., Gray, B., and Boat, T.F.: Identification of a major heparin precipitable protein in human serum and its relationship to cystic fibrosis. Pediatr Res 16:181-186, 1982.

53. Cheng, P.W., Sherman, J.M., Boat, T.F., and Bruce, M.: Quantitation of radiolabled mucous glycoproteins secreted by tracheal explants. Anal Biochem 117:301 - 306, 1981.

54. Sherman, J.M., Cheng, P.W., Tandler, B., and Boat, T.F.: Mucous glycoproteins from cat tracheal goblet cells and mucous glands separated with EDTA. Am Rev Respir Dis 124:476-479, 1981.

55. Tandler, B., Sherman, J., and Boat, T.F.: EDTA mediated separation of cat tracheal lining epithelium. Am Rev Respir Dis 124:469-475, 1981.

56. Bruce, M., Boat, T.F., Martin, R., Dearborn, D., and Fanaroff, A: Proteinase inhibitors and inhibitor inactivation in neonatal airways secretions. Chest 81:442-45s, 1982.

57. Boat, T.F.: Quantitation of mucous glycoprotein secretion by airway epithelium. Chest 81:29S-31S, 1982.

58. Liedtke, C.M., Boat, T.F., and Rudolph, S.A.L B-adrenergic agonists increase cAMP levels and stimulate mucous glycoprotein secretion in cat tracheal explants. Chest 81:20S-21S, 1982.

59. Liedtke, C.M., Boat, T.F., and Rudolph, S.A.: Neurohormonal receptors and cAMP binding proteins in rabbit tracheal mucosa-submucosa. Biochem Biophys Acta 719:169-177, 1982.

60. Boat, T.F., Polony, I., and Cheng, P.W.: Mucin release from rabbit tracheal epithelium in response to sera from normal and cystic fibrosis subjects. Pediatr Res 16:792, 1982.

61. Konstan, M.W., Cheng, P.W., and Boat, T.F.: A comparative study of lysozyme and its secretion by tracheal epithelium. Exp Lung Research 3:175-181, 1982.

62. Stern, R.C., Izant, R.J., Boat, T.F., Wood, R.E., Matthews, L.W., and Doershuk, C.F.: Treatment and prognosis of rectal prolapse in cystic fibrosis. Gastroenterology 82: 707-710, 1982.

63. Abdul-Karim, F.W., King, T.A., Dahms, B.B., Gauderer, M.W.L., and Boat, T.F.: Carcinoma of the extrahepatic biliary system in an adult with cystic fibrosis. Gastroenterology 82:758, 762, 1982.

64. Stern, R.C., Boat, T.F., and Doershuk, C.F.: Obstructive azoospermia as a criteria for the diagnosis of the cystic fibrosis syndrome. Lancet 1:1401-1403, 1982.

65. Drotar, D. Doershuk, C.F., Stern, R.C., Boat, T.F., Boyer, W., and Matthews, L.: Psychosocial functioning of children with cystic fibrosis. Pediatrics 67:338 - 343, 1981.

66. Shogren, R., Jamieson, A.M., Blackwell, J., Cheng, P.W., and Boat, T.F.: Solution properties of porcine submaxillary mucin. Biopolymer 22:1657-1675, 1983.

67. Stern, R.C., Boat, T.F., Wood, R.E., Matthews, L.W., and Doershuk, C.F.: Treatment and prognosis of nasal polyps in cystic fibrosis. Am J Dis Child 136:1067 - 1070, 1982.

68. Liedtke, C.M., Rudolph, S.A., and Boat, T.F.: B-adrenergic modulation of mucin secretion in cat trachea. Am J Physiol 244:C391-C398, 1983.

69. Bruce, M., Martin, R., and Boat, T.F.: Concentrations of alpha2-proteinase in serum and lung secretions of intubated infants. Pediatr Res 18:35-40, 1984.

70. Davis, P.B., Dieckman, L., Boat, T.F., Stern, R.C., and Doershuk, C.F.: Beta-adrenergic receptors in lymphocytes and granulocytes from patients with cystic fibrosis. J Clin Invest 17:1787-1795, June 1983.

71. Margolies, R., and Boat, T.F.: The carbohydrate content of IgG from patients with cystic fibrosis. Pediatr Res 17:931-935, 1983.

72. Taussig, L.M., Boat, T.F., Dayton, D., Fost, N., Hammond, K., Holtzman, N., Johnson, W., Kaback, M.M., Kennel, J., Rosenstein, B.J., Stolz, W.S., and Trause, M.A.: Committee Report on Neonatal Screening for Cystic Fibrosis: Position Paper. Pediatrics 72:741 - 745, 1983.

73. Tandler, B., Sherman, J.M., Boat, T.F., and Wood R.E.: Surface architecture of the mucosal epithelium of the cat trachea: II. Structure and dynamics of the membranous portion. Am J Anat 168:133-144, 1983.

74. Sherman, J.M., Winner, G., Thomassen, M.J., Abdul Karim, F.W., and Boat, T.F.: Time course of hemosiderin production and clearance by human pulmonary macrophage. Chest 86:409-411, 1984.

75. Davis, P.B., Hubbard, V.S., Dieckman, L., Boat, T.F., Stern, R.C., and Doershuk, C.F.: Effects of alphatocopherol of platelet membrane function in cystic fibrosis. J Lab Clin Med 104:203-212, 1984.

76. Klinger, J.D., Tandler, B., Liedtke, C.M., and Boat, T.F.: Proteinases of Pseudomonas aeruginosa evoke mucin release by tracheal epithelium. J Clin Invest 74:1669-1678, 1984.

77. Davis, P.B., Dieckman, L., Boat, T.F., Stern, R.C., Doershuk, C.F.: The alpha2-adrenergic system of the platelet in cystic fibrosis. Am J Med Sci 288:104-108, 1984.

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79. Wisnieski, J.J., Todd, E.W., Fuller, R.K., Jones, P.K., Dearborn, D.G., Boat, T.F., Naff, G.B.: Immune complexes and abnormalities in patients with cystic fibrosis. Am Rev Respir Dis 132:770-776, 1985.

80. Leigh, M., Gambling, T.M., Carson, J.L., Collier, A.M., Wood, R.E., and Boat, T.F.: Postnatal development of tracheal surface epithelium and submucosal glands in the ferret. Exp Lung Res 10:153-169, 1986.

81. Leigh, M.W., Cheng, P.W., Carson, J.L., and Boat, T.F.: Developmental changes in glycoconjugate secretion by ferret tracheas. Am Rev Respir Dis 134:784-790, 1986.

82. Curtis, L.N., Carson, J.L., Collier, A.M., Gambling, T.M., Hu, S.S., Leigh, M.W., and Boat, T.F.: Features of developing ferret tracheal epithelium: ultrastructural observations of in vivo and in vitro differentiation of ciliated cells. Exp Lung Res 13:223-240, 1987.

83. Carson, J.L, Collier, A.M., Gambling T., Leigh, M.W., Boucher, R.C., Hu, S.S., and Boat, T.F.: Development, organization and function of tight junctional complexes in tracheal epithelium of infant ferrets. Am Rev Respir Dis 138:666-674, 1988.

84. Cheng, P.W., Boat, T.F., Cranfill, K., Yankaskas, J.R., and Boucher, R.C.: Increased sulfation of glycoconjugates by cultured nasal epithelial cells from patients with cystic fibrosis. J Clin Invest 84:68-72, 1989.

85. Leigh, M.W., Cheng, P.W., and Boat, T.F.: Increased secretion of glycoconjugates by influenza infected ferret tracheas. Chest 96:221S, 1989.

86. Leigh, M.W., Cheng, P.W., and Boat, T.F.: Developmental changes of ferret tracheal mucin composition and biosynthesis. Biochemistry, 28:9440-9446, 1989.

87. Boat, T.F., and Cheng, P.W.: Epithelial cell dysfunction in Cystic Fibrosis: Implications for airway disease. Acta Paediat Scand Suppl. 363: 25-30, 1989.

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57. State of the Art Plenary Session: Accelerating Research and Product Development for Rare Diseases. Presented with Steiner, RD; Adamson PC; MR DeBaun. Pediatric Academic Societies 2011 Meeting; Denver, Colorado.

58. Field MJ and Boat TF: Safe and Effective Medicines In Children. The National Academies Press, Washington, DC (2012).

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Editorials:

1. Boat, TF: Lithium, Clinical Research, and Cystic Fibrosis. Pediatric Pulmonology 8:72-73, 1990.

2. Boat, TF, and Carson, JL: Ciliary Dysmorphology and Dysfunction - Primary or Acquired? New England Journal of Medicine, Vol. 323, 24:1700-1702, 1990.

3. Boat, TF: Insights From Trends in Biomedical Research Funding. JAMA, Vol. 303, 2:170-71, 2010.

JAMES W. BOYLAN

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EDUCATION

Ph.D., Georgia Institute of Technology, Environmental Engineering, GPA: 3.9 (2002)
M.S., Georgia Institute of Technology, Environmental Engineering (1999)
M.S., Auburn University, Chemical Engineering, GPA: 3.7 (1993)
B.S., University of Notre Dame, Chemical Engineering (1990)

OVERALL QUALIFICATIONS

I have twenty five (26) years of experience working with environmental regulations and twenty three (23) years of experience focused on regulatory air quality issues. During that period, I have obtained extensive knowledge of the regulations and policies developed under the Clean Air Act. My background includes PSD permit modeling, SIP modeling, attainment planning, ambient monitoring, compliance inspections, and implementation of state and federal rules. My extensive graduate coursework at Auburn and Georgia Tech and my regulatory work experience at FL DEP and GA DNR has given me detailed knowledge of multiple atmospheric pollutants associated with a variety of sources and process operations. I have the ability to prepare technical and non-technical materials in a clear and concise manner and have proven my skills to communicate orally with the public, EPA, and state and local agencies. My leadership skills as a manager at GA EPD, my work as technical lead for the VISTAS and SEMAP modeling projects, and my leadership roles within many regional and national workgroups have demonstrated my ability to be an effective leader.

SIGNIFICANT CONTRIBUTIONS

- Developed the first comprehensive three-dimensional Eulerian photochemical grid model (URM-1ATM) that included full ozone chemistry, heterogeneous sulfate chemistry, aerosol thermodynamics, particle growth, wet deposition and scavenging, advection, diffusion, and dry deposition.

- Derived the partial differential equations and developed the computer code for the decoupled direct method (DDM) for particulate matter. This technique was applied to multiple episodes in the Southern Appalachian Mountains and was later adopted into the CMAQ and CAMx photochemical grid models.

- Developed model performance goals and criteria for PM2.5. These published goals and criteria have become the benchmark for most PM2.5 modeling projects both nationally and internationally and have been referenced in EPA's "Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze".

- Developed the "Off-Set Ratio Approach" for accounting for PM2.5 secondary formation from SO2 and NOx in EPA's AERMOD steady-state dispersion model. This approach was published in the NACAA PM2.5 Modeling Implementation Workgroup recommendations and later included in EPA's "Draft Guidance for PM2.5 Permit Modeling".

- Responsible for the first application of a photochemical grid model to evaluate the single source impacts on ozone and secondary PM2.5 from a coal-fired power plant as part of a PSD permitting review.

- Performed the technical analysis and attainment modeling demonstrations for four PM2.5 nonattainment SIPs, one ozone nonattainment SIP, and one Regional Haze SIP in Georgia. Developed the 2005 NEI, 2007 SEMAP, 2008 NEI, 2011 NEI, and 2014 NEI emission inventories for Georgia. Performed the technical analysis and developed nonattainment designation recommendations for the 1997 PM2.5 NAAQS, 2006 PM2.5 NAAQS, 1997 ozone NAAQS, 2008 ozone NAAQS, 2008 lead NAAQS, 2010 NO2 NAAQS, 2010 SO2 NAAQS, and 2012 PM2.5 NAAQS.

EMPLOYMENT

Georgia Department of Natural Resources - Environmental Protection Division, Atlanta, GA

Program Manager 2 (02/15-present), Program Manager 1 (09/05-01/15), Environmental Engineer 3 (02/04-09/05), Environmental Engineer 2 (02/03-02/04), and Environmental Engineer 1 (02/02-02/03) – Currently, I am the manager of the Air Protection Branch's Planning and Support Program which includes the Data & Modeling Unit (permit and SIP modeling), Planning and Regulatory Development Unit (SIPs and rule development), and Administrative and Financial Unit ($30M operating budget, grants, contracts, and fees). Previously, I managed the Data & Modeling Unit where I supervised six Ph.D. modelers. Major responsibilities included: (1) dispersion modeling with AERMOD and CALPUFF required for PSD permit applications, (2) meteorological (MM5/WRF), emissions (SMOKE), and air quality (CMAQ/CAMx) modeling required for Georgia's ozone, $PM_{2.5}$, and regional haze State Implementation Plans (SIPs), (3) development of annual state-wide emission inventories (point, area, non-road mobile, on-road mobile, and fires) for criteria pollutants, (4) and technical analysis for nonattainment area designation recommendations (ozone, PM2.5, lead, SO2, NO2). In addition, I have managed special projects that include SO2 modeling for EPA's Data Requirements Rule, PSD offsite emission inventory development, CO2 emission projections for future years, and near road exposure modeling for mobile source emissions.

Special Government Employee (SGE) – EPA Science Advisory Board (SAB), Washington D.C.

Member of Clean Air Scientific Advisory Committee (CASAC) Augmented for the Sulfur Oxides Primary Review Panel (01/14-present) – Job responsibilities include reviewing and making recommendations on EPA's Integrated Review Plan (IRP), Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), and Policy Assessment (PA).

Georgia Tech Department of Environmental Engineering, Atlanta, GA

Research Associate (05/02-09/05) and Research Assistant (03/96-05/02) – Performed research under the direction of Dr. Armistead "Ted" Russell. Dissertation title: "Integrated Modeling of Air Pollution Dynamics in the Southern Appalachian Mountains". Research involved the modeling of ozone, particulate matter, regional haze, and acid deposition for the Southern Appalachian Mountains Initiative (SAMI) through the development and application of the Urban-to-Regional Multiscale (URM-1ATM) photochemical grid model to determine the most effective control strategies. Original model developer of the Decoupled Direct Method (DDM) for PM2.5.

Russell Engineering Inc., Atlanta, GA

Air Quality Modeling Consultant (04/99-08/99) – Performed air quality modeling for Tennessee Valley Authority (TVA) and the City of Columbus, GA.

Parsons Engineering Science, Inc., Atlanta, GA

Laboratory Technician IV (08/95-03/97) – Performed analytical measurements and daily maintenance on aerobic and anaerobic biological reactors designed for industrial wastewater treatment.

Florida Department of Environmental Protection, Tallahassee, FL

Engineer II (11/93-09/95) – Team leader on the continuous emission monitoring systems (CEMS) audit team with supervisory responsibilities for Engineer I. Performed regulatory audits of stationary source CEMS and involved with the state-wide implementation of the Title IV Acid Rain CEMS Program.

Auburn University Department of Chemical Engineering, Auburn, AL

Research and Teaching Assistant (09/90-03/93) – Performed research under Dr. Ray Tarrer. Thesis title: "Impacts of Environmental, Health, and Safety Regulations on Highway Maintenance". Coursework electives and research concentration in environmental engineering. Investigated the impact of environmental regulations on highway maintenance practices. Involved with process automation at Auburn's Waste Oil Reprocessing Laboratory (AWORL). Graded homeworks and conducted review sessions for classes in Computer Applications and Process Design. Supervised computer lab.

GRADUATE AIR POLLUTION COURSEWORK

Introduction to Air Pollution
Air Pollution Chemistry and Physics
Air Pollution Formation and Control
Organic Aerosols
Introduction to Atmospheric Chemistry
Atmospheric Chemistry
Atmospheric Modeling
Atmospheric Aerosols
Atmospheric Measurement and Detection
Atmospheric Measurement and Detection Lab
Air Pollution Meteorology
Aerosol Mechanics and Measurement

WRITING SKILLS

Primary author on five technical papers (and co-author on 13 technical papers) that have been published in peer reviewed national scientific journals including *Atmospheric Environment, Journal of the Air & Waste Management Association, Journal of Environmental Management, Journal of Applied Meteorology and Climatology, Fuel Processing Technology, EM,* and *Environmental Science and Technology*. Also, published numerous conference papers. Performed critical peer-reviews of numerous scientific journal articles (*Environmental Science and Technology, The Journal of the Air & Waste Management Association, Atmospheric Environment, Environmental Modeling & Software, Journal of Environmental Management, and Geoscientific Model Development Discussions*), performed peer-reviews for numerous reports including EPA modeling guidance, and served as an external examiner for a MSc dissertation.

PRESENTATION SKILLS

Have given over 180 presentations at various national and regional conferences, workshops, and conference calls. Chaired a breakout session at EPA's 2nd Particulate Matter/Regional Haze/Ozone Modeling Workshop in Santa Fe, NM and was a panelist for a panel discussion on "Efforts to Integrate Modeling for Ozone, PM, and Visibility". Session chair at 2010, 2012, and 2013 CMAS Conferences in Chapel Hill, NC.

REGIONAL AND NATIONAL WORKGROUPS

SEMAP: Technical Analysis Work Group (Chair), Emissions and Air Quality Modeling Workgroup (leader), EGU Workgroup (leader), MOVES Workgroup (leader), Fire Workgroup (leader), Regional Haze Workgroup (leader), Meteorological Workgroup (member), Emission Inventory Workgroup (member), SO2 NAAQS Workgroup (member), Coordinating Committee (member).

VISTAS/ASIP: Emissions and Air Quality Modeling Workgroup (leader).

RPO: National Inter-RPO Modeling Workgroup for Regional Haze (Co-Chair and Chair), MARAMA Emissions and Modeling Workgroup (SE representative), National Inter-RPO MOVES Workgroup (SE representative).

CMAS: External Advisory Committee (only representative from state government).

EPA: Local Area Controls Workgroup (member), NEI Emissions Controls Workgroup (member).

NACAA: PM2.5 Modeling Implementation Workgroup (member), NACAA/EPA Technical Issues Workgroup for the PM Full-Cycle Analysis Project (Co-Chair).

ERTAC: EGU Temporalization Workgroup (member), EGU Projection Workgroup (member).

Georgia Prescribed Fire Council: Steering Committee member.

HONORS AND AWARDS

Selected for Outstanding College Students of America while at Notre Dame (1987). Inducted into the Sigma Xi Scientific Research Honor Society (2001). Awarded the "Outstanding Ph.D. Thesis Award" the for the best Ph.D. dissertation in the Georgia Tech School of Civil and Environmental Engineering (2002). Awarded "Meritorious Service Award for Outstanding Contributions to the NACAA PM2.5 Modeling Implementation Workgroup" by the National Association of Clean Air Agencies (2011). In 2014, selected by the EPA Science Advisory Board to participate in the Clean Air Scientific Advisory Committee (CASAC) review panel for the primary SO_2 NAAQS. Awarded "Outstanding Reviewer Status" by Atmospheric Environment for being in the top 10th percentile in terms of the number of reviews completed for Atmospheric Environment in the past two years (2015).

OTHER RELATED TRAINING

Air Pollution Control Orientation Course (APTI)
Source Sampling for Pollutants (APTI)
Introduction to Hazardous Air Pollutants (APTI)
Continuous Emission Monitoring Systems (APTI)
Baseline Source Inspection Techniques (APTI)
Chain of Custody Procedures for Samples and Data (APTI)
Air Pollution Source Inspection Procedures and Safety (APTI)
Inspection Techniques for Fugitive VOC Emission Sources (APTI)
Acid Rain CEM Rule (Part 75) Implementation Strategy (EPA)
Continuous Emission Monitoring for the 90's (EMI/STA)
EPA Reference Method 9 Certification ('94,'95)
SIP 101 Training (EPA-R4)
Lean Six Sigma Green Belt (GSU)
Uniform Air Quality Training Program (CARB)
Confined Space Entry Procedures (TREEO)
EcoSystem Management Training (FDEP)
Introduction to Total Quality Leadership (FDEP)
SMOKE - Classroom and Hands-On Training (MCNC)
CMAQ - Classroom and Hands-On Training (MCNC)
MM5 - Classroom and Hands-On Training (NCAR)
Model Performance Evaluation Training (AER)
Basic CALPUFF Training (MACTEC & Lakes)
Practical CALPUFF Training (ORIS)
AERMOD For Permits (ORIS)
Introduction to Hazardous Air Pollutants (APTI)

PEER REVIEWED PUBLICATIONS (LEAD AUTHOR)

Boylan, J.W. and Russell, A.G. (2006) PM and Light Extinction Model Performance Metrics, Goals, and Criteria for Three-Dimensional Air Quality Models; *Atmos. Environ.*, Volume 40, pp. 4946-4959.

Boylan J.W., Odman M.T., Wilkinson J.G., Russell A.G. (2006) Integrated Assessment Modeling of Atmospheric Pollutants in the Southern Appalachian Mountains: Part II – $PM_{2.5}$ and Visibility; *J. Air Waste Management Assoc*., Volume 56, pp. 12-22.

Boylan J.W., Odman M.T., Wilkinson J.G., Russell A.G., Doty K.G., Norris W.B., McNider R.T. (2005) Integrated Assessment Modeling of Atmospheric Pollutants in the Southern Appalachian Mountains: Part I – Hourly and Seasonal Ozone; *J. Air Waste Management Assoc*., Volume 55, pp. 1019-1030.

Boylan J.W. and Odman M.T. (2004) Comment on 'Geographic Sensitivity of Fine Particle Mass to Emissions of SO_2 and NO_x', *Environmental Science and Technology*, Volume 38, Number 18, p. 4910.

Boylan J.W., Wilkinson J.G., Odman M.T., Russell A.G., Doty K.G., Norris W.B., McNider R.T. (2002) Development of a Comprehensive, Multiscale "One Atmosphere" Modeling System: Application to the Southern Appalachian Mountains. *Atmos. Environ.*, Volume 36, pp. 3721-3734.

PEER REVIEWED PUBLICATIONS (CO-AUTHOR)

Galvis B., Bergin M., **Boylan J.**, Huang Y., Bergin M., Russell A.G. (2015) "Air quality impacts and health-benefit valuation of a low-emission technology for rail yard locomotives in Atlanta Georgia, *Science of the Total Environment Research*, 533, 156-64, doi: 10.1016/j.scitotenv.2015.06.064.

Zhen Liu, Ray P. Bambha, Joseph P. Pinto, Tao Zeng, **Jim Boylan**, Maoyi Huang, Huimin Lei, Chun Zhao, Shishi Liu, Jiafu Mao, Christopher R. Schwalm, Xiaoying Shi, Yaxing Wei, Hope A. Michelsen (2013) Toward verifying fossil fuel CO2 emissions with the CMAQ model: Motivation, model description and initial simulation, *Journal of the Air & Waste Management Association*, 64 (4), 419-435, doi:10.1080/10962247.2013.816642.

Russell A., **Boylan J.**, Napelenok S. (2012) Air Pollution Data for Model Evaluation and Application. *EM*, May 2012, pp. 30-35.

Digar A., Cohan D.S., Cox D.D., Kim B., **Boylan J.W.** (2011) Likelihood of achieving air quality targets under model uncertainties. *Environmental Science & Technology*, 45(1), 189-196, doi:0.1021/es102581e.

Odman M.T., Hu Y., Russell A.G., Hanedar A., **Boylan J.W.**, Brewer P.F. (2009) Quantifying the sources of ozone, fine particulate matter, and regional haze in the Southeastern United States. *Journal of Environmental Management*, 90, 3155–3168.

Tian D., Hu Y., Wang Y., **Boylan J.**, Zheng M., Russell A. (2008) Assessment of biomass burning emissions and their impacts on urban and regional PM2.5: A Georgia case study. *Environmental Science & Technology*, Manuscript ID: es-2008-01827s.R1.

Bergin M.S., Shih J.S., Krupnick A.J., **Boylan J.W.**, Wilkinson J.G., Odman M.T., Russell A.G. (2007) Regional air quality: local and interstate impacts of NOx and SO2 emissions on ozone and fine particulate matter in the eastern United States, *Environmental Science & Technology*, 41(13), pp. 4677-8469.

Cohan D.S., **Boylan J.W.**, Marmur A., Khan M.N. (2007) An Integrated Framework for Multipollutant Air Quality Management and Its Application in Georgia. *Environmental Management*, 40, 545–554, DOI 10.1007/s00267-006-0228-4.

Odman M.T., Hu Y., Unal A., Russell A.G. **Boylan J.W.** (2007) Determining the sources of regional haze in the Southeastern U.S. using the CMAQ model, *Journal of Applied Meteorology and Climatology*, Vol. 46, No. 11, pp. 1731-1743.

Morris R.E., Koo B., Guenther A., Yarwood G., McNally D.E., Tesche T.W., Tonnesen G., **Boylan J.W.**, Brewer P. (2006) Model Sensitivity Evaluation for Organic Carbon Using Two Multi-Pollutant Air Quality Models that Simulate Regional Haze in the Southeastern United States; *Atmos. Environ.*, Volume 40, pp. 4960-4972.

Tesche T.W., Morris R.E., Tonnesen G., McNally D.E., **Boylan J.W.**, Brewer P. (2006) CMAQ/CAMx Annual 2002 Performance Evaluation Over the Eastern US; *Atmos. Environ*., Volume 40, pp. 4906-4919.

Morris R.E., McNally D.E., Tesche T.W., Tonnesen G., **Boylan J.W.**, Brewer P. (2005) Preliminary Evaluation of the Community Multiscale Air Quality Model for 2002 over the Southeastern United States; *J. Air Waste Management Assoc.*, Volume 55, pp. 1694-1708.

Odman M.T., Russell A.G., **Boylan J.W.** (2004) Estimates of PM2.5 Levels in the Southeastern United States for the Year 2010: What Else Can be Done? *Fuel Processing Technology*, Volume 85, pp. 631-639.

OTHER PUBLICATIONS

Boylan J., Marmur A., Khan M., Cohan D. (2006) 8-Hour Ozone and $PM_{2.5}$ Modeling to Support the Georgia SIP. *In* Proceedings of the 99th Annual A&WMA Conference.

Boylan J. (2005) Use of RPO Modeling to Meet Regional Haze and NAAQS Requirements. *In* Proceedings of the 4th Annual CMAS Conference**.**

Boylan J.W., Wilkinson J.G., Odman M.T., Russell A.G. (2001) Response and Sensitivity of $PM_{2.5}$ in the Southern Appalachian Mountains. *In* Proceedings of the 94rd Annual A&WMA Conference.

Boylan J.W., Wilkinson J.G., Yang Y.J., Odman M.T., Russell A.G. (2000) Particulate matter and acid deposition modeling for the Southern Appalachian Mountains Initiative. *In* Proceedings of the 93rd Annual A&WMA Conference.

Kim B. and **Boylan J.** (2011) Application of a Photochemical Grid Model To Assess Single Source Impacts. *In* Proceedings of the 104th Annual A&WMA Conference**.**

Kim B., Khan M., Marmur A., **Boylan J.** (2007) Uncertainty of Meteorological Input Choices on the Modeled 2009 Summer Ozone Predictions in Atlanta, GA. *In* Proceedings of the 6th Annual CMAS Conference**.**

Odman M.T., **Boylan J.W.**, Wilkinson J.G., Russell A.G., Mueller S.F., Imhoff R.E. Doty K.G., Norris W.B., McNider R.T (2003) Integrated modeling for air quality assessment: The Southern Appalachians Mountains Initiative project. *J. Phys. IV France*, Volume 12, Pr10-211 – Pr10-234.

Odman M.T., **Boylan J.W.**, Wilkinson J.G., Russell A.G., Mueller S.F., Imhoff R.E., Doty K.G., Norris W.B., McNider R.T. (2002) *SAMI Air Quality Modeling Final Report*; Southern Appalachian Mountains Initiative: Asheville, NC.

Odman M.T., Russell A.G., **Boylan J.W.** (2002) Estimates of PM2.5 levels in the Southeast for the year 2010: What else can be done? *In* Proceedings of the International Conference on Air Quality III – Mercury, Trace Elements, and Particulate Matter.

Odman M.T., **Boylan J.W.**, Wilkinson J.G., Yang Y.J., Russell A.G. (2000) Ozone modeling for the Southern Appalachian Mountains Initiative. *In* Proceedings of the 93rd Annual A&WMA Conference.

Wilkinson J.G., **Boylan J.W.**, Odman M.T., Russell A.G., Doty K. McNider R. (2000) Integrated Regional Modeling of Ozone, Particulate Matter, and Deposition over the Eastern United States: Comparisons over Wet and Dry Episodes. *In* Proceedings of the 14th Annual NATO Conference, p. 213 - 224.

Tarrer A.R., **Boylan J.W.**, Whetstone G.T. (1994) Impacts of environmental, health, and safety regulations on highway maintenance. *In* Proceedings of the Seventh Maintenance Management Conference, Vol. 5, 144-151.

SEMAP PRESENTATIONS

"SEMAP 2017 Ozone Projections and Sensitivities/Contributions" - SESARM Air Directors conference call on September 30, 2016.

"Corrections to 2018 Projections and Ozone Sensitivities", SEMAP Technical Analysis Workgroup (TAWG) and the SEMAP Emissions and Air Quality Modeling Team on October 22, 2014.

"SEMAP 2018 PM2.5 and Visibility Projections", SEMAP Coordinating Committee, TAWG, and Air Quality Modeling Workgroup. May, 2014.

"SEMAP 2018 Ozone Projections and Sensitivity to NOx & VOC Emissions", EPA OAQPS, EPA Region 3, and EPA Region 4 on April 29, 2014

"Review of NEI2011_v1: Fire Emissions", SEMAP Emission Inventory Workgroup on February 20, 2014.

"SEMAP Modeling Plans and Status", Region 4 State Air Directors Meeting in Atlanta on May 23, 2012.

"GA EPD Updated PWEI Approach for SO2", SO2 SIP Workgroup conference call on September 20, 2011.

"UPDATE: SEMAP Interpollutant Offset Ratios for PM2.5", Air Quality and Emissions Modeling Workgroup conference call on September 23, 2011.

"SEMAP Interpollutant Offset Ratios for PM2.5", Air Quality and Emissions Modeling Workgroup conference call on August 26, 2011.

"County-Level PWEI Approach for SO2", SEMAP SO2 SIP Workgroup conference call on August 12, 2011.

"VOC and NOx Impacts on Regional Ozone", TAWG on July 1, 2011; STAD on July 8, 2011; EPA Region 4 on July 14, 2011; and EPA OAQPS on July 26, 2011.

"SEMAP Modeling Plan", Coordinating Committee on November 6, 2010 and SEMAP Stakeholders group Nov. 13, 2010.

"SEMAP Project Update", EPA conference call on August 10, 2010.

SAMI PRESENTATIONS

"Geographic Sensitivities of Ozone, Aerosols and Wet Deposition to SO_2 and NO_x Emissions – Update", SAMI Modeling Subcommittee. October 25, 2001.

"Geographic Sensitivities of Ozone, Aerosols and Wet Deposition to Elevated Point and Ground-Level NO_x Emissions", SAMI Modeling Subcommittee. September 25, 2001.

"Geographic Sensitivities of Aerosols and Wet Deposition to SO_2 Emissions", SAMI Modeling Subcommittee. August 30, 2001.

"Estimation of NH_4^+/SO_4^{2-} Molar Ratios Using URM Modeling Outputs - Part 2", SAMI Modeling Subcommittee. April 24, 2001.

"Estimation of NH_4^+/SO_4^{2-} Molar Ratios Using URM Modeling Outputs", SAMI Modeling Subcommittee. April 12, 2001.

"Summary of Model Performance and Future Year Strategy Results", SAMI Visibility Workshop. March 8, 2001.

"Ozone, Aerosols, and Wet Deposition Sensitivity Analysis: DDM vs. Brute Force", SAMI Modeling Subcommittee. March 1, 2001.

"Sensitivity of Future Year Results to Boundary Conditions" and "Performance Update for Episodes with New Boundary Conditions", SAMI Modeling Subcommittee. February 6, 2001.

"Ozone Sensitivity Analysis: DDM vs. Brute Force", SAMI Modeling Subcommittee. January 17, 2001.

"Future Year Results: 2010 and 2040 On-the-Way Strategies", SAMI Visibility Workshop. November 16, 2000.

"Future Year Results and Geographic Sensitivities", SAMI Visibility Workshop. September 27, 2000.

"SAMI Aerosol Modeling: Performance Evaluation and Future Year Simulations", SAMI Visibility Workshop. August 24, 2000.

"SAMI Modeling Updates: Basecase Performance and Future Year Runs", SAMI Modeling Subcommittee. August 17, 2000.

"Results of URM Runs with Updated Stack Parameters and Corrected Secondary Organic Aerosols", SAMI Modeling Subcommittee. July 18, 2000.

"Sensitivity Analysis: DDM vs. Brute Force", SAMI Modeling Subcommittee. June 6, 2000.

"Air Quality Modeling for SAMI", SAMI Modeling Subcommittee. February 8, 2000.

"Regional Modeling of Ozone, PM, and Acid Deposition", SAMI Modeling Subcommittee. August 24, 1999.

"Air Quality Modeling for SAMI: July 1995 Episode", SAMI TOC/PC Meeting. February 24, 1999.

VISTAS/ASIP PRESENTATIONS

"State Collaborative Modeling Update", VISTAS/ASIP State Air Director's Meeting. May 21, 2009.

"Hourly OC Model Response to NOx Reductions in Georgia", VISTAS/ASIP conference call on March 24, 2008.

"NOx Impacts on PM2.5 in the VISTAS Region", VISTAS/ASIP conference call on February 29, 2008.

"Area of Influence (AoI) Impacts at VISTAS Class I Areas", VISTAS/ASIP conference call on November 30, 2007.

"EGU and non-EGU Area of Influence (AoI) Impacts at VISTAS Class I Areas", ASIP conference call on August 27, 2007.

"Georgia EPD's Approach to Regional Haze", VISTAS FLM Consultation Meeting in Asheville, NC on June 12, 2007.

"Georgia EPD's Four Factor List of Sources", VISTAS State Air Director's meeting held in Atlanta on May 14, 2007.

"Area of Influence Impacts at Okefenokee", ASIP conference call on May 11, 2007.

"VISTAS Area of Influence Modeling", ASIP conference call on April 13, 2007.

"VISTAS 2002 Actual BaseG Model Performance Evaluation", VISTAS/ASIP conference call on February 7, 2007.

"Identifying and Ranking Potential Controls for Reasonable Progress Demonstrations (Example: OKEF)" and "Impacts of International Transport on the Uniform Rate of Progress Glide Slopes", VISTAS State Air Director's meeting in Nashville, TN on December. 5, 2006.

"BART Model Plant Criteria with PM", VISTAS BART Workgroup conference call on September 1, 2006.

"2009 Emission Sensitivities for VISTAS", "Analysis of BART NH3 Impacts at VISTAS Class I Areas", and "Transboundary Man-Made Impacts at Class I Areas", VISTAS Joint Workgroup Meeting in Raleigh, NC on September 6 and 7, 2006.

"2009 Emission Sensitivities for VISTAS Regional Haze", VISTAS Technical Analysis and Planning Workgroups conference call on April 5, 2006.

"Analysis of BART VOC, NH3, and PM Impacts at Class I Areas" ISTAS Technical Analysis and Planning Workgroups conference call on April19, 2006.

"2009 Emission Sensitivities for VISTAS", "2018 Emission Sensitivities for VISTAS", and "Analysis of BART VOC and NH3 Impacts at Class I Areas", ASIP/VISTAS Meeting held in Asheville, NC on March 13-14, 2006.

"2009 Emission Sensitivities for VISTAS", VISTAS TAWG and Planning Workgroup conference call on December 14, 2005.

"Analysis of BART VOC and NH_3 Impacts at Class I Areas", VISTAS BART Workgroup conference call on December

16, 2005.

"2009 Emission Sensitivities for VISTAS", ASIP conference call on the November 18, 2005.

"Transboundary Man-Made Impacts at Class I Areas", "2009 Emission Sensitivities for VISTAS", and "8-Hour Ozone and PM2.5 Modeling to Support the Georgia SIP", VISTAS Technical Analysis and Planning Workgroup meeting in Durham, NC on Sept. 22-23, 2005.

"Transboundary Man-Made Impacts at Class I Areas" and "2009 Emission Sensitivities for VISTAS", VISTAS STAD meeting in Asheville, NC on August 17, 2005.

"Transboundary Man-Made Impacts at Class I Areas", VISTAS STAD conference call on the July 6, 2005.

"Episode Selection for 8-Hour Ozone and $PM_{2.5}$ in Georgia" on the ASIP conference call on the June 24, 2005.

"Episodic Modeling of 8-hr Ozone and $PM_{2.5}$ at VISTAS STN Sites" on the Association for Southeastern Integrated Planning (ASIP) conference call on April 21, 2005.

"Episodic Modeling of Reasonable Progress" to VISTAS TAWG and Planning Workgroup in RTP, NC on April 4, 2005.

"Emission Sensitivities for VISTAS" and "Integrated Assessment Packages for Class I Areas" at the VISTAS State Air Director's Meeting in Charleston, SC on December 15, 2004.

"Emission Sensitivities for VISTAS", "Integrated Evaluation of 20% Best and 20% Worst Days at Mammoth Cave", and "CMAQ Diagnostics for Initial 2002 Annual Run" at the VISTAS Planning and TAWG Meeting in Atlanta, GA on November 4, 2004.

"Emission Sensitivities for VISTAS" on the Planning and Technical Workgroup conference call on October 6, 2004.

"Documentation and Evaluation of the 2002 GEOS-CHEM Simulation" on the VISTAS TAWG conference call on October 4, 2004

"Emission Sensitivities: Status of Runs" and "Integrated Evaluation for Example Class I Area" at the VISTAS TAWG Meeting in Atlanta, GA on September 23, 2004.

"Emission Sensitivities: Introduction and Background" and "Emission Sensitivities: Next Steps" at the VISTAS TAWG Meeting in Atlanta, GA on August 25 and 26, 2004.

"PM Model Performance for the Initial VISTAS 2002 CMAQ Run (36 km) – Another Perspective" on the VISTAS TAWG conference call on July 27, 2004.

"Status and Recommendations for Emissions Sensitivity Analyses" on the Planning Workgroup conference call on April 7, 2004.

"Sensitivity of Ozone and $PM_{2.5}$ to GEOS-CHEM Boundary Conditions" on the VISTAS TAWG conference call on March 23, 2004.

"CMAQ Model Sensitivity Design" and "Status of DDM-AERO in CMAQ" at the VISTAS TAWG Meeting in Research Triangle Park, NC on February 12 and 13, 2004.

"VISTAS Phase I and Phase II Air Quality Modeling" and "Emissions Sensitivity Modeling with DDM-AERO" at the VISTAS STAD Meeting in Charleston, SC on February 6 and 7, 2004.

"Comparisons of 36 km vs. 12 km Grid Resolutions" for the VISTAS Modeling Sub-Committee conference call on December 19, 2003.

"VISTAS Emissions and Air Quality Modeling Update" at the VISTAS TAWG Meeting in Research Triangle Park, NC on September 30, 2003.

"Selection of VISTAS Modeling Base Year" at the VISTAS TAWG Meeting in Research Triangle Park, NC on September 29, 2003.

"Estimating Natural Background Visibility in the VISTAS Region" for the VISTAS Coordinating Committee on September 25, 2003.

"VISTAS Emissions and Air Quality Modeling Update" at the VISTAS STAD Meeting in Asheville, NC on August 28, 2003.

NATIONAL PRESENTATIONS

"Ozone CART Analysis for Atlanta (2011 – 2016)" - EPA Monthly Modeling Conference Call on March 8, 2017.

"Ozone CART Analysis for Atlanta (2011 – 2016)" - EPA/RPO Base Year Selection MET/AQ Conference Call on January 18, 2017.

"Accounting for Secondary PM2.5 Formation in Georgia" - EPA's Region/State/Local (R/S/L) Modeler's Workshop in New Orleans, LA on November 16, 2016.

"Assessment of Intrastate Contributions to Ozone Nonattainment Monitors in Atlanta, GA" – CMAS Conference in Chapel Hill, NC on October 24, 2016.

"Use of Satellite Data for Georgia's Air Quality Planning Activities" - NASA TEMPO Satellite Workshop in Huntsville, AL on July 13, 2016.

"Interpreting Model Results: Getting to the Right Answers for the Right Reasons", CMAS Conference Community Forum on October 6, 2015.

"Adjusting IMPROVE Measurements for Extreme Events", EPA Regional Haze Tracking Metrics Workgroup conference call on July 2, 2015.

"Review Georgia Onroad Mobile Source Emissions in NEI2011" (co-author) and "Review Georgia Onroad Mobile Source Emissions in NEI2011" (co-author), 2015 International Emission Inventory Conference in San Diego, CA on April 13-16.

"Application of Advanced Air Quality Models and Satellite Data in Georgia" at the NASA Air Quality Applied Sciences Team 8th Semi-Annual Meeting on December 2, 2014.

"Southeastern Air Quality Analysis" for the States' Collaborative on Ozone Transport (SCOOT) meeting on November 20, 2014.

"Spatial Variability of Seasonal PM2.5 Interpollutant Trading Ratios in Georgia", 13th Annual CMAS Conference in Chapel Hill, NC on October 29, 2014.

"Ozone Sensitivities to NOx and VOC Emissions in Southeastern U.S.: Projections for 2018 and a Look Back at 2009", 13th Annual CMAS Conference in Chapel Hill, NC on October 28, 2014.

"Development and Application of PM2.5 Interpollutant Trading Ratios to Account for PM2.5 Secondary Formation in Georgia", MARAMA Dispersion Modeling Applications Workshop in Towson, MD on August 26, 2014.

"Application of ERTAC EGU Projection Tool for Future CO2 Emissions in SESARM", LADCO webinar on July 30, 2014.

"Development and Application of PM2.5 Interpollutant Trading Ratios to Account for PM2.5 Secondary Formation in Georgia", National A&WMA Annual Conference Panel Discussion on Tools for Characterizing Single-Source Contributions to Ozone and Total PM2.5, Long Beach, CA on June 24, 2014.

"Development and Application of PM2.5 Interpollutant Trading Ratios to Account for PM2.5 Secondary Formation in Georgia", EPA R/S/L Modeling Workshop in Salt Lake City, Utah on May 21, 2014.

"Development and Application of PM2.5 Interpollutant Trading Ratios to Account for PM2.5 Secondary Formation in Georgia", 2014 Midwest and Central States Air Quality Workshop in St. Louis, MO on April 24, 2014.

"SEMAP 2018 Ozone Projections and Sensitivity to NOx & VOC Emissions", 2014 Midwest and Central States Air Quality Workshop in St. Louis, MO on April 23, 2014.

"2011 NEIv1 On-Road Mobile: Extended Idle and Highway Emission Factors in Georgia", MARAMA MOVES Call on January 13, 2014.

"2011 NEIv1 On-Road Mobile Comparison in Georgia", MARAMA MOVES Call on December 9, 2013.

"Development and Application of PM2.5 Interpollutant Trading Ratios to Account for PM2.5 Secondary Formation in Georgia", 12th Annual CMAS Conference in Chapel Hill, NC on October 30, 2013.

"Development of PM2.5 Interpollutant Trading Ratios", 11th Annual CMAS Conference in Chapel Hill, NC on October 16, 2012.

"Using Maximum Wind Speed to Limit Off-Site Inventories for 1-Hour NAAQS Modeling", R/S/L Modelers Workshop in Chicago, IL on May 1, 2012.

"Development of PM2.5 Interpollutant Trading Ratios", R/S/L Modelers Workshop in Chicago, IL on May 2, 2012.

"SEMAP Modeling Plans and Status", SIP Modelers Workshop in Chicago, IL on May 3, 2012.

"Photochemical Modeling For Regulatory Applications", CMAS User's Forum in Chapel Hill, NC on October 14, 2010.

"Impact of NOx Emissions in Georgia on Annual PM2.5", 9th Annual CMAS Conference in Chapel Hill, NC on October 11-13, 2010.

"Secondary PM2.5 Impacts from Plant Washington", NACAA PM2.5 Secondary Formation Workgroup conference call on June 28, 2010.

"Atlanta PM2.5 Attainment Modeling with CMAQ and AERMOD", EPA Photochemical Modeling Workshop in Anapolis, MD on June 16-18, 2010.

"Integrated Approach to Air Quality Attainment in Georgia", EPA's Air Quality Management Meeting in Chapel Hill, NC on June 4, 2008.

"Local PM2.5 Modeling and Analysis for Atlanta, GA" , EPA Local Area Analysis Meeting in Chicago, IL on October 17-18, 2007.

"Uniform Rate of Progress Glide Slope Alternatives", Inter-RPO Modeling Workgroup conference call on September 24, 2007.

"VISTAS Analysis of VOC, NH3, and PM Impacts from BART Sources at Class I Areas", R/S/L Modelers Workshop in San Diego, CA on May 17, 2006.

"8-Hour Ozone and PM2.5 Modeling to Support the Georgia SIP", AWMA 99th Annual Conference in New Orleans, LA on June 22, 2006.

"Development and Evaluation of Emission Control Strategies for Georgia using the CMAQ Air Quality Model", American Meteorology Society Conference in Atlanta, GA on January 30 - February 2, 2006.

"Transboundary Man-Made Impacts at Class I Areas", National RPO Modeling Workgroup conference call on the July 25, 2005.

"Transboundary Man-Made Impacts at Class I Areas", Inter-RPO Modeling Workgroup conference call on September 19, 2005.

"Use of RPO Modeling to Meet Regional Haze and NAAQS Requirements", 4th Annual CMAS conference in Chapel Hill, NC on September 28, 2005.

"Emission Sensitivities for VISTAS" and "VISTAS 2002 MPE and NAAQS SIP Modeling", National RPO Technical Meeting in Denver, CO on June 9-10, 2005.

"RPO Modeling and NAAQS SIP Modeling", "Evaluation of PM Model Performance", and "Updates to CMAQ SOA Module and Kz_min Values", EPA's 3rd Particulate Matter/Regional Haze/Ozone Modeling Workshop in New Orleans, LA on May 18-19, 2005.

"VISTAS: Reasonable Progress for Regional Haze", WRAP, CENRAP, MRPO, and MANE-VU conference call on March 14, 2005.

"Evaluation of Natural Background at VISTAS Class I Areas using GEOS-CHEM", National RPO Modeling Workgroup conference call on February 22, 2005.

"PM Model Performance Metrics, Goals, And Criteria" (poster) at the 2004 CMAS Conference in Chapel Hill, NC on October 19, 2004.

"GEOS-CHEM Modeling for Boundary Conditions and Natural Background", "PM Model Performance Goals and Criteria", and "Photochemical Model Performance and Consistency", National RPO Technical Meeting in Denver, CO on May 25-26, 2004.

"Sensitivity of Ozone and $PM_{2.5}$ to GEOS-CHEM Boundary Conditions", National RPO Modeling Workgroup conference call on March 10, 2004.

"Calculating Statistics: Concentration Related Performance Goals"at EPA's PM Model Performance Workshop in Chapel Hill, NC on February 11, 2004.

"Evaluation of CMAQ Sensitivities for VISTAS Air Quality Modeling", National RPO Technical Meeting in St. Louis, MO on November 5, 2003.

Chair of a four-hour breakout session that discussed issues related to "Base Case Development (Air Quality and Meteorology)" at EPA's 2nd Particulate Matter/Regional Haze/Ozone Modeling Workshop in Santa Fe, NM on June 6, 2003.

Panelist for a panel discussion on "Efforts to Integrate Modeling for Ozone, PM, and Visibility" and specifically addressed issues associated with "Integrated Modeling in the Southeastern U.S." at EPA's 2nd Particulate Matter/Regional Haze/Ozone Modeling Workshop in Santa Fe, NM on June 5, 2003. "Summary of VISTAS Phase I Air Quality Modeling", WRAP Technical Modeling Meeting in Tempe, AZ on January 29, 2004.

"Assessment of Future PM2.5 Levels in the Southern Appalachian Mountains and Their Sensitivity to Regional Emissions", American Association for Aerosol Research Conference. Portland, Oregon (2001).

"Response and Sensitivity of $PM_{2.5}$ in the Southern Appalachian Mountains - Preliminary Results", 94rd Annual Air & Waste Management Association (AWMA) Conference. Orlando, Florida (2001).

"Particulate matter and acid deposition modeling for the Southern Appalachian Mountains Initiative", 93rd Annual Air & Waste Management Association (AWMA) Conference. Salt Lake City, Utah (2000).

"Particulate Matter Air Quality Modeling for an Integrated Assessment in the Southern Appalachian Mountains", American Association for Aerosol Research Conference. Cincinnati, Ohio in 1998.

LOCAL/REGIONAL PRESENTATIONS

"EPA's 2017 and 2023 CSAPR Modeling: 3x3 vs. 1x1 Grid Cells" - Maryland Weekly Photochemical Modeling Call on June 15, 2017.

"2016 Southeastern Wildfires - Georgia EPD Update" - SESARM Grants and Planning Meeting in Atlanta on June 8, 2017.

"Georgia Air Quality Update" - Environmental Show of the South Conference in Chattanooga, TN on May 18, 2017.

"NAAQS Attainment & PSD Modeling Update" - Air & Waste Management Association (AWMA) Regulatory Update Conference in Atlanta on May 10, 2017.

"Georgia EPD Air Quality Updates" - Georgia Prescribed Fire Council (GPFC) Steering Committee Meeting in Macon on May 4, 2017.

"Georgia EPD's Air Protection Branch" - Georgia Tech Presentation on April 21, 2017.

"Emission Inventories" - Air Protection Branch Presentation on April 20, 2017.

"2016/Recent Wildfires in the Southeast - Georgia EPD Update" - Smoke Summit III in Ichauway, GA on April 10.

"Ozone and PM2.5 NAAQS Status Update", Georgia Prescribed Fire Council (GPFC) Steering Committee meeting on April 26, 2016.

"NAAQS Status in GA & PSD Inventory Update", A&WMA Regulatory Update Conference on March 29, 2016.

"Ozone and PM2.5 NAAQS Status Update", Air Branch Staff Meeting on March 10, 2016.

"NAAQS Status and Implementation" and "Comments on Proposed Appendix W Updates", GIEC Air & Water Workshops on October 27, 2015.

"Addressing the Title V Revenue Shortfall", EPD Director's Office (June 6, 2015), Title V Fee Workgroup meeting (July 27, 2015), Small Business Compliance Advisory Panel (CAP) meeting (September 1, 2015), Title V Fee Workgroup meeting (September 22, 2015), and Title V Fee Workgroup meeting (November 6, 2015).

"NAAQS and SIP Planning State Agency Update", 2015 NCASI Southern Regional Meeting in Greenville, SC on June 16, 2015.

"Georgia EPD Permit Modeling Update", EPA Region 4 Title V and New Source Review Air Permitting Workshop on May 7, 2015.

"NAAQS Status in GA & PSD Inventory Update", Georgia AWMA Regulatory Update Conference on March 25, 2015.

"Development and Application of PM2.5 Interpollutant Trading Ratios to Account for PM2.5 Secondary Formation in Georgia", EPA Region 4 Modeling Workshop on November 5, 2014.

"GA EPD Permit & SIP Modeling Update", Georgia AWMA Regulatory Update Conference in Atlanta, GA on May 1, 2014.

"CMAS Conference Overview", EPA Region 4 Modeling Workshop on October 13, 2012.

"Using Maximum Wind Speed to Limit Off-Site Inventories for 1-Hour NAAQS Modeling", EPA Region 4 Modeling Workshop on October 14, 2012.

"GA Preprocessed AERMET Data", EPA Region 4 Modeling Workshop on October 14, 2012.

"SEMAP Modeling Plans and Status", EPA Region 4 Modeling Workshop on October 15, 2012.

"Permit & Photochemical Modeling Update", 2012 AWMA Regulatory Update Conference on June 6, 2012.

"Development of PM2.5 Interpollutant Trading Ratios", MARAMA conference call on May 15, 2012.

"SO_2 Designation Recommendations and Current Emissions Data", GA EPD SO_2 Workshop in Atlanta on October 21, 2011.

"SEMAP Emissions Inventory UPDATE", EPA Region 4 S/L quarterly emission inventory conference call on July 2, 2010.

"Interstate Impacts & Source Contributions", Georgia AWMA Regulatory Conference in Atlanta, 2010.

"PM2.5 Attainment Modeling with CMAQ and AERMOD", Georgia Air Policy Symposium (GAPS) on August 4, 2009.

"Update on Ozone and PM2.5 Modeling and Attainment Planning in Georgia", Rice University Uncertainty Analysis in Integrated Air Quality Planning meeting on July 31, 2009.

"Collaborative Inter-RPO Regional Modeling", EPA Region 4 Modeler's Workshop on March 17-19, 2009.

"Integrated Approach to Air Quality Attainment in Georgia", CDC Air Quality Information Seminar on August 1, 2008.

"Modeling to Support the Georgia SIP", 2007 AWMA Regulatory Update Conference in Atlanta, GA on April 26, 2007.

"Georgia EPD's Approach to Regional Haze", Georgia Pulp & Paper Association Meeting in Forsyth, GA on April 19, 2007.

"ASIP and Use in State Modeling" and "VISTAS Modeling Updates", EPA Region 4 Modeling Workshop in Atlanta, GA on March 27-29, 2007.

"Photochemical Air Quality Modeling", Air Quality and Railroads Meeting in Atlanta, GA on March 21, 2007.

"Atmospheric Modeling to Support the Georgia SIPs", Air Protection Branch Open House held on November 30.

"Modeling and Analysis to Support GA SIP Development (December 2006 Update)", Georgia Power on December 13, 2006.

"Weekend Ozone Effect in Atlanta, GA", International Truck and Engine Corporation on July 6, 2006.

"Georgia EPD's Modeling and Analysis to Support SIPs for Ozone and PM2.5", EPA Region 4 in Atlanta, GA on May 9, 2006.

"Links Between Air Pollution in Georgia and Cindy Crawford: Shortness of breath, increased heart rates, and what GA EPD plans to do about it!!", Georgia Air Quality Summit in Atlanta, GA on May 4, 2006.

"Georgia EPD's SIP Modeling for Ozone and PM2.5", AWMA Georgia Chapter 2006 Regulatory Update Conference on April 13, 2006.

"Georgia EPD's SIP Modeling Analysis for Ozone and PM2.5", Environmental Groups representatives on February 15, 2006.

"Modeling and Analysis to Support Attainment Planning", Georgia Air Policy Symposium on December 19, 2005. Session chair for "Observation-based Investigations" session.

"Modeling and Analysis to Support GA SIP Development for Ozone and $PM_{2.5}$", Southern Company on December 8, 2005.

"Atmospheric Modeling to Evaluate Future Air Quality Goals in Northern Georgia and Surrounding Areas", Unicoi State Park in Helen, GA on October 7, 2005.

"Air Quality Modeling for VISTAS" at EPA Region 4 Modelers Workshop in Atlanta, GA on March 10, 2005.

"Atmospheric Modeling Plans for SIP Development at the Air Protection Branch" to Southern Company on January 11, 2005.

"Atmospheric Modeling Activities at the Air Protection Branch" to GA EPD director and staff on December 17, 2004.

"Atmospheric Modeling Activities at the Air Protection Branch" at the DOT/ARC/GRTA/EPD Modeling Meeting in Atlanta, GA on February 27, 2004.

"Assessment of Future $PM_{2.5}$ Levels in the Southern Appalachian Mountains and their Sensitivity to Regional Emissions" at the EPA Region 4 Modelers Workshop in Atlanta, GA from March 10 – 12, 2003.

"Integrated Modeling of Air Pollution Dynamics in the Southern Appalachian Mountains", Ph.D. Defense. Atlanta, GA (2002).

"One Atmosphere Modeling of Current and Future Air Quality in the Southern Appalachians", Quadrangle Conference, Atlanta, GA (2000).

"Air Quality Engineering", 2000 Georgia Tech AEES Symposium.

"Aerosol Dynamics Modeling", 1998 Georgia Tech AEES Symposium (poster presentation).

"Aerosol Dynamics Modeling", Los Alamos National Laboratory in 1998.

"Comprehensive Particulate Matter Modeling: A One Atmosphere Approach", Japanese Task Force on Automobile Emission Impacts on Air Quality, Atlanta, GA in 1998.

"Certification of Continuous Emission Monitoring Systems Pursuant to the Acid Rain Provisions of the CAA (Title IV)", Florida's 1994 Annual Air Meeting.

"National Pollutant Discharge Elimination System (NPDES) Permit Application Procedures and Requirements for Storm Water Discharges Associated with Petroleum Industries", Alabama Oilmen's Association in 1992.

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EDUCATION

Undergraduate

1982 BA (cum laude), Biology, and Chemistry, Washington University (St. Louis)

Graduate School

1987 PhD, Cellular and Developmental Biology, Harvard University
1988 MS, Industrial Hygiene, Harvard School of Public Health

ACADEMIC APPOINTMENTS

1983 and 1985, Teaching fellow, Department of Cellular and Developmental Biology, Harvard University
1987, Lecturer, Biology Department, Roxbury Community College
1988 to 1994, Labor educator/industrial hygienist, Massachusetts Coalition for Occupational Safety and Health and The New England Consortium, University of Massachusetts at Lowell
1994 to 1996, Project coordinator/ research associate, Department of Family Medicine and Community Health, Tufts University School of Medicine
1996 to 1998, Instructor, Department of Family Medicine and Community Health, Tufts University School of Medicine
1998 to 2004, Assistant professor, Department of Family Medicine and Community Health, Tufts University of Medicine
2004 to 2009, Associate professor, Department of Public Health and Family Medicine, Tufts University School of Medicine
2013 to present, Member, Clinical & Translational Science Program, Sackler School of Graduate Biomedical Sciences
2017 to present, Affiliated Faculty Member, Tufts Institute of the Environment, Tufts University
2016 to present, Senior Fellow, Jonathan M. Tisch College of Citizenship and Public Service, Tufts University
2013 to present, Adjunct Professor, Department of Civil and Environmental Engineering, Tufts University
2009 to present, Professor, Department of Family Medicine and Community Health, Tufts University of Medicine

OTHER PROFESSIONAL ACTIVITIES

1993 to 1994, Technical counsel for parents of the Agassiz School in Jamaica Plain, Boston. Pro bono assignment through the Massachusetts Environmental Justice Network

1993 to 1994, Advisor to the producer of the PBS film, *The Return of the Navajo Boy*
1997 to 1999, Developed and implemented an initiative to expand the diversity of teaching and research faculty for the Department of Family Medicine and Community Health, Tufts University School of Medicine
1998, Co-developed a policy on community collaborations for the Department of Family Medicine and Community Health, Tufts University School of Medicine
1998 to 2007, Director, Health Careers Opportunities Program, Department of Public Health and Family Medicine
2001 to 2005, Co-director, Healthy Public Housing Initiative, Tufts, Boston and Harvard Universities
2008 to 2013, Associate Director for Community-Academic Collaborative Research, Tufts Clinical and Translational Science Institute
1994 to present, Director, Navajo Uranium Miner Oral History and Photography Project, Tufts University School of Medicine
2005 to present, Director, Tisch College Community Research Center at Tufts, Jonathan M. Tisch College of Citizenship and Public Service, Tufts University

AWARDS AND HONORS

1996, Certificate of appreciation, Boston Hispanic Sub-Parent Advisory Council
1997, Certificate of merit, Alternatives for Community and Environment
1999, Recognition, US Congressional Record
1999, Certificate of appreciation, Eastern Navajo Dine against Uranium Mining & Southwest Research and Information Center
2000, Certificate of recognition, Committee for Boston Public Housing
2002, Recognition, 25th anniversary banquet, Chinese Progressive Association
2004, Environmental merit award, US Environmental Protection Agency, New England
2008, Certificate of appreciation, Massachusetts Institute for Community Health Leadership
2008, Honorable mention, Community-Campus Partnerships for Health annual award, for the Navajo Uranium Miner Oral History and Photography Project
2009, Finalist, Thomas Ehrlich Civically Engaged Faculty Award, Campus Compact
2010, Tufts Community Research Center Annual Award, for the Community Assessment of Freeway Exposure and Health study.
2015, Honorable mention, Community-Campus Partnerships for Health annual award, for the Community Assessment of Freeway Exposure and Health Study.
2017, The Zucker Family Prize, awarded annually to any member of the TUSM faculty for outstanding research.

HOSPITAL, MEDICAL SCHOOL, OR UNIVERSITY COMMITTEE ASSIGNMENTS:

1997, Grievance Committee, Graduate Programs in Public Health, Tufts University School of Medicine
2003, Epidemiology position search committee, Graduate Programs in Public Health, Tufts University School of Medicine
2000 to 2006, Admissions Committee, Tufts University School of Medicine
2007 to 2009, Steering Committee, Community Partnerships and the Elimination of Health Disparities, Cancer Center, Tufts Medical Center
2008 to 2013, Aligning Researchers and Communities for Health Leadership Committee, Clinical and Translational Science Institute, Tufts University School of Medicine/Tufts

Medical Center
2000 to 2013, Scholarship Committee, Graduate Programs in Public Health, Tufts University School of Medicine
2006 to present, Research Committee, Jonathan M. Tisch College of Citizenship and Public Service, Tufts University
2012 to present, Steering and Admissions Committees, Doctor of Public Health, Tufts University School of Medicine
2014 to present, Co-director, dual MA/MPH degree, Urban and Environmental Policy and Planning and Department of Public Health and Community Medicine, Tufts University.

OTHER MAJOR COMMITTEE ASSIGNMENTS:

1993 to 2005, Steering Committee, Campaign to Protect Chinatown, Chinese Progressive Association
1993 to 1994, Member, Massachusetts Attorney General's Committee on Residential Lead Paint Removal
1993 to 1994, Community representative, Institutional Bio-safety Committee, Millennium Pharmaceuticals, Incorporated
1993 to 1994 Member, Health and Research Subcommittee of the National Environmental Justice Advisory Council, a federal advisory committee to the US Environmental Protection Agency
2003 to 2004, Member, Concord-Alewife Planning Study Committee, Community Development Department, City of Cambridge
1999 to 2011, Advisory board, The New England Consortium, University of Massachusetts Lowell
2000 to 2011, Board of directors, Committee for Boston Public Housing

TRAINING OF GRADUATE STUDENTS/POST DOCTORAL

PhD Theses (committee member)

Kristen Welker-Hood, PhD, 2005 Validity and Reliability of the Health Public Housing Initiative Environmental Assessment Survey. Doctoral dissertation, Boston University. Department of Environmental Health, Boston University School of Public Health
Jamie DeLemos, PhD, 2008, Integrating uranium geochemistry, geographic information systems, risk modeling: An interdisciplinary & participatory approach to assess the environmental and human health impacts of uranium mining on the Navajo Nation, Department of Civil and Environmental Engineering, Tufts University
Christine Rioux, Roadway traffic exposure and CRP levels, Interdisciplinary Program, Tufts University (2009)
Christina Hemphill, Acute association of traffic-related air pollution and cardiovascular markers, Harvard School of Public Health (2011).
Bindu Panikkar, Occupational health of immigrants in Somerville, Department of Civil and Environmental Engineering, Tufts University (2011)
Allison St. Vincent, Modeling UFP geographically and temporally, Department of Civil and Environmental Engineering, Tufts University (2014).
Kevin Lane, exposure assessment, Department of Environmental Health, Boston University School of Medicine (2014).
Nira Hadar, Non-traditional risk factors for venous thromboembolisn (VTE), Tufts University Sackler School (thesis committee chair, 2014).
Matt Simon, modeling UFP for the Puerto Rican Health Study, Department of Civil and

Environmental Engineering, Tufts University (in progress).
Felix Zemel, Housing and public health, Department of Public Health and Community Medicine (in progress).
Laura Corlin, Ultrafine particles and health in the Boston Puerto Rican Health Study, Department of Civil and Environmental Engineering, Tufts University (in progress).
Doug Walker, Metabolome and air pollution exposure, Department of Civil and Environmental Engineering, Tufts University (in progress).

Masters Theses (committee member)
Christine Ash (MS), 2008, Exposure assessment next to I-93 in Somerville, Department of Civil and Environmental Engineering, Tufts University.
Jeff Trull (MS), 2010, UFP levels and atmospheric inversions, Department of Civil and Environmental Engineering, Tufts University.
Elizabeth Baker (MA), 2012, SES, PAHs and cardiovascular health, Harvard Extension School.
Laura Corlin (MS), 2015, longitudinal analysis of association of time activity adjusted particle number count with cardiovascular risk factors and cognition in a Puerto Rican cohort, Department of Civil and Environmental Engineering, Tufts University.

Undergraduate Honors Theses (committee member)
Linh Phan, 2007, Study of crime in Boston Chinatown, American Studies, Tufts University.
Stanislav Henkin, 2008, Respiratory disease in adult Puerto Ricans in the Boston area, Community Health, Tufts University.
Laura Corlin, 2013, Respiratory Factors Associated with Asthma among Adult Chinese Immigrants in Boston, Community Health, Tufts University.
Liza A. Samy, 2017, Indoor-outdoor ultrafine levels in homes in the Boston Puerto Rican Health Study, Civil and Environmental Engineering, Tufts University.

TEACHING RESPONSIBILITY

Course director
2007 Applied learning experience for MPH students, Tufts University School of Medicine
1997 to 2008, rotations for 3rd and 4th year medical students with the Indian Health Service, Tufts University School of Medicine
2002 to 2010, Community-based research: methods and ethics, for MD/MPH students, Tufts University School of Medicine
2001 to present, Occupational and environmental health, for MPH students, Tufts University School of Medicine

Other teaching
1994 and 1996, Facilitator for the problem based learning seminars for MD students, Tufts University School of Medicine
1995, Occupational and environmental health: Issues in preventive medicine, for MD/MPH students, Tufts University School of Medicine
1996, Socio-political forces in occupational health and safety, for MD/MPH students, Tufts University School of Medicine
1997, Occupational and environmental health: Issues in preventive medicine, for MD/MPH students, Tufts University School of Medicine
1997 to 2000, Assistant Course Director and section leader, Patient, doctor, society for medical students, Tufts University School of Medicine
2007 Small group instructor, Epidemiology and biostatistics, for medical students, Tufts

University School of Medicine
2005 to 2014, Guest lecture annually for the Introduction to Community Health Class, Tufts University, Medford, MA.
2014 Guest lectures on community-based participatory research for the DrPH seminar, Tufts University School of Medicine, Boston, MA.
2015 Guest lecture in Urban Health and Community Planning in the Community Health Department, Tufts University, Medford, MA.
2016 Guest Lecture in Indigeneity and Techno-Politics, Department of Anthropology, Tufts University, Medford, MA.
2016 Guest lecture, Traffic-related air pollution and health: Planning and design implications, Public health and the built environment, Metropolitan College, Boston University.
2017 Speaker, Student Development Workshop: Engaging the Media and the Public, Department of Public Health and Community Medicine, Public Health and Professional Degree, Programs, Doctor of Public Health Program
2017 Guest lection, Air pollution: Domestic and international. Global Health Priorities PH 0247, MPH program, Tufts University School of Medicine.
2015-present, guest seminars 1-2/year, Environmental Health Program, Department of Civil and Environmental Engineering, Tufts University School of Engineering.

PROFESSIONAL SOCIETIES

1995 to 2011, American Public Health Association
2005 to present, Community-Campus Partnerships for Health
2008 to present, International Society of Environmental Epidemiology

MAJOR RESEARCH INTERESTS

Highway pollution and health: Direct the Community Assessment of Freeway Exposure and Health study, a set of community-based participatory research studies that includes an observational study of ultrafine particles and blood markers of cardiovascular disease risk, two randomized crossover interventions of in-home HEPA filtration to reduce particulate pollution and longitudinal observation of the Puerto Rican Health Study cohort.

Native Americans and uranium: Direct the Navajo Uranium Miner Oral History and Photography Project that produced a book, numerous journal articles, widespread media coverage, an exhibit and a video.

Boston Chinatown: Led studies of traffic injuries, crime and environmental health in Boston Chinatown. Collaborators included the Chinese Progressive Association, South Cove Community Health Center, the Josiah Quincy Elementary School and others.

Housing conditions and health: Co-directed (with Spengler, HSPH and Hynes, BUSPH) a citywide, multi-year initiative to evaluate and intervene with respect to housing conditions and asthma in public housing. Partners included two city agencies, four community organizations, two consultant groups and the three universities. Resulted in the Boston Housing Authority changing its pest management practice.

Asthma: Led studies on Chinese and Black immigrants and asthma. Published first prevalence study and only studies of nativity and asthma in Chinese immigrant children. Contributed to a bilingual, Chinese-English asthma education program. Also did studies on how managed care plans conduct asthma management which led to an EPA national award program for MCOs.

Research ethics: Led several small studies of research ethics in Chinese, Navajo and public housing populations.

Health communication: Led a study of the role of language in patient-health care provider communication.

Environmental tobacco smoke: Directed a study of recent Asian immigrants and ETS and was a co-investigator (Hyde, PI) on three studies of ETS and restaurant workers

RESEARCH SUPPORT

ACTIVE

R01ES026980-01 (Brugge & Riesner) 09/28/16 - 08/31/21 $2.2 million
National Institute of Environmental Health Sciences (NIEHS)
Near Highway Pollution: From Research to Action
We seek to better understand and to develop protective responses to locally elevated ultrafine particles at the community level.
Role: Principal Investigator

Tufts Collaborates (Durant) 07/01/16 - 06/30/17
A Novel Mobile Monitoring Platform for Measuring Urban Air Pollution $50,000
The study will characterize organic and inorganic pollution in urban air using a novel mobile monitoring platform equipped with rapid- response instruments.
Role: Co-investigator

Tufts Inflammation seed grant (Nephew) 10/1/16 – 9/30/17 $14,000
Effects of maternal immune activation and traffic related air pollution on inflammation, neuroanatomy, and behavior in an animal model of autism spectrum disorders
Role: Co-investigator

1P50CA148612-01 (Tucker) 04/01/10 - 03/31/15 (NCE)
NIH/NHLBI $1,488,735
Boston Puerto Rican Health Study
Our overall aim for this renewal is to extend follow-up and to measure and analyze relevant characteristics and CVD risk factors, and to add additional contextual and outcome measures for CVD risk in this established cohort of Puerto Rican adults, so that we may better understand the dynamics of these disparities.
Role: PI of Project 4: A CBPR investigation of traffic pollution and CVD in Puerto Rican adults

R21LM011919
NIH UMASS, Boston (Wong) Sub 09/01/14 – 08/31/16 (NCE)
Visualizing Highway Pollution: A Study of $37,675
Inter-Generational Health Communication
This is a developmental project to produce a health communication intervention. The goal is to make complex scientific information about exposure of Boston Chinatown to traffic-related air pollution, an important health factor, accessible to the community's residents. We will use a computer program to make invisible air pollution visible on a computer display screen to lay persons with limited English proficiency.
Role: Co-Principal Investigator

Tufts University (Brugge) 07/01/05 - 06/30/17 1.8 calendar months

Tufts Community Research Center $85,000
Jonathan M. Tisch College of Citizenship and Public Service
Tufts Community Research Center operating budget
Role: Director

Kresge Foundation (Brugge) 06/01/13 – 05/30/16 (NCE)
Improving the Health of Near-Highway Communities $225,000
This project will seek to change municipal policy in the City of Somerville and alter building designs in the Chinatown community in ways that protect residents from highway air pollution.
Role: Principal Investigator

1R13HD077245-01A1 (Gans) 7/1/14-6/30/17
NIH/NICHD
Community-Based Approaches to Reducing Obesity in Providence
Through this proposal, investigators from Brown University, the Greater Providence YMCA, and a Community Advisory Board of community stakeholders and residents will work together in a collaborative, co-learning process to develop a research agenda for reducing childhood obesity-related health disparities in Providence RI.
Role: Consultant

Past (dollars to Tufts)

1982 to 1987, National Science Foundation Graduate Fellowship, Harvard University
1987 to 1988, Graduate fellowship, Harvard School of Public Health
1995 to 1996 US Environmental Protection Agency, $15,000, Indoor air quality, co-investigator
1995 to 1996: US Environmental Protection Agency, $20,000, Navajo uranium miner oral history and photography project, principle investigator
1995 to 1997: Ruth Mott Fund, $22,000, Navajo uranium miner oral history and photography project, principle investigator
1996 to 1997: US Environmental Protection Agency, Indoor air quality, $14,000, co-investigator
1996 to 1997: Ford Foundation, $15,000, Navajo uranium miner oral history and photography project, principle investigator
1996 to 1997: US Environmental Protection Agency, Indoor air quality, $20,000, co-investigator.
1997 to 1998: US Environmental Protection Agency, Indoor air quality, $15,000, co-investigator.
1997 to 1998: US Environmental Protection Agency, Indoor air quality, $10,000, co-investigator
1998 Tufts Institute of the Environment, Navajo uranium miner oral history and photography project, $5,000, principal investigator
1998: Ruth Mott Fund, $10,000, Navajo uranium miner oral history and photography project, principal investigator
1998: Education Foundation of America, $25,000, Navajo uranium miner oral history and photography project, principle investigator
1997 to 1999: Mass. Department of Public Health, Environmental tobacco smoke in Chinese and Vietnamese immigrants, $35,000, principal investigator
1998 to 1999: US Environmental Protection Agency, Healthy public housing pilot study, $30,000, co-investigator

1999 to 2000: US Environmental Protection Agency, A Pilot Home Asthma Intervention Study in Boston Public Housing, $10,000, co-investigator
1999 to 2000: US Environmental Protection Agency, Healthy public housing pilot study, $100,000, principle investigator
1999 to 2003: US Health Resource Services Administration, Health careers opportunities program, $850,000, principle investigator
1999 to 2004: US National Institute of Environmental Health Sciences, Nuclear risk management for native communities, $50,000, consultant
2000 to 2001: US Environmental Protection Agency Best Practices at Managed Care Organizations, $40,000, co-investigator
2000 to 2001: Massachusetts Department of Public Health, Environmental tobacco smoke exposure in bar workers, $69,000, co-investigator
2001 to 2002: National Institutes of Health, Short courses for environmental health research ethics, $30,000, consultant
2001 to 20002: Massachusetts Department of Public Health, Environmental tobacco smoke exposure in bar workers, $75,000, co-investigator
2002 to 2003: Josiah Macy Foundation, Health careers opportunities program, $19,500, principle investigator
2001 to 2004: US Housing and Urban Development, Healthy public housing initiative, $152,000, co-principal investigator
2002 to 2005: Kellogg Foundation, Healthy public housing initiative, $86,000, co-principal investigator
2003 to 2005: Tufts University College of Citizenship and Public Service, Faculty fellowship for citizenship and public service, $30,000, principle investigator
2003 to 2007: US Health Resources and Services Administration, Health careers opportunities program, $1.3 million, principle investigator
2005 to 2008: National Cancer Institute, Language, literacy, culture: Communication of health concepts, $100,000, principal investigator
2005-2009 Blue Cross/Blue Shield Foundation of Massachusetts, $300,000, co-investigator
2008 to 2010 NICHD (subcontract with UMASS), Using CBPR to design and pilot a physical activity program for youth with ASD, consultant
2010 to 2011 Tufts Clinical and Translational Science Initiative, $10,000, An Investigation of Multiple In-Home Health Hazards in Boston-based Family Childcare Providers' Facilities, Co-PI.
2011-2012 University-Municipal Partnerships for Children's School Success, $50,000, Co-PI.
2009-2012 NIMHD, Nuestro Futuro Saludable: The JP Partnership for Healthy Caribbean Latino Youth, approx. $1,000,000, Co-PI.
2008-2014 NIEHS, Community Assessment of Freeway Exposure and Health, $2.6 million, PI.
2009-2013, HRSA, Health Careers Opportunities Program, $1.4 million, PI.
2008-2013, NIH, Clinical and Translational Science Initiative, $20 million, co-I.
2011-2013, Healthy Housing Solutions, Inc., Green Housing Study, $17,000, co-I.
2009-2013, Housing and Urban Development, $200,000, co-I.

EDITORIAL BOARDS AND ACTIVITY

2005 – present, Board member, Reviews on Environmental Health

2006 – present, Associate Editor for Environmental and Occupational Health, Journal of Immigrant and Minority Health
2011 – present, Board member, Akademii meditsinkikh nauk Tajikistana" (Herald of Tajikistan Academy of Medicine)

Peer review for

Allergologia et Immunopathologia
Allergy
American Indian Quarterly
American Journal of Public Health
Annals of Allergy, Asthma & Immunology
Archives of Environmental and Occupational Health
Atmospheric Environment
BMJ Open
Canadian Medical Association Journal
Cell Biology and Toxicology
Community Development
Educational Researcher
Environment International
Environmental Health
Environmental Health Perspectives
Environment International
Environmental Research
Environmental Science and Technology
Health Education and Behavior
Health Promotion Practice
Indoor Air
International Journal of Environmental Research and Public Health
International Journal of Physical Sciences
Journal of Comparative Effectiveness Research
Journal of Epidemiology and Community Health
Journal of Exposure Science and Environmental Epidemiology
Journal of Health Communication
Journal of Public Health Management and Practice
Journal of Public Health Policy
Journal of the American Medical Association
Journal of Toxicology and Environmental Health; Part A
Journal of Urban Affairs
Local Environment
National Academies Press
New Solutions
Nicotine & Tobacco Research
Noise and Health
Pediatrics
Pediatric Research
Pediatric Allergy and Immunology
Pharmacogenetics
PLOS ONE
Progress in Community Health Partnerships
Public Health Reports
Rural Sociology

Science and Engineering Ethics
Science of the Total Environment
Toxicology
Transportation Research Part A: Policy and Practice
Women & Health

NATIONAL AND INTERNATIONAL GRANT REVIEW PANELS

Networks of Centres of Excellence, Toronto, Canada, May 2004.
Special Interest Projects, Prevention Research Centers, US Centers for Disease Control and Prevention, Atlanta, GA, June 2004.
Community Level Health Promotion Study Section, US National Institutes of Health, Washington, DC, February 2005.
Health Careers Opportunities Program Review, US Health Resources and Services Administration, Washington, DC, May 2005.
Community Level Health Promotion Study Section, US National Institutes of Health, Washington, DC, September 2005.
Community Level Health Promotion Study Section, US National Institutes of Health, Washington, DC, June 2006.
Health Literacy study section, ZRG1 RPHB-B (50), US National Institutes of Health, Washington, DC, March 2007.
Health Literacy study section, ZRG1 RPHB-B (50), US National Institutes of Health, Washington, DC, November, 2007.
Epidemiology of Bacterial Infection and Asthma, 2008/01 ZRG1 HOP-W (02) M, US National Institutes of Health, by phone, November, 2007.
Health Literacy study section, ZRG1 RPHB-B (50), US National Institutes of Health, Washington, DC, June, 2008 (deputy chair).
US Civilian Research & Development Foundation, Central Asia Research Travel (CART) competition. Review of proposal to address uranium in the Kyrgyz Republic, September, 2008.
CBPR Special Review Panel, ZRG1 HOP-M 50 R, US National Institutes of Health, Washington, DC, October, 2008.
Health Literacy study section, ZRG1 RPHB-B (50), US National Institutes of Health, Los Angeles, CA, March, 2009 (deputy chair).
Challenge grant reviews, US National Institutes of Health, by mail, June 2009.
P20 pilot center application for NIEHS, ZES1 LKB-G (P2) 1, by phone, July, 2009.
Pilot grant reviews for the Tufts Clinical and Translational Research Initiative, July, 2009.
CBPR Special Review Panel, ZRG1 HOP-M 50 R, US National Institutes of Health, Washington, DC, October, 2009.
NHLBI Clinical Trials Review Committee, US National Institutes of Health, by phone, June 2010.
Faith Based R21, ZMD1 PA 07 1, US National Institutes of Health, by phone, June 2010.
Pilot grant reviews for the Tufts Clinical and Translational Research Initiative, July, 2010.
Special Emphasis Panel, PCORI 6, US National Institutes of Health, Washington, DC, February 21, 2012.
National Geographic, March, 2013.
Community Level Health Promotion Study Section, US National Institutes of Health, Washington, DC, Member July 1, 2010 – June 30, 2014.
Chair, Community Level Health Promotion Study Section, US National Institutes of Health, Washington, DC, Member July 1, 2012 – June 30, 2014.

NHLBI Community Asthma Empowerment Special Emphasis Panel, June 5, 2015.
NIH Special Emphasis Panel, call in reviewer, November 2, 2015.
Special Emphasis Panel, ZRG1 HDM W(03), March 3, 2016.
Ad hoc reviewer, Community Influences on Health Behavior Study Section (CIHB), October, 2016.
Harvard-NIEHS Center Pilot Proposals, October, 2017.
NIH Special Emphasis Panel, 01 ZRG1 HDM-J, call in reviewer, November, 2016.
NIH Special Emphasis Panel, ZRG1 HDM-Y 04 M, call in reviewer, March, 2017.

BIBLIOGRAPHY

Original Research (peer reviewed)

1. Broda H, Brugge D, Homma K, Hastings JW. Circadian communication between unicells? Effects on period by cell-conditioning of medium. *Cell Biophysics*, 8:47-67, 1986.
2. Barbeau E, DeJong W, Brugge D, Rand W. Does cigarette advertising adhere to the tobacco industry's voluntary advertising and promotion code? An Assessment. *Journal of Public Health Policy*, 19(4):473-488, 1998.
3. Brugge D, Leong A, Averbach A, Cheung FM. An environmental health survey of residents of Boston Chinatown. *Journal of Immigrant Health*, 2:97-111, 2000.
4. Hynes P, Brugge D, Watts J, Lally J. Public health and physical environment in Boston public housing. *Planning, Practice, and Research*, 15:31-49, 2000.
5. Brugge D, Carranza L, Stienbach S, Wendell A, Hyde J. Environmental management of asthma at Massachusetts MCOs. *Journal of Public Health Management and Practice*, 7(5):36-45, 2001.
6. Brugge D, Rice P, Terry P, Howard L, Best J. Housing conditions and respiratory health in a Boston public housing community. *New Solutions: A Journal of Environmental and Occupational Health Policy*, 11(2): 149-164, 2001.
7. Brugge D and Goble R. The history of uranium mining and the Navajo People. *American Journal of Public Health*, 92:1410-1419, 2002.
8. Brugge D and Tai M. Use of small area data to support a community agenda in Boston Chinatown. *Local Environment*., 7:203-219, 2002.
9. Brugge D, Lai Z, Hill C, Rand W. Traffic injury data, policy, and public health: Lessons from Boston Chinatown. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 79:87-103, 2002.
10. Brugge D, DeJong W, Hyde J, Le Q, Shih C-S, Wong A, Tran A. Development of targeted message concepts for recent Asian immigrants about second hand smoke. *Journal of Health Communication*, 7:25-37, 2002.
11. Brugge D, Melly S, Finkelman A, Russell M, Bradeen L, Perez R, Henson L, Heeren T, Snell J, Helms D, Hynes, HP. A community-based participatory survey of public housing conditions and associations between renovations and possible building-related symptoms. *Applied Environmental Science & Public Health*, 1:89-101, 2003.
12. Hynes HP, Brugge D Osgood N, Snell J, Vallarino J, Spengler J. “Where does the damp come from?" Investigations into the indoor environment and respiratory health in Boston public housing. *Journal of Public Health Policy*, 24:401-426, 2003.

13. Brugge D, Goble R. The Radiation Exposure Compensation Act: What is fair? *New Solutions: A Journal of Environmental and Occupational Health Policy*. 13:385-397, 2003.
14. Brugge D, Kole, A. A case study of community-based participatory research ethics: The Healthy Public Housing Initiative. *Science and Engineering Ethics*, 9:485-501, 2003.
15. Brugge D, Bagley J, Hyde J. Environmental management of asthma at top-ranked U.S. managed care organizations. *Journal of Asthma*, 40:605-614, 2003.
16. Lee T, Brugge D, Francis C, Fisher O. Asthma prevalence among inner-city Asian American school children. *Public Health Reports*, 118:215-220, 2003.
17. Brugge D, Vallarino J, Ascolillo L, Osgood N, Steinbach S, Spengler J. Comparison of multiple environmental factors for asthmatic children in public housing. *Indoor Air*, 13:18-27, 2003.
18. Hyde JN, Brugge D, Repace J, Rand W. Assessment of sources of second hand smoke exposure in a putatively non-exposed population. *Archives of Environmental Health*, 59:553-557, 2004.
19. Greenfield RO, Lee AC, Tang R, Brugge D. Screening for asthma in Cantonese-speaking immigrant children. *BMC Public Health*, 5:48, 2005.
20. Brugge D, Kole A, Lu W, Must, A. Susceptibility of elderly Asian immigrants to persuasion with respect to participation in research. *Journal of Immigrant Health*, 7:93-101, 2005.
21. Brugge D, Welker-Hood K, Kosheleva A, Saddler S. Association and correlation of self-reported home environmental factors and health symptoms. *Archives of Environmental and Occupational Health.* 61:33-41, 2006. PMID: 17503619
22. Freeman ER, Brugge D, Bennett-Bradley WM, Levy JI, Rivera Carrasco E. Challenges of conducting community-based participatory research in Boston's neighborhoods to reduce disparities in asthma. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 83:1013-1021, 2006. PMID: 17103339
23. Brugge D, Panikkar B, Snell J, Welker-Hood K. Lessons from developing methods to study the relationship of energy and water savings to housing conditions and resident health. *Local Environment*, 11:701-717, 2006.
24. Repace JL, Hyde JN, Brugge D. Air pollution in Boston bars before and after a smoking ban. *BMC Public Health*, 6:266, 2006.
25. Levy JI, Brugge D, Peters JL, Clougherty JE, Saddler S. A community-based participatory research study of the efficacy of multifaceted in-home environmental interventions for pediatric asthmatics in public housing. *Social Science & Medicine*, 63:2191-2203, 2006.
26. Brugge D, Missaghian M. Protecting the Navajo people through tribal regulation of research. *Science and Engineering Ethics*, 12:491-507, 2006.
27. Brugge D, Lee AC, Woodin M, Rioux C. Native and foreign born as predictors of pediatric asthma in an Asian immigrant population: A cross sectional survey. *Environmental Health: A Global Access Science Source*, 2007, 6:13. PMID: 17474985
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29. Lee AC, Brugge D, Phan L, Woodin M. A comparison of knowledge about asthma between Asians and Non-Asians at two pediatric clinics. *Journal of Immigrant and Minority Health*, 2007 9:245-54. PMID: 17387614

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31. deLemos JL, Rock. T, Brugge D, Slagowski NL, Lewis J. Lessons from the Navajo: assistance with environmental data collection ensures cultural humility & data relevance. *Progress in Community Health Partnerships: Research Education and Action,* 2007, 1:321-326. PMID: 19655034
32. Henkin S, Brugge D, Bermudez OI, Gao X. A case-control study of BMI and asthma in Asian children. *Annals of Allergy, Asthma & Immunology* 2008, 100:447-451. PMID: 18517076
33. deLemos JL, Bostick BC, Quicksall AN, Landis JD, George CC, Slagowski NL, Rock T, Brugge D**,** Lewis J, Durant JL. Rapid dissolution of soluble uranyl phases in arid, mine-impacted catchments near Church Rock, NM. *Environmental Science & Technology* 2008, 42:3951-3957. PMCID# of PMC2561896
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35. Brugge D, Woodin W, Schuch TJ, Salas FL, Bennett A, Osgood N-D. Community level data suggest that asthma prevalence varies between US and foreign born black subpopulations. *Journal of Asthma* 2008, 45:785–789. PMID: 18972296
36. Matloff R, Lee AC, Tang R, Brugge D. The obesity epidemic in Chinese American youth? A literature review and pilot study. *Aapi nexus: Asian Americans & Pacific Islanders Policy, Practice & Community* 2008, 6:31-42.
37. deLemos JL, Brugge D, Cajero M, Downs M, Durant JL, George CM, Henio-Adeky S, Nez T, Manning T, Rock T, Seschillie B, Shuey C, Lewis J. Development of Risk Maps to Minimize Uranium Exposures in the Navajo Churchrock Mining District. *Environmental Health: A Global Access Science Source*., 2009, 8:29. PMID: 19589163
38. Brugge D, Edgar T, George K, Heung J, Laws MB. Beyond literacy and numeracy in patient provider communication: Focus groups suggest roles for empowerment, provider attitude and language. *BMC Public Health* 2009, 9:354. PMID: 19772555
39. Donroe J, Gilman RH, Brugge D, Mwamburi M, Moore DAJ. Falls, poisonings, burns, and road traffic injuries in urban Peruvian children and adolescents: a Community based study. *Injury Prevention* 2009, 15: 390-396. PMID: 19959731
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46. Phan L, Hui D, Fefferman N, Brugge D. Impact of Street Crime on Boston Chinatown. *Local Environment* 2010; 15: 481–491.
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52. Martinez LS, Ndulue UJ, Seller S, Gute DM, Brugge D, Peréa FC. All public health is local: Revisiting the importance of local sanitation through the eyes of youth. *American Journal of Public Health* 2012; 102:1058-1060.
53. Fuller CH, Brugge D, Williams P, Mittleman M, Durant JL, Spengler JD. Estimation of ultrafine particle concentrations at near-highway residences using data from local and central monitors. *Atmospheric Environment* 2012; 57:257-265.
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12. Brugge D. Nuclear power's dirty secrets. Doshisha University, Kyoto, Japan, September 4, 2010.
13. Brugge D, Fuller CH, St. Vincent A, Lane K, Martinez LP, Woodin M, Zamore W, Durant J. Ultrafine particulate pollution gradients near highways and cardiovascular health in older adults: Study design and early findings. International Conference on Global Health and Public Health Education. Hong Kong, China, October 2011.
14. Brugge D. Uranium and its decay products – radon, radium and thorium – heavy metal toxicity. Uranium, health and environment, Bamako, Mali, March, 2012.
15. Brugge D. Keynote: Uranium as resource and socio-economic consequences. Experience with uranium mining in the Dine territory of the Dine (Navajo), USA. Uranium, health and environment, Bamako, Mali, March, 2012.
16. Brugge D. Health effects of traffic pollution near highways and major roadways. The 2nd International Conference on Pollution and Treatment Technology (PTT 2013), Beijing, China, July 15, 2013.
17. Brugge D. Health effects of traffic pollution near highways and major roadways. 2013 International Conference on Resources & Environmental Sustainable Development, Shenyang, China, July 20, 2013.
18. Rioux C, Tucker KL, Brugge D, Mwamburi M. Longitudinal Assessment of Associations between Residential Traffic Exposure and Type 2 Diabetes (T2D) Development and Progression. Environment and Health – Bridging South, North, East and West: Conference of ISEE, ISES and ISIAQ, Basel, Switzerland, August 19-23, 2013.
19. Brugge D, Lane K, Patton A, Fuller C, Chung M, Wang D, Wang T, Zamore W, Mwamburi M, Durant J. The Community Assessment of Freeway Exposure and Health (CAFEH) study: Overview and progress to date. Environment and Health – Bridging South, North, East and West: Conference of ISEE, ISES and ISIAQ, Basel, Switzerland, August 19-23, 2013.
20. Brugge D. Health impact: Uranium as heavy metal and source of radiation. Bahi Community Meeting, Dodoma, Tanzania, October 2, 2013.
21. Brugge D. Health aspects of uranium. Uranium mining: Impact on health and environment, Dar es Salaam, Tanzania, October 4, 2013.
22. Brugge D, Dasaraju A, Lu YQ, Dayer B. The externalized costs of uranium mining in the United States. Uranium - past and future challenges, The 7th International Conference on Uranium Mining and Hydrology, Technische Universitat Bergakademie Freiberg, Germany, September 22, 2014.
23. Brugge D. Uranium mining and health issues in the USA. World Uranium Symposium, Quebec, Canada, April, 14, 2015.
24. Brugge D. Combined Radioactive and Toxic Effects of Uranium, Nuclearisation of Africa: Impact of uranium mining on health and environment/legal and social aspects/renewable energies. Johannesburg, South Africa. November 16-19, 2015.
25. Brugge D. Uranium Mining, from Exploration to Rehabilitation :Socioeconomic Aspects and Legal Action, Nuclearisation of Africa: Impact of uranium mining on health and environment/legal and social aspects/renewable energies. Johannesburg, South Africa. November 16-19, 2015.

26. Brugge D. After the Closure of the Mine – Job Creation and Compensation, Nuclearisation of Africa: Impact of uranium mining on health and environment/legal and social aspects/renewable energies. Johannesburg, South Africa. November 16-19, 2015.
27. Brugge D, Lane K, Fuller C, Walker D, Li Y, Corlin L, Patton A, Zamore W, Durant J. Traffic-related UFP and cardiovascular health: Findings from the CAFEH study in Boston, MA. 21st ETH-conference on combustion generated nanoparticles. June 19-112, 2017.

Invited Domestic Lectures

1998

Talk on Navajo uranium miners at Utah State University in conjunction with a show of the exhibit, *Memories Come to Us in the Rain and the Wind*, Logan, UT, April 16.

1999

Talk on Navajo uranium miners at University of New Mexico in conjunction with a show of the exhibit, *Memories Come to Us in the Rain and the Wind*, Albuquerque, NM, January 23.

Talk on housing and asthma to US EPA asthma conference, Johns Hopkins School of Public Health, Baltimore, MD, November 18.

2000

Presentation on health risk from the Sequoyah Fuels Corporation nuclear waste site to the staff of the Hastings Health Clinic, Tahlequah, OK, March 24.

Two talks on Navajo uranium miners at Misericordia College in conjunction with a show of the exhibit, *Memories Come to Us in the Rain and the Wind*, Dallas, PA, October 23.

2001

Lecture on the Navajo experience with uranium mining at Syracuse University, Syracuse, NY, April 16.

Workshop on decommissioning the Sequoyah Fuels Corporation nuclear waste site to the Community Council, Gore, OK, June 15.

Workshop on the Radiation Exposure Compensation Act at Laguna Pueblo, NM, August 10.

Lecture on the environmental prevention of asthma at managed care organizations, The Pediatric Asthma Coalition of New Jersey, East Brunswick, NJ, November 30.

2002

Featured speaker on asthma prevention and managed care, The 7th Annual Disease Management Congress, Chicago, IL, September 19.

Presentation on the Radiation Exposure Compensation Act to the Laguna-Acoma Coalition for a Safe Environment, Laguna, NM, November 9.

2003

Workshop on the reclamation plan for the Sequoyah Fuels Corporation nuclear waste site to the Community Council, Gore, OK, May 15.

Talk on heating systems and health in housing developments. Multifamily Buildings 2003, New York, NY, June 10.

2004

Guest lecture on the Radiation Exposure Compensation Act in the Department of Chemistry at the University of Wisconsin, Madison WI, March 4.

Presentation, Committee To Assess the Scientific Information for the Radiation Exposure Screening and Education Program, National Research Council, The National Academies, Washington, DC, March 24.

2005

Environmental Justice Panel. Quality in Education for Minorities conference. New York City, February 25.

2006

Language, Education Level, Culture and Communication with Health Care Providers. Understanding and promoting health literacy: Meeting of the principal investigators and federal staff, Bethesda, MD, October 31.

Book release party, Navajo Studies Conference: In the sacred manner we walk as Dine. Albuquerque, NM, November 3.

2007

Presentation of a study comparing community and student survey teams at the Healthy Public Housing Initiative (HPHI) Summit. New York Academy of Medicine, New York, NY, February 15.

Talk on the Navajo people and uranium mining, Navajo Nation Department of Health and Human Services, Window Rock, AZ, June 7.

Interview on the Navajo people and uranium mining, In Focus, KNME television, Albuquerque, NM, aired June 22.

Testimony on Navajo uranium issues before the Committee on Oversight and Government Reform, House of Representatives, Congress of the United States, Washington, DC, October 23.

Talk on immigration, infection and asthma, Institute for Community Research, Hartford, CT, November 2.

2008

Lecture on nuclear power, global warming and uranium mining, Gaylord Nelson Lecture Series, Nelson Institute for Environmental Studies, University of Wisconsin-Madison, Madison, WI, February 27.

Interview on nuclear power, global warming and uranium mining, The Progressive Radio Show by Matthew Rothschild, aired March 17.

Live telephone interview, Canadian purchase of Iraqi uranium, Canadian TV, July 6.

Lecture on health effects of uranium mining to the Dan River Basin Association (closed session), Danville, VA, November 8.

Lecture on health effects of uranium mining to the Dan River Basin Association (public session), Chatham, VA, November 8.

2009

Lecture on community-based participatory research, Ohio State University, Columbus, OH, May 28.

Talk, 360◦ of Human Subjects Protections in Collaborative Engagement Research. University of Chicago Medical Center, Chicago, IL, June 24, 2009.

2010

Talk on student participation in community-based research, American Association of Colleges & Universities, Washington, DC, January 22.

Lecture on health effects of uranium mining, Symposium on uranium mining in Virginia, Richmond, VA, March 11.

Lecture, Bilagáana: The Career of a White Boy from the Rez, middle and high school students, Telluride, CO, December 6.

Lecture, Health Effects of Uranium Mining: New Research Findings, Telluride, CO, December 6.

2011

Talk on "Building university commitment for community engaged research," Tripp Center, the Institute for Community Research, Center for Public Health and Health Policy, and Center for Health Intervention and Prevention, Hartford, CT, February 11.

Talk on "Use of cross-over design," Centers for Population Health and Health Disparities Meeting, Chicago, Il, June 30.

Lecture, "Nuclear Power's Dirty Secrets," In the "Nothing can go wrong: Rethinking nuclear energy in the 21st century" lecture series, Science and Technology Studies Program, Brown University, Providence, RI, October 13.

Keynote, Bilagáana: The Career of a White Boy from the Rez, Red Valley High School, Red Valley, AZ, November 10.

2012

Remarks, Reception and dinner, Developing an environment to support community-engaged research, Case Western Reserve University, Cleveland, OH, May 23.

Panelist, Building your community engagement capacity, Case Western Reserve University, Cleveland, OH, May 24.

Participant, VDH small group discussion meeting on uranium mining and water, Warrington, VA, August 16.

Lecture, The Navajo experience with uranium mining, environmental policy class, Colby College, Waterville, ME, October 24.

Lecture, The tainted dessert, lunchtime series, Colby College, Waterville, ME, October 24.

Webinar, The Tufts Community Research Center: Expanding community engaged research, Ohio University, via teleconference, November 9.

2013

Lecture, Considering the health effects of the full range of exposures from uranium mining, Northern Arizona University, Flagstaff, AZ, April 5.

Discussion panel, Yellowcake, San Juan College, Farmington, NM, November 21.

2014

Panelist, Health effects of fine particles from vehicle emissions, NIEHS, the Energy Future Coalition, American Lung Association, Environmental and Energy Institute, American Council on Renewable Energy; Institute of Medicine, National Academies of Science, Washington, DC, April 1.

Panelist, screening of Uranium Drive-in, 2014 Environmental film festival at Yale, New Haven, CT, April 6.

Speaker, Developing policy to address near roadway pollution health hazards. 78th National Environmental Health Association Annual Environmental Conference, Las Vegas, NV, July 8.

Panelist, Translating the science to policy for a healthy built environment. 78th National Environmental Health Association Annual Environmental Conference, Las Vegas, NV, July 8.

Panelist, Health equity and the built environment: Building healthy neighborhoods, Moving the dial: Advancing population health equity, seventh biannual Asian American Native Hawaiian Pacific Islander health conference, New York University School of Medicine, New York, NY, October 28.

Panelist, Improving health in near highway communities. The NYC healthy homes summit, WE ACT for Environmental Justice, Milano School of International Affairs, Management, and Urban Policy, New York, NY, November 21.

2015

Talk, Why has it taken so long to address the problems of uranium mining in Navajo communities? 20th Navajo Studies Conference, Northern Arizona University, Flagstaff, AZ, May 30.

2016

Thanikachalam M, Fuller CH, Lane KJ, Sunderarajan J, Vanzan H, Brugge D, Thanikachalam S. The Effect of Urbanization on Insulin Resistance. Place & Health: 13th International Conference on Urban Health, San Francisco, CA, April 3, 2016.

Panelist, Community Engagement with Navajo uranium miners and families seeking compensation. American Industrial Hygiene conference and exposition, Baltimore, MD, May 24.

2017

Talk, New Findings in public health from freeway traffic exposure, Coalition for the Advancement of Regional Transportation, Jefferson Community College, Louisville, KY, June 6.

Invited Local Lectures

1999

Talk on managed care and asthma, Pediatric Asthma Conference, Brandies University, Waltham, MA, September 17.

Talk on housing and environment to Boston Society of Architects, Boston, MA, October 18.

2000

Presentation to, “Focus on new HUD regulations & healthy homes” a conference put on by the New England Lead Coordinating Committee, Boston, MA, March 6.

Testimony, Boston City Council on health and development, Boston, MA, April 11.

Talk on “Housing conditions and respiratory health in Boston public housing” at a conference titled, “Researching social inequities in health”, Harvard School of Public Health, Boston, MA, June 12.

Interview on environmental health in Boston Chinatown, BNN TV evening news, Boston, MA, June 29.

Departmental seminar about Navajo uranium miners and federal compensation to the Work Environment Department, University of Massachusetts at Lowell, Lowell, MA, September 18.

Presentation on use of data for community organizing in Boston Chinatown at the Community Action Information Network conference on Race, Space and Policy Issues, Roxbury, MA, December 14.

2001

Presentation on health and housing conditions, Boston Housing Authority, Boston, MA, January 24.

Presentation on an asthma pilot study in public housing to the Boston Urban Asthma Coalition, Boston, MA, February 8.

Lecture on Health and housing conditions to the Health Policy Summer Program, Harvard School of Public Health, Boston, MA, July 19.

2002

Presentation on healthy public housing study progress, Policy Advisory Board of the Healthy Public Housing Initiative, Boston, MA, May 10.

Talk on asthma and managed care, Asthma and Allergy Month event, US EPA Region One, Boston, MA, May 15.

Presentation on research findings about environmental health and safety in Boston Chinatown, Boston Redevelopment Authority, Boston, MA, June 12.

2003

Expert testimony, Joint Committee on Health, Massachusetts State legislature, in favor of a bill that would establish an asthma registry and require MCO reimbursement for certain durable goods and educational interventions, Boston, MA, July 16.

Presentation on environmental interventions for asthma to the Asthma Regional Council, Cambridge, MA, September 25.

Expert testimony, Massachusetts State Board of Building Regulations and Standards, in favor of amendments to the state building code designed to reduce moisture damage and mold, Boston, MA, November 25.

2004

Lecture on healthy public housing, Building a Healthy Community: Bridging the Health Disparities Gap, Tufts University School of Medicine, Boston, MA, April 3.

Talk on the Healthy Public Housing Initiative, Forging Creative Alliances: Collaborative Problem-solving for Environmental and Public Health Issues in Massachusetts, New England School of Law, Boston, MA, April 8.

Expert testimony on Asian American health disparities before the Joint Committee on Health Care, Massachusetts Oversight Hearing, Harvard University School of Public Health, Boston, MA, April 12.

2005

Guest lecture about research in Boston Chinatown for the class "Active Citizenship in an Urban Community: Race, Class, Culture and Politics." Tufts University, Medford, MA, March 28.

Lecture on asthma in Boston Chinatown as part of the Tufts Institute of the Environment Sustainability Week, Boston, MA, March 29.

Presentation on asthma and pedestrian injuries in Boston Chinatown at a community meeting on the Silver Line, Phase III, Boston, MA, June 23.

2006

Workshop on environmental justice for the Chinatown Resident Association, Boston, MA, February 8.

Talk on the Healthy Public Housing Initiative to the Eastern Sociological Society, Boston, MA, February 24.

Talk on community collaborative research to the undergraduate scholars of the College of Citizenship and Public Service, Medford, MA, March 1.

Talk on the Healthy Public Housing Initiative to the first annual Tufts Community Research Symposium, Medford, MA, March 31.

Testimony on traffic-related air pollution and public health, joint session, Somerville Alderman and Planning Board, Somerville, MA, June 15.

Talk on Chinatown research to the Chinatown Youth Initiative, Boston, MA, July 19.

Talk on Chinatown research to The Medical Foundation, Boston, MA, November 9.

2007

Legislative Briefing on near-highway pollution and health, Massachusetts House of Representatives, Boston, MA, April 5.

Talk on immigrants and asthma, World Asthma Day, Massachusetts State House, Boston, MA, May 1.

Talk on asthma to the Health Careers Opportunities Program high school class at the University of Massachusetts Boston, Boston, MA, July 16.

Lunchtime seminar on asthma and immigration, Environmental Health Program, Harvard School of Public Health, Boston, MA, August 1.

Presentation of obesity and acculturation survey findings to the Malden Public Schools, Malden, MA, October 12.

Talk on community-based participatory research for the Institute for Community Health, Cambridge Health Alliance, Cambridge, MA, November 26.

Talk on environmental tobacco smoke in homes to "Translational research: Applying discovery," Jean Mayer USDA Human Nutrition Research Center on Aging, Boston, MA, November, 29.

Seminar, Immigration, infection and asthma, Department of Public Health and Family Medicine, Tufts University School of Medicine, Boston, MA, November 13.

2008

Panelist, LEED-ND: Integrating best practices in design, planning, and public health? Massachusetts Institute of Technology, Cambridge, MA, February 21.

Guest lecture, on nuclear power, global warming and uranium mining, Community Health 99: Introduction to Global Health, Tufts University, Medford, MA, March 25.

Guest lecture on community-based participatory research, Introduction to Environmental Justice, Harvard Extension School, Cambridge, MA, April 3.

Guest lecture, on nuclear power, global warming and uranium mining, environmental science class, Suffolk University, Boston, MA, April 7.

Panel on community-based participatory research, Leadership and Faculty Development Conference, Harvard Medical School, Boston, MA, April 30.

Lecture, asthma, immigration and infection. Tufts Schweitzer Fellows, Tufts University School of Medicine, Boston, MA, September 13.

Panelist, The environmental burden in Boston's disadvantaged communities, Environmental Action Committee of Phillips Brooks House and Kirkland House, Harvard University, Cambridge, MA, October 23.

Talk on Chinatown research, Urban Environmental Policy and Planning, Tufts University, Medford, MA, November 3.
Talk on Community Assessment of Freeway Exposure and Health, MOVE Massachusetts membership meeting, Boston, MA, November 21.
Talk on Community Assessment of Freeway Exposure and Health, US Environmental Protection Agency, Boston, MA, December 10.

2009
Talk on asthma, immigration and infection. "High Table" Tufts University, Medford, MA February 12.
Guest lecture, asthma, immigration and infection, Environmental Justice and Health of Urban Populations, Northeastern University, Boston, MA, March 10.
Guest lecture on Chinatown research, environmental justice class, University of Massachusetts Dartmouth, Dartmouth, MA, April 2.
Guest lecture on community-based participatory research, Introduction to Environmental Justice, Harvard Extension School, Cambridge, MA, April 2.
Guest lecture, on nuclear power, global warming and uranium mining, environmental science class, Suffolk University, Boston, MA, April 6.
Panelist, Toxic traffic: Reducing the risk. Museum of Science, Boston, MA, May 3.
Talk on asthma and media. Kaiser Media Fellows, Tufts University School of Medicine, Boston, MA, August 17.
Guest lecture on community-based participatory research, Environmental Health Policy class, Brown University, Providence, RI, November 5.
Talk, Community Assessment of Freeway Exposure and Health Study: Rationale, Methods, and Approach, Society for Risk Analysis, New England Chapter, Boston, MA, November 19.
Testimony, Joint Committee on the Environment, Natural Resources & Agriculture, Massachusetts State House, in favor of H.808, *An Act reducing human exposure to particulate matter pollution*.

2010
Facilitated discussion of community-collaborative research with Building Your Capacity: Advancing Research Through Community Engagement, Boston, MA, February 5.
Lecture on Chinatown environmental justice research, Introduction to Environmental Justice, Harvard Extension School, Cambridge, MA, March 30.
Talk on Asthma, Immigration and the Immune System, T32 brown bag lunch series, Tufts Medical Center, Boston, MA, April 15.
Lecture on particulate pollution for Scientific Foundations of Social and Behavioral Medicine class, Tufts University School of Medicine, May 19.
Talks on CBPR and asthma for Community Engagement Seminar, T32 program, July 14.
Panelist, Distrust, Race and Research, Center for Community Health Education Research and Service, Northeastern University, July 14.
Presentation of the Community Assessment of Freeway Exposure and Health study to legislative aides of the Boston delegation, Massachusetts State House, July 19.
Presentation of the Community Assessment of Freeway Exposure and Health study to the Northeast States for Consolidated Air Use Management (NESCAUM), Northampton, MA, October 14.
Guest lecture on the Community Assessment of Freeway Exposure and Health study to Environmental Health Policy class, Brown University, Providence, RI, November 2.
Seminar, Place of birth and asthma, Boston University School of Public Health, Boston,

MA December 3.

2011

Facilitated discussion of community-collaborative research with Building Your Capacity: Advancing Research Through Community Engagement, Boston, MA, January 7.

Lecture on Community Assessment of Freeway Exposure and Health, Introduction to Environmental Justice, Harvard Extension School, Cambridge, MA, April 12.

Facilitated discussion of grant writing with Building Your Capacity: Advancing Research Through Community Engagement, Boston, MA, April 15.

Host and facilitator, Evaluation: Your new BFF: An introduction to evaluation for community-based organizations, Medford, MA, April 28.

Talk on Cardiovascular health and near highway pollution: The CAFEH study. A research day on sustainability, Medford, MA, May 3.

Talk on Asthma and Chinese immigrants to the United States to visiting students from Beijing, China, Tufts Medical School, Boston, MA July 26.

Lecture, Bilagáana: The Career of a White Boy from the Rez, middle and high school students, HCOP Program, Boston, MA, August 3.

Clinical research seminar, Can migration studies help us understand what causes asthma in children?, Clinical Research Resources Office, Boston University School of Medicine, September 21.

Lecture, Bilagáana: The Career of a White Boy from the Rez, middle school students, Curley School after school program, Boston, MA, December 12.

Testimony, Hearing on "clean construction" bill, Boston City Council, Boston, MA, December 20.

2012

Lecture on Community Assessment of Freeway Exposure and Health, Introduction to Environmental Justice, Harvard Extension School, Cambridge, MA, March 27.

Talk on Community Assessment of Freeway Exposure and Health, Graduate Seminar, Tufts Clinical and Translational Science Institute, Boston, MA, March 29.

Facilitated discussion of community-collaborative research with Chinatown Building Your Capacity: Advancing Research Through Community Engagement, Boston, MA, March 30.

Greeting, about Community Assessment of Freeway Exposure and Health, Chinatown Resident Association banquet, Boston, MA, March 30.

Panelist, Hazardous Waste, Communicating Science Symposium, Wellesley College, Wellesley, MA, April 14.

Talk on Project 4: A CBPR investigation of traffic pollution and CVD in Puerto Rican adults, Boston-based Centers for Population Health and Health Disparities Joint Meeting, Harvard School of Public Health, Boston, MA, April 17.

Talk on Community Assessment of Freeway Exposure and Health, Community Forum: The Health of Chinatown, Tufts Clinical and Translational Science Institute, Asian Community Development Corporation, Boston, MA, April 27.

Lecture on "The Scientist and the Community," Responsible Conduct of Research course, Office of the Vice Provost, Medford, MA, May 8.

Webinar presenter, ALA of MA discussion on upcoming healthy air attacks, Boston, MA, June 14.

Talk on Community Assessment of Freeway Exposure and Health to visiting students from Nanjing, China, Tufts Medical School, Boston, MA July 11.

Introduction of Community Assessment of Freeway Exposure and Health to children in the Chinatown Adventure summer camp, Tufts Medical School, Boston, MA

August 1.

Panelist, Case examples of community-based participatory research (CBPR), Chinatown Leader's Brunch, Tufts Clinical and Translational Science institute, Boston, MA, September 20.

Talk on community-based participatory research, Jonathan M. Tisch College of Citizenship and Public Service, Medford, MA, October 17.

2013

Lecture on Community Assessment of Freeway Exposure and Health, Introduction to Environmental Justice, Harvard Extension School, Cambridge, MA, March 26.

Lecture on "The Scientist and the Community," Responsible Conduct of Research course, Office of the Vice Provost, Boston, MA, April 16.

Talk, "Asthma, Immigration and Infection" Primary Prevention of Asthma: A Symposium on Current Evidence, Research Needs and Opportunities for Action, Waltham, MA, April 23-24.

Talk, Path to professorship, Harvard School of Public Health, April 30.

Overview of Community Assessment of Freeway Exposure and Health study, Chinatown Masterplan Implementation Committee, Chinatown, Boston, MA, October 7.

Expert witness, Near highway air pollution and health, Needham Board of Health, Needham, MA, October 10.

Guest lecture, Community Assessment of Freeway Exposure and Health, Health Equity and the Built Environment, Community Health Program, Tufts University, Medford, MA, October 10.

Talk, Foreign birth is associated with lower prevalence of asthma in US immigrant children. Center for Child & Adolescent Health Research and Policy, Massachusetts General Hospital, Boston, MA, October 16.

Guest lecture, Community Assessment of Freeway Exposure and Health, Community Based Research in Service to Social Justice, Boston College, Boston, MA, October 30.

Respondent and discussant, Meredith Minkler speech upon receiving the 2013 Tisch Research Prize to Recognize Leader in Community-Based Participatory Research, Tufts Medical School, Boston, MA, November 7.

Seminar, The Community Assessment of Freeway Exposure and Health study: Overview and Use of Countway Data, Exposure, Epidemiology & Risk Program, Harvard School of Public Health, November 26.

2014

Report, The Community Assessment of Freeway Exposure and Health study, Public Health and Public Safety Committee, City of Somerville, Somerville, MA. March 6.

Talk, Traffic pollution in Chinatown: From research to action at Together: Strengthening the health of Chinatown symposium. Boston, MA, April 3.

Lecture on "The Scientist and the Community," Responsible Conduct of Research course, Office of the Vice Provost, Boston, MA, April; 15.

Talk, Community engagement at Tufts, at Public health & the environment: Working with communities, US EPA, Region 1, May 15.

Moderator, Particles, coal and health panel, Tufts Environmental Literacy Institute, Medford, MA, May 22.

Presentation, Innovations for healthy, sustainable urban landscapes, Quiet Communities, Medford, MA, June 9.

Talk, Traffic-related UFP exposure is associated with biomarkers of CVD risk, CTS Graduate Program Brown Bag Seminar, Tufts Medical Center, Boston MA, September 19.

Talk, Traffic-related UFP exposure is associated with biomarkers of CVD risk, Health Effects Institutes, Boston, MA, December 18.

2015

Seminar, Traffic-related UFP exposure is associated with biomarkers of CVD risk, Environmental Health Program, Tufts University School of Engineering, Medford, MA, February 17.

Talk, Traffic-related UFP exposure is associated with biomarkers of CVD risk, Metropolitan Area Planning Council, Boston, MA, February 23.

Talk, Traffic-related UFP exposure is associated with biomarkers of CVD risk, Boston Society of Architects, Boston, MA, February 24.

Legislative Briefing, Traffic Ultrafine Particles and Health: Local Evidence and Preventive Tactics, Massachusetts State House, Boston, MA, March 5.

Panel talk, Translating research into policy and practice through community engagement, Research innovation and community engagement, Tufts Institute for Innovation and Tisch College, Medford, MA, April 10.

Expert testimony regarding Docket #0700, ordinance reducing fuel emissions, Boston City Council, Boston, MA, April 28.

Legislative Briefing, CAFEH-Kresge overview & TRAP Health Impacts, in a session on "Improving health through design solutions," Massachusetts State House, Boston, MA, July 15.

Update about the CAFEH study to the Chinatown Resident Association, Boston MA, January 6.

2016

Panelist, Highways, health, and energy: From city planning to air filtration. BuildEnergy Boston, Boston, MA, March 10.

Presentation, Near-highway pollution considerations for active transportation, Oh the places you'll go workshop, Boston Alliance for Community Health, Chinatown, Boston, MA, April 28.

Keynote, Ultrafine particle air pollution from traffic, Middle Years Program Conference, International Baccalaureate schools of New England, Medford, MA, May 23.

Presentation, CAFEH-Kresge overview & TRAP health impacts, charrette for the Reggie Wong Park, June 4, Boston, MA.

Grand Rounds, Environmental pollution: Health impact, Lowell General Hospital, Lowell, MA, June 29.

Guest lecture, Traffic-related air pollution and health: Planning and design implications, Public health and the built environment, Metropolitan College, Boston University, July 18.

2017

Panel talk, Reducing exposure to traffic pollution through community-level tactics, Boston Area Research Initiative, Spring Conference, Northeastern University, Boston, MA, March 10.

Panelist, Neighborhood design series, Action for Boston Community Development, Boston, MA, April 4.

Talk, Between panic and complacency: Can we accurately assess risk to environment

Policies? Student senate National Public Health Week event, Boston, MA, April 6.

Talk, Traffic-related ultrafine particles and community engagement, Climate Action Brookline, Brookline, MA, April 17.

Panelist, Environmental health & Chinese immigrants, The 5th state of Asian women's health in Massachusetts, Dorchester, MA, May 16.

Talk, Traffic-related ultrafine particles and community engagement, Somerville Transportation Equity Partnership, Somerville, MA, June 17.

Guest lecture, Traffic-related air pollution and health: Planning and design implications, Public health and the built environment, Metropolitan College, Boston University, July 17.

Published Abstracts

1. Brugge D and Hyde J. Lessons in exploring approaches to partnerships between communities and environmental health researchers. American Public Health Association Conference, Indianapolis, IN. November 1997.
2. Brugge D, T Benally, P Harrison, M Austin-Garrison, L Fasthorse-Begay. Oral histories provide insights into historical and contemporary exposures of Navajo Indians to byproducts of uranium mining. American Public Health Association Conference, Indianapolis, IN. November 1997
3. Brugge D, Benally T, Harrison P, Yazzie E, Austin-Garrison M, Fasthorse-Begay L. Use of oral histories to examine historical and contemporary exposures of Navajos to byproducts of uranium mining. International Society of Environmental Epidemiology/International Society of Exposure Assessment Joint Conference, Boston, MA. August 1998.
4. Brugge D, Leong A, Cheung FM. Traffic and development in Boston Chinatown: An analysis of police accident report data and a cross-sectional survey of residents. International Society of Environmental Epidemiology/ International Society of Exposure Assessment Joint Conference, Boston, MA. August 1998.
5. Brugge D, Leong A, Cheung FM. A community-based study of the impact of traffic and development on health and safety in Boston Chinatown. American Public Health Association Conference. Washington, DC, November 1998.
6. Hynes P, Brugge D, Mahoney D, Watts J, Lolly J, Lopez R. Public health in public housing: An evaluation and analysis of the indoor environment with community participation. American Public Health Association Conference. Washington, DC, November 1998.
7. Hynes P, Brugge D, Mahoney D, Watts J, Lolly J, Lopez R. Public health in public housing: An evaluation and analysis of the indoor environment with community participation. International Society of Environmental Epidemiology/ International Society of Exposure Assessment Joint Conference, Boston, MA. November 1998.
8. Brugge D, Vallarino J, George D, Spengler J. A pilot home asthma intervention for residents of public housing. American Public Health Association Conference. Chicago, IL, November 1999.
9. Brugge D, Leong A, Averbach A, Cheung FM. A cross-sectional survey of Boston Chinatown residents for environmental factors. American Public Health Association Conference. Chicago, IL, November 1999.
10. Brugge D, Benally T, Yazzie E. Navajo oral histories help set the basis for research agenda on uranium. American Public Health Association Conference. Chicago, IL, November 1999.

11. Brugge, D., Panel chair. Is there a trade off between access to housing and public health? American Public Health Association Conference. Boston, MA, November 2000.
12. Brugge D, Vallarino J, Ascolillo L, Osgood N, Stienbach S, Spengler J. Comparison of multiple environmental factors in one public housing development. American Public Health Association Conference. Atlanta, GA, October 2001.
13. Brugge D, Bagley J, Hyde J. Environmental management of asthma at top-ranked U.S. managed care organizations. American Public Health Association Conference. Philadelphia, PA, November 2002.
14. Hyde J, Brugge D, Repace J, Rand W, Bagley J, Tanaka T. Biological markers of exposure in Boston restaurant and bar workers prior to the May 5, 2003 smoking ban. 2003 National Conference on Tobacco or Health. Boston, MA, November 2003.
15. Brugge D, Lee T, Francis C, Fisher O. Asthma prevalence among inner-city Asian American schoolchildren. American Public Health Association Conference. San Francisco, CA November 2003.
16. Brugge D, Melly S, Finkelman A, Russell M, Bradeen L, Perez R, Henson L, Heeren T, Snell J, Helms D, Hynes, HP. A community-based participatory survey of public housing conditions and associations between renovations and possible building-related symptoms. 16th Conference of the International Society for Environmental Epidemiology, August 2004.
17. Brugge, panel chair. A community-city-university collaboration for healthy public housing. American Public Health Association Conference. Washington, DC, November 2004.
18. Brugge D, Panikkar B, Snell J, Melly SVinas B. Possible health benefits to energy savings in public housing. American Public Health Association Conference. Washington, DC, November 2004.
19. Brugge D, Becker J, Balbach, E. A project to increase participation of disadvantaged students in medicine and public health. Bureau of Health Professions First All-Grantee Conference. Washington, DC, June 2005.
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Undergraduate	1977	B.Sc. (Med)	University of Queensland (Pathology)
Graduate	1979	M.B., B.S.	University of Queensland (Medical Degree)
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ACADEMIC POSITIONS/EMPLOYMENT

1983-86	Research Associate in Medicine, Harvard Medical School
1986-88	Instructor in Medicine, Harvard Medical School
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2003-06	Deputy Associate Director for Cores Dana-Farber/Harvard Cancer Center
2006-	Adjunct Professor of Epidemiology Harvard School of Public Health
2006-	Senior Fellow of the Center for Health Policy, Washington University in St. Louis
2006-	Niess-Gain Professor of Surgery, Professor of Medicine, Washington University School Medicine
2006-	Associate Director, Prevention and Control Siteman Cancer Center
2008-	Deputy Director, Institute for Public Health
2011-18	Ambassador to the University of Melbourne, and to University of Queensland, McDonnell International Scholars Academy

UNIVERSITY/HOSPITAL/DEPARTMENTAL APPOINTMENTS AND COMMITTEES

Postdoctoral Training:

Internship and Residencies

1979-80	Intern	Royal Brisbane Hospital
1981	Resident	Internal Medicine Royal Brisbane Hospital

Research Fellowships

1981-82	Fulbright Scholar	Harvard University
1981-83	Knox Fellow	Harvard University School of Public Health

Hospital Appointments:

1983-91	Associate Epidemiologist, Department of Medicine, Brigham and Women's Hospital
1991-06	Epidemiologist, Channing Laboratory, Department of Medicine, Brigham and Women's Hospital
2005-06	Associate Director, Channing Laboratory, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School

MAJOR COMMITTEE ASSIGNMENTS:

National Institutes of Health, CDC, etc.

1985	Special Review Committee Program Grant Review for PO1 CA41108-01, National Cancer Institute
1987	Special Review Committee Program Grant Review for PO1 CA46387-01, National Cancer Institute

1988	Technical Review Group Smoking and Tobacco Control Monographs RFP NCI-85070-42, National Cancer Institute
1989	Special Review Committee Program Grant Review for PO1 CA50093-01, National Cancer Institute
1990	Special Review Committee Program Grant Review for PO1 CA44648-01, National Cancer Institute
1991	Behavioral Medicine Study Section, Ad Hoc Member, National Institutes of Health
1992	RFP/NICHD CRE 91-93 -- Breast cancer and birth control pill: Case/control study of perimenopausal and past oral contraceptive use National Institute of Child Health and Human Development
1993-	Outstanding Investigator Awards, Special Review Committee National Cancer Institute
1993	Cancer Center Review for San Antonio Cancer Center Grant, Special Review Committee, National Cancer Institute
	University of Alabama at Birmingham Cancer and Nutrition Research Unit, Special Review Committee, National Cancer Institute
1997	National Cancer Institute, Program Project Review 1 PO1 CA77596-01
1998	National Cancer Institute, Special Review Committee, Subcommittee A Meeting -- Review of San Antonio Cancer Institute
1998	National Cancer Institute, DCEG Environmental Epidemiology Branch, External Review
2000-01	National Cancer Institute, Subcommittee E, Program Projects, Scientific Review Group
2002-05	National Cancer Institute, Subcommittee A, Cancer Center Support Grants, Scientific Review Group
2005	National Cancer Institute, Division of Cancer Epidemiology and Genetics (DCEG) Directors Office, External Review
2006-07	Center for Scientific Review, EPIC Study Section (NIH) Ad Hoc member
2007	National Breast Cancer Foundation, Sydney, Australia, Review Panel
2007-09	Center for Scientific Review, EPIC Study Section (NIH) Member
2009-11	Center for Scientific Review, EPIC Study Section (NIH) Chair
2012-17	Board of Scientific Advisors, (NCI) Member
2015-	NCCN Breast Cancer Risk Reduction Guideliens panel, Member
2015-	Advisory Committee on Breast Cancer in Young Women (Member), CDC
2016	Center for Scientific Review, Chair, Review study section, Precision Medicine Initiative Cohort Program Coordinating Center
2016	Implementation Science Work Group of the Blue-Ribbon Panel to advise the National Cancer Moonshot, NCI

<u>International Committees</u>

1979-81	Committee to Review Future Needs and Medical Education in Queensland, Australia, the Medical Board of Queensland.
1991	Prevention of Thromboembolism, Committee Member European Consensus Conference, Windsor, UK
1996	Consensus Conference (Brisbane, Australia, February 12-14, 1996). Smoking and Prostate Cancer.
2006	External Review Committee, Queensland Institute for Medical Research

2008- National Breast and Ovarian Cancer Centre, NSW Australia
2015 Breakthrough generations study strategic review – for UK ICR Board of Trustees
2015-16 International Agency for Research on Cancer – Handbook 16 Overweight and Obesity (update), Committee Chair
2016-17 Review Panel Member, Canadian Partnership Against Cancer, Canadian Partnership for Tomorrow, Cohort Coordination and Scientific Home.

Institute of Medicine/National Academy of Medicine, National Academy of Science

1992-93 Committee to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides, Institute of Medicine, National Academy of Science
1994-95 Institute of Medicine, National Academy of Science, Committee to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides
1995-96 Institute of Medicine, National Academy of Science, Committee to Review the Health Effect in Vietnam Veterans of Exposure to Agent Orange II.
2002-06 National Academies of Health, National Research Council Committee to Assess Potential Health Effects from Exposure to Pave Paws Low-Level Phased Array Radiofrequency Energy
2009-10 Institute of Medicine, National Academies of Health Committee to Review Adverse Effects on Vaccines

American Cancer Society

1997 American Cancer Society, External Review Committee, Intramural Research Program
1998 American Cancer Society, Colorectal Cancer Working Group -- Steering Committee
1998 American Cancer Society, the New England Coalition for Health Promotion and Control of Cancer (NECON), Task Force for Prevention and Control of Cancer
2000-01 American Cancer Society, Advisory Committee, Epidemiology & Surveillance Research
2000-04 Director, American Cancer Society, New England Division
2005 American Cancer Society Research Advisory Workgroup Meeting
2006 American Cancer Society, Peer Review, (CPS III) Cancer Prevention Study III
2009 American Cancer Society, Nutrition, Physical Activity and Cancer Advisory Group
2011-12 American Cancer Society, Awards Committee
2011-13 Director, American Cancer Society, National Board of Directors
2011-15 American Cancer Society, Mission Outcomes Committee
2014 American Cancer Society, Chair, External Review Panel, Epidemiology Research Program

Harvard Medical School

2003 Search Committee, Chair—Senior Faculty, HMS, ad hoc Evaluation committee, Department of Neurology
2003 Search Committee—Senior Faculty, HMS, ad hoc Evaluation Committee Department of Health Care Policy

2003 Search Committee—Senior Faculty, HMS, ad hoc evaluation committee, Department of Medicine

Harvard School of Public Health

1981-82 Education Policy Committee, Harvard School of Public Health
1981-82 Master of Public Health Committee, Harvard School of Public Health
1992-95 Search Committee -- Junior Faculty, Department of Health and Social Behavior
1995-04 Center for Cancer Prevention, Education Director
2002-03 Search Committee, Chair—Senior Faculty, HSPH, Department of Health and Social Behavior, Cancer Prevention and Control
2004-06 Search Committee, Public Health Nutrition – Junior Faculty, Harvard School of Public, Health, Department of Nutrition

Other Committees

1994-03 Associate Director, Boston Obesity/Nutrition Research Center
1995-03 Director of Education, Harvard Center for Cancer Prevention
2000-03 Member, External Advisory Committee, American Health Foundation
2000-04 Member, Advisory Committee on Research, Alberta Cancer Board
2001-08 Member, External Scientific Advisory Board, Howard University Cancer Center
2002- External Advisory Board, Norris Cotton Cancer Center, Dartmouth Medical School
2003-05 Member, CSIRO Sector Advisory Council for Health, Agri-Food and Fibre, CSIRO, Australia
2003 Chair, External Advisory Board, Queensland Institute of Medical Research, Cancer Epidemiology Program Grant
2003-05 Director, Harvard Center for Cancer Prevention
2003-07 External Advisory Board Member, University of California, San Francisco
2003-08 External Advisory Board Member, University of North Carolina, Lineberger Comprehensive Cancer Center, Chapel Hill
2003-15 Chair, External Advisory Committee, California Teachers Study
2004-09 External Advisory Board Member, Harvard Prevention Research Center, Harvard School of Public Health
2005-07 External Advisory Board Member, Lombardi Comprehensive Cancer Center, Georgetown
2006 External Review, The Welch Center, Johns Hopkins Bloomberg School of Public Health
2006-16 External Advisory Board member, H. Lee Moffitt Cancer Center and Research Institute
2006-08 External Advisory Board, City of Hope Cancer Center
2006-12 External Advisory Committee, University of Colorado Cancer Center
2006 Committee to Review the Welch Center for Prevention, Epidemiology and Clinical Research, Johns Hopkins School of Public Health
2006- The Longer Life Foundation-A RGA/Washington University Partnership
2009- Ohio State University, The James Cancer Hospital & Solove Research Institute.
2012-13 AACR-Minorities in Cancer Research Jane Cooke Wright Lectureship Selection Committee.
2015-16 AACR Outstanding Investigator Award (Breast Cancer Research) Selection Committee
2015 External Reviewer, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health
2016 AACR Special Conference on Improving Cancer Risk Prediction for Prevention and Early Detection, Co-Chair
2017 AACR Cancer Progress Report 2017

MEDICAL AND BOARD CERTIFICATION

1979- Queensland License #794371
1990- Fellow of the Australian Faculty of Public Health Medicine, Royal Australian College of Physicians

HONORS AND AWARDS

1975 National Heart Foundation (Australia) Scholarship
1976 National Heart Foundation (Australia) Scholarship
1977 Asthma Foundation of Queensland Medical Scholarship
1977 Australian Medical Students' Association -- Eli Lilly Research Fellowship
1981-82 Fulbright Postgraduate Student Award
1981-83 Frank Knox Memorial Fellowship, Harvard University
1991-96 American Cancer Society, Faculty Research Award
1997 Raine Visiting Professor, Department of Public Health University of Western Australia
1998-02 Visiting Scientist, Cancer Foundation of Western Australia
1999 Leonard S. Schuman Lecture, University of Michigan
2002 Rotan Lecture, MD Anderson Cancer Center
2003 AACR-DeWitt S. Goodman Memorial Lectureship
2004 ASPO Distinguished Achievement Award
2005 Cassel Distinguished Lecturer, University of North Carolina, Chapel Hill, Lineberger Comprehensive Cancer Center
2006- Institute of Medicine, Member
2007- Academy of Science St. Louis, Fellow
2009 Alumni Award of Merit, Harvard School of Public Health
2011 American Cancer Society Medal of Honor for Cancer Control Research
2012 AACR - American Cancer Society award for research excellence in cancer epidemiology and prevention
2014 WUSM, AOA annual lecture
2014 ASCO-American Cancer Society award and lecture for significant contributions in cancer prevention
2014 AACR Award for Oustnading Achievement in Cancer Prevention Research
2014 Newington Medal (International), Newington College, Stanmore, NSW, Australia
2014 U Michigan Cancer Center Research Symposium, The Tsung Hsien and Shu Yung Wu Lectureship in Cancer Research “Obesity driving cancer incidence and mortality”
2016 1040 Highly Cited Researchers (h>100) according to their Google Scholar Citations public profiles. Rank 1. Graham Colditz. January 2016 edition 2016.1.1 (http://www.webometrics.info/en/node/58)

EDITORIAL RESPONSIBILITIES

1991-96	Associate Editor	American Journal of Epidemiology
1993-	Editorial Board Member	Journal of Medical Screening
1997-99	Editor	American Journal of Epidemiology
1998-06	Editor-in-Chief	Cancer Causes and Control
1999-00	Editorial Board Member	Alternative Therapies in Women’s Health
2001-	Editorial Board Member	Breast Cancer Research
2007-	Associate Editor	Cancer Causes Control

2009-14	Editorial Board Member	Journal of Clinical Oncology
2015-	Deputy Editor, Biostatistics	Annals of Thoracic Surgery
2015-	Associate Editor	Journal of the National Cancer Institute

PROFESSIONAL SOCIETIES AND ORGANIZATIONS

Societies

1982- American Association for the Advancement of Science
1982- Society for Epidemiologic Research
1992- American College of Epidemiology
1994- American Epidemiological Society
1994- The Obesity Society
1996- American Association for Cancer Research
1997- American Society of Preventive Oncology
2000- American Society of Clinical Oncology
2005- American Society for Nutrition
2008- Cancer and Leukemia Group B (CALGB)/Alliance

MAJOR INVITED PROFESSORSHIPS AND LECTURESHIPS:

2003-	American Cancer Society Cissy Hornung Clinical Research Professorship
2008	Norris Cotton Cancer Center Distinguished Lecture, The 31st David B. Kaner Memorial Lecture, "Can We Prevent Breast Cancer?" Dartmouth Medical School, Lebanon, New Hampshire
2011	Division of Cancer Epidemiology and Genetics, NCI, Visiting Scholar "Breast and Colon Cancer: Risk Accumulation and Prevention".
2013	Bancroft Fellow-in-Residence, Queensland Institute for Medical Research, Brisbane, Australia
2014	National Cancer Institute, STARS in Nutrition Science, Oct 6, 2014. "Childhood and adolescent nutrition and growth drive breast cancer risk: untapped opportunities for prevention".
2014	U Michigan Cancer Center, The Tsung Hsien and Shu Yung Wu Lectureship in Cancer Research. Oct 24, 2014. "Obesity driving cancer incidence and mortality".
2014	University of Melbourne, Australia. Victorian Comprehensive Cancer Center Inaugural Lecture. "Cancer Center Research: Challenges and opportunities to advancing population health".

INVITED LECTURES LOCAL, NATIONAL, AND INTERNATIONAL
Available upon request

Postdoctoral Trainees 2004 – onwards (consistent with current training grant requirements).
Graham A Colditz, MD DrPH mentor

Past / Current Trainee	Trainee Name (Where Occurred)	Postdoc Research Training Period	Prior Degree	Prior Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position of Past Trainees / Source of Support of Current Trainees

Past / Current Trainee	Trainee Name (Where Occurred)	Postdoc Research Training Period	Prior Degree	Prior Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position of Past Trainees / Source of Support of Current Trainees
Past	Aitken, Candyce (Harvard)	2003-2004	MD	2000	New York University School of Medicine	Breast Cancer Prediction	Assistant Professor, Radiation Oncology, Dartmouth College, Hanover NH
Past	Wei, Esther (Harvard)	2003-2005	BA, ScD	1993	UC, Berkeley	Risk factors for colon and rectal cancer	California Pacific Medical Center, San Francisco CA
Past	Datta, G (Tobby) (Harvard)	2005-2007	MPH	1999	University of PA Mailman SPH	Socioeconomic factors modifying cancer prevention behaviors among African American Women	Assistant Professor, Centre de Recherché du Centre Hospitalier de l'Université de Montréal, Departement de Medicine Sociale et Preventive, Faculte de Medicine, Universite de Montreal
Past	Linos, Eleni (Harvard)	2006-2008	MD	2004	Oxford University	Diet and breast cancer	Assistant Professor, Department of Dermatology UCSF San Francisco CA
Past	Birmann, Brenda (Harvard)	2005-2009	ScD	2003	Harvard School of Public Health	Biomarkers inflammation and IgF pathways and Multiple Myeloma	Assistant Professor of Medicine, Harvard Medical School (completed NCI K07)
Past	Liu, Ying	2009-2011	MD, MPH, PhD	2006	Texas Tech University/TTU Health Science Center, Lubbock TX	Breast Cancer Risk	Instructor, Division of Public Health Sciences, Department of Surgery, WUSM
Past	Yaghjyan, Lusine	2009-2012	MD, MPH	2009	University of Cincinnati, Ohio, OH	Breast cancer prevention	Assistant Professor, University of Florida, Gainesville, FL
Past	Chang, Su-Hsin	2010-2012	MS, SM, PhD	2010	Johns Hopkins University, Baltimore, MD	Economic considerations in cancer prevention and control	Assistant Professor, Surgery/Public Health Sciences WUSM 1K01HS022330 (AHRQ)
Past T32 surgical oncology	Fayanju, 'Lola	2010-2013	MD, MPH	2007	WUSM	Disparities in Breast Cancer	Assistant Professor of Surgery Duke University
Past KL2 Calabresi	Puri, Varun	2011-2013	MD	1998	All India Institute of Medical Sciences, New Delhi, India	Cost effectiveness in Thoracic surgery	Assistant Professor of Surgery WUSM

Past / Current Trainee	Trainee Name (Where Occurred)	Postdoc Research Training Period	Prior Degree	Prior Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position of Past Trainees / Source of Support of Current Trainees
Past KM1 NCI	Carson, Kenneth	2012-2013	MD, PhD	2000	University of Southern California, Keck School of Medicine, Los Angeles, CA	Comparative effectiveness – outcomes in hematologic malignancies	Assistant Professor of Medicine, Division of Medical Oncology, WUSM
Past T32 surgical oncology	*Steward, Lauren	2012-2014	MD MHSA	2009 2005	Harvard Medical School University of Michigan Medical School	The Role of Contralateral Prophylactic Mastectomy in the Treatment of Breast Cancer	Critical Care surgery fellow, U Colorado
Past TREC trainee	Leung, Man-Yee	2012-2016	PhD	2011	University of Minnesota	Health economics	Postdoctoral Fellow, Division of Public Health Sciences, Department of Surgery, WUSM U54CA155496
Current	Warner, Erica	2014-	ScD, MPH	2011	Harvard School of Pubic Health	Risk factors for aggressive molecular subtypes of breast cancer	Instructor in Medicine, Harvard Medical School, with K award funding
Past TREC trainee	Yang, Lin	2012-2016	PhD	2012	Center for Diet and Research (CEDAR) MRC Epidemiology Unit, University of Cambridge	Environment and physical activity in relation to cancer etiology and outcomes in prostate cancer patients	Assitant Professor, Medical University of Vienna, Austria
Past T32 surgical oncology	*Samson, Pamela	2013-2016	MD	2011	University of Cincinnati College of Medicine	Establishing incidence of Nx staging during endoscopic US for esophageal cancer Cost effectiveness of post-operative esophageal cancer follow-up and treatment of recurrent disease	Resident, Radiation oncology, WUSM
Current T32 surgical oncology	*Yu, Jennifer	2014-present	MD	2012	WUSM	Improving outcomes in breast cancer patients	NIH/NCI 5T32CA009621 (Gillanders/Colditz)

Past / Current Trainee	Trainee Name (Where Occurred)	Postdoc Research Training Period	Prior Degree	Prior Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position of Past Trainees / Source of Support of Current Trainees
Past KL2 Calabresi	Wildes, Tanya	2013- 2016	MD, MSCI	2009	Illinois Wesleyan University, Washington University School of Medicine, St. Louis MO	Geriatric assessment and Performance in elderly Multiple Myeloma patients	Assistant Professor, Department of Medicine, Medical Oncology WUSM
Current	Herrick, Cynthia	2013-	MD	2006	WUSM	Improving follow-up of women with GDM, post delivery	Assistant Professor of Medicine (Endocrinology) WUSM. KL2 funded
Current Harold Amos Diversity award	Carter, Ebony	2014-	MD MPH	2006	Duke (MD) U Michigan (MPH)	Centering to reduce complications of diabetes during pregnancy	Assistant Professor MFM, Dept. OBGYN, Assistant Prof. Public Health Sciences, Dept. Surgery WUSM
Current T32	Brauer, David	2014-	MD MPHS			Outcomes in HPB surgery	NIH/NCI 5T32CA009621 (Gillanders/Colditz)
Current MSCI	Eskew, Ashley	2016-	MD	2012	MD U Louisville	Weight loss before to conceive	Fellow, OBGYN, WUSM
Current	Peterson, Lindsay	2016-	MD	2006	MD Tulane	Diet, weight nad outcomes after breast cacner	Assitant Professor Medicine, WUSM
NCI R25 with salary and effort for mentoring (Brownson PI)							
Current	Hageman, Andrea	2015-	MD	2005	WUSM	Weight loss among women with endometrial cancer	Associate Prof, Gynecologic oncology, OBGYN, WUSM
Past	Lee, Rebecca	2014-16	ScD		Harvard School of Public Health	Explaining Implementation Barriers and Facilitators in A Community-Based Healthy Beverage intervention	Research Associate, Harvard Prevention Research Center, HSPH
Current	Rositch, Anne	2016-	PhD, MSPH		Johns Hopkins Bloomberg SPH	Developing evidence-based strategies for breast cancer control programs in Africa	Assistant Prof, Epidemiology Johns Hopkins Bloomberg SPH

RESEARCH SUPPORT:
Current

2006-17 Breast Cancer Research Foundation (Colditz PI)
Intermediate Markers of Breast Cancer Risk
$250,000

2008-18 1U01 DK082315
Multi Disciplinary Evaluation of Chronic Pelvic Pain
$95,804

2010-20 P30 CA91842 (Eberlein PI)
NCI/Cancer Center Support Grant
The Siteman Cancer Center of Barnes-Jewish Hospital and Washington University School of Medicine
$3,033,601

2010-17 U54 CA153460 (Colditz PI)
The Program for the Elimination of Cancer Disparities (PECaD)
$531,811

2011-17 U54 CA155496 (Colditz PI)
A Multilevel Approach to Energy Balance and Cancer Across the Lifecourse
$1,225,176

2014-17 Leidos Biomedical Research, Inc. (Colditz PI)
Systematic Reviews to Inform Research and Treatment of Multi-Morbidities
$115,418

2015-18 P20 CA192966 (Colditz PI)
Addressing rural cancer health disparities: an SCC-SIUSM partnership
$175,000

TEACHING TITLE AND RESPONSIBILITIES

2000-06 Implementing Prevention, Harvard School of Public Health,
Boston, MA 02115
Course Developer and Lecturer (with Karen Emmons), Department of Epidemiology and Department of Health and Social Behavior
30 Graduate students, 30 hours/year

1992-2006 Cancer Prevention, Harvard School of Public Health,
Boston, MA 02115
Course Developer and Lecturer
Departments of Health and Social Behavior and Epidemiology
35 Graduate students, 80 hours/year

2010- Masters in Population Health Science, Washington University School of Medicine, St. Louis, MO 63110

Course Developer and Lecture
Systematic Reviews and Meta-analysis;
Randomized Controlled Trials,
Development, Validation, and Application of Risk Prediction Models

Department of Surgery
25 Graduate students/192 hours/year

BIBLIOGRAPHY:

Original Reports

1. Colditz GA, Elliott CJP. Workload in rural practice: implications for education and health service structure. Aust Fam Physician 1978;7:571-574.

2. Colditz GA, McGarvey C, Wainwright L. Voluntary vacation attachments to rural general practitioners: experience with preclinical medical students. Aust Fam Physician 1978;7:577-579.

3. Colditz GA, Elliott CJP. Queensland's rural practitioners. Background and motivations. Med J Aust 1978;2:63-65.

4. Colditz GA, Sturgess AD. Remodeling the medical education system: a health education commission. New Doctor 1978;8:48-51.

5. Sullivan JJ, Colditz GA. Keratoacanthoma in a sub-tropical climate. Aust J Dermatol 1979;20:34-37.

6. Colditz GA, Brandon R. Preregistration training of medical graduates in Queensland hospitals, (1977). Med J Aust 1979;2:319-321.

7. Colditz GA, Newble DI. Quality assurance: prospects for Australia. Med J Aust 1979;2:562-564.

8. Colditz GA, Batch J. Student expectations of the medical profession. Aust and New Zealand J of Soc 1979;15:65-68.

9. Colditz GA. My student elective. An Australian in Southampton. Br Med J 1980;1:466-467.

10. Colditz GA, Munro JGC. Voluntary attachments of preclinical medical students to rural practitioners in Queensland. Medical Education 1980;14:130-133.

11. Colditz GA. The students' view of an innovative undergraduate medical course: the first year at the University of Newcastle, NSW. Medical Education 1980;14:320-325.

12. Colditz GA, Munro JGC, Sheehan M. Determination of aims for an undergraduate general practitioner apprenticeship. Medical Education 1980;14:409-412.

13. Wilson DAJ, Colditz GA. Preregistration posts by ballot. Medical Teacher 1980;3:33-35.

14. Colditz GA. The first sixteen weeks of internship. New Doctor 1981;20:34-38.

15. Wilson A, Munro JGC, Colditz GA. Continuing education in general practice: 1 Attitudes of general

practitioners. Med J Aust 1981;2:545-546.

16. Colditz GA, Wilson A, Munro JGC. Continuing education in general practice: 2 Impact of educational activities. Med J Aust 1981;2:610-611.

17. Colditz GA, Sheehan M. Impact of instructional style on development of professional characteristics. Medical Education 1981;16:127-132.

18. Munro JGC, Colditz GA, Wilson A. Continuing medical education for general practitioners: A Queensland study. Aust Fam Physician 1982;10:58-63.

19. Colditz GA. Decline of a caring attitude in medical graduates. Reflections on the impact of undergraduate and early postgraduate training. Aust Fam Physician 1982;11:721-723.

20. Colditz GA. The Australian Health Survey: Implications of reported accidents for medical education. Med J Aust 1983;1:125-127.

21. Colditz GA. Medical Education meeting community needs. Medical Education 1983;17:291-295.

22. Emerson JD, Colditz GA. The use of statistical analysis in the New England Journal of Medicine. N Engl J Med 1983;309:709-713.

23. Oster G, Colditz GA, Kelly N. The economic costs of smoking and the benefits of quitting. Preventive Medicine 1984;13:377-389.

24. Colditz GA, Branch LG, Lipnick RJ, Willett WC, Rosner B, Posner B, Hennekens CH. Increased green and yellow vegetable intake and lowered cancer deaths in an elderly population. Am J Clin Nutr 1985;41:32-36.

25. Colditz GA, Emerson JD. The statistical content of published medical research; some implications for biomedical education. Medical Education 1985;19:248-255.

26. Colditz GA, Branch LG, Lipnick RJ, Willett WC, Rosner B, Posner B, Hennekens CH. Moderate alcohol and decreased cardiovascular mortality in an elderly cohort. Am Heart J 1985;109:886-889.

27. Willett WC, Browne ML, Bain C, Lipnick RJ, Stampfer MJ, Rosner B, Colditz GA, Hennekens CH, Speizer FE. Relative weight and risk of breast cancer among premenopausal women. Am J Epidemiol 1985;122:731-740.

28. Stampfer MJ, Willett WC, Colditz GA, Rosner B, Speizer FE, Hennekens CH. A prospective study of postmenopausal estrogen and coronary heart disease. N Engl J Med 1985;313:1044-1049.

29. Colditz GA, Stampfer MJ, Willett WC, Rosner B, Speizer FE, Hennekens CH. A prospective study of parental history of myocardial infarction and coronary heart disease in women. Am J Epidemiol 1986;123:48-58.

30. Lipnick RJ, Buring JE, Hennekens CH, Rosner B, Willett WC, Stampfer MJ, Bain C, Colditz GA, Peto R, Speizer FE. A prospective cohort study of oral contraceptives and risk of breast cancer. JAMA 1986;255:58-6l.

31. Colditz GA, Tuden RL, Oster G. Rates of venous thrombosis after general surgery: Combined results of randomized clinical trials. Lancet 1986;ii:143-146.

32. Oster G, Huse DM, Delea TE, Colditz GA. The cost-effectiveness of nicotine chewing gum as an adjunct to physician's advice against cigarette smoking. JAMA 1986;256:1315-1318.

33. Colditz GA, Martin P, Stampfer MJ, Willett WC, Rosner B, Hennekens CH, Speizer FE. Validation of questionnaire information on risk factors and disease outcomes in a prospective cohort study of disease in women. Am J Epidemiol 1986;123:894-900.

34. Willett WC, Stampfer MJ, Colditz GA, Rosner B, Hennekens CH, Speizer FE. Dietary fat and risk of breast cancer. N Engl J Med 1987;316:22-28.

35. Colditz GA, Willett WC, Stampfer MJ, Rosner B, Speizer FE, Hennekens CH. Menopause and risk of coronary heart disease in women. N Engl J Med 1987;316:1105-1110.

36. Willett WC, Stampfer MJ, Colditz GA, Rosner B, Hennekens CH, Speizer FE. Moderate alcohol consumption and risk of breast cancer. N Engl J Med 1987;316:1174-1180.

37. Colditz GA, Stampfer MJ, Willett WC, Stason WB, Rosner B, Hennekens CH, Speizer FE. Reproducibility and validity of self-reported menopausal status in a prospective cohort of women. Am J Epidemiol 1987;126:319-325.

38. Oster G, Tuden RL, Colditz GA. A cost-effectiveness analysis of prophylaxis against deep-vein thrombosis in major orthopedic surgery. JAMA 1987;257:203-208.

39. Oster G, Tuden RL, Colditz GA. Prevention of venous thromboembolism after general surgery. Cost-effectiveness analysis of alternative approaches to prophylaxis. Am J Med 1987;82:889-899.

40. Oster G, Huse DM, Delea TE, Savage DD, Colditz GA. Cost effectiveness of labetalol and propranolol in the treatment of hypertension among blacks. J Nat Med Assoc 1987;79:1049-1055.

41. Green A, Willett WC, Colditz GA, Stampfer MJ, Bain C, Rosner B, Hennekens CH, Speizer FE. Use of permanent hair dyes and risk of breast cancer. J Nat Cancer Inst 1987;79:253-257.

42. Colditz GA, Willett WC, Stampfer MJ, Sampson L, Rosner B, Hennekens CH, Speizer FE. The influence of age, relative weight, smoking, and alcohol intake on the reproducibility of a dietary questionnaire. Int J Epidemiol 1987 ;16:392-398.

43. Colditz GA, Willett WC, Stampfer MJ, Rosner B, Speizer FE, Hennekens CH. A prospective study of age at menarche, parity, age at first birth and coronary heart disease. Am J Epidemiol 1987;126:861-870.

44. Willett WC, Green A, Stampfer MJ, Speizer FE, Colditz GA, Rosner B, Monson RR, Stason W, Hennekens CH. Relative and absolute excess risks of coronary heart disease among women who smoke cigarettes. N Engl J Med 1987;317:1303-1309.

45. Hunter DJ, Colditz GA. A bicentennial cohort: monitoring Australia's health through the next half century. Med J Aust 1988;148:22-24.

46. Romieu I, Willett WC, Stampfer MJ, Colditz GA, Sampson L, Rosner B, Hennekens CH, Speizer FE. Energy intake and other determinants of relative weight. Am J Clin Nutr 1988;47:406-412.

47. Colditz GA, Bonita R, Stampfer MJ, Willett WC, Rosner B, Speizer FE, Hennekens CH. Cigarette smoking and risk of stroke in middle-aged women. N Engl J Med 1988;318:937-941.

48. Bain C, Colditz GA, Willett WC, Stampfer MJ, Green A, Bronstein BR, Mihm MC, Rosner B, Hennekens CH, Speizer FE. Self-reports of mole counts and risk of cutaneous malignant melanoma in women: methodological issues and risk of disease. Am J Epidemiol 1988;127:703-712.

49. Hunter DJ, Sampson L, Stampfer MJ, Colditz GA, Rosner B, Willett WC. Variability in portion sizes of commonly consumed foods among a population of U.S. women. Am J Epidemiol 1988;127:1240-1249.

50. Stampfer MJ, Colditz GA, Willett WC, Manson JE, Arky RA, Hennekens CH, Speizer FE. A prospective study of moderate alcohol drinking and risk of diabetes in women. Am J Epidemiol 1988;128:549-558.

51. Stampfer MJ, Colditz GA, Willett WC, Speizer FE, Hennekens CH. A prospective study of moderate alcohol consumption and the risk of coronary disease and stroke in women. N Engl J Med 1988;319:267-273.

52. Colditz GA, Halvorsen KT, Goldhaber SZ. Randomized clinical trials of transdermal nitroglycerine systems for the treatment of angina: a meta-analysis. Am Heart J 1988;116:174-180.

53. Oster G, Delea TE, Colditz GA. Maternal smoking during pregnancy and expenditures on neonatal health care. Am J Preventive Medicine 1988;4:216-219.

54. Colditz GA, Miller JN, Mosteller F. The effect of study design on gain in evaluations of new treatments in Medicine and Surgery. Drug Information Journal 1988;22:343-352.

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8 ways to prevent breast cancer http://www.siteman.wustl.edu/contentpage.aspx?id=7582
8 ways to prevent colon cancer http://www.siteman.wustl.edu/contentpage.aspx?id=7054
8 ways to stay healthy after cancer http://www.siteman.wustl.edu/contentpage.aspx?id=6944

UpToDate – author for more than 10 years

Healthy Diet in Adults (G A Colditz, author)

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2000-2002	Dean for Research Director of the Aab Institute for Biomedical Sciences University of Rochester School of Medicine & Dentistry Rochester, NY
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1990-1995	Associate Professor of Environmental Medicine (Toxicology) and of Pediatrics Department of Environmental Medicine University of Rochester School of Medicine & Dentistry
1984-1990	Assistant Professor of Toxicology Environmental Health Sciences Center Department of Biophysics University of Rochester School of Medicine & Dentistry
1982-1984	Research Associate Division of Toxicology Environmental Health Sciences Center Department of Radiation Biology and Biophysics University of Rochester School of Medicine & Dentistry

EDUCATION

1979-1982	Postdoctoral Fellow Behavioral Toxicology and Pharmacology Department of Radiation Biology and Biophysics University of Rochester School of Medicine & Dentistry Advisors: Drs. Bernard Weiss and Victor G. Laties
1977-1979	Junior Staff Fellow National Center for Toxicological Research Jefferson, Arkansas
1972-1977	Ph.D. University of Minnesota, Minneapolis, MN Major: Experimental Psychology Minor: Pharmacology, Psychopharmacology Dissertation: The effects of chronic lead acetate administration on Fixed Interval performance of rats. Advisor: Dr. Travis Thompson
1971-1972	M.A., with honors Western Michigan University, Kalamazoo, Michigan Major: Experimental Psychology Thesis: The application of the species-specific defense reaction to free Operant avoidance. Advisor: Dr. David O. Lyon
1968-1971	B.S., magna cum laude Western Michigan University Kalamazoo, Michigan Major: Psychology Minor: Biology

NATIONAL AND INTERNATIONAL COMMITTEES

Advisory Committee Member, Report evaluating the Health and Equity Impacts of Policies to Prevent and Respond to Childhood Lead Exposure, Pew Advisory Trust, 2016-present.

Member, Board of Scientific Counselors, Agency for Toxic Substances and Disease Registry, Centers for Disease Control, 2015-present.

Chair, Gulf War and Health, Volume 10: Update of Health Effects of Serving in the Gulf War, Institute of Medicine, 2014-2016.

Chair, External Review Meeting on EPA's Draft Health Effects Documents for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS), 2014

Member, Development of a Case Definition for Chronic Multisymptom Illness, Institute of Medicine, National Academy of Sciences, 2013-2014.

Member, Chemical Assessment Advisory Committee, Science Advisory Board, U.S. Environmental Protection Agency, 2012-present.

Member, Committee on Toxicology, National Academy of Sciences, Washington, D.C., 2011-present.

Member, Review of Pb Air Quality Criteria Document, Clean Air Scientific Advisory Committee, U.S. Environmental Protection Agency, 2011-2013

Chair, Draft Risk Assessment for Trichloroethylene, US EPA Science Advisory Board, 2010-2011.

Chair, Committee on Health Risks of Phthalates and Cumulative Risk Assessment, National Academy of Sciences, National Research Council, 2007-2008.

Chair, US EPA Science Advisory Board, Exposure and Human Health Committee, 2007-2010.

Member, Science Integration in Decision Making, US EPA Science Advisory Board, 2009-present.

Chair, Draft Risk Assessment for Acrylamide, US EPA Science Advisory Board, 2008.

Chair, Current Concepts in Toxicology Committee, Society of Toxicology, July 2008 - 2010

Advisory Committee for Childhood Lead Poisoning Prevention, Centers for Disease Control, Health and Human Services, 2006-2013.

Science Advisory Board, U.S. Environmental Protection Agency, 2003-2010.

Member, Science Strategy Committee, Society of Toxicology, 2006-2007

Chair, Review of the Neurotoxicology Division, ORD, U.S. Environmental Protection Agency, Research Triangle Park, NC, March, 2006.

Clean Air Scientific Advisory Committee Lead Review Panel, Research Triangle Park, NC, Feb-March, 2006 - 2008.

Chair, Draft Risk Assessment of the Potential Human Health Effects Associated with Exposure to Perfluorooctanoic Acid and its Salts, Science Advisory Board, US Environmental Protection Agency, 2004-2005.

National Research Council, National Academy of Sciences, panel on Trichloroethylene, 2004-2005

Executive Committee, Scientific Group on Methodologies for the Safety Evaluation of Chemicals (SGOMSEC), 2003-2006.

Chair, Scientific and Technological Achievement Awards Subcommittee of the Science Advisory Board, U.S. Environmental Protection Agency, 2002-2005.

National Institute of Environmental Health Sciences Advisory Council, NIH, 1996-2001.

Committee Co-Chair and Panel on Gulf War and Health, Institute of Medicine, the National Academy of Science, February 2001-present.

Chair, Search Committee for Director, Neurotoxicology Division, U.S. Environmental Protection Agency, 2001-2002.

Consultant, Food and Drug Administration, National Center for Toxicological Research, Science Advisory Board Subcommittee on the Neurotoxicology Program, Little Rock Arkansas, January, 1998, 2004.

National Academy of Sciences, Committee on Toxicology, 1992-1996.

U.S. Environmental Protection Agency, Subcommittee on Scientific and Technological Achievement Awards, Science Advisory Board, 1993-2004.
Consultant, Food and Drug Administration, National Center for Toxicological Research, Science Advisory Board Subcommittee on the Neurotoxicology Program, Little Rock Arkansas, 1993.

Chair, Search Committee for Head of the Division of Neurotoxicology, Health Effects Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC, September, 2000.

Environmental Protection Agency, Science Advisory Board Committee on Residual Risk Review for Secondary Lead Smelters, Research Triangle Park, NC, March, 2000.

Advisory Board, Environmental Health Foundation, 1995-1998

Committee on Toxicology, Board of Environmental Studies and Toxicology, Commission of Life Sciences, National Research Council, National Academy of Sciences, appointed October, 1993-1996.

Consultant, Science Advisory Board, U.S. Environmental Protection Agency, Washington, D.C., 1993-1994.

World Health Organization, IPCS Task Group Meeting on the Environmental Health Criteria for Inorganic Lead, Brisbane, Australia, February, 1993.

National Institute of Environmental Health Sciences Representative to the ADAMHA Reorganization, 1992-1993.

Member, FIFRA Scientific Advisory Subpanel on Neurotoxicity Test Guidelines, Office of Pesticide Programs, Environmental Protection Agency, Washington, D.C., October, 1987.

Project Advisory Group, U.S. Army Medical Research and Development Command, Fort Dietrich, MD, 1984-1985.

NATIONAL AND INTERNATIONAL REVIEW PANELS

Reviewer, NTP Low Level Lead Effects Monograph, National Institute of Environmental Health Sciences, Research Triangle Park, NC, November 2011.

Reviewer, Superfund Grant Review Committee, National Institute of Environmental Health Sciences, Research Triangle Park, NC, October, 2011.

Chair, March of Dimes Review Committee B, March of Dimes, 2011-2014.

Chair, Neurotoxicology and Alcohol Review Panel, Center for Scientific Review, NIH, Washington, D.C., 2008-2010

Chair, Review Panel for Centers for Neurodegeneration Science, NIEHS, February 2008.

Science Advisory Board, US Environmental Protection Agency, SAB Committee for Science Integration for Decision Making, 2009-2010

Member, March of Dimes Review Committee, 2008-2014

BCDN-4 Committee, Center for Scientific Review, NIH, October, 2002 – 2006

NIH, NCRR Institutional Clinical and Translational Sciences Award Review Panel, July 2006, 2007.

NIH, NIEHS Special Emphasis Panel for Outstanding New Environmental Scientist RFA, March, 2006; March 2007.

Clean Air Scientific Advisory Committee, All Ages Lead Model Review Panel, Science Advisory Board, U.S. Environmental Protection Agency, Washington, D.C., 2005

Federal Insecticide Fungicide and Rodenticide Act Panel on Dimethoate, US Environmental Protection Agency, 2004.

National Association for Autism Research Review Panel, May 2003.

Chair, United States Army Research and Materiel Command (USAMRMC), and the Military Operational Medicine Research Program, (MOMRP) Force Health Protection Program Review, March 2003.

Gulf War Phase 3 Panel, National Academy of Sciences, Institute of Medicine, 2003-present.

Reviewer, Michael J. Fox Foundation, October, 2002; April, 2006.

Ad-Hoc Reviewer, NSD-B Committee, National Institute of Neurological Diseases and Stroke, NIH, October, 2002.

Reviewer, Independent Assessment of the Environmental Management Science Program Portfolio of Projects, Department of Energy, July, 2002.

National Institute of Environmental Health Sciences, Review of the Director, October, 2000.

National Institute of Environmental Health Sciences, Division of Intramural Research Program Reviewer, September 1998.

Member, Gulf War Grants Review Panel, U.S. Army, March, 1998; June, 1999.

Environmental Health Sciences Review Committee, National Institute of Environmental Health Sciences, 1985-1989.

Reviewer, Toxicological Profile of Lead, Agency for Toxic Substances and Disease Registry, Centers for Disease Control, 1989, 1997,1999.

Reviewer, Human Health Effects of Complex Exposure Patterns, U.S. Environmental Protection Agency, May 1997.

Ad-Hoc Site Reviewer, National Center for Research Resources, NIH, November, 1994.

Ad-Hoc Reviewer, Environmental Health Sciences Review Committee, NIEHS, 1990, 1991, 1992, 1993, 1994, 1995.

Superfund Hazardous Substances Basic Research Program Review Committee National Institute of Environmental Health Sciences, July, 1987; October, 1991; October, 1994.

Ad Hoc Reviewer, Toxicology Study Section, NIH, June, 1988; February, 1990.

Ad Hoc Reviewer, Human Development and Aging Study Section, NIH, 1991.

Ad Hoc Reviewer, Radiation Study Section, NIH, May, 1994; November, 1994; June, 1995.

Ad Hoc Reviewer, Natural Sciences and Engineering Research Council of Canada, July, 1994

Ad Hoc Reviewer, National Institute of Dental Research, March, 1995.

Outside Opinion, Experimental Therapeutics Study Section-2, NCI, October, 1991

Special Review Committee for Center Development Grants, National Institute of Environmental Health Sciences, November, 1992; October, 1993; December, 1994.

Ad Hoc Reviewer, Physiological Sciences Study Section, NIH, July, 1993

Reviewer, National Academy of Sciences, Institute of Medicine, “Gulf War and Health: Volume I. Depleted Uranium, Pyridostigmine Bromide, Sarin, Vaccines”, June, 2000-2002.

Reviewer, American Institute of Biological Sciences Panel on US Army’s Research Program (Step N0 Entitled “Chronic Effects of Low Dose CW Agent Exposure, June, 2000.

Board of Scientific Counselors, National Institute of Environmental Health Sciences, Review of the Intramural Program Laboratory of Pharmacology and Physiology, Subcommittee Member, May, 2000.

Reviewer, Department of Defense, Review of the USACHPPM Report on Depleted Uranium Exposure and Risk Assessment for Gulf War Illness, February, 2000.

Reviewer, Agency for Toxic Substances and Disease Registry, Centers for Disease Control, Toxicological Profile of Lead, September, 1992.

Ad-Hoc Reviewer, Report on Chemical Toxicity and Aging, National Research Council/National Academy of Sciences, 1987.

INVITED PANELS AND WORKSHOPS

Invited Participant, *A 2020 Vision & Blue Print For Protecting Our Children from Environmental Hazards,* Children's Environmental Health Network Workshop, Racine Wisconsin, Oct, 2014.

Invited Participant, Chemical Mixtures Workshop, National Institute of Environmental Health Sciences, Research Triangle Park, NC, September 2011.

Invited Participant, National Institute of Environmental Health Sciences Strategic Planning Workshop, Research Triangle Park, NC, July 2011.

Invited Panel Reviewer, Air Quality Criteria Review for Pb, U.S. Environmental Protection Agency, Washington, D.C., July 2011.

Invited Speaker, International Neurotoxicology Meeting, Mendoza Argentina, April, 2011.

Invited Speaker, Fetal Basis of Disease Symposium, Society of Toxicology, March, 2011, Washington, D.C.

U.S. Senate Briefing on Cumulative Risk Assessment, Washington D.C., February, 2011.

Invited Speaker, U.S. Environmental Protection Agency, Human Health Risk Assessment Colloquium preparation, September 2010.

Invited Participant, NAS Workshop "Computational Toxicology: From Data to Analyses to Applications", Washington, D.C. September 2009

Co-Chair and Organizer, International Neurotoxicology Conference, University of Rochester Medical School, Rochester, NY, October, 2008.

Organizer and Co-Chair of the Modifiers of Chemical Toxicity: Implications for Human Health Risk Assessment Workshop, a Collaboration of the Joint Research Center (European Commission, Ispra, Italy) and the Environmental and Occupational Health Sciences Institute, Poros, Greece, 2005.

Invited Member, Steering Committee on Developmental Neurotoxicity Test Guidelines, International Life Sciences Institute, July, 1999. Member, Working Committee on Developmental Neurotoxicity Test Guidelines, 1999-2000.

Invited Participant, NIH Behavioral and Social Sciences Review Integration Panel I, February 1998

Chair, White Paper Neurotoxicology Team, sponsored by the Chemical Industry Institute, October-November, 1997.

Invited Participant, Workshop on "Mercury Vapor Toxicology Update" sponsored by the Food and Drug Administration, June, 1996.

Invited Co-Chair, Workshop on Human Variability, sponsored by the International Life Sciences Risk Institute and the Environmental Protection Agency, October, 1995.

Invited Participant, Workshop on Developmental Neurotoxicology, sponsored by the National Institute of Environmental Health Sciences, Research Triangle Park, NC, September, 1995.

Invited Participant, Environmental Health Summit sponsored by the Environmental Health Foundation, Tucson, Arizona, June, 1995.

Organizer and Participant National Academy of Sciences, Committee on Toxicology, Annual Workshop, "Behavioral Toxicology and Risk Assessment, Irvine, CA, January, 1995.

Invited Participant, Scientific Group on Methodologies for the Safety Evaluation of Chemicals (SGOMSEC), June, 1994.

Invited Participant, National Working Conference on Research Frontiers in Behavioral Medicine, NIMH, Chantilly VA, July, 1993.

Symposia Chair and Speaker, Biochemical and Neurochemical Bases of Behavioral Toxicity, Society of Toxicology Annual Meeting, New Orleans, March, 1993.

Continuing Education Course Chair and Speaker, Advanced Behavioral and Neurophysiological Testing for Neurotoxicology, Society of Toxicology Annual Meeting, New Orleans, March, 1993.

Chair, Symposium on Behavioral Toxicology, National Institute of Environmental Health Sciences Center Directors Meeting, Iowa City, Iowa, November, 1992.

Program Co-Chair, Ninth International Neurotoxicology Conference, "New Dimensions of Lead Neurotoxicity: Redefining Mechanisms and Effects", sponsored by NIEHS, EPA, CDC, FDA and Johnson and Johnson, Little Rock, Arkansas, October, 1991.

Invited Speaker and Co-Chair, Seventh International Neurotoxicology Conference, "Neurotoxicology and Risk Assessment", Little Rock, Arkansas, September, 1989.

Invited Participant, International Conference, "Lead in Bone: Implications for Dosimetry and Toxicology", sponsored by the National Institute for Environmental Health Sciences, Baltimore, MD, March, 1989.

Invited Co-Chair, Workshop on Developmental Neurotoxicity, sponsored by the Environmental Protection Agency and the National Institute on Drug Abuse, Williamsburg, VA, April, 1989.

Invited Conference Participant, "Behavioral Aspects of Neurotoxicity: Critical Issues Workshop" sponsored by the National Research Council, National Academy of Sciences (National Committee for the International Union of Psychological Science), Canberra, Australia, August, 1988.

Invited Participant, Science of Toxicology in the Future, sponsored by the Society of Toxicology, January, 1988.

Invited Participant, "Risk Assessment Workshop: Reproductive and Developmental Toxicity", co-sponsored by Risk Science Research Center, AIHC, ATSDR, CDC, EPA, NCTR, NIEHS and NCTR Associated Universities, September, 1987.

Invited Participant, Interdivisional Task Force on Developmental Behavioral Toxicology of Childhood and Adolescence, American Psychological Association, Lincoln, Nebraska, November, 1987.

HONORS AND AWARDS

2017 Recipient of the Distinguished Neurotoxicologist Award from the Society of Toxicology (SOT), Neurotoxicology Specialty Section (NTSS). Presented at the SOT 56th Annual Meeting, Baltimore, MD, March 2017.

2009 Recipient of the Life-Time Achievement Award from the Annual International Conference on Soils, Sediments, Water and Energy, University of Massachusetts at Amherst, Amherst, MA, Oct, 2009.

2001 Honoree, Fourth Annual Women in Science Symposium, Joint Programs of University of Medicine and Dentistry of New Jersey and

Rutgers University, sponsored by The Environmental and Occupational Health Sciences Institute, Douglass College Project for Rutgers Women in Math, Science and Engineering, Joint Graduate Program in Toxicology, and the Joint Postdoctoral Program in Exposure Assessment, Piscataway, NJ.

1982-1985	National Institute of Environmental Health Sciences New Investigator Award
1979-1982	National Research Service Award Postdoctoral Fellowship
1969	Alpha Lambda Delta, honorary sorority

UNIVERSITY ADVISORY BOARDS

Consultant, Texas Southern University Minority Center for Toxicological Research, Houston, Texas, 1992-1995.

Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey

Chair, UMDNJ-Robert Wood Johnson Medical School, Department of Molecular Genetics, Microbiology and Immunology Review Committee, October, 2003-present.

Member, UMDNJ-Robert Wood Johnson Medical School, The Cancer Institute of New Jersey, Internal Scientific Advisory Board, December, 2003-present.

University of Rochester Medical School

Animal Care and Use Committee, 1999-2000
Vivarium Planning Committee, 1996-1997
Neuroscience Speaker Selection Committee, 1990-1991
Neuroscience Graduate Admissions, 1988-present; Chair, 1991-1996
Library Committee, Department of Biophysics, 1987-1988
Animal Resources Advisory Committee, 1991-1992
Toxicology Graduate Admissions Committee, 1991-2000
Long-Range Planning for the Vivarium & Transgenic Animal Facilities, 1993-1994
Biostatistics Chair Search Committee, 1994
Internal Advisory Committee, Alzheimer's Disease Center, 1998-2000

CENTER and TRAINING GRANT ADVISORY BOARDS

UC Davis Environmental Health Sciences Center
Mt. Sinai Environmental Health Sciences Center
University of Cincinnati Toxicology Training Program
Harvard University Children's Environmental Health Center
New Mexico NIEHS Environmental Health Sciences Center
University of Miami NIEHS Environmental Health Sciences Center
UMDNJ/Rutgers NIEHS Children's Environmental Health Center
John Hopkins NIEHS Environmental Health Sciences Center

Columbia University NIEHS Environmental Health Sciences Center
SUNY Stony Brook proposed NIEHS Environmental Health Sciences Center
University of Texas at Austin NIEHS Environmental Health Sciences Center
Penn State College of Medicine Dept. of Pharmacology NIEHS Training Grant
"Molecular Basis of Cellular Damage and Toxicology"

EDITORIAL BOARDS

- Pediatric Research, Associate Editor, 2016-present
- Environmental Health Perspectives, 2003- present
- NeuroToxicology - Associate Editor, 1987-present
- Fundamental and Applied Toxicology, 1987-1993, Associate Editor, 1993-1997
- Toxicological Sciences - Associate Editor, 1997-1999
- Toxicology and Applied Pharmacology, Associate Editor, 2012-present
- Neurobehavioral Toxicology and Teratology, editorial board, 1984-2005
- Toxicology and Applied Pharmacology, editorial board, 1993-1998
- American Journal of Mental Retardation, editorial board 1993-2005
- Toxicology, editorial board, 1994-present
- Open Toxicology Journal, editorial board, 2008-present

AD HOC EDITORIAL REVIEWS

New England Journal of Medicine
Proceedings of the National Academy of Science
Journal of Neuroscience
Journal of Neurochemistry
Journal of Pharmacology and Experimental Therapeutics
Behavioural Pharmacology
Toxicology, Clinical Toxicology
Pharmacology and Toxicology
Chemosphere
Human and Experimental Toxicology
American Journal of Physiology
Toxicology and Applied Pharmacology
Pharmacology, Biochemistry and Behavior
Psychopharmacology
Environmental Health Perspectives
Brain Research
Brain Research Bulletin
Neuropharmacology
Neurology
Toxicology
American Journal of Mental Deficiency
Biochemical Toxicology
Environmental Research

Biological Trace Element Research
Chemico-Biological Interactions
Aggressive Behavior
Fundamental and Applied Toxicology
Behavioral Neuroscience
Biology of the Neonate
Life Sciences

ELECTED OFFICES HELD IN PROFESSIONAL SOCIETIES

Society of Toxicology
Awards Committee, 2004-2006, Chair, 2008-2010
Education Committee, 1987-1990
Nominating Committee, 1990-1991, 1998-1999

Society of Toxicology, Neurotoxicology Specialty Section
Councilor, 1986-1988
Secretary-Treasurer, 1988-1990
Vice-President Elect, 1990-1991
Vice-President, 1991-1992
President, 1992-1993

Society of Toxicology, Metals Specialty Section
Councilor, 1996-1998

Behavioral Toxicology Society
Secretary-Treasurer, 1983-1986
President, 1992-1994

American Psychological Association
Member-at-Large, Division 28 Executive Committee
Chair, Behavioral Toxicology Committee, Division 28

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

Society for Neuroscience
Society of Toxicology
Behavioral Toxicology Society
Behavioral Pharmacology Society
American Psychological Association (Fellow, Division 28)
Society for the Stimulus Properties of Drugs

CURRENT RESEARCH SUPPORT

NIH RO1 ES025541-01 (Cory-Slechta, PI), 08/01/2015-6/30/2020, Developmental Exposures to Inhaled Air Pollution and the Autism Phenotype in Mice

NIH R01 ES021534-01 (Cory-Slechta; Schneider, J.S. multi-PIs), 12/1/12-11/30/17, CNS Glucocorticoid Epigenetic Mechanisms of Pb and Prenatal Stress Effects

P30 ES001247 (Cory-Slechta; P.I and Director of the Career Development Core; Director, Neurobehavioral Facility Core), 4/1/2015 – 3/31/2020;
Environmental Agents as Modulators of Diseases Processes

R01 ES025721-01A1 (Rand, PI; D. Cory-Slechta, Co-Investigator), 4/1/16-3/31/21, Methylmercury Toxicity in Neuromuscular Development

PRIOR RESEARCH SUPPORT

R01 ES08442 (Davidson, PI; D. Cory-Slechta, Co-Investigator), 9/17/10 - 4/30/16 Methylmercury Effects on Adolescent Development

NIH 2RO1 ES006189 (Guilarte), 06/01/10-6/30/2015, NMDA Receptor function in lead neurotoxicity, Co-investigator

U.S. Environmental Protection Agency RD 83457801-0, Effects of Metals and Stress on the Central Nervous System, 10/01/2010 to 9/30/2014, D. A. Cory-Slechta, P.I.

NIEHS R21 ES019105 CNS Toxicity of Ambient Air Pollution: Postnatal Exposure to Ultrafine Particles. 08/01/2010-07/31/2012 D.A. Cory-Slechta, P.I.

NIEHS – R01 ES012712 – Pb-Environmental Stress Interactions: Re-evaluating Risk. April 1, 2005 to March 31, 2011. D.A. Cory-Slechta, P.I.

NIEHS – 2RO1 ES008442 Methyl Mercury Effects on Adolescent Development, P. Davidson, P.I, University of Rochester School of Medicine and Dentistry, Aug 1, 1997 to May 31, 2010, 10% effort, D.A. Cory-Slechta.

NIEHS - 1R21ES015135-01 Lead Exposure, HPA Axis Dysfunction, and Blood Pressure: Hypertension Risk, N. Fiedler, P.I., Robert Wood Johnson Medical School, Sept 22, 2006 to Aug 31, 2009, D.A. Cory-Slechta, 10% effort.

NIEHS R01 ES016357 Developmental Ah Receptor Activity in the CNS: Neurogenesis and Neurotoxicity, 03/12/09 – 02/28/2014, Co-Investigator .6 calendar months

NIEHS R01 ES015991 Mechanisms of pesticide-induced neurobehavioral deficits Relevance to ADHD (J. Richardson, PI), 7/14/08-6/30/2012, D. Cory-Slechta, Co-Investigator, .6 calendar months

NIEHS 2RO1 ES006189 NMDA Receptor function in lead neurotoxicity (T. Guilarte, PI), 06/01/10-6/30/2015, D. Cory-Slechta, Co-investigator

The major goal of this project is to investigate the role of the NMDA receptor complex in lead-induced impairments in synaptic plasticity and learning.

NIEHS – P30 ES05022 Research Center in Environmental Health Sciences, University of Medicine and Dentistry of New Jersey, D.A. Cory-Slechta, P.I. March 1, 2006 to August 31, 2007.

NIEHS- R0lES05017 - Behavioral Toxicity of Lead: A Pharmacological Analysis. 4/01/2000-03/31/2005. D.A. Cory-Slechta, P.I.

NIEHS – R01 ES10791 – Combined Agrichemical Exposures and Parkinson's Disease, July 1, 2000 to June 30, 2005. D.A. Cory-Slechta, P.I.

DAMD 12-98-1-8628 (U.S. Army) – A Murine Model of Genetic and Environmental Neurotoxicant Action. September 1, 1998 – August 31, 2003. E. Richfield, P.I., D.A. Cory-Slechta, 10% effort. Total costs $1,661,254.

NIEHS - P30ES01247 – Environmental Agents as Modulators of Human Disease and Dysfunction. May 1, 2000 - April 30, 2005. D.A. Cory-Slechta, P.I., Center Grant. Annual direct costs, $1,000,000.

NIEHS - R01ES05903 - Behavioral Toxicity of Lead: Role of the NMDA Receptor. April 1, 1998-March 31, 2003. D.A. Cory-Slechta, P.I. First year direct costs $224,622.

NIEHS - RO1ES08388 - Neurobehavioral Effects of Low-level Lead Exposure. Dec. 1 1996-November 31, 2001. B. Lanphear, P.I., D.A. Cory-Slechta, 10% effort. First year direct costs $384,973.

NIEHS – RO1ES09391 – Environmental Neurotoxicant Genetic Action: A Murine Model. April 1, 1998 – March 31, 2003. H. Federoff, P.I., D.A. Cory-Slechta, 10% effort. First year direct costs $263,001.

TEACHING RESPONSIBILITIES

University of Rochester School of Medicine and Dentistry

Program Administration
Co-Director, Interdepartmental Program in Neuroscience, 1997-1999

Chair, Admissions and Recruitment Committee, Interdepartmental Ph.D. Program in Neuroscience, 1991-1997.

Admissions and Curriculum Committee, Toxicology Ph.D. Program, 1991-2000; 2010-present

Courses

Toxicology 521	Lecturer
Toxicology 522	Toxicology Core Course, Head of Neurotoxicology Component and Lecturer
Toxicology 523	Elective Seminar "Behavioral Pharmacology and Toxicology"
Neuroscience 541	Course "Principles of Behavior Analysis"
Neuroscience 500	Neuroscience Core Course, Section on Behavior
Neuroscience 532	Behavioral Neuroscience
Neuro/Psych 243	Neurochemical Foundations of Behavior

Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey

ECM I	Environmental Health and Toxicology Lecturer
ECMII	Pesticides: Risks vs. Benefits, Health vs. Disease, Lecturer
Gen Tox II	Behavioral Toxicology Lecturer

GRADUATE STUDENT TRAINING

PH.D. STUDENTS (Primary Mentor)

Dan Widzowski 1987-1993	Toxicology pre-doctoral student, Ph.D. advisor Current position: Asst. Prof., Indiana University of Pennsylvania
Christina (Zuch) deZafra 1993-1998	Toxicology predoctoral student, Ph.D. advisor Current position: Principal Scientist, Amgen, Inc.
Scott Ng-Evans 1995-2000	Neuroscience predoctoral student, Ph.D. Thesis Advisor Present position: Research Engineer, Univ. of Wash.

Mona Thiruchelvam 1996-2001	Neuroscience predoctoral student, Ph.D. advisor Present position: Unknown
Dan O'Mara 1998-1999	Toxicology predoctoral student, Ph.D. advisor Principal Quality Engineer, iuvo BioScience
Ruth Reeves 2000-2003	Toxicology predoctoral student, Ph.D. advisor Current position: Director, Toxicology, Shire **Pharmaceuticals**
Michele Taylor 2003-2007	Toxicology predoctoral student, Ph.D. advisor Current position: Neurotoxicologist, EPA
Joe Frasca 2008-2012	Toxicology predoctoral student, Ph.D. advisor Current position: Toxicologist at Huntsman, Corporation, Woodlands, TX
Josh Allen 2008-2013	Toxicology predoctoral student, Ph.D. advisor Current position: Research Scientist/Study Director, Battelle
Kian Merchant-Borna 2009-2011	Toxicology predoctoral student, Ph.D. advisor Current position: Research Manager, Dept. of Emergency Medicine, URMC
Carrie Klocke 2014-present	Toxicology predoctoral student, Ph.D. advisor
Keith Morris-Schaffer 2014-present	Toxicology predoctoral student, Ph.D. advisor

POST-DOCTORAL FELLOWS (Primary Mentor)

Jeff Cohn 1989-1992	Toxicology postdoctoral fellow Toxicology Training Grant
Becky Brockel 1995-1997	Toxicology postdoctoral fellow Last known position: Research Scientist, AstraZeneca Pharmaceuticals
Veronica Rodriguez 1999-2000 2002-2005	 Fulbright Scholar (UR) Postdoctoral Fellow (UR and Rutgers University)

	Current Position: Associate Professor, Department of Cognitive and Behavioral Neurology, Institute of Neurobiology—National Autonomous University of Mexico
Miriam Virgolini 1999-2006	Postdoctoral Fellow Current Position: Associate Professor and Investigator, Pharmacology, National University of Cordoba, Argentina
Alba Rossi-George 2006-2007	Postdoctoral Fellow, Rutgers University Toxicology Current Position: Assistant Research Professor, Rutgers School of Pharmacy
Marissa Sobolewski 2013-present	Postdoctoral Fellow Toxicology

M.S. STUDENTS (Primary Mentor)

Shane Johnson 1989-1993	Neuroscience/Toxicology M.S. student thesis advisor
Robert Fox 1991-1993	Neuroscience M.S. student Current position: Senior Systems Analyst/Programmer, DaVinci Discovery Center of Science and Technology
Calvin Brown 1993	Master's Student in Industrial Hygiene
Gayle Chiralco 1993	Master's Student in Industrial Hygiene
Karen Kostusiak 1997	Master's Student in Industrial Hygiene, thesis advisor

PH.D. ROTATION STUDENTS

Dana Selley 1988	Pharmacology pre-doctoral student, laboratory rotation
Gary Samoriski 1990	Neuroscience pre-doctoral fellow, laboratory rotation
Jodi Paar 1990-1991	Program in Biology and Medicine Ph.D. student, laboratory rotation

Robert Angell 1994	Neuroscience predoctoral student laboratory rotation
Russell Ferland 1994	Neuroscience predoctoral student laboratory rotation
Candace Flaugher 1994	Toxicology predoctoral student laboratory rotation
Rod Pazmino 1995	Neuroscience predoctoral student laboratory rotation
Carissa Filbrandt 1999	Toxicology predoctoral student Laboratory rotation
Kitty Wu 2000	Neuroscience predoctoral student Laboratory rotation
Doug Short 2000	Toxicology predoctoral student, Ph.D. Co-advisor Laboratory rotation
Pheona Radcliffe 2000	Toxicology predoctoral student Laboratory rotation
Donna Lee 2001	Toxicology predoctoral student Laboratory rotation
Jay Pennel 2002	Toxicology predoctoral student Laboratory rotation
Sarah Ward 2003	Neuroscience predoctoral student Laboratory rotation
John Norman 2003	Toxicology predoctoral student Laboratory rotation
Michele Saul 2008	Neuroscience predoctoral student Laboratory rotation
Lisa Prince 2013	Toxicology predoctoral student Laboratory rotation
Becca Rausch	Neuroscience predoctoral student

2013	Laboratory rotation
Michael Rudy	Toxicology predoctoral student
2014	Laboratory rotation
Brian Palmer	Toxicology predoctoral student
2015	Laboratory rotation
Elizabeth Saionz	M.D. Ph.D. student
2015	Laboratory rotation
Candace Wong	Toxicology predoctoral student
2016	Laboratory rotation
Denise Herr	Toxicology predoctoral student
2016	Laboratory rotation
Kadijah Abston	Toxicology predoctoral student
2017	Laboratory rotation

PH.D. THESIS COMMITTEE MEMBERSHIP

Lisa Shemancik	Toxicology pre-doctoral student, Ph.D.
1991-1994	committee member
Mary Richardson	Toxicology predoctoral student, Ph.D.
1993-1994	committee member
Jay McLaughlin	Neuroscience predoctoral student
1996-1999	Ph.D. thesis committee member
Andrew Brooks	Microbiology and Immunology predoctoral student
1996-1999	Ph.D. thesis committee member
Cheryl Osterhout	Pharmacology and Physiology predoctoral student
2000	Ph.D. thesis committee member

OTHER TRAINEES

Beth Kreuger	Toxicology Master's degree student,
1992	committee member
Yvonne Dudak	Toxicology training grant medical student

1991	summer fellow
Apryl McNeil 1991	Strong Children's Research Center (Pediatrics) summer medical student fellow
Marsha Nortz 1992	Undergraduate Neuroscience deKiewiet summer fellow
Iddil Bekirov 1992	Undergraduate Neuroscience student, special project
Scott Ng-Evans 1993	Undergraduate Neuroscience deKiewiet summer fellow
John Inglefield 1993	Chair, Ph.D. Committee Neurobiology and Anatomy
Jim Carleo 1994	Medical Student summer fellow
Tsung-I Peng 1994	Chair, Ph.D. committee Graduate Program in Neuroscience
Run Yu 1997	Chair, Ph.D. Committee Pharmacology Ph.D. Program

RESEARCH GOALS: Environmental Neurotoxicants as Risk Factors for Behavioral Disorders and Neurodegenerative Diseases

This laboratory focuses on understanding the contribution of environmental chemical exposures to human diseases and disorders of the nervous system with a goal of evaluating human health risks and determination of effective preventive and mitigation strategies. Studies increasingly focus on multi-hit models based on the assertion that multiple concurrent environmental and host stressors operating at different target sites of a neurochemical system will enhance vulnerability by compromising the operation of homeostatic repair mechanisms. Such models are also consistent with the multiplicity of risk factors sustained by humans. A particular focus has been on brain development and behavioral consequences.

i) Developmental air pollution exposure as a risk factor for neurodevelopmental disorders

In a series of studies, we have observed that exposures of mice during early postnatal development (equivalent to the human third trimester) to ambient concentrated ultrafine particle air pollution leads to a phenotype consistent with autism

spectrum disorder (ASD), and that is, like ASD, observed preferentially in males. Consequences of these exposures, which persist throughout life, have included impaired development of white matter tracts in brain, ventriculomegaly, glial inflammation, glutamate/GABA imbalance and repetitive behaviors. Planned studies include defining critical periods of exposure and particle characteristics that contribute to the phenotype, mechanisms of male vulnerability and translation to human studies of air pollution and ASD.

ii) Epigenetic Mechanisms of the Effects of Lead Exposure and Prenatal Stress:

Elevated exposures to lead (Pb) remain a worldwide environmental health problem. Although primary prevention remains the best approach to eliminating such problems, behavioral interventions may be useful in mitigating this neurotoxicity. In an attempt to begin to ascertain its mechanisms for developmental neurotoxicity, epigenetic profiles are being examined in response to lead. These studies focus on potential epigenetic mechanisms as they offer an opportunity for reversal of such effects. In these studies, it will be possible to determine what specific behavioral experiences can erase the epigenetic profiles produced by Pb as well as its neurotoxicity.

The first of our studies have focused on changes in frontal cortex and hippocampus, and have included both post translational histone modifications and DNA methylation changes. The time course of the trajectory of such epigenetic changes in response to Pb has been examined from embryonic to adult time points. Importantly, the epigenetic alterations produced by Pb are significantly modified by the type of behavioral experiences that mice are subsequently exposed to, i.e., positive vs. negative behavioral experience. Current studies are attempting to examine which such altered epigenetic marks are particularly critical to the behavioral alterations and whether such behavioral experiences can restore epigenetic profiles to non-Pb exposed conditions.

iii) Combined effects of Metals and Stress:

The fact that the highest Pb levels in the U.S. occur in low socioeconomic status (SES) children and that both stress hormones (via activation of the hypothalamic-pituitary-adrenal (HPA) axis) and Pb ultimately target the mesocorticolimbic dopamine system led us to investigate a multi-hit model of combined Pb and stress. These studies have demonstrated that: 1) stress can enhance Pb neurotoxicity, 2) Pb exposures permanently alter HPA axis function, resulting in a hypercortisolism, and 3) effects are frequently gender specific. Further, Pb-stress interactions are not limited to early development: even Pb exposures initiated postweaning alter basal corticosterone and stress responsivity. Importantly, altered HPA axis function may serve as a mechanism for the behavioral and catecholamine neurotoxicity associated with Pb, as well as for the increased incidence of disease and dysfunctions (cardiovascular disease, hypertension, obesity, diabetes, immune deficiencies and metabolic syndrome) associated with low SES and with Pb exposures in humans. Towards that end, translation of these findings to human populations is being examined in occupationally Pb-exposed workers, with assessment of HPA axis function and stress responsivity.

The permanent consequences of maternal only Pb exposure suggest that Pb screening programs should include pregnant women, and that stress should be considered as an additional risk. Pb+stress effects observed in the absence of either alone raises questions about the capacity of current risk assessment methods to adequately identify human health risks.

We have now extended these observations to show similar enhancement of the toxicity of developmental exposures to methylmercury and to arsenic with prenatal stress. In addition, these studies demonstrate an interactive effect of early behavioral experience in modifying the effects of lead exposure

iv) Pesticide exposures as risk factors for the Parkinson's disease (PD) phenotype.

Humans are exposed to multiple pesticides, many classes of which affect dopaminergic systems of the brain. Our laboratory first developed a young adult multi-hit mouse model of the PD phenotype using combined exposures to the herbicide paraquat (PQ) and the fungicide maneb (MB), both of which have dopaminergic effects, but act through different mechanisms. This resulted in an environmental Parkinsonism characterized by a selective neurotoxicity to the nigrostriatal dopamine system that, like Parkinson's disease, is both progressive and irreversible. These studies have served as a major stimulus for both animal and epidemiological studies evaluating the role of environmental exposures and risk factors in PD.

Our subsequent studies demonstrated that PQ+MB effects are enhanced by aging and by genetic background (over-expression of human mutant alpha-synuclein, a genetic basis for one form of familial PD), are more pronounced in males than in females, as is the disease, are associated with oxidative stress, and prevented by over-expression of the antioxidant enzymes superoxide dismutase and glutathione peroxidase. Ongoing studies indicate that non-hormonal estrogen analogs likewise confer protection against the phenotype and may provide potential therapeutic applications.

Developmental exposures enhanced the effects of exposures imposed during adulthood to these pesticides. A gestational only exposure to maneb alone markedly enhanced vulnerability to paraquat administered in adulthood, despite the lack of common mechanisms or of any structural similarity of these pesticides. Collectively, these findings, indicative of cumulative neurotoxicity across the life span, raise significant questions about the adequacy of current methods for defining human health risks.

INVITED PRESENTATIONS

Invited Speaker, Developmental Neurotoxicology Society, Symposium on Systematic Evaluations of Mechanistic Data for Developmental Neurotoxicity Outcomes, San Antonio, June, 2016.

Invited Speaker, Mt. Sinai Medical School, Ignoring Cumulative Neurotoxicity May Undermine Public Health Protection: Enhanced and Sex-Dependent Neurotoxicity of Combined Exposures to Metals and Stress, May, 2016.

Invited B.F. Skinner Lecturer, Association for Behavior Analysis, The Cognitive Consequences of Children's Exposure to Lead Revealed by Behavior Analysis, Chicago, May, 2016.

Invited Speaker, Undergraduate Education Program, Society of Toxicology, Does Air Pollution Exposure Contribute to the Etiology of Neurodevelopmental Disorders?, Annual meeting of the Society of Toxicology, New Orleans, March, 2016.

Invited Speaker, Workshop on Epigenetics and Cumulative Risk, U.S. Environmental Protection Agency, Interactions Between Lead and Stress and Associated Epigenetic Changes, August, 2016

Invited Speaker, International Neurotoxicology Association, Montreal, CA, June 2015. Developmental Neurotoxicity of Inhaled Ultrafine Particle Air Pollution.

Invited Speaker, Workshop on Silent Neurotoxicity, Society of Toxicology, San Diego, CA, Stress-Induced Enhancement and Unmasking of Adverse Effects of Neurotoxic Metals, March, 2015.

Invited Speaker, NIEHS Center for Urban Response to Environmental Stressors, Wayne State University, Nov. 2014.

Invited Speaker, PPTOX IV, Stress and the Fetal Basis of Adult Disease, Boston, MA, Oct, 2014.

Invited Speaker, International Society for Exposure Science, Combined Effects of Neurotoxic Metals and Stress, Cincinnati, OH, Oct. 2014.

Invited Speaker, University of Southern California, Developmental Neurotoxicity of Inhaled Ultrafine Particle Air Pollution, Los Angeles, CA, Sept. 2014.

Invited Speaker, Ricardo Miledi Neuroscience Training Course, Pesticides and Parkinson's disease, Mexico, Aug. 2014

Invited Speaker, Neurobehavioral Teratology Society, Unmasking Silent Toxicity following Developmental Exposure to Environmental Toxicants, Seattle WA, June 2014.

Symposium Organizer and Speaker, Air Pollution and Brain, Central Nervous system Consequences of Developmental Exposure to Air Pollution, AAAS Meeting, Chicago, IL, Feb 2014.

Invited Speaker, Neurobehavioral Teratology Society, Cumulative Effects of Metals and Stress, Tucson AZ, June 2013.

Invited Speaker, California Environmental Protection Agency, Cumulative Risk Workshop, Modifying Impact of Early behavioral experiences on the Trajectory of Neurochemical Changes Produced by Lead and or Prenatal Stress, Sacramento, CA, January, 2013.

Invited Participant, Cumulative Risk Workshop, U.S. Environmental Protection Agency, Research Triangle Park, NC, November, 2012.

Invited Speaker, Children's Environmental Health Network Meeting, San Francisco, May 2012. Modifying Impact of Early behavioral experiences on the Trajectory of Neurochemical Changes Produced by Lead and or Prenatal Stress.

Invited Speaker, EPA Grantee Cumulative Risk Workshop, Washington DC, May 2012. Cumulative risks to CNS from combined Pb and prenatal stress.

Invited Speaker, The Consequences of Early Life Exposure to Lead and Stress: Understanding the Fetal Basis of Childhood and Adult Diseases, Center of excellence in Environmental Pharmacology, University of Pennsylvania, Philadelphia, PA, January, 2012.

Invited Speaker, Invited Speaker, The Consequences of Combined Lead Exposure and Stress, i.e. DuPont Hospital for Children, Wilmington, DE, December 2011.

Invited Speaker, Air Pollution and the Brain, Health Effects Institute Annual Meeting, Boston, MA, May 2011.

Invited Speaker, The Consequences of Combined Lead Exposure and Stress, University of Louisville, KY, May, 2011.

Invited Speaker, International Neurotoxicology Society Meeting, "The Enduring Consequences of Developmental Exposure to Lead in Conjunction with Stress", Mendoza, Argentina, April, 2011.

Invited Speaker, “The Enduring Consequences of Developmental Exposure to Lead in Conjunction with Stress”, Society of Toxicology of Canada, Montreal, December, 2010.

Invited Speaker, “Multi-Hit Models of Neurotoxicity: Implications for Understanding Disease and Improving Risk Assessment”, Northern California Society of Toxicology, San Francisco, November, 2010.

Invited Speaker, “Lead Effects on the HPA Axis: a Biological Unifying Mechanism for Pb-Associated Diseases and Disorders”, North American Congress of Clinical Toxicology, Denver, CO, October, 2010.

Invited Speaker, “Elevated Blood Lead and Cognitive Dysfunction: Reciprocal Insights from Human and Animal Studies, Department of Pediatrics, University of Rochester Medical School, Rochester, NY, September 2010.

Invited Speaker, “The NRC Report: Phthalates and Cumulative Risk”, U.S. Environmental Protection Agency Risk Assessment Forum, Washington D.C. Sept, 2010.

Invited Speaker, “Delineating Behavioral Domains Underlying Lead-Induced Cognitive Deficits, Symposium on Behavioral Toxicology of Cognition: Extrapolation from Experimental Animal Models to Humans, Neurobehavioral Teratology Society, Louisville, KY, June, 2010.

Invited Speaker, “Combined Effects of Neurotoxicants with Other CNS Risk Factors: Moving Towards Cumulative Risk”, International Symposium on Disturbances of Cerebral Function Induced by Food and Water contaminants, March, 2010, Valencia, Spain.

Invited Speaker, Strengthening Environmental Justice and Decision Making: A Symposium on the Science of Disproportionate Environmental Health Impacts, U.S. Environmental Protection Agency, Washington D.C., March, 2010.

Invited Speaker, Phthalate Reproductive and Developmental Toxicity: Implications for Cumulative Risk Assessment Symposium, “The NRC Report on Phthalates and Cumulative Risk Assessment: Focus on Cumulative Risk and Common Adverse Outcomes”, Society of Toxicology, March 2010, Salt Lake City, UT.

Invited Speaker, Fetal Basis of Adult Disease Symposium, “Permanent Effects of Maternal Lead (Pb) on the HPA Axis, A Biological Unifying Mechanism for Pb-Associated Adult Diseases”, Society of Toxicology, March 2010, Salt Lake City, UT.

Invited Speaker, Toxicology Forum, Washington, D.C., February, 2010, “Phthalates and Cumulative Risk Assessment: The Path Ahead”.

Invited Seminar, Auburn University, Harrison School of Pharmacy, Auburn AL, October 2009 “Cumulative Models of Neurotoxicity”.

Invited Seminar, University of Louisville, Department of Environmental and Occupational Health Sciences, School of Public Health and Informational Sciences, May, 2009.

Invited Speaker, Society of Toxicology Symposium: Novel Signaling Mechanisms that Regulate Dopaminergic Neuronal Survival or Death: implications in Parkinson’s disease, Baltimore, MD, March, 2009.

Invited Speaker, Pesticides and the Parkinson’s disease Phenotype: Interactions of Risk Factors, Department of Biology, University of Rochester Medical School, Rochester, NY April, 2008.

Invited Speaker, Refining the Understanding of Behavioral and Neurochemical Mechanisms of Lead Effects on the Central Nervous System, Mt. Hope Family Center, University of Rochester Medical School, Rochester, NY April, 2008.

Invited Speaker, Society of Toxicology Symposium on Chlorotriazine Herbicides and Their Common Degradation Products of Concern: Disposition and Health Effects, “Atrazine and Dopamine Neurotoxicity”, March, 2008.

Invited Speaker, Frontiers in Environmental Sciences Seminar Series, “Multiple Hit Models of Neurotoxicity: Clarifying the Contribution of Neurotoxicants to Human Diseases and Disorders, National Institute of Environmental Health Sciences, March, 2008.

Invited Interview, Pb in Toys, Jim Lehrer News Hour, Washington DC, December, 2007.

Invited Speaker, International Neurotoxicology Conference, “Interactions of Lead Exposure, Stress and Gender: Implications for Cognitive Disorders”, San Antonio, November, 2007.

Invited Speaker, New Concepts in the Neurotoxicology of Lead, Society of Toxicology, San Diego, CA, March 2006.

Invited Speaker, AAAS Symposium, Does Blood Lead Affect Child Development at Levels Below 10 Micrograms per Deciliter? St. Louis, MO, February, 2006.

Invited Speaker, Eurotox 2005, Neurobehavioral toxicity: Children and Health, Cracow, Poland, September, 2005.

Invited Speaker, Symposium on Neurodevelopment, Texas A&M University, College Station, TX, April, 2005, "Developmental Pesticide Exposures and the Parkinson's Disease Phenotype"

Keynote Speaker, Air Quality Criteria for Lead Workshop, Washington, D.C., February, 2005, "Combined Effects of Pb Exposure and Stress: Implications for Human Health Risk Assessment and Screening".

Invited Speaker, The Non-Linear Nature of Lead-Related Changes in Behavior and Neurochemistry, Non-Linear Dose-Response Relationships in Biology, Toxicology and Medicine, University of Massachusetts, Amherst, MA, June, 2004.

Invited Speaker, Pesticides as Risk Factors for the Parkinson's Disease Phenotype, Boston University, Department of Pharmacology, Boston, MA, May, 2004.

Invited Speaker, Gene-Behavior-Environment Workshop, National Institute of Environmental Health Sciences, Research Triangle Park, NC, May, 2004.

Invited Speaker, Fetal Basis of Disease Grantees Workshop, National Institute of Environmental Health Sciences, Research Triangle Park, NC, March, 2004.

Invited Speaker, Interactions of Risk Factors and Modulation of Developmental Neurotoxicity. International Neurotoxicology Conference, Hawaii, February, 2004.

Invited Speaker, Cocktail Effect in Risk Assessment – Assessment of Exposures to Complex Mixtures, Pre-Conference Workshop, International Society for Exposure Analysis, Stresa, Italy, September, 2003.

Invited Speaker, Combined Pesticide Exposures and the Parkinson's Disease Phenotype International Society of Exposure Analysis, Stresa, Italy, September, 2003.

Invited Speaker, Combined Pesticide Exposures and the Parkinson's Disease Phenotype, Joint Research Centre, Ispra, Italy, July 2003.

Invited Speaker, Developmental Exposure and the Parkinson's Disease Phenotype, Second World Congress on Fetal Origins of Adult Disease, Brighton, England, June 2003.

Invited Speaker, Developmental Pesticide Exposure and the Parkinson's Disease Phenotype, Fetal Origins of Adult Disease Symposium, Society of Teratology Meeting, Philadelphia, PA, June, 2003.

Invited Speaker, Behavioral Test Methods Workshop, Society of Teratology Meeting, Philadelphia PA, June, 2003.

Invited Speaker, Developmental Pesticide Exposure and the Parkinson's Disease Phenotype, Early Environmental Origins of Neurodegenerative Disease Later in Life: Research and Risk Assessment, New York Academy of Medicine, New York, NY, May, 2003.

Invited Speaker, "Pesticides and the Parkinson's Disease Phenotype: Interaction of Risk Factors", The 8th Annual Toxicology Symposium, University of Michigan, Ann Arbor, MI, April 4, 2003.

Invited Speaker "Pesticides and the Parkinson's Disease Phenotype: Interaction of Risk Factors", Environmental and Occupational Health Sciences Institute, University of Medicine and Dentistry of New Jersey and Rutgers University, Piscataway, NJ, January 2003.

Invited Speaker, "Developmental Pesticide Exposures and subsequent Vulnerability to the Parkinson's Disease Phenotype, Twentieth International Neurotoxicology Conference, Little Rock, AR, November, 2002.

Invited Speaker, Texas A&M University, Center for Environmental and Rural Health, "Pesticides as Risk Factors for the Parkinson's Disease Phenotype: Interactions with Age, Genetic Background and Gender, September, 2002.

Invited Speaker, "Combined Pesticide Exposures as Risk Factors for Parkinson's Disease", International Conference on Chemical Mixtures, sponsored by NIEHS, FDA, CDC, NIOSH, Society of Toxicology, Health Council of the Netherlands and the International Joint Commission, Atlanta GA, September, 2002.

Invited Speaker, "Environmental and Genetic Risk Factors for the Parkinson's Disease Phenotype", Department of Pathology and Microbiology, Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, Canada, August, 2002.

Invited Lecturer, National Health Research Institute Lecture Series, Department of Health and Occupational Medicine, Taiwan, ROC, June 6-10, 2002.

Invited Speaker, Rush Presbyterian St. Luke's Medical Center, May 31 2002, "Environmental and Genetic Risk Factors for the Parkinson's Disease Phenotype"

Invited Speaker, Department of Brain and Cognitive Sciences, University of Rochester, May 30, 2002. "Genes, Environment, Age and Parkinson's Disease".

Invited Speaker, 8th Annual Public Policy Forum, Scientific Panel for Congressional Briefing and 9th Annual Morris K. Udall Awards Dinner, May 21, 2001.

Distinguished Lecturer, National Institute of Environmental Health Sciences, Research Triangle Park, NC, " Interactions of Risk Factors for the Parkinson's Disease Phenotype" May13-14, 2002.

Invited Speaker, Toxicology Scholars Colloquium, University of Connecticut School of Pharmacy, Storrs, CT, ""Lead and Pesticides: Targeting of Brain Dopamine Systems and Risk Factors for Behavioral and Neurological Dysfunctions"", May 3, 2002.

Invited Speaker, Chemicals in Breast Milk and Drugs Workshop, sponsored by National Institute of Child Health and Development, Food and Drug Administration, Rockville, MD, April 24-25, 2002, "Neurochemical mechanisms and behavioral function: effect of chemical exposure"

Invited Speaker, Environmental Horizons 2002 University of Illinois, Champaign-Urbana, April 1-2 2002, "Pesticides and Parkinson's Disease: Are They Linked?".

Invited Speaker, Michael J. Fox Foundation for Parkinson's Research, Parkinson's Institute, Sunnyvale CA, November, 2001.

Honoree, Fourth Annual Women in Science Symposium, For Lifetime Achievement and Dedication to the Role of Women in Science, Presented by the Environmental and Occupational Health Sciences Institute, Douglass College Project for Rutgers Women in Math, Science and Engineering, Joint Graduate Program in Toxicology and Joint Doctoral Program in Exposure Assessment, University of medicine and Dentistry of New Jersey and Rutgers University, October, 2001.

Conference Organizer and Invited Speaker, "Genes, Environment and Parkinson's Disease", sponsored by the National Institute for Environmental Health Sciences, the Michael J. Fox Foundation, the University of Arkansas for Medical Sciences and the University of Rochester Medical School, Colorado Springs, CO, August 2001.

Invited Speaker, Rochester Rotary Club, "The Changing Face of Research at the University of Rochester Medical School: Implications for Business and the Community", Rochester, NY, July 2001.

Invited Speaker, Pre-College Experience in Physics Program, "Lead as a Public Health Problem", University of Rochester Medical School, Rochester, NY, July 2001.

Round Table Participant, Convergence 2001, Governor's Conference on Biotechnology, University of Rochester Medical School, Rochester, NY, June 2001

Invited Speaker, International Neurotoxicology Association, "Combined Agrichemical Exposures and Parkinson's Disease", Estoril Portugal, June, 2001.

Invited Speaker, “The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposure to Combined Paraquat and Maneb: Implications for Parkinson’s Disease”, Massachusetts General Hospital, Boston, MA, May, 2001.

Invited Speaker, “The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposure to Combined Paraquat and Maneb: Implications for Parkinson’s Disease”, Behavioral Toxicology Society, Research Triangle Park, NC, May, 2001.

Invited Speaker, “The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposure to Combined Paraquat and Maneb: Implications for Parkinson’s Disease”, Centers for Disease Control, Atlanta GA, April, 2001.

Invited Speaker, The Role of the Environment in Parkinson’s Disease, Recent Research, sponsored by the National Institute of Environmental Health Sciences, San Francisco, CA, March 2001.

Invited Speaker “Combined Agrichemical Exposure and Parkinson’s Disease”, Parkinson’s Institute, Sunnyvale Colorado, March, 2001.

Invited Speaker: “The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposure to Combined Paraquat and Maneb: Implications for Parkinson’s disease” Universidad Nacional Autonoma de Mexico, Centro de Neurobiologia, Juriquilla, Qro., Mexico, October, 2000.

Invited Speaker: “Combined Agrichemical Exposure and Parkinson’s Disease”, Children’s Health and the Environment, Eighteenth International Neurotoxicology Conference, Colorado Springs, Colorado, September, 2000.

Invited Speaker: “Mesolimbic Dopamine and Glutamate Involvement in Lead-Induced Cognitive Deficits”, Advances in Heavy Metal Neurotoxicity and Exposure Assessment: An International Conference, University of California Irvine, September 2000.

Invited Speaker: “The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposures to Combined Paraquat and Maneb: Implications for Parkinson’s Disease”?, Neurology Grand Rounds, University of Rochester Medical School, July, 2000.

Invited Interview, the Diane Rehm Show, National Public Radio, New Research on Lead Poisoning, May, 2000.

Invited Speaker: “The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposures to Combined Paraquat and Maneb: Implications for Parkinson’s Disease?”, Kennedy-Krieger Institute and Johns Hopkins University Department of Environmental Health Sciences, Baltimore, May, 2000.

Keynote Speaker, The Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities, San Diego CA, March, 2000.

Invited Speaker, "Advanced Neurotoxicology: Biomarkers and Mechanisms of Oxidative Stress-Induced Neurotoxicity", Society of Toxicology, Continuing Education Course, Philadelphia PA, March 2000.

Invited Speaker and Session Chair, "The Role of Mesolimbic Dopamine and Glutamate in Lead-Induced Cognitive Impairments", Seventeenth International Neurotoxicology Conference "Children's Health and the Environment", Little Rock, AR, October, 1999.

Invited Speaker, "The Role of Mesolimbic Dopamine and Glutamate in Lead-Induced Cognitive Impairments", Argentine Society for Neurochemistry, Cordoba, Argentina, October, 1999.

Invited Speaker, "Behavioral Neurobiology: A Workshop on Current Techniques, Problems and Interpretation", sponsored by NIGMS-MBRS and NIMH, Meharry Medical College, Nashville, TN, June, 1999.

Invited Speaker, Neurochemical Mechanisms of Lead-Induced Cognitive Impairments, Oklahoma State University, College of Pharmacy, April, 1999.

Invited Speaker, Neurochemical Mechanisms of Lead-Induced Behavioral Dysfunction", Wayne State University, Department of Pharmaceutical Sciences, March, 1999.

Invited Speaker, Workshop "Cognitive Tests: Interpretation for Neurotoxicity?"; Society of Toxicology Meeting, New Orleans, D. A. Cory-Slechta " Assessment of Complex Cognitive Function in Rodents and Extrapolation Across Species", March, 1999.

Invited Speaker, Symposium "Lead: From Cellular Effects to Community Action, Duke University Medical Center, March, 1999.

Invited Speaker, Mesolimbic System Alterations and Pb-Induced Cognitive Impairments, Neurotoxicology Division, Health Effects Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC, February, 1999.

Invited Speaker and Participant, "A Prevention of Lead Poisoning in Children - From Baltimore to the World Initiatives" sponsored by the Kennedy Krieger Institute and the NIEHS Center in Urban Environmental Health, Johns Hopkins University, June 1998.

Invited Speaker, Methods for the Assessment of Complex Motor, Sensory and Cognitive Aspects of Neurotoxicity, Neuropharmacology Course, Food and Drug Administration, November, 1998.

Invited Speaker, “Behavioral Methods for the Assessment of Neurotoxicity”, 6th Annual Meeting of the General Pharmacology/Safety Pharmacology Organization, Philadelphia, October, 1998.

Invited Speaker, “Accounting for Lead’s effects”, The Role of Environmental Neurotoxicants in Developmental Disabilities, the 20th Rochester Conference on Environmental Toxicity, sponsored by NICHD, NIEHS and The University of Rochester Medical School, Rochester, NY, September, 1998.

Invited Speaker, “Behavioral Methods for the Assessment of Neurotoxicity”, Society of Toxicology Meeting, Continuing Education Course: ‘Methods for Assessment of Neurotoxicity’, Seattle, WA, March, 1998.

Invited Speaker, “Lead Neurotoxicity: Biomarkers, Risk Assessment and Extrapolation to Humans”, Society of Toxicology Meeting, Roundtable Workshop: ‘The Risk Assessment Process Applied to Novel Toxicological Biomarkers: Extrapolation to Humans’, Seattle, WA, March, 1998.

Invited Speaker, “Relationships of Glutamatergic and Dopaminergic Mesolimbic System Changes to Lead-Induced Behavioral Toxicity, University of Wisconsin at Milwaukee, Department of Pharmacology and Marine and Freshwater Biomedical Sciences Center, September, 1997.

Invited Speaker, “ Animal Models of Disabilities of Brain and Behavioral Development”, American Psychological Association Meeting, Program on Neurobehavioral Pharmacology of Developmental Disabilities, Symposium on ‘Animal Models of Developmental Disabilities’, Chicago, IL, August, 1997.

Invited Speaker, “Lead as a Risk Factor? Alterations in Glutamatergic and Dopaminergic Function in Mesocorticolimbic Systems and Their Relationship to Behavioral Toxicity”, 14th International Neurotoxicology Conference, ‘Neurotoxicity and Neurodegeneration: Biological Links’, Soverato, Italy, June, 1997.

Invited Speaker, “Implications of the Preferential Vulnerability of Mesolimbic Dopamine Systems to the Effects of Chronic Low-Level Lead Exposure”, Neuroscience Day, sponsored by Astra Pharmaceuticals and the Department of Pharmacology and Physiology of the University of Rochester Medical School, Rochester, NY, December 4, 1996.

Invited Speaker, “Pb as a Risk Factor: Implications of Changes in Glutamate/Dopamine Balance in Mesocorticolimbic Systems”, Institute of Chemical Toxicology, Wayne State University, Detroit, MI, October 10, 1996.

Invited Speaker, “Pb as a Risk Factor: Changes in Glutamate/Dopamine Balance in Mesolimbic Systems, sponsored by the Department of Environmental Health Science and the Kennedy Krieger Institute, John Hopkins University, Baltimore, MD, September 5, 1996.

Invited Speaker, “Biochemical Correlates of Lead (Pb)-Induced Behavioral Toxicity” Annual Meeting of the Federcao de Sociedades de Biologia Experimental, Caxambu, Brazil, August 21-24, 1996.

Visiting Scientist, Department of Pharmacology and Toxicology, School of Veterinary Medicine, University of Sao Paulo, Brazil, August, 1996.

Invited Speaker, “Behavioral Toxicology: Mechanisms and Outcomes”, American Society of Zoologists, Washington, D.C., December, 1995.

Invited Speaker, “Environmental Neurotoxicology: From Molecular Biology to Behavior” symposium sponsored by the Medical Institute of Environmental Hygiene at the Heinrich-Heine University, Dusseldorf, Germany, September, 1995.

Invited Speaker, Marine and Freshwater Biomedical Sciences Center, University of Miami, Miami, FL, November, 1995.

Invited Speaker, University of Texas at Austin, Department of Pharmacology and Toxicology and University of Texas M.D. Anderson Cancer Center, Science-Park Research Division, April, 1995.

Organizer and Speaker, National Academy of Sciences, Committee on Toxicology, Annual Workshop, “Behavioral Toxicology and Risk Assessment, Irvine, CA, January, 1995.

Invited Speaker, 12th International Neurotoxicology Conference, Neurotoxicity of Mercury: Indicators and Effects of Low-Level Exposure, Hot Springs, Arkansas, October, 1994.

Invited Speaker, National Institute of Environmental Health Sciences Conference on Chelating Agents and Metal Toxicity, September, 1994.

Invited Speaker, Scientific Group on Methodologies for the Safety Evaluation of Chemicals (SGOMSEC), June, 1994.

Invited Speaker, The Role of Neurotransmitter Systems in Lead-Induced Learning Impairments. Department of Pediatrics, Specialized Center of Research in Neonatology Lecture Series, University of Rochester, December, 1994.

Invited Speaker The Role of Dopaminergic and Glutamatergic Neurotransmitter Systems in Lead-Induced Learning Impairments, Neurobehavioral Teratology Society, Puerto Rico, June, 1994.

Invited Speaker, The Nature of Lead-Induced Learning Impairments and Neurotransmitter System Involvement. Columbia University College of Physicians and Surgeons, Department of Pharmacology, March, 1994.

Invited Speaker, The Impact on NMDA Receptor Antagonists on Learning and Memory Functions. Fison Pharmaceuticals, Rochester, NY, January, 1994.

Invited Speaker, The Neurotoxicity of Lead. Health Implications of Lead Exposure at Work, Center for Research on Occupational and Environmental Toxicology, Oregon Health Sciences University, sponsored by OHSU School of Medicine and SAIF Corporation, Portland, OR, November, 1993.

Invited Speaker, Treatment for Overexposure to Lead. Health Implications of Lead Exposure at Work, Center for Research on Occupational and Environmental Toxicology, Oregon Health Sciences University, sponsored by OHSU School of Medicine and SAIF Corporation, Portland, OR, November, 1993.

Invited Speaker, National Institute of Environmental Health Sciences Council Meeting, January, 1993.

Invited Speaker, The Impact of NMDA Receptor Antagonists on Learning and Memory Function. NIMH Psychotherapeutic Medications Development Program Workshop on NMDA Receptor Antagonists: Neurotoxicity Evaluation. Rockville, MD, October, 1993.

Invited Speaker, The role of dopaminergic and glutamatergic neurotransmitter systems in Pb-induced behavioral toxicity. Department of Physiology and Pharmacology, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, NC, October, 1993.

Invited Speaker, Species differences and similarities in lead toxicity. Bone-Lead Workshop, National Institute for Environmental Health Sciences, Research Triangle Park, NC, September, 1993.

Invited Speaker, The role of dopaminergic and glutamatergic neurotransmitter systems in lead-induced learning impairments. Center for Research on Occupational and Environmental Toxicology, Oregon Health Sciences University, Portland, OR, August, 1993.

Invited Speaker, Operant techniques for testing complex behaviors in animals and humans. Society of Toxicology Continuing Education Course, Advanced Behavioral and

Neurophysiological Testing for Neurotoxicity, Society of Toxicology Meeting, New Orleans, March, 1993.

Invited Speaker, Dopaminergic (DA) and glutamatergic (NMDA) involvement in lead-induced behavioral toxicity. Society of Toxicology Symposium: Biochemical and Neurochemical Bases of Behavioral Toxicity, Society of Toxicology Meeting, New Orleans, March, 1993.

Invited Speaker, The role of dopaminergic and glutamatergic systems in lead-induced learning impairments. National Institute of Environmental Health Sciences Council Meeting, Research Triangle Park, NC, January, 1993.

Invited Speaker, Involvement of neurotransmitter systems in lead-induced behavioral toxicity, American Psychological Association, Washington, D.C., August, 1992.

Invited Speaker, Implications of changes in schedule-controlled behavior, 18th Rochester Conference on Environmental Toxicology, Rochester, N.Y., June 1992.

Invited Speaker, Behavioral measures of neurotoxicity. The National Institute for Minamata Disease, Minamata City, Japan, Oct. 1, 1992.

Invited Speaker, Low level methylmercury exposure and its potential behavioral consequences. Symposium "Epidemiologic Studies on Environmental Pollution and Health Effects of Methylmercury", Kumamoto City, Japan, Oct. 2, 1992.

Invited Speaker, The nature of lead-induced learning impairments and neurotransmitter system involvement. Annual Workshop of the National Institute of Minamata Disease, Kumamoto City, Japan, Oct. 3, 1992.

Invited Speaker, Functional alterations in dopamine systems assessed using drug discrimination procedures. Ninth International Neurotoxicology Conference, New Dimensions of Lead Neurotoxicity: Redefining Mechanisms and Effects, Little Rock, Arkansas, October 28-31, 1991.

Invited Speaker, Chronic low level lead exposure: Behavioral toxicity and dopaminergic involvement. Invited presentation, Texas A&M University, College Station, TX, October 1, 1990.

Invited speaker and Co-chair, Combined effects of lead and aging. Seventh International Neurotoxicology Conference, Little Rock, AR, September 1989.

Invited Session Chair. Workshop on Developmental Neurotoxicology, sponsored by the Environmental Protection Agency and the National Institute on Drug Abuse, Williamsburg, VA, April 1989.

Invited speaker, Lead exposure during advanced age, International Conference on Lead in Bone: Implications for Dosimetry and Toxicology, sponsored by the National Institute of Environmental Health Sciences, Baltimore, MD, March 1989.

Invited speaker, Behavioral measures of neurotoxicity. Neurotoxicology Continuing Education Course, Society of Toxicology, Atlanta, GA, February 1989.

Invited Speaker, Bridging experimental animal and human behavioral toxicology studies. Workshop on Behavioral Aspects of Neurotoxicology, sponsored by the National Academy of Sciences, Canberra, Australia, August, 1988.

Invited Speaker, Mobilization and redistribution of lead over the course of chelation therapy: Comparison of CaEDTA and DMSA. Trace Elements in Human Health and Disease. Odense, Denmark, August, 1987.

Invited Speaker, Alterations in lead body burden: comparison of chelating agents and aging. National Institute of Environmental Health Sciences Symposium on Lead, Rochester, NY, June, 1987.

Invited Speaker, The lessons of lead for behavioral toxicology, International Workshop on the Effects of Lead Exposure on Neurobehavioral Development: Recent Findings and Future Research Directions. Edinburgh, Scotland, September, 1986.

Invited Speaker, Chronic low level lead exposure: Behavioral consequences, biological exposure indices and reversibility, International Conference on Lead, Chromium and Thallium, Milan, Italy, April, 1986.

Invited Speaker, Combined effects of lead and aging: Some preliminary observations. Behavioral Toxicology Society, Atlanta, GA. May, 1986.

Invited Speaker, Efficacy of the chelating agent CaEDTA in reversing lead-induced changes in behavior and body burden. Behavioral Toxicology Society, Delaware, MD, May, 1985.

Invited Speaker, Behavioral and biological toxicity of chronic lead exposure. Temple University, Philadelphia, PA, June, 1984.

Invited Speaker, Behavioral toxicity of chronic lead exposure. Association for Behavior Analysis, Nashville, TN, May 1984.

Invited Speaker, Schedules of reinforcement in behavioral toxicology. FASEB Symposium, St. Louis, MO, April 1984.

Invited Speaker, Vulnerability to lead at later developmental stages. NICHHD Sponsored Conference, Developmental Behavioral Pharmacology, Leesburg, VA, August, 1983.

Invited Speaker, A perspective on the behavioral toxicity of lead. NIEHS Program Project and Center Grant Directors Meeting, Research Triangle Park, NC, Nov. 1982.

Invited Speaker, Fixed interval performance following lead exposure: problems and perspectives. Neurobehavioral Toxicology Society, Baltimore, May, 1982.

Invited Speaker, Suitability of behavioral indices of lead exposure for human risk evaluation. Neurotoxicology of Selected Chemicals, Chicago, IL, September, 1982.

Invited Speaker, The role of schedules of reinforcement in behavioral toxicology. American Psychological Association, Washington, DC, August, 1982.

Invited Speaker, Behavioral toxicity of chronic postweaning lead exposure: Individual Differences. Rutgers University Medical School, Piscataway, NJ, June 3, 1980.

Invited Speaker, The behavioral toxicity of lead. Western Michigan University, Kalamazoo, MI, March 21, 1980.

Invited Speaker, Individual variability in response to chronic postweaning lead exposure: Response duration performance. Behavioral Pharmacology Society, Pittsburgh, PA, May, 1980.

Invited Speaker, The role of regulatory behaviors in toxicology. Johns Hopkins University, Baltimore, MD, March 11, 1980.

Invited Speaker, Behavioral toxicity of lead: An early warning system. Midwestern Psychological Association, May, 1977.

Invited Speaker, Effects of chronic postweaning lead exposure on fixed interval performance. All Lead Conference, EPA, Hendersonville, NC, October, 1976.

Invited Speaker, Behavioral toxicity of chronic postweaning lead exposure. NIEHS, Research Triangle Park, NC, September, 1976.

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Varma, G, Sobolewski, M, Cory-Slechta, DA, Schneider, JS. 2017. Sex- and Brain Region-Specific Effects of Prenatal Stress and Lead Exposure on Permissive and Repressive Post-Translational Histone Modifications from Embryonic Development Through Adulthood. NeuroToxicology, Jul 13. pii: S0161-813X(17)30115-8. doi: 10.1016/j.neuro.2017.07.002. [Epub ahead of print].

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Tony Cox is President of Cox Associates (www.cox-associates.com), a Denver-based applied research company specializing in quantitative health risk analysis, epidemiology, causal analytics, and operations research. Since 1986, Cox Associates' mathematicians and scientists have applied epidemiological and biomathematical models, biostatistical and computational risk analyses, causal data mining, machine learning, artificial intelligence, bioinformatics, and operations research models to measurably improve health risk assessment and decision-making for public and private sector clients. In 2006, Cox Associates was inducted into the Edelman Academy of the Institute for Operations Research and Management Science (INFORMS), recognizing outstanding real-world achievements in the practice of operations research and the management sciences. In 2012, Dr. Cox was inducted into the National Academy of Engineering (NAE), "For applications of operations research and risk analysis to significant national problems." He has served as a member of the National Academies' Board on Mathematical Sciences and their Applications (BMSA) (2012-2016) and has served on many National Academies and National Research Council committees dealing with health and safety risk analysis. In 2013, he co-founded NextHealth Technologies, a Denver-based company offering advanced data analytics solutions to healthcare plans to reduce health, financial, and member attrition risks. Since 2015, Dr. Cox and Cox Associates have received funding from the The George Washington University Regulatory Studies Center to develop statistical software for causal analysis of epidemiological data; the American Chemistry Council to develop predictive analytics software and research lung diseases caused by crystalline silica and other poorly soluble particles; the American Petroleum Institute and its members for research on methods of causal analysis applied to epidemiological data on asthma, coronary heart disease, all-cause mortality, and other adverse health effects associated with exposure to fine particulate matter (PM2.5) and ozone (O3); the U.S. EPA for expert review of research proposals; the National Stone, Sand, and Gravel Association for research on the statistical reliability and variability of laboratory measurements of crystalline silica in air filters; the European petroleum consortium CONCAWE for research on low-dose metabolism of benzene among Chinese workers; plaintiff's attornies for expert opinions on the use of statistical methods and models in construction defect litigation; and telecommunications companies for research and software on high-reliability optical networks.

Dr. Cox holds a Ph.D. in Risk Analysis (1986) and an S.M. in Operations Research (1985), both from MIT; an AB from Harvard University (1978); and is a graduate of the Stanford Executive Program (1993). He is Clinical Professor of Biostatistics and Informatics at the University of Colorado Health Sciences Center and has served at the University of Colorado, Denver as Honorary Full Professor of Mathematics, lecturing on decision and risk analysis, biomathematics, health risk modeling, computational statistics and causality; and on the Faculties of the Center for Computational Mathematics and the Center for Computational Biology. He has taught many graduate and professional courses in decision and risk analysis, causal analytics, computational statistics, and biomathematical modeling. Dr. Cox is Editor-in-Chief of *Risk Analysis: An International Journal*. He is Area Editor for Real World Applications for the *Journal of Heuristics*, and is on the Editorial Board of the *International Journal of Operations Research and Information Systems*. He is an Edelman Laureate of INFORMS, a member of the American Statistical Association (ASA), and a lifetime Fellow of the Society for Risk Analysis (SRA). He has authored and co-authored over 200 journal articles and book chapters on these fields. His most recent books are *Breakthroughs in Decision Science and Risk Analysis* (Wiley, 2015), *Improving Risk Analysis* (Springer, 2013), *Risk Analysis of Complex and Uncertain Systems* (Springer, 2009) and the *Wiley Encyclopedia of Operations Research and Management Science* (Wiley, 2011), which Dr. Cox co-edited. He has over a dozen U.S. patents on applications of artificial intelligence, signal processing, statistics and operations research in telecommunications. His current research interests include computational statistical methods for causal inference in public health risk analysis, data-mining, and advanced analytics for risk analysis and public policy applications.

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WORK HISTORY

1986 - Present	President, Cox Associates. Cox Associates is an independent Denver-based consulting company specializing in advanced analytics, data science and software, risk analysis, management science, operations research, and epidemiology for public- and private-sector clients. Cox Associates develops and applies quantitative risk assessment, machine learning, uncertainty analysis, decision optimization models and artificial intelligence and computational statistics to measurably improve client decision-making. Since 1996, its sister company NetAdvantage has provided risk modeling, customer data mining, and network planning software solutions to telecommunications companies. In 2013, Dr.Cox co-founded NextHealth Technologies (NHT), a company offering advanced data analytics solutions to healthcare plans to measurably reduce health, financial, and member attrition risks and to improve member values and health outcomes under the provisions of the Affordable Care Act.
1987 - 1996	Senior Director for U S West Advanced Technologies in Boulder, Colorado. Built world-class management science and operations research team, headed Business and Engineering Modeling, Communications Services Research, and Network Architecture divisions; secured corporate and external funding commitments for $11M annual applied research budget; managed twelve director areas and over 100 professional engineers and scientists in the areas of management science and statistical and econometric modeling, optoelectronics, network architectures and technologies, network economics and performance analysis, wireless architecture and engineering, network evolution, product test and development, standards, international projects, digital signal processing, network optimization, and breakthrough projects.
1980 - 1986	Manager, Applied Decision Sciences practice area; Senior Consultant in Operations Research, Arthur D. Little, Inc., Cambridge, MA
1978 - 1979	Senior Research Associate, American Institutes for Research in the Social and Behavioral Sciences (AIR), Washington, D.C. and Cambridge, MA

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Present and Past Academic Affiliations

- Visiting Scholar, The George Washington University Regulatory Studies Center
- Clinical Professor, Biostatistics and Informatics, University of Colorado
- Honorary Full Professor of Mathematics, University of Colorado at Denver (UCD) (http://math.ucdenver.edu/people/faculty.shtml)
- Faculty, Center for Computational Biology, UCD (www.cudenver.edu/ccb/associates.html)
- Adjunct Faculty member, Center for Computational Mathematics, UCD (http://ccm.ucdenver.edu/list.shtml)
- Advisory Board, Center for Human Performance and Risk Analysis (CHPRA), University of Wisconsin at Madison
- Clinical Professor, Preventive Medicine and Biometrics, University of Colorado
- Instructor, Computer Science Department, University of Colorado at Denver. Taught courses on causal inference and computational statistical methods.
- Faculty, DanielsSchool of Business, DenverUniversity, 1987, 1997. Taught courses on statistics and on wireless technology.
- Faculty, Leeds School of Business, University of Colorado at Boulder, 1993. Taught courses on decision analysis and statistical decision theory.
- Faculty, HarvardUniversityExtensionSchool, 1986. Taught course on decision and risk analysis.

EDUCATION

1986 - Present	Professional courses, seminars, and tutorials in advanced analytics, management science, data science, operations research, computational statistics, neuroeconomics, behavioral economics
1993	Stanford Executive Program, StanfordBusinessSchool
1985 - 1986	M.I.T., Ph.D. in Risk Analysis. Dissertation: *Mathematical Foundations of Risk Measurement*
1983 - 1985	M.I.T., S.M. in Operations Research, Department of Electrical Engineering and Computer Science. Thesis: *Attribution of Risk in the Presence of Joint Causes.*
1979 - 1983	Harvard University, graduate courses in applied mathematics, theoretical and applied statistics, psychometrics, and decision sciences
1975-1978	Harvard University, A.B. (Mathematical Economics)

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ACADEMIC EXPERIENCE

Graduate Courses Developed and Taught

- *Statistical Consulting*, Department of Mathematics, University of Colorado at Denver, 2017
- *Decision Analysis*, Business School, University of Colorado at Denver, 2013, 2017
- *Game Theory*, Mathematics Department, University of Colorado at Denver, 2012
- *Health Risk Analysis*, Health SciencesCenter, University of Colorado, 2004; 2006
- *Causality, Inference, and Decision-Making*, Computer Science Department, University of Colorado at Denver, 2002, 2003
- *Decision and Risk Analysis*,Leeds School of Business, University of Colorado at Boulder, 1993
- *Statistics for Business*,DenverUniversityGraduateSchool of Business, 1987-88
- *Social Decision and Risk Management*,HarvardUniversityExtensionSchool, 1986

Professional Courses Developed and Taught

- *Advances in Health Risk Assessment and Modeling.*Invited lectures presented at Risk Assessment Unit at Evira (Finnish Food Safety Authority) Helsinki. October 22-23, 2009.
- Short Course on *Causality and Decision Analysis for Risk Analysts*. *Australia&New Zealand Regional Organisation of the Society for Risk Analysis. 3rd Annual Conference*.Canberra, Australia. September 29, 2008. http://www.acera.unimelb.edu.au/sra/SRA2008/Abstract-program.pdf
- *Probabilistic risk analysis: Assessment, management, and communication.*HarvardCenter for Risk Analysis. Boston, MA. 2000-2004. Lectures on developing valid probability models from data, subjectivity in data analysis; Bayesian inference in multivariate data sets and causal modeling and influence diagrams for risk analysis.
- *Gordon-Kenan Risk Analysis Summer School in Risk Analysis* August 3-15, 2003 Roger Williams University Bristol, RI www.grc.uri.edu/programs/2003/risk.htm
- *Probabilistic risk analysis.* Professional course for Health Canada. Ottawa, Ontario. March 25th-28th, 2002. Lectured on "Using epidemiological data in risk assessment" and on "Causal graphs, Bayesian belief networks, and influence diagrams: A framework for risk assessment and risk management".
- *Advanced Methods for Dose-Response Assessment: Bayesian Approaches*. Resources for the FutureConferenceCenter, Washington, D.C. September 18th-20th, 2000 http://www.rff.org/disc_papers/PDF_files/0115.pdf.
- "Bayesian methods for assessing uncertain exposures", *Workshop on Probabilistic Methods for Risk Assessment.* Society for Risk Analysis, Phoenix, Az, 12-06-98.
- *Advances in Wireless Technology*, DenverUniversity, Fall, 1997
- *Introduction to Decision Analysis for Risk Management*, United States Department of Agriculture's APHIS Introductory Risk Analysis course, University of Maryland Conference Center, July 9, 1992.
- *Risk Assessment Modeling*, one-day short course given at the USDA Training Center, APHIS Risk Assessment Course, Fort Collins, CO, July 23-24, 1992.
- *Technical Risk Communication*, short-course given at the Greenbelt Marriott Hotel, APHIS Advanced Risk Communication Course, Greenbelt, MD, August 20, 1992.
- *Biologically-Based Risk Assessment.* Short course, Society for Risk Analysis, 1991.

Science Enrichment Courses Developed and Taught for Elementary School Children

Ricks Center for Gifted Children at the University of Denver (www.du.edu/ricks/)

- *Natural and Artificial Life, Evolution, and Intelligence* (Spring, 2010)
- *Introduction to Cosmology and Earth Science* (Spring, 2010)
- *Matter, Energy, and Technology* (Spring, 2009)
- *Introduction to Materials Science* (Spring, 2009)
- *Basic Cell Biology* (Fall, 2008)

Dissertations Supervised

Dr. Cox has served on S.M. and Ph.D. thesis committees at the University of Denver (S.M. thesis on genetic algorithms) and the University of Colorado (S.M. thesis on innovations in voice messaging, 1995; Ph.D. thesis on classification trees for learning forecasting models from data, 1999; MS thesis on ant colony optimization for bandwidth packing, 2000; MS project on data mining and causal simulation modeling, 2000; Ph.D. thesis on uncertainty analysis in epidemiology, 2003.)

Research Collaborations

At U S WEST Advanced Technologies, Dr. Cox initiated and led collaborative research projects with top researchers at many universities, including

- HarvardUniversity (projects on combinatorial optimization and on interactive mixed natural language and graphics dialogue interfaces, with Professor Barbara Grosz)
- ColumbiaUniversity (dynamic traffic routing with Professor David Yao)
- SyracuseUniversity (machine comprehension of scientific abstracts)
- Oregon Graduate Institute (breakthroughs in neural net and digital signal processing technologies for automated speech recognition with Professor Ron Cole).

In 1992, his collaboration with mathematicians at the University of Colorado at Denver on combinatorial optimization heuristics for network routing was selected by the Colorado Advanced Software Institute (CASI) as one of only two projects (out of 30) that exemplified this state-funded Institute's major goals: outstanding industry-university technical research with high commercial value. In 1993 and 1994, his collaborations with UCD on new data mining algorithms and pattern recognition techniques for risk analysis and fault diagnosis algorithms were the only projects to receive CASI's award. Dr. Cox has also collaborated with colleagues at Bell Labs and the University of California on fundamental research in multistate reliability and biomathematical modeling.

Other Academic Experience

From 1987-1992, Dr. Cox served on the Industry Advisory Board of the Mathematics Department at the University of Colorado at Denver, where he was subsequently Honorary Full Professor of Mathematics and on the Faculty of the Center for Computational Mathematics. He has given invited talks on advanced topics in risk analysis, telecommunications engineering and management, and computer science to faculties and graduate seminars at many top universities. He is Editor-in-Chief of *Risk Analysis: An International Journal* and is Area Editor (Real-World Applications)of the *Journal of Heuristics*, which he helped to found in 1995.He is on the Editorial Board of the*International Journal of Operations Research and Information Systems*.He has reviewed many academic research proposals for the National Science Foundation's Decision, Risk, and Management Science program and SBIR technology proposals for NSF and other agencies. He has lectured on data mining, and other statistical, mathematical, and analytics topics at the University of Colorado. Dr. Cox has taught many professional courses and conducted many professional workshops, including *Probabilistic Methods in Risk Assessment* at the Society for Risk Analysis Annual Meeting in 1998; and a *Short Course on Causality and Decision Analysis for Risk Analysts* at the Australia & New Zealand Regional Organisation of the Society for Risk Analysis in 2008.

Conference Sessions Chaired

Dr. Cox has chaired many conference sessions, including the following:

- *Symposium: Risk Analysis: Past, Present, and Future*. Society for Risk Analysis 2013 Annual Meeting. Baltimore, MD.
- *Symposium: Foundational Issues in Risk Analysis*(with Terje Aven). Society for Risk Analysis 2013 Annual Meeting. Baltimore, MD.
- *Ambient Air: Particulate Matter Exposure*. Society for Risk Analysis 2012 Annual Meeting. San Francisco. December 12, 2012.
- *Novel Approaches in Dose Response.* Society for Risk Analysis 2010 Annual Meeting. Salt Lake City. December 7, 2010.
- *Sustainable Value Chains.* Institute for Operations Research and Management Science annual conference, Austin, TX, 2010.
- *Security and Resilience in Telecommunications Networks*. Institute for Operations Research and Management Science annual conference, Washington, D.C., 2008.
- *Animal Pathogens and Human Exposure.*Society for Risk Analysis annual conference, San Antonio, TX, 2007. (Substituted for Dr. Michael McElvaine as chair.)
- *Alternative Approaches to Risk Assessment.*Society for Risk Analysis annual conference, San Antonio, TX, 2007.
- *Complexity in Modeling Mode-of-Action and Other Sources of Non-Linearity In Risk.* Society for Risk Analysis annual conference, Baltimore, MD December, 2006.
- *Statistical Methods: Uncertainty, Confidence Limits, etc.*Society for Risk Analysis annual conference, Palm Springs, December 5-8, 2004.
- *Toxicology.* Session at Non-Linear Dose-Response Relationships in Biology, Toxicology, and Medicine: An International Conference. (University of Massachusetts, Amherst, MA, May 28-30th, 2003)

- *Special Applications in Industry and Government.* (Society for Risk Analysis, 2002)
- *Market Modeling and Policy* (INFORMS Telecommunications Conference, 2002)
- *Wireless Network Planning* (INFORMS Telecommunications Conference, 2002)
- *Optical Networks* (8th International Conference on Telecommunications Systems, 2000.)
- *Telecommunications* (INFORMS, 2000)
- *Marketing* (INFORMS, 1999)
- *Forecasting and Economics* (INFORMS Telecommunications Conference, 1998)
- *Stochastic Optimization* (Society for Industrial and Applied Mathematics, SIAM, 1996)
- *Planning Heuristics for Telecommunications Networks* (INFORMS, 1996).
- *Risk and Uncertainty*
- *Artificial Intelligence Heuristics for Optimization*
- *Heuristic Optimization for Process Improvement.*
- Cluster chair for INFORMS sessions on "*Heuristic Optimization and Learning*" (1994).

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CONSULTING EXPERIENCE

Examples of consulting projects completed by Dr. Cox in the past decade include the following:

RISK ANALYSIS, ECONOMICS, AND APPLIED STATISTICS

- For the National Academies, member of committee advising the Department of Interior's Bureau of Safety and Environmental Enforcement on Options for Implementing the Requirement of Best Available and Safest Technologies for Offshore Oil and Gas Operations (2013)
- For the National Pork Board, quantified the human health risks from swine-associated Methicillin-resistant *Staphylococcus Aureus* (MRSA) infections (2013) and toxoplasmosis from swine reared in conventional vs. open production systems (2013)
- For the National Research Council, member of committee advising the U.S. Air Force on U.S. Air Force Strategic Deterrence Capabilities in the 21st Century Security Environment (2012-2013)
- For the George Washington University Regulatory Studies Center, reviewed advances in econometric and statistical methods for causal analysis. Applied Granger Causality tests, panel data analysis, and other methods to time series data, and found that changes in temperature, but not changes in particulate matter, are Granger-causes of benefits previously attributed to Clean Air Act regulations. (2012)
- For the National Sand and Gravel Association, analyzed spatial distributions of socioeconomic variables and cause-specific mortality rates in California. Demonstrated that regression coefficients describing disease rates as functions of proximity to suspected hazardous sources do not have the causal interpretations ofte assigned to them, but reflect spurious associations due to spatially autocorrelated but statistically independent spatial stochastic processes. (2012)
- For the National Pork Board, prepared comments on a Russian risk analysis of tetracycline residues in foods. These comments provided the technical basis for the USG's position in trilateral trade negotiations with the EU and Russian Federation (2011, 2012)
- For The Center for Media and Public Affairs (CMPA) at George Mason University, reassessed a risk-cost-benefit analysis of Clean Air Act Amendment impacts, accounting for uncertainty about causation. (2011)
- For the Amerian Petroleum Institute, analyzed the application of income distribution equity indices (such as the Atkins Index) to fair distribution of air pollution health risks. Showed that the Atkins Index and related economic indices of income inequality are not useful for health risk inequality assessment (2011)
- For the Institute of Medicine (IOM), served as a reviewer for the *IOM Draft onScientific Standards for Studies of Modified Risk Tobacco Products*, examining the types of biomarker data and other scientific information needed to demonstrate to FDA that new products have reduced risks (2011)
- Served as expert reviewer for EPA's *Draft Microbial Risk Assessment Guideline: Pathogenic Microorganisms with Focus on Food and Water* (2011)
- For the U.S. EPA, served as a member of the Science Advisory Board (SAB) for Dioxin (2010-11)
- For the Colorado state police, analyzed the frequency and severity of car accidents by time of day, time of year, driver age and sex, driver behavior (e.g., alcohol use, use of safety devices), and types of air bags and oher equipment. Developed an injury prediction model that successfully predicted risks of injury, given an accident, from less than 20% to over 70%,based on preventable causes. (2011)
- For the National Mining Association, developed a statistical critique of a proposed quantitative risk assessment for respirable coal mine dust (2010-11)
- For the American Chemistry Council's Crystalline Silica Panel, modeled exposure-response relationships for inflammation-mediated lung diseases and lung cancer risk caused by exposure to quartz dust and crystalline silica. Presented key results and references to Canadian regulators in August, 2010. Health Canada subsequently proposed to regulate crystalline silica as a threshold carcinogen, breaking new ground in science-based regulatory risk analysis for this compound. (2010)
- For the National Pork Board, assessed human health risks of multidrug-resistant "superbug" bacterial infections originating from pigs (2010)
- For Philip Morris International, developed a quantitative model of age-specific risks of chronic obstructive pulmonary disease (COPD) as a function of smoking history (2008-2009). Clarified the interaction of molecular biological pathways in forming positive feedback loops that trigger and sustain this disease.

- For the National Pork Board, reviewed statistical and causal analyses of infant mortality and livestock production (2009)
- For the American Chemistry Council's Crystalline Silica Panel, critically reviewed draft regulatory risk assessments of crystalline silica as a toxic substance and possible lung carcinogen (2009)
- For Alpharma and Phibro Animal Health, assessed potential human health risks from use of tetracycline drugs in food animals (2009)
- Member of National Academy of Sciences (NAS) Committee on Methodological Improvements to the Department of Homeland Security's Biological Agent Risk Analysis. (2006-8)http://www8.nationalacademies.org/cp/CommitteeView.aspx?key=48682
- Member of Environmental Protection Agency Science Advisory Board (EPA SAB) on Asbestos.
- Member of Institute of Medicine's (IOM) Committee on Aerospace Medicine and the Medicine of Extreme Environments (2006-8), Committee to Review NASA's Space Flight Health Standards
- For Comcast Cable, worked in partnership with North Highland consulting company to develop a customer churn predictive risk assessment model that successfully predicts which customers are most likely to drop services and accounts – months before the drops occur, while there is still time to intervene. The model was statistically compared to existing commercial predictive models and found to be more than twice as effective in identifying high-risk customers early on.
- Delegate to First Session of the *Codex Ad Hoc Intergovernmental Task Force on Antimicrobial Resistance* held in Seoul, Republic of Korea, 23-26 October 2007.
- For Xcel Energy, worked in partnership with North Highland consulting company to develop a credit risk assessment model that predicts which customer accounts are likely to become bad debts six months or more in advance, when early intervention is still possible and profitable (2007)
- For Qwest Communications, worked in partnership with North Highland consulting company to analyze the amounts of time that employees spend managing internal communications (e-mails, meetings, conference calls, etc.) and identifying opportunities to improve internal communications efficiency (2006).
- For Philip Morris International, developed a quantitative model of age-specific risks of lung cancer as a function of smoking history. Estimated the potential reduction in lung cancer risk for smokers if cadmium were removed from tobacco products. (2005-2007)
- For Qwest Communications, worked in partnership with North Highland consulting company to quantify customer interest in and willingness to use improved web portals to manage telecommunications services (2006-7).
- For a sand and gravel company, examined the usefulness, for estimating risks and setting priorities, of aggregate exposure metrics for mixtures of asbestos and non-asbestos fibers and particles (2006)
- For a telecommunications equipment manufacturer, created a model to predict the numbers and types of equipment failures expected in future years, based on historical failure data for equipment items manufactured in different years. (2006)
- For a grass seed company, assessed the quantitative risks of gene flow from genetically modified grasses into the environment via pollen and seeds (2006). This approach was subsequently adopted by the United States District Court for the District of Columbia as a basis for risk calculations (http://www.centerforfoodsafety.org/pubs/GTBC_Doc_94_Opinion%202-5-07.pdf)
- For a homeowner's association, quantified the probable number and timing of future failures in copper pipes due to thermogalvanic corrosion. The model correctly predicted the near statistical certainty of additional pipe failures (2006).
- For the National Research Council of the National Academy of Sciences (NAS), advised on modeling potential failures and threats to spent nuclear fuel rods stored in different types of containers. This work contributed to the 2006 NAS report *Safety and Security of Commercial Spent Nuclear Fuel Storage*, http://www.nap.edu/openbook/0309096472/html/R4.html.
- For a large pharmaceutical company, analyzed Phase 3 clinical trial data and showed that a major drug is highly effective in reversing symptoms of a disease in patients in both the short run (within 1-2 weeks) and over a longer time frame. This statistical analysis of the time course of responses and the clusters of different response histories among patients explained several previously unresolved puzzles and made the meaning of the data clear for company statisticians and decision-makers. (2005)
- For a law firm specializing in construction defect litigation, developed an approach to sampling available homes or units to support efficient statistical inference from available data, even when some homes or units cannot be inspected. (2005)

- For Phibro Animal Health, developed a systems dynamics model of the evolution of bacterial illnesses and resistance in human and animal populations. (2005/2006)
- For the American Chemistry Council, assessed the potential human health risks associated with methyl bromide (2005).
- For Philip Morris Intenational, developed new ways to integrate partial knowledge of causal mechanisms of lung carcinogenesis with statistical information (mainly epidemiological and molecular epidemiological data) to obtain quantitative bounds on the fraction of lung cancers that can be prevented by removing specific components of exposure and/or blocking specific causal pathways. (2004-2006)
- For the cattle industry group R-CALF, developed a value of information (VOI) model for assessing the economic value of tracking Canadian cattle in the US in light of recent BSE findings (2004).
- For the Animal Health Institute, developed a Rapid Risk Rating Technique (RRRT) to quantify the human health impacts of food-borne pathogens and animal antimicrobial uses (1Q-04)
- For Elanco Animal Health, served on an Expert Panel to develop a mathematical model of the human health benefits of decreasing microbial loads in food animals (2003-4)
- For Phibro Animal Health, developed a quantitative risk assessment of the human health risks and benefits from continued use of virginiamycin in chickens and pigs (2002-4)
- For the Animal Health Institute, served on an Expert Panel to review human health risks from animal antibiotics (2002-3); developed a farm-to-fork risk simulation model for Campylobacter risks (2000-2002)
- For the U.S. Environmental Protection Agency, served as an external expert reviewer for the EPA's "Perchlorate Environmental Contamination: Toxicological Review and Risk Characterization" Draft External Review Document (March, 2002).
- For the World Health Organization (WHO), served as an external expert reviewer for a Consultation on *Campylobacter* risk assessment, in Geneva (August, 2001)
- For the U.S. Food and Drug Administration (FDA), (a) Reviewed proposed approaches to antimicrobial risk assessment (1999) http://www.fda.gov/cvm/antimicrobial/tonycox/index.htm; and (b) Proposed a decision-analytic alternative to FDA's threshold approach for managing risks of resistant strains of pathogenic bacteria due to use of antibiotics in animals (2001).The FDA at first strongly rejected Dr. Cox's advice and testimony on how to do antimicrobial risk assessment correctly (with considerable acrimony, in the context of enrofloxacin litigation), but has subsequently had Dr. Cox visit to discuss severalantimicrobial risk assessments, and has sought Dr. Cox's views on howto do better risk analysis.
- For the U.S. EPA, served as expert external reviewer and contributor to *Review of Uncertainty and Variability Analysis In IRIS for Eight Substances.*http://www.epa.gov/ncea/hlthfx_iris.htm
- Created computer simulation models (PBPK and PD) of dose-time-response relations for low-level exposures to chemical carcinogens, for Exxon Biomedical Sciences (EBSI). Developed an artificial intelligence method for improving prediction of likely human chemical carcinogens, also for EBSI.
- Created a discrete-event stochastic simulation model of the human health risks associated with Ciprofloxacin resistance in Camplyobacterjejuni induced by use of Enrofloxacin in chickens, for the Animal Health Institute (AHI). http://www.cvmbs.colostate.edu/cveadss/schedule/SchedulePage.htm
- Critically reviewed epidemiological studies of diesel exhaust and human lung cancer risk, for the Engine Manufacturers Association.
- For the American Petroleum Institute (API), created a computer simulation model of bone marrow and blood cell toxicity caused by cyclophosphamide, an immunosuppressive drug. Designed laboratory experiments to validate the model's predictions. Analyzed clinical and laboratory data to test model's predictive validity. Prepared a software release so that other scientists could use the model.
- Reviewed literature on air pollution and human lung cancer risks, for the American Petroleum Institute.
- Applied adaptive spatial sampling to optimize search and clean-up efforts for remediating residential properties around an abandoned hazardous waste site (for AlliedSignal)
- Reassessed human cancer risks from 1,3-butadiene using pharmacokinetic modeling to adjust for interspecies differences in internal doses of epoxybutene (for the Chemical Manufacturers Association)
- Reassessed the human leukemia risks from benzene exposure using a physiologically-based pharmacokinetic (PBPK) model to calculate internal dose (for the American Petroleum Association)
- Reviewed design of an initiation-promotion experiment for studying the potential carcinogenicity of a rubber additive, for Goodyear Tire and Rubber Company.

- Developed a general physiologically-based pharmacokinetic (PBPK) modeling software tool for rapidly developing high-quality PBPK models (with ENSR Consulting and Engineering, Inc.)
- Reviewed artificial intelligence approaches to characterizing uncertain health risks using weight of evidence, nonmonotonic, and other uncertainty analysis (for Lawrence Berkeley National Laboratory)
- Assessed potential health risks associated with occupational exposure to herbicides among roadside workers, using pharmacokinetic models, for a Fortune 100 chemical manufacturer.
- Recommendation of cleanup priorities for a large hazardous waste site in Canada
- Developed a prototype computer model for biologically based risk assessment of chemical carcinogen risks, for the Western States Petroleum Association (WSPA) and the American Petroleum Institute (API)
- Reviewed new biostatistical and "biologically based" approaches to cancer risk analysis, for the California Department of Health Services
- Reviewed regulatory history of benzene risk assessments and of biomathematical approaches to modelingleukemogenesis for the Western Oil and Gas Association and the American Petroleum Institute
- Prototype computer modeling of the AIDS epidemic (with Arthur D. Little, Inc.)
- Designed a 2-year bioassay experiment for isoprene. Analyzed and reported the resulting experimental data for a multi-client, multinational industry group coordinated by Exxon Biomedical Sciences.
- Accident risk analysis and consequence analysis of a petrochemical storage facility in California, for a California-based environmental consulting firm
- Implemented a Macintosh version of a physiologically-based pharmacokinetic (PBPK) model for benzene pharmacokinetics and total metabolism in rodents and humans, for the API
- Explored new mathematical approaches and conceptual frameworks for dealing with scientific uncertainties in biologically-based risk assessment, for the Western States Petroleum Association (WSPA)
- Created an interactive data analysis and graphics package for determining the degree of worker protection provided by different respirators, filters, and face masks (with Arthur D. Little, Inc.)
- Microeconomic and applied probability modeling of insurance company business risks for use in tax litigation (with Arthur D. Little, Inc.)
- Critically reviewed a transportation risk analysis for liquefied natural gas (LNG) operations in the St. Lawrence seaway.
- Reviewed progress since 1985 in using decision analysis for accident risk assessments.
- Implemented an experimental "intelligent" data base management system for chemical health effects data bases (with Exxon Biomedical Sciences, Inc.)
- Uncertainty analysis of PBPK modeling and risk analyses, accounting for model uncertainties and population heterogeneity, for the American Industrial Health Council.
- Developed new statistical techniques to predict cancer risks associated with mineral oils, for Mobil Oil.

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DATA MINING AND STATISTICAL MODELING AND PREDICTIVE ANALYTICS EXPERIENCE

- For the American Chemistry Council, quantified how well *in vivo* test results for rodent carcinogens could be predicted from much less expensive high-throughput *in vitro* test results. (2014-15)
- For the American Chemistry Council, applied machine-learning algorithms to quantify how well *in vivo* test results for endocrine disruptors could be predicted from much less expensive high-throughput *in vitro* test results. (2013-14)
- For TriZetto, assessed healthcare predictive analytics trends and vendor offerings, advised top management on predictive analytics technology acquisitions (2012)
- For Rogers Communications, developed causal models of customer satisfaction; identified high-impact interventions for improving customer satisfaction; helped to develop achievable targets and strategies for improving customer experiences in different channels (2011)
- Delivered a statistical analysis of the causal drivers of customer satisfaction to top executives at Comcast Cable; identified realistic targets and interventions for improving customer satisfaction (2010-11).
- For a top cable company, worked in partnership with North Highland consulting company to deliver a predictive model that identifies which customers are most likely to drop accounts, well before the event and with much higher accuracy than previous models. (2008)
- For an energy utility, worked in partnership with North Highland consulting company to deliver a predictive model of customer bad debt and account write-offs that greatly extended the lead time over which high-risk customers could be identified and targeted for intervention. (2007)
- For a telecommunications company, worked in partnership with North Highland consulting company to develop a predictive model of customer marketing channel choice, and usage as a function of quality of channel experience (e.g., for web site, call center, retail store, and other channels.) Used the model to quantify financial impacts of improving web-based customer care. (2006)
- Also in partnership with North Highland consulting company, analyzed employee survey data for a major telecommunications provider and quantified patterns of internal communications (conference calls, managing e-mail, company news letters and bulletins, meetings, etc.); time spent on these activities by employees with different job roles and in different VP areas; and potential to reduce employee burden and improve the value and efficiency of internal communications. (2006)
- For a European wireless telecommunications provider, analyzed customer data to help develop more predictive segments; held a one-day intensive course in Brussels on advanced statistical models and methods for quantifying customer value in the short and long runs, based on probability and statistics models of customer behaviors in response to company offers. (2005)
- In 2004, delivered to an international telecommunications company a needs-based predictive segmentation model for cell phone customers.
- In 2003, in partnership with North Highland consulting company, delivered to a directory company a credit scoring and data mining model for identifying customers at greatest risk of defaulting on Yellow Pages agreements.
- In April, 2002, delivered to an internet services provider (ISP) a decision-support model for predicting customers with the highest churn potential and recommending specific interventions to reduce churn. This system was found by the client to reduce churn by over 40% within 4 months among at-risk customers.
- In March, 2002, delivered to a financial services company a set of predictive clusters for simultaneously predicting churn, upsell, and cross-sell potentials for existing customers. The predictive validity, stability, and high practical value of the predictive clusters were confirmed by the client in 2003 and 2004.

- In October, 2001, completed a study to identify ways to predict which competitive local exchange carrier (CLEC) customers would experience the most revenue growth in the next quarter and which would be most likely to drop accounts.
- In August, 2001, completed an analysis of insurance customer data showing that combining information from homeowner, auto, and other insurance lines using classification trees and transition models could dramatically improve accurate identification of cross-sell, up-sell, and retention opportunities.
- In 2000, completed a study of purchasing patterns among large business customers for Qwest communications. The results show that a few key products, together with factors such as account age, predict likely stability or churn of customers, as well as likely growth potential.
- In 2000, delivered to statistical analyses of the effects of U S WEST and competitor advertising and publicity (including brand/service commercials, direct mail, and news stories) on customer ratings of value and loyalty.
- Analyzed marketing data for AT&T-TCI to determine which current cable customers are most likely to switch to digital cable in the next quarter, based on current cable, telephony, and demographic risk factors.
- Created and validated a statistical (semi-Markov state transition) risk model to predict product and account attrition among U S WEST customers. Delivered to the CRMS group in U S WEST Communications a predictive model for identifying the likely future purchasing, product-drop, and account disconnect behaviors of individual customers. The new model has significantly greater predictive power than previous ones, achieving lifts of several hundred percent on the task of predicting which 10% of customers are most likely to buy specific products in the next few months.
- Developed new statistical optimal matching procedures to decide which products to offer which customers to maximize average revenue yield and lifetime revenue value for U S WEST Communications. Demonstrated a potential increase of over 40% for short-term revenues. 15% revenue increase was achieved in a preliminary in-market trial of intelligent scripting.
- Used a new causal modeling and data-mining technique to predict likely future product purchases from past purchase data and demographics, for U S WEST Consumer Services Group.
- Created a new forecasting model for application to short-tem and cross-sectional market data. The new method combined classification tree analysis with compartmental flow simulation. Applied to real data, it successfully allowed growth in demand for access lines to be predicted as accurately using less than 6 months of data as was previously possible using over 5 years of data with conventional time series forecasting methods. The forecasts were used by U S WEST Communications in 1997.
- Created and implemented a combined machine-learning/transition simulation forecasting technique to use detailed call records to more accurately predict traffic loads arriving at different locations within a wireless network for PrimeCo Personal Communications Services Ltd.
- Developed a simulation-based model of cable customer transitions among different behaviors (adding and dropping basic and enhanced cable services, switching among services and locations, etc.) for TCI.
- Analyzed cable franchise data for over 400 TCI cable systems to identify predictors of service quality perceptions and churn. Successfully identified unexpected demographic predictors of profitability and satisfaction.
- Analyzed macroeconomic data and survey data for a consortium of Indonesian companies to predict the penetration of telephony, PCs, internet services, and cable over the next 15 years.

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CONSTRUCTION DEFECT LITIGATION SUPPORT EXPERIENCE

Dr. Cox has testified as an expert statistician in numerous construction defect cases, typically seeking to clarify the types of valid statistical inferences about risks and defects that can be drawn from limited sample data. Dr. Cox has been deposed on statistical issues in the following construction defect cases, among others, since 2006.

Note: Arizona cases have generally been in Maricpoa County.

- *Aberle v. Brookfield Homes* Deposition in Costa Mesa, California, 12/4/2012
- *Age vs. DR Horton* 4/9/2015
- *Amezcua/Pua v. DR Horton* Deposition in Arizona, 2/2/2010
- *Amukamara/Larissa by Forecast* Deposition in Arizona, 4/10/2007
- *Arrants v. D.R. Horton* Deposition in Arizona, 8/3/2010
- *Aspen Creek* Deposition in Arizona, 5/22/07
- *D.R. Horton, Inc.-Denver vs. Canyon Creek Condominium Association, Inc.* Deposition in Colorado, 12/10/2010
- *Centercrest* Deposition in Arizona, 3/14/2006
- *Chaignot v. Beazer* Deposition in Arizona, 4/22/2010
- *Clark vs. WCHB* (Mira Vista) Deposition 8/2/2013
- *Cummings v. Lenar*Deposition in Arizona, 9/21/2006
- *Dancy* Deposition in Arizona, 11/09/2006
- *Ensley et al. vs. Forecast Homes* Deposition and trial in Arizona, 11/09/2009
- *Frye Park Townhomes HOA v. Patterson Development LP* Deposition in Arizona, 4/22/2010
- *Goree v. Monterey Homes* Deposition in Arizona, 11/30/2006
- *Greenwood Estates* Deposition in Arizona, 10/11/2010
- *Hobbs vs. Elliott* Deposition in Sacramento, CA, 4/1/2013
- *Johnson v. Pulte* Deposition in California, 4/4/2014
- *Kerby Estates* testified in arbitraton in Phoenix, Arizona 8/16/12, 8/17/2012, and 8/13/2012
- *Landmark Towers* Deposition in Arizona, 7/29/11
- *Levinson v. Del Webb* testified to arbitration panel in Phoenix, Arizona, 2/5/2013
- *Magic Ranch by Richmond America* Deposition in Denver, Colorado,12/13/2011
- *Montage* Deposition in Phoenix, Arizona, 8/20/2013
- *Paloma Paseo* Deposition in Arizona, 10/13/2007
- *Premier* Deposition in Arizona, 3/10/2009
- *Raintree* Deposition in Arizona, 8/3/2007
- *Richards vs. Del Webb*; see *Levinson v. Del Webb*
- *Sun City Grand* testified to arbitration panel in Phoenix, Arizona, 7/22/2011
- *Terravita*Deposition in Arizona, 10/6/2006
- *Third Street Lofts* Deposition in San Francisco, 2/26/2013
- *Windrose East* Deposition in Arizona, 3/10/2009

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TELECOMMUNICATIONS NETWORK DESIGN AND OPTIMIZATION EXPERIENCE

After leaving U S WEST Advanced Technologies, Dr. Cox led the following projects.

- Development and delivery of packet data and wireless network planning software tools to support design, capacity planning, routing, and restoration of traffic in robust, resilient networks for a major telecommunications equipment manufacturer (2012-2015)
- Development and delivery of SONET-DWDM ring and mesh network planning software tools that allow for unspecified (any-to-any) demands and incremental planning with ring, mesh, or hybrid protection and resilience against multiple simultaneous fiber cuts or other failuresfor a major telecommunications equipment manufacturer ((2005-2015).
- Led delivery of hybrid ring/mesh network planning software tool to Sprint (2004)
- Led delivery of SONET-DWDM mesh topology design tool to Tellabs, Inc. (2003)
- Developed network planning, optimization, and risk analysis tools for a satellite company (2002)
- Created a competitive cost model for Sprint's national optical network (2002)
- Delivered a Passive Optical Network (PON) configurator tool to a PON equipment vendor (2002)
- Delivered to Sprint a port-level SONET ring planning tool. An initial version of the tool was successfully used in creating Sprint's 2002 network build plan (2001)
- Delivered to Redback Networks a card-level SONET ring planning and optimization tool (2001). This software tool is now marketed commercially by Redback Networks.
- Delivered to Sprint a dark fiber network configuration planning tool, incorporating a proprietary genetic algorithm, that reduced costs of metro-area networks by over 50% compared to manual solutions. (2001 for fiber-only version and wireless link options)
- Delivered to Tellium a Dense Wave Division Multiplexing (DWDM) mesh topology design tool, marketed commercially as StarNet Planner. (2000)
- Delivered to Kestrel Solutions a SONET Ring Planning tool for optimizing placement of optical add-drop multiplexer components in optical ring networks. (2000)
- Created a new design for a backhaul network in Colorado that saved AT&T Wireless over 20% on their monthly backhaul charges. The new design, based on large-scale integer programming optimization, re-assigned traffic to hubs and recommended adding two new hubs to reduce system costs. (1999)
- For Sprint PCS, analyzed market demand forecasts and switching and interconnect costs. Led development of aa 20-period network growth and capacity planning and optimization software model. Identified a way to save over $1M (approximately 10%) of network capital expenses for a small city by reconfiguring the initial choice of switch modules to allow a more efficient capacity expansion growth path (1997).
- For Cox California PCS, led development of a backhaul network optimization program, solved via a new genetic algorithm, that reduced monthly backhaul costs by over 10% through more efficient of digital circuits to hubs and more economical use of SONET facilities.
- For PrimeCo Personal Communications Services, Ltd., created an optimization model of Multi-Channel Controller Card assignment and inventory management to reduce the costs of expanding network capacity through base station capacity upgrades.

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PREVIOUS INDUSTRY EXPERIENCE

Before starting Cox Associates in 1986, Dr. Cox consulted in statistics, health and safety risk analysis, operations research, computer science, and econometrics for Arthur D. Little, Inc. He managed multimillion dollar AI risk analysis software development projects for the U S Air Force and led cases covering environmental fate and transport modeling of pollutants, risk analyses for transportation and processing facilities, reliability modeling of complex systems, and a variety of product development, insurance, R&D, computer security, and electric utility applications. He also served as an expert statistician and economist in support of several contract, tort, and administrative law cases and contributed to projects on USDA Standards and Grades for food products, statistical analysis of cigarette smoking data, safety of different types of protective masks, etc.

In 1984, Dr. Cox won Arthur D. Little's Presidential Award for outstanding contributions to the development of R&D planning and risk assessment methodologies for the Electric Power Research Institute (EPRI).

Prior to joining Arthur D. Little, Dr. Cox worked in societal risk analysis, experimental cognitive psychology of text processing, and applied statistics, at the American Institutes for Research (AIR). He co-authored a widely cited book on the effects of court sanctions on risks of chronic delinquent behavior, featured on *Good Morning America* (e.g., www.theatlantic.com/politics/crime/wilson.htm).

OTHER TECHNOLOGY EXPERTISE

Dr. Cox has testified as an expert in risk analysis before the Mining Safety and Health Administration (MSHA) on health risks from respirable coal dust (2011); before the Subcommittee on Energy and Power of the House Energy and Commerce Committee of Congress on health effects of air pollutants (2012); before the U. S. House Science Committee Subcomittee on Environment on Ensuring Open Science at EPA (February, 2014); before the Occupational Safety and Health Administration (OSHA) on crystalline silica risks (March, 2014); and before the House Subcommittee on Energy and Power and the Subcommittee on Commerce, Manufacturing, and Trade, on public health effects of ozone (June, 2015).

Dr. Cox was U S WEST Advanced Technologies' technical expert on statistics and econometrics, artificial intelligence, decision and risk analysis, and digital signal processing technologies, emphasizing pattern recognition, spoken language understanding, and machine-learning applications. He has appeared on CNN and has been interviewed by KGNU Radio, the *Wall Street Journal*, *Newsweek*, and various newspapers about profitable business applications of these and related technologies. He frequently represented U S WEST to regulators and utility commissions in explaining the purpose, value, and accomplishments of U S WEST's work these areas. Dr. Cox has been interviewed many times about topics related to human health risks of chemicals and antibiotics. A presentation by Dr. Cox on animal antibiotic risks is described in the Science section of *The New York Times* (2006)

Dr. Cox has also been interviewed by *The Washington Post* (2005). *The Denver Post* (2005) and other national newspapers about potential risks of BSE ("mad cow" disease) in the US from imported Canadian cattle. He has been interviewed and quoted on a variety of topics related to quantitative risk assessment and modeling, including dose-response hormesis, infectious diseases, threats to children's health from chemicals, resistance to animal antibiotics(2010), and terrorism risk analysis (2010).

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PROFESSIONAL ACTIVITIES

Professional Societies

- Society for Risk Analysis (SRA). Fellow since 1993. (Fellowship recognizes lifetime contributions to the field of risk analysis)
- Institute for Operations Research and the Management Sciences (INFORMS), Edelman Laureate since 2006 (recognizing outstanding achievement in the practice of OR/MS.).
- Member of the American Statistical Association since 1993.

Positions Held

- Editor-in-Chief, *Risk Analysis: An International Journal*. 2013-Present
- President, Rocky Mountain Chapter, Institute for Operations Research and Management Science (INFORMS) 2013-2014
- Treasurer of the Society for Risk Analysis (SRA), 2007-8; Treasurer-Elect, 2006
- Counselor for the 400-member ORSA Special Interest Group on Telecommunications, 1992
- Member of the International Life Sciences Institute's (ILSI's) Risk Science Institute Cancer Dose-Response Working Group in 1991-1992.
- Counselor, Rocky Mountain Chapter of the SRA, 1990-1991
- Secretary and co-founder, New England Chapter of the SRA, 1985-86

Selected Awards and Honors

- *2015Best Published Papers Demonstrating an Application of Risk Assessment: Top Five Papers* award, awarded by the Risk Assessment Specialty Section of the Society of Toxicology, March, 2015
- 2012 Inducted into the National Academy of Engineering"For applications of operations research and risk analysis to significant national problems."
- *2011 Best Paper Award*, Society for Risk Analysis, for A causal model of chronic obstructive pulmonary disease (COPD) risk.http://www.sra.org/journal_best_paper_awards.php
- *2008 Innocentive Challenge Award*. In 2008, Dr. Cox's proprietary solution to a challenge on "Statistical Methods to Predict Clinical Response" won an InnoCentive Award from Eli Lilly.
- *2007 Outstanding Practitioner Award*, recognizing excellent performance in the practice of risk analysis. Awarded by the Society for Risk Analysis. San Antonio, TX, December, 2007.
- *Outstanding Published Paper in 2006 Demonstrating an Application of Risk Assessment,* awarded by the Risk Assessment Specialty Section of the Society of Toxicology, March, 2007.
- *Franz Edelman Finalist Award*, for achievement in the practice of Operations Research and the Management Sciences, Institute for Operations Research and Management Science (INFORMS), 2006.
- *Best Reviewer, Decision Sciences*, for *Risk Analysis: An International Journal*. 2006
- *Best Paper Award*, Society for Risk Analysis, 2003 www.sra.org/newsletter/news0204.pdf
- *Best Paper Award*, Society for Risk Analysis, 2002, www.sra.org/news0203.pdf
- *POMS National Award Finalist* for paper: Cox LA, Bell G, Glover F. A new learning approach to process improvement in a telecommunications company. *Production and Operations Management*,4, 3, 217-227, 1995. Production and Operations Management Society
- *INFORMS Prize*, best real-world applications of operations research with substantial business value, 1994
- Fellow of the Society for Risk Analysis, 1993

At U S WEST Dr. Cox also received many awards. Under his leadership, in 1994, U S WEST won the prestigious INFORMS Prize, awarded annually to the company in the world that has best applied operations research methods in innovative ways that have had profound business impact. In 1991 Dr. Cox won U S WEST's Special Achievement Award for developing new approaches to business risk analysis widely applied by U S WEST International. In 1992, he won the U S WEST's Chairman's Award and two Special Achievement Awards for innovations in network design credited with saving U S WEST over $100M. In 1994, Dr. Cox won U S WEST's new President's Club and Circle of Excellence Awards for innovations in probabilistic analysis of customer choice behavior.

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LOUIS ANTHONY COX, JR. – PATENTS

Dr. Cox has applied risk analysis, statistical decision theory, and optimization principles to several fields in new ways. He is inventor or co-inventor of the following innovations.

Speech Synthesis Using Perceptual Linear Prediction Parameters (U.S. Pat. # 5,165,008, awarded November 17, 1992. Canadian Patent #2,074,418 awarded December 12, 1995.)

Method and System for Optimized Logistics Planning (U.S. Pat. # 5,450,317, awarded September 12, 1995, http://www.patents.ibm.com/details?pn=US05450317__)

Method and System for Designing Least Cost Local Access Networks
(U.S. Patent #5,508,999, awarded April 16, 1996.)

Method and System for Planning and Installing Communication Networks.
(U.S. Patent #5,515,367, awarded May 7, 1996.)

Automated system and method for voice processing.
(U.S. Patent #5655006, awarded August 5, 1997.)

Method and system for identifying a corrupted speech message signal.
(U.S. Patent #5,684,921, awarded November 4, 1997.)

Method for providing a linguistically competent dialogue with a computerized service representative. (U.S. Patent #5,685,000, awarded November 4, 1997.)

Method and system for developing network analysis and modeling with graphical objects. (U.S. Patent #5,715,432, awarded February 3, 1998)

Adaptive knowledge base of complex information through interactive voice dialogue.
(U.S. Patent # 5,774,860, awarded June 30, 1998)

Method and system for linguistic command processing in a video server environment.
(U.S. Patent #5,832,439, awarded November 3, 1998)

Architecture and method for providing interactive broadband products and services using existing telephone plant. (U.S. Patent #5,857,142, awarded January 4, 1999.)
http://www.patentstorm.us/patents/5857142.html

Method for annotating and editing voice messages via acoustic bullet points. (U.S. Patent #5,943,402, awarded August 24th, 1999, http://www.patents.ibm.com/details?pn=US05943402__)

Calendar system with direct and telephony networked voice control interface. (U.S. Patent #6,009,398, awarded December 28th, 1999,
http://www.patents.ibm.com/patlist?icnt=US&patent_number=6009398&x=27&y=11)

Method and system for designing a cellular communication system. (U.S. Patent #6,181,917, awarded January 30th, 2001, http://www.delphion.com/cgi-bin/viewpat.cmd/US06181917,
http://www.patentstorm.us/patents/6181917.html)

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LOUIS ANTHONY COX, JR., PH.D.
SELECTED PUBLICATIONS

Books

Cox LA Jr. (Ed.) *Breakthroughs in Decision and Risk Analysis*. Wiley, 2015.

Cox, LA Jr. *Improving Risk Analysis*. Springer. New York. 2013.
(Reviewed at: https://people.maths.ox.ac.uk/trefethen/wegert_review_SIREVDec13.pdf)

Cox, LA Jr. *Risk Analysis of Complex and Uncertain Systems*. Springer. New York. 2009. (Reviewed at http://pubsonline.informs.org/doi/pdf/10.1287/inte.1100.0506.)

Cox, LA Jr. *Quantitative Health Risk Analysis Methods: Modeling the Human Health Impacts of Antibiotics Used in Food Animals*. Springer. New York. 2006.

Cox, LA Jr. *Risk Analysis: Foundations, Models and Methods*. Springer. New York. 2001. International Series in Operations Research & Management Science, 45.

Cox, LA Jr. and Ricci PF (eds), *New Risks: Issues and Management*. Plenum Press, 1990.

Murray, C.A., and LA Cox, Jr., *Beyond Probation: Juvenile Corrections and the Chronic Delinquent*. Sage Publications, Beverly Hills, CA, 1979.

Encyclopedias

Wiley Encyclopedia of Operations Research and Management Science. 2011.Area Editor for Decision Analysis, Risk Analysis, and Game Theory sections.

Wiley Encyclopedia of Quantitative Risk Analysis and Assessment, 2008 AreaEditor,Risk ManagementSection.

Edited Collections

Aven T., Cox LA Jr. *Simple Characterizations and Communication of Risks*. On-Line Special Issue of *Risk Analysis: An International Journal*. Wiley-Blackwell. 2016.

Aven T., Cox LA Jr. *Foundations of Risk Analysis*. On-Line Special Issue of *Risk Analysis: An International Journal*. Wiley-Blackwell. 2015.

Greenberg, M.R., and Cox, LA Jr. *Economics of Risk Analysis*. On-Line Special Issue of *Risk Analysis: An International Journal*. Wiley-Blackwell. 2014.

Haas C.N., Cox LA Jr. *Risk Analysis of Influenza*. On-Line Special Issue of *Risk Analysis: An International Journal*. Wiley-Blackwell. 2013.

Cox LA Jr. and Greenberg M.R. (Eds) *Advances in Terrorism Risk Analysis*. On-Line Special Issue of *Risk Analysis: An International Journal*. Wiley-Blackwell. 2011.

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Journal Articles, Book Chapters, Etc.

Cox LA Jr. Bier VM. Probabilistic Risk Analysis. Chapter 1 in VM Bier (Ed),*The Gower Handbook of Extreme Risk*. 2017. (In press)

Cox LA Jr. Quantifying and Reducing Uncertainty about Causality in Public Health and Safety Risk Analysis. In Ghenam R et al. (Eds), *Springer Handbook of Uncertainty Quantification*. 2017. (In press)

Cox LA Jr. Do causal concentration-response functions exist? A critical review of associational and causal relations between fine particulate matter and mortality. *Critical Reviews in Toxicology*. 2017. (In press.)

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http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470400633.html

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http://www.wiley.com/WileyCDA/Section/id-397132.html

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Cox LA Jr. Game theory and risk analysis. *Risk Analysis.* 2009 Aug;29(8):1062 -8.

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Cox LA Jr., Popken DA, Mathers J. Human health risk assessment of penicillin / aminopenicillin resistance in enterococci due to penicillin use in food animals.*Risk Analysis.*2009 Jun;29(6):796-805

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3. *Methods for Risk Analysis of the Transportation of Hazardous Materials.* Final Report to the OpenbaarLichmanRijnmond. Arthur D. Little, Inc., Cambridge, MA, 1982. (with A.S. Kalelkar and L.M. Bendixen)

4. *A Workshop on Dealing with Uncertainty in Risk Analysis.* Final Report to the Division of Policy Research and Analysis (PRA), National Science Foundation. Arthur D. Little, Inc., Cambridge, MA, 1983. (with H. Ojha, J. Fiksel)

5. *PERCO: A Model for Prioritization of Environmental Risks and Control Options at Hazardous Waste Sites.* Final Report to the Massachusetts Department of Environmental Quality Engineering (DEQE). Arthur D. Little, Cambridge, MA, 1983. (with J. Fiksel)

6. *Principles for the Use of De Minimis Concepts in Risk Regulation.* Final Report to the Division of Policy Research and Analysis (PRA), National Science Foundation. Arthur D. Little, Inc., Cambridge, MA, 1984. (with J. Fiksel, M.S. Baram, and J.R. Miyares)

7. *Analysis of Routine Occupational Risks Associated with Selected Electrical Energy Systems.* EPRI Report EA-4020, Electric Power Research Institute, Palo Alto, CA, 1985 (with A.S. Kalelkar and J. Fiksel)

8. *An Automated Threat Assessment Methodology for Security Risk Analysis.* Final Report to the U.S. Air Force Computer Security Program Office (AFCSPO). Arthur D. Little, Inc., Cambridge, MA, 1986.

9. *A Conceptual Framework for Research Planning at the Health Effects Institute.* Final Report to the Health Effects Institute (HEI), Arthur D. Little, Inc., Cambridge, MA, 1986.

10. *Predictions of Future Cancer Incidence Rates Among Nuclear Power Plant Employees.* Final Report to the American Nuclear Insurers and Mutual Atomic Energy Underwriters. Arthur D. Little, Inc., Cambridge, MA, 1987 (with J. Fiksel and G.S Young).

11. *Reassessing the Internal Doses in Humans and Animals from Inhalation of Butadiene.* Report to the Chemical Manufacturers Association. Cox Associates, Denver, CO, November, 1989.

12. *New Directions in Cancer Modeling and Risk Assessment for Benzene.* Final Report to the Western States Petroleum Association. Cox Associates, Denver, CO, July, 1990.

13. *Reassessing the Risks of Chemical Carcinogens using PBPK Models: Benzene as an Example.* Report to the American Petroleum Institute. Cox Associates, Denver, CO, December, 1990.

14. *Techniques and Methodology for Dealing with Scientific Uncertainties in Biologically-Based Risk Assessment.* Report to the Western States Petroleum Association. Cox Associates, Denver, CO, February, 1991.

15. *STEM: A Data Acquisition and Management System for Exploring Biological Effects of Chemicals.* Report to Exxon Biomedical Sciences, Inc. Cox Associates, Denver, CO, June, 1991.

16. *Deterministic Biomathematical Models for Risk Modeling.* Report to the API/WSPA Biologically-Based Risk Assessment Working Group. Cox Associates, Denver, CO, October, 1991.

17. *Uncertainty Analysis of PBPK Models.* Final Report to the American Industrial Health Council Delivered Dose Working Group. American Industrial Health Council, Washington, D.C., December, 1992.

18. *Basic Biology Review and Biomathematical Modeling of Normal Blood Cell Proliferation.* American Petroleum Institute, Washington, D.C., 1993.

19. *Managing Statistical Uncertainties in PBPK Modeling.* American Industrial Health Council (AIHC), Washington, D.C., October, 1993.

20. *A Unifying Class of Linear Compartmental Flow Models of Carcinogenesis.* Report to the American Industrial Health Council (AIHC). Cox Associates, Denver, CO, January, 1994.

21. *Internal Dose and Uncertainty Analysis of Complex Risk Models.* Report to the American Industrial Health Council (AIHC). Cox Associates, Denver, CO, January, 1994.

22. *An Exact Analysis of the Multistage Model Explaining Dose-Response Concavity.* Report to the American Industrial Health Council (AIHC). Cox Associates, Denver, CO, February, 1994.

23. *Dealing with Uncertainties in a Biologically-Based Risk Assessment Model of Cyclophosphamide-Induced Leukemogenesis.* American Petroleum Institute, Health and Environmental Science. Report # DR70. Washington, D.C. May, 1994.

24. *Data Analysis and Risk Modeling of Lung Tumor Risks from Diesel Exhaust.* Report to the Western States Petroleum Association. Cox Associates, Denver, CO, March, 1995.

25. *Comments on EPA's Proposed Decisions on Standards for Particulate Matter and Ozone.* Final Report to the Engine Manufacturers Association. Cox Associates, Denver, CO. March 8, 1997. 38 pages

26. *Technical and Policy Issues in Regulating Particulate Matter (PM) Air Pollution: An Information Primer.* Draft Report to the American Petroleum Institute. Cox Associates, Denver, CO. March 31, 1997. 50 pages

27. *U S WEST Customer Attrition Modeling: Learning to Predict Customer Attrition Risk From Data.* Final Report to U S WEST Communications. Cox Associates, Denver, CO. August 14, 1997. 36 pages + Appendices

28. *Comments On OEHHA's 1997 Draft Risk Assessment For Diesel Exhaust.* Final Report to the Engine Manufacturers Association. Cox Associates, Denver, CO. 8-20, 1997. 34 pages.

29. *A Method to More Accurately Forecast Demand for Local Loop Products.* Final Report to U S WEST Communications. Cox Associates, Denver, CO. September 5th, 1997. 24 pages.

30. *Next Optimal Product Project: Optimal Statistical Matching of Product Offers to Customer Needs.* Final Report to U S WEST Communications. Cox Associates, Denver, CO. December 29th, 1997. 20 pages + Appendices

31. *TCI Customer Acquisition and Loss Model.* Final Report to TCI. Cox Associates, Denver, CO. January 9th, 1998. 31 pages + Appendices

32. *Comments On OEHHA's February, 1998 Draft Risk Assessment For Diesel Exhaust.* Final Report to the Engine Manufacturers Association. Cox Associates, Denver, CO. April 13th, 1998. 47 pages.

33. *Demographic Clusters Predicting Perceived Service Quality: Summary. Report to TCI.* Cox Associates, Denver, CO. April 17th, 1998. 8 pages.

34. *Minimizing Monthly Lease Costs in AT&T Wireless's Denver-Area Backhaul Network: Results of a Pilot Project on Cost Reduction.* Draft Report to AT&T Wireless. Cox Associates, Denver, CO. May 18th, 1998.

35. *Switch Capacity and Resources: Technical Background for Forecasting.* Report to U S WEST Advanced Technologies. Cox Associates, Denver, CO. July 30th, 1998. 15 pages + appendices and hyperlinks

36. *A Statistical Decision Approach for Sampling Ordnance and Explosives.* Final Report to the Army U.S. Army Corps of Engineers, Huntsville, Alabama. Montgomery Watson, Inc., Salt Lake City, UT and Cox Associates, Denver, CO. September, 1998. 39 pages.

37. *Network capacity forecasting and planning process: Results of a planning workshop.* Final report to A T & T Wireless Systems, National Business Planning. Cox Associates, Denver, CO. December 30, 1998. 19 pages plus appendices.

38. *Minimizing network facility costs via DWDM overlays: Results of a pilot project on cost reduction.* Final report to Tellium. Cox Associates, Denver, CO. April 15th, 1999. 19 pages plus appendices.

39. *An Investigation of System Identification Techniques for Simulation Model Abstraction.* Final Technical Report, Air Force Research Laboratory Information Directorate. Rome Research Site. Rome, New York. February, 2000. 84 pages. (with D.A. Popken) http://www.stormingmedia.us/58/5825/A582573.html

40. *Review of Uncertainty and Variability Analysis In IRIS for Eight Substances.* Final Report to Versar. Cox Associates, Denver, CO. June 14th, 2000. 28 pages plus appendices. http://www.epa.gov/ncea/hlthfx_iris.htm

41. *Optical Network Design Tools: Optimization Software to Support Migrating to Optical Networks.* Final Report to Nortel Networks. Cox Associates, Denver, CO. July 2000. 45 pages plus appendices.

42. *A Rapid Study of Classic U S WEST Business Customer Attrition and Purchases: Results.* Final Report to Qwest Communications. Cox Associates, Denver, CO. December, 2000. 36 pages.

43. *A Dynamic Simulation Model of Campylobacter Illnesses.* Final Report to Animal Health Institute. Cox Associates, Denver, CO. February, 2001. 68 pages plus appendices.

44. *Quantifying Public Health Risk Reduction Benefits.* AWWA Research Foundation, 2002. (Raucher, R.S. *et al.*) 205 pages + appendices.

45. *Animal Antimicrobial Feed Additives and Human Health: A Guide to Risk Analysis.* Animal Health Institute and Cox Associates. February, 2003. 51 pages.

46. *Rapid, Accurate Risk Ratings of Animal Antimicrobials.*Final Report to Animal Health Institute. Cox Associates, Denver, CO. July, 2003. 54 pages.

47. *Quantitative Human Health Risks FromVirginiamycin Use in Food Animals in Australia.* Final Report to Animal Health Institute. Cox Associates, Denver, CO. August, 2003. 19 pages + Appendices.

48. *Computer simulation of dynamic interactions among VOC hematotoxins in bone marrow*. Final Report to American Chemistry Council. Cox Associates, Denver, CO. September, 2003. 30 pages + Appendices.

49. *Quantitative Risk Assessment of Avilamycin Use in the US.* Draft Final Report to Elanco, Cox Associates, Denver, CO. October, 2003. 32 pages + Appendices.

50. *Human Health Risk Assessment of Macrolide Use in US Food Animals.* Draft Final Report to Elanco, Cox Associates, Denver, CO. October, 2003. 26 pages + Appendices.

51. NationalAcademy of Sciences National Research Council report on *Safety and Security of Commercial Spent Nuclear Fuel Storage*. National Academies Press. Washington, D.C., 2006. http://www.nap.edu/openbook/0309096472/html/R4.html

52. *Risk Assessment of Penicillin/Aminopenicillin Resistance in Enterococci Due to Continued Use of Penicillins in Food Animals*. Final Report to Alpharma. Cox Associates, Denver, CO. June, 2007. 57 pages. (With Dr. Douglas Popken)

53. National Research Council. Committee on Methodological Improvements to the Department of Homeland Security's Biological Agent Risk Analysis. *Interim Report on Methodological Improvements to the Department of Homeland Security's Biological Agent Risk Analysis*. National Academies Press**.** Washington, D.C., 2007.

54. *Risk Assessment of Lactrol™ in Distiller Grain Animal Feeds.*Final Report to Phibro Animal Health. Cox Associates, Denver, CO. October, 2009. (With Dr. Douglas Popken)

55. *Human Health Risk Assessment of Eliminating the Withdrawal Period for Chlortetracycline Feed Products in Swine*. Final Report to ADM. Cox Associates, Denver, CO. November, 2011. 30 pages. (With Dr. Douglas Popken)

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LOUIS ANTHONY COX, JR., PH.D.
SELECTED TALKS, LECTURES, AND PRESENTATIONS

1. "Biological bases of low-dose nonlinearity for chemical carcinogens," invited talk presented at the Society for Risk Analysis Annual Meeting, New Orleans, Hotel Intercontinental, October 7-10, 1990.

2. "Biologically-based risk assessment," invited seminar given to the EPA and the Chemical Industry Institute of Toxicology, Research Triangle Park, North Carolina, May 22, 1991.

3. "Dealing with uncertainty in PBPK modeling," presentation to the American Industrial Health Counsel (AIHC) Delivered Dose Working Group, Washington, D.C., November 14, 1991.

4. "PBPK modeling in biologically-based risk analysis," invited talk to the Houston Chapter of the Society for Risk Analysis, Houston, TX, November 20, 1991.

5. "Why offer doctoral programs in risk analysis?", invited presentation and panel discussion at the Society for Risk Analysis Annual Meeting, Baltimore, MD, December, 1991.

6. "Challenges and promises of risk assessment," invited seminar presented to the U S Department of Agriculture's APHIS program, Hyattsville, MD, January 7, 1992.

7. "Recent advances in decision analysis," invited graduate seminar presented at the University of Colorado business school, March 18, 1992.

8. "Economic research and modeling in the telecommunications industry," invited talk given at the Public Utilities Regulatory Training Institute (PURTI) visit to U S WEST Advanced Technologies, May, 1992.

12. "New methods for calculating upper confidence bounds of multistage dose-response models," invited seminar given at the California Environmental Protection Agency, Berkeley, CA, September 4, 1992.

13. "Scientific research needs in benzene risk assessment," invited presentation and panel discussion presented at the American Petroleum Institute workshop on Mechanisms of Benzene Toxicity as a Basis for Risk Assessment, Airlie Foundation, Warrenton, VA, September 21-23, 1992.

14. "Decisions with unknown consequences: A random valuation model," presented at the Society for Risk Analysis 1992 Annual Meeting, December 6-9, Hotel del Coronado, San Diego, CA, December 6-9. 1992.

15. "Relating biologically-based risk models to population data," presented at the Society for Risk Analysis 1992 Annual Meeting, December 6-9, Hotel del Coronado, San Diego, CA, December 6-9. 1992.

16. "Incorporating biological response information into risk prediction," poster presented at the Society for Risk Analysis 1992 Annual Meeting, December 6-9, Hotel del Coronado, San Diego, CA, December 6-9. 1992.

17. "Minimizing the average costs of fault diagnosis in complex systems," poster presented at the *Fourth International Workshop on Artificial Intelligence and Statistics*,Fort Lauderdale, Florida, January 4-6, 1993.

18. "Uncertainty analysis of complex risk models: Bayesian and non-Bayesian approaches" invited seminar presented at the Harvard School of Public Health, January 26, 1993.

19. "New approaches to confidence band estimation in parametric statistical models," invited seminar presented at the Environmental Protection Agency, February 8, 1993.

20. "Statistical and artificial intelligence analysis of isoprene bioassay data", talk presented at Battelle Columbus Laboratories, September 25, 1993.

21. "Optimal project selection in a stochastic funding model", talk presented (with L. Lu and Y. Qiu) at the ORSA/TIMS Joint National Meeting, Hyatt Regency, Phoenix Arizona, October 31-November 3, 1993.

22. "A biologically-based risk assessment (BBRA) model of leukemogenesis induced by cyclophosphamide", Poster presented by Dr. Mary Paxton at the workshop on *Biological Mechanisms and Quantitative Risk Assessment: From Experimental Design to Risk Characterization.*ResearchTrianglePark, North Carolina, November 1-4, 1993.

23. "Coping with uncertainties in a computer simulation model of cyclophosphamide-induced leukemogenesis," invited talk, 1993 Annual Meeting of the Society for Risk Analysis, Savannah, Georgia, December 5-8, 1993.

24. "Machine learning for uncertainty management in complex risk models", invited talk presented at The Institute of Management Sciences (TIMS) and Operations Research Society of America (ORSA) joint meeting, Boston Marriott Copley Place, Boston, Massachusetts, April 24-27, 1994.

25. "Reducing the expected costs of classification trees through local search" (presented with X. Sun and Y. Qiu), invited talk, TIMS/ORSA joint meeting, Boston Marriott Copley Place, Boston, Massachusetts, April 24-27, 1994.

26. "Planning survivable interoffice networks using SPT", (coauthored with and presented by Y. Qiu), invited talk presented at TIMS/ORSA joint meeting, Boston Marriott Copley Place, Boston, Massachusetts, April 24-27, 1994.

27. "Least-cost inspecting and repairing strategies for multicomponent systems," (with X. Sun and Y. Qiu), invited talk presented at The Institute of Management Sciences (TIMS) 1994 annual conference, University of Alaska at Anchorage, June 12-15,1994.

28. "More informative confidence limits for dose-response functions using Monte-Carlo simulation: The Data Cube approach." Invited seminar presented at the California EPA, Office of Environmental Health Hazard Assessment, Berkeley, CA, August 12, 1994.

29. "New frontiers in toxicology information: Technologies of the informaion superhighway." Keynote address, *21st Annual Toxicology Information Roundtable,* MICROMEDEX Toxicology, Medicine, and Environmental Series, Westin Hotel at Tabor Center, Denver, Colorado, October 13, 1994.

30. "Nonlinear dose-time-response relations for chemicalleukemogens: Computer simulation of the roles of cell kinetics and hematotoxicity." Invited talk presented at the *Symposium on Recent Developments in Benzene Epidemiology and Toxicology.* Villa Florence Hotel. San Francisco, CA. November 29-30, 1994.

31. "A simulation method for constructing more informative upper confidence limits on dose-response functions," invited talk presented at the 1994 Annual Meeting of the Society for Risk Analysis, Hyatt Regency at the InnerHarbor, Baltimore, MD, December 4-7, 1994.
http://www.riskworld.com/Abstract/1994/sraam94/ab4aa072.htm

32. "Nonlinear cell kinetics can explain observed anomalies in dose-time-response patterns," Poster session (presented with Dr. M.B. Paxton), 1994 Annual Meeting of the Society for Risk Analysis, Hyatt Regency at the Inner Harbor, Baltimore, MD, December 4-7, 1994.
http://www.riskworld.com/Abstract/1994/sraam94/ab4aa249.htm

33. "Automated visualization and discovery of predictively useful biological response profiles in complex data set" (with Dr. M. Bird), presented at the 1994 Annual Meeting of the Society for Risk Analysis, Hyatt Regency at the Inner Harbor, Baltimore, MD, December 4-7, 1994.

34. "PBPK modeling and mechanistic risk assessment: Using scientific information to improve risk assessment." Lecture given at the CACI/CDPHE Risk Assessment Workshop, Denver, CO, January 31, 1995.

35. "Reassessing benzene risks using internal doses and Monte-Carlo uncertainty analysis", invited talk presented at Benzene '95, Rutgers, New Jersey, June, 1995.

36. "Analysis of isoprene bioassay data: Risk assesment implications", invited talk presented at the International Symposium: Evaluation of Butadiene and Isoprene Health Risks", Blaine, Washington, June 27-29, 1995.

37. "Reanalyzing human lung cancer risks from diesel exhaust using a multivariate risk model", invited talk presented at the Diesel Risk Assessment Workshop, San Francisco, January 29-30, 1996.

38. "Biomathematical modeling of chemically-induced myelotoxicity and potential applications to t-AML risk modeling", invited talk presented at the University of California, Berkeley Workshop on *Modeling Chemically-Induced Leukemia -- Implications for Benzene Risk Assessment.* Yountville, CA, February 11-13, 1996. (Report by M.T. Smith and E.W. Fanning published in *Leukemia Research*, 1997.)

39. "Scheduling switch replacements with randomly decreasing deadlines", with S. Chiu and Y. Lee, presented at INFORMS 96, Washington, D.C., May 5-8, 1996.

40. "Optimal design of digital wireless networks" (with S. Chiu, J. Ryan, V. Corlew, S. Raghavan), presented by Dr. S. Chiu at IFORS Conference, Vancouver, May, 1996.

41. "A network design problem for multimedia broadband networks," presented by Dr. Cox for Dr. Y. Lee at INFORMS Spring meeting, Washington, D.C., May 5-8, 1996.

42. "Stochastic optimization in classification trees." *Fifth Society for Industrial and Applied Mathematics Conference on Optimization,*Victoria, British Columbia, May 20-22, 1996.

43. "Using data to improve business performance: Techniques and applications", invited talk given at the *Electric Power Research Institute (EPRI) 1996 Performance Measurement Workshop.* Loews Giorgio Hotel, Denver, CO. November 7, 1996.

44. "Uncertainty analysis of complex risk models," invited talk presented at the Society for Risk Analysis and International Society of Exposure Analysis, 1996 Annual Meeting, Fairmont Hotel, New Orleans, December 8-12, 1996.
http://www.riskworld.com/Abstract/1996/SRAam96/ab6aa088.htm

45. "Decision models for uncertain hazards", invited talk presented at the Society for Risk Analysis and International Society of Exposure Analysis, 1996 Annual Meeting, Fairmont Hotel, New Orleans, December 8-12, 1996.
http://www.riskworld.com/Abstract/1996/SRAam96/ab6aa134.htm

46. "Using classification trees to improve causal inferences in observational studies." Presented at the *Sixth International Workshop on Artificial Intelligence and Statistics.* Fort Lauderdale, Florida. January 4-7, 1997.

47. Testimony on health effects of particulate matter. Presented on behalf of the Engine Manufacturers Association at EPA's Public Hearings on Ozone and Particulate Matter National Ambient Air Quality Standards. Salt Lake City, January 14, 1997.

48. "Adaptive spatial sampling for inspection and cleanup at hazardous waste sites". Invited seminar given at AlliedSignal, Morristown, New Jersey. January 28, 1997.

49. "Dose-response relationships and benzene toxicology." Invited talk presented at the Toxicology Forum, 22nd Annual Winter Meeting. Loews L'Enfant Plaza Hotel, Washington, D.C. February 24-27, 1997.

50. "A computer model of hematotoxicity explaining experimental and clinical data for cyclophosphamide and benzene". Invited presentation, with Dr. M.B. Paxton, at the SOT Poster/Discussion session on "Benzene -- Toxicity, Mechanisms, and Pharmacokinetics", Abstract #839. 36th Annual Meeting of the Society of Toxicology. CincinnatiConventionCenter, March 11, 1997.

51. "Heuristics for improved design of telecommunications networks and services". Invited lecture in graduate seminar on Advanced Topics in Optimization. University of Colorado at Boulder. April 23, 1997.

52. "Nonlinear dose-time-response models for chemical carcinogens." Invited seminar, hosted by the University of Colorado at Denver Biomathematics Seminar, Denver, Colorado. April 30, 1997.

53. "Optimal sequential inspection of complex reliability systems with uncertain structure function and component reliabilities." Invited talk, presented at the INFORMS Spring meeting, San Diego, May 4-7, 1997.

54. "An integrated business simulation model for PCS companies." Invited talk, INFORMS Spring meeting, San Diego, May 4-7, 1997. (With W. Kuehner, K. Paige, J. Parker)

55. "Optimizing PCS backhaul networks: Should wireless network engineers care?" Invited talk, presented at the INFORMS Spring meeting, San Diego, May 4-7, 1997.

56. "Optimization modeling therapy for large, disorganized companies". Invited talk, presented at the INFORMS Spring meeting, San Diego, May 4-7, 1997.

57. "PM 2.5 and diesel exhaust health risks: Statistical *vs.* causal associations". Invited talk presented at University of California, Riverside and The California Trucking Association Conference on *Meeting the Environmental Challenge of the 21st Century*. World Truck Conference, Treasure Island Resort Hotel, Las Vegas, Nevada. May 13-15, 1997.

58. "A computer model of hematotoxicity explaining experimental and clinical data." Invited seminar, hosted by the University of Colorado at Denver Biomathematics Seminar, Denver, Colorado. November 19, 1997.

59. "Adaptive spatial sampling for investigating and remediating contaminated properties." Poster session presented at the Society for Risk Analysis 1997 Annual Meeting. Capitol Hilton Hotel, Washington, D.C., December, 1997. http://www.riskworld.com/Abstract/1997/SRAam97/ab7ab384.htm

60. "Directed acyclic graph algorithms for interpreting causality in ambiguous epidemiological data". Invited seminar, hosted by the University of Colorado at Denver's Biomathematics Seminar Series, Denver, Colorado. February 7th, 1998.

61. "Applied mathematics in telecommunications consulting". Invited seminar, hosted by University of Colorado at Denver's Optimization Seminar Series. http://www-math.cudenver.edu/optima/seminars.html. February 11, 1998.

62. "Dynamic hierarchical packing minimizes costs of wireless switch capacity expansion." Invited talk presented at the 1998 INFORMS Telecommunications Conference, Sheraton Inn, Boca Rotan, Florida. March 8-11, 1998. http://www.cstp.umkc.edu/informs-telecom/4th_conf_dir/adv_prog_detail.html

63. "More accurate forecasting of demand for telecommunications products using customer information profiles and purchase transition data." Invited talk presented at the 1998 INFORMS Telecommunications Conference, Sheraton Inn, Boca Rotan, Florida. March 8-11, 1998. http://www.cstp.umkc.edu/informs-telecom/4th_conf_dir/adv_prog_detail.html

64. "Exact mathematical analysis of multistage carcinogenesis models," Invited seminar, hosted by the University of Colorado at Denver's Biomathematics Seminar Series, Denver, Colorado. April 10th, 1998.

65. "Association *vs.* causation: Notes and comments on EPA's draft risk assessment for diesel exhaust", presented to the Clean Air Science Advisory Committee (CASAC), Governor's Inn, Research Triangle Park, NC, May 5th, 1998.

66. "Advances in data mining: Case studies from the telecommunications industry." Invited lecture, University of Denver, Daniels School of Business, capstone course in data technologies for business applications, May 11th, 1998.

67. "Advances in biologically-based risk assessment". Invited seminar given at Exxon Biomedical Sciences, Inc., Mettlers Road, New Jersey. June 1, 1998.

68. "New methods for identifying quantitative structure-activity and activity-activity relations." Invited seminar given at Exxon Biomedical Sciences, Inc., Mettlers Road, New Jersey. June 1, 1998.

69. "Simulation-optimization heuristics for sampling contaminated soils." Invited presentation, Biomathematics and Statistics Seminar, University of Colorado at Denver Mathematics Department. September 24, 1998.

70. "Identifying customer demand processes from data." Presentation given (with Dr. Douglas Popken) at INFORMS 98, SeattleConventionCenter, October 26th, 1998.

71. "Optimal statistical sampling of contaminated soils." Invited lecture, Seminar in Advanced Topics in Optimization, U. of Colorado at Boulder, December 2nd, 1998

72. "Computational Bayesian methods for assessing uncertain exposures." Lecture in the 1998 Workshop on *Probabilistic Methods in Risk Assessment.* Society for Risk Analysis Annual Meeting, Phoenix, Arizona. December 6th, 1998.

73. "Axiomatic Definitions of Risk". Poster presented at Society for Risk Analysis Annual Meeting, Phoenix, Arizona. December 9th, 1998. http://www.sra.org/events.htm#annual

74. "A simulation-optimization approach to cost-effective sampling and cleanup of contaminated areas." Talk presented at the Society for Risk Analysis 1998 Annual Meeting, Phoenix, Arizona. December 9th, 1998. http://www.sra.org/events.htm#annual

75. "A biologically motivated model of hematotoxicity: Model overview and empirical evaluation." Presented at the *HematotoxicityModeling Workshop*, Institute of Population Health, University of Ottowa. December 15th, 1998.

76. "Causal mechanisms and classification trees for predicting chemical carcinogens." Presented (by Professor D. Fisher for LA Cox) at the *Seventh International Workshop on Artificial Intelligence and Statistics.*Fort Lauderdale, Florida. January 3-6, 1999. http://uncertainty99.microsoft.com/proceedings.htm

77. "Applied mathematics in telecommunications consulting." Invited lecture in Undergraduate Mathematics Seminar, University of Colorado at Denver, March 8th, 1999. http://www.cudenver.edu/~hgreenbe/courses/3001/S99/syllabus.html

78. "Causal data mining and modeling of customer data." Invited lecture, University of Denver, Daniels School of Business, capstone course in data technologies for business applications, April 29th, 1999.

79. "Optimal use of acquired network facilities." Invited presentation, INFORMS '99, CincinnatiConventionCenter, May 3rd, 1999.

80. "Valid and invalid causal inferences in epidemiology." Invited talk, CU-Denver Statistics and BioMath Seminar, September 14th, 1999.

81. "An axiomatic approach to attributable risk," CU-Denver Statistics and BioMath Seminar, October 19th, 1999.

82. "Forecasting purchases of telecommunications services via state transition models", with Dr. Doug Popken. INFORMS Fall '99, Philadelphia, November 7-10, 1999. http://www.informs.org/Conf/Philadelphia99//TALKS/TE13.html

83. "Causal data mining of telecommunications customer data", INFORMS Fall '99, Philadelphia, November 7-10, 1999. http://www.informs.org/Conf/Philadelphia99//TALKS/TE13.html

84. "Mathematical validity of CVM Risk Assessment." Invited review of antimicrobial risk assessment, presented at U.S. Food and DrugAdministrationCenter for Veterinary Medicine (CVM)'s Draft Risk Assessment and the Establishment of Resistance Thresholds Workshop, December 9th and 10th, 1999.DoubleTree Hotel, Rockville, MD.http://www.fda.gov/cvm/mathval_tcox.htm

85. "Optical network planning and optimization in metropolitan areas." Invited talk at Institute for International Research Conference on *Transitioning to the Next on Metropolitan Network Using DWDM.* Wyndham Miami Beach Resort, February 14-15, 2000.

86. "Data mining and causal simulation modeling of customer behaviors". Tutorial presented at Fifth INFORMS Telecommunications Conference. Sheraton Boca Raton Hotel, Boca Raton, Florida, March 5-8, 2000. http://www.crt.umontreal.ca/GERAD/boca2000/monday.shtml#ma

87. "Cost savings from network optimization of DWDM facilities and optical switches". Presented at *8th International Conference on Telecommunications Systems: Modeling and Analysis.*VanderbiltUniversity, Nashville, Tennessee, March 9-12, 2000.

88. "Predicting and optimizing customer behaviors." Presented at *8th International Conference on Telecommunications Systems: Modeling and Analysis.*VanderbiltUniversity, Nashville, Tennessee, March 9-12, 2000.

89. "Attributable risk and multiple causes." Invited seminar, University of Colorado Health Sciences Center Seminar Series, April 17th, 2000

90. "Predicting how Telecommunications Ads Affect Customer Values". INFORMS Spring 2000 Meeting, Salt Lake City, Utah, May 7-10, 2000. Salt Palace Convention Center. http://www.informs.org/Conf/SaltLake2000//TALKS/MB19.html

91. "A simulation model of excess illnesses from fluoroquinolone-resistant Campylobacter." Invited presentation, 9th Symposium of the International Society

for Veterinary Epidemiology and Economics. Beaver Run Resort, Breckenridge, CO, August 6-11, 2000.
http://www.cvmbs.colostate.edu/cveadss/schedule/SchedulePage.htm

92. "Some new problems in applied optimization: Telecommunications data mining and network design applications.".Invited lecture, Seminar in Special Topics in Optimization, University of Colorado at Boulder, School of Business, November 2nd, 2000.

93. "Designing Effective Risk Management Decision Processes" (with V. Bier). Invited talk, INFORMS Annual Meeting, San Antonio, November, 2000. (Presented by Professor Bier.)

94. "A discrete-event simulation model of human health risks from fluoroquinolone-resistant Campylobacter in chickens." Society for Risk Analysis Annual Meeting, WashingtonD.C. December 6th, 2000.

95. "Alternatives to establishing thresholds: A predictive modeling framework." Invited talk presented at the FDA meeting on Use of Antimicrobial Drugs in Food Animal and the Establishment of Regulatory Thresholds on Antimicrobial Resistance. Rockville, MD, January 22 - 24, 2001.
http://www.fda.gov/cvm/antimicrobial/thresagenda51.htm

96. "Advances in data mining for predicting risks of customer responses to interventions." Invited lecture, HearinCenter for Enterprise Science. University of MississipiSchool of Business Administration, Oxford, Mississipi, 2-24-01.

97. "Data mining methods for health risk data bases." Invited lecture, Seminar on Computational Biology, University of Colorado Department of Mathematics, Denver, Colorado, 3-15-01.

98. "Optimized mesh vs. ring comparisons". Invited presentation and panel discussion, All Optical Network Conference, Orlando, Florida, May 3rd, 2001.

99. "Campylobacter risk analysis: a cause-and-effect view." Invited presentation, *Second International Conference on Antimicrobial Resistance: Use of Antimicrobials and Protection of Public Health.* Office International des Epizooties, Paris, France. 2-4 October, 2001.

100. "Decision-making with incomplete models". Invited lecture, Seminar in Special Topics in Optimization, University of Colorado at Boulder, School of Business, November 28th, 2001.

101. "Game theoretic models of critical infrastructure protection" Society for Risk Analysis Annual Meeting, Seattle, WA, December 5th, 2001. (Bier, V., Abhichandani, V., Cox, LA Jr. Presented by Professor V. Bier.)

102. "The Causes of Campylobacteriosis". Invited paper presented at *Symposium on the Use of Fluoroquinolones in Poultry: Effect on Campylobacter and the Potential Human Health Consequences.*Cambridge, MA, March 1, 2002.

103. "Optimizing Dark Fiber Use in Metropolitan Areas" (with G. Bell), *Sixth INFORMS Telecommunications Conference,*Boca-Raton, Florida, March 10-13, 2002. http://www.informs.org/Conf/Telecom02/Abstracts/Cox01336062645.pdf

104. "What is the cost of a DS3?" . Invited talk, *Sixth INFORMS Telecommunications Conference,*Boca-Raton, Florida, March 10-13, 2002. http://www.informs.org/Conf/Telecom02/Abstracts/Cox_network_cost_abstract.pdf

105. "Least-Cost Acquisition of Service Facilities Via Spatial Clustering" (with D. Babayev), *Sixth INFORMS Telecommunications Conference,*Boca-Raton, Florida, March 10-13, 2002. http://www.informs.org/Conf/Telecom02/Abstracts/Cox01356165150.pdf

106. "Predicting Likely Telecom Service Buyers by Mining D&B and Billing Data", *Sixth INFORMS Telecommunications Conference,* Boca-Raton, Florida, March 10-13, 2002 http://www.informs.org/Conf/Telecom02/Abstracts/Cox01361002535.pdf

107. "How to Make Good Risk Management Decisions with Inadequate Data: Applications to Blood Supply Safety." Invited talk, *Decision-Making Under Conditions of Uncertainty Regarding Rare and Emerging Diseases, with special focus on the Human Impact of Transmissible Spongiform Encephalopathy (TSE),* Fairmont Chateau Laurier Hotel. Ottawa, Ontario. March 25th and 26th, 2002. http://www.hc-sc.gc.ca/pphb-dgspsp/hcai-iamss/sra-ser/tse-est02/pdf/proceedings_dmucu_%202002.pdf

108. "Using Epidemiological Data in Risk Assessment". Lecture in Professional Course on Probabilistic Risk Assessment. Health Canada. Ottawa, Ontario. March 27th, 2002.

109. "Integrating Health Risk Assessment and Management". Lecture in Professional Course on Probabilistic Risk Assessment. Health Canada. Ottawa, Ontario. March 27th, 2002.

110. "Causes of Camplyobacteriosis", invited talk at the University of Colorado Health Sciences Center, Denver, Colorado. April 9th, 2002.

111. "Human Health Risk Assessment for Virginamycin Use in Chicken" (with D. Popken), Poster Presentation P11 at *2002 Conference on Antimicrobial Resistance.* Hyatt Regency Bethesda, Bethesda, MD, June 27th-29th, 2002. http://www.nfid.org/conferences/resistance02/absposter.pdf

112. "Causes of Fluoroquinolone-Resistant Campylobacteriosis" (with D. Popken), Poster Presentation P12 at *2002 Conference on Antimicrobial Resistance.* Hyatt Regency Bethesda, Bethesda, MD, June 27th-29th, 2002.

http://www.nfid.org/conferences/resistance02/absposter.pdf

113. "Quantifying Human Health Impacts of Veterinary Medical Products Regulations." Invited Plenary Presentation. VICH 2. Tokyo, Japan, October 10th, 2002.

114. "Defending Networked Resources Against Intelligent Attacks." Invited presentation, INFORMS Annual Meeting, San Jose. November 17-20, 2002. http://informs.emeetingsonline.com/emeetings/formbuilder/clustersessiondtl.asp?csnno=311&mmnno=101

115. "Modeling the Human Health Risks from Antibiotic Use in Chickens". Presented at INFORMS Annual Meeting, San Jose. November 17-20, 2002. http://informs.emeetingsonline.com/emeetings/formbuilder/clusterpaperdisplay.asp?ppnno=1257

116. "Quantifying human health impacts of antimicrobial risk management alternatives for enrofloxacin". Winner, Society for Risk Analysis Best Paper Award,. Society for Risk Analysis Annual Conference, New Orleans, LA. December 9-11, 2002. www.sra.org/news0203.pdf

117. "Quantifying human health risks from virginiamycin used in chickens." Poster Presentation, Society for Risk Analysis Annual Conference, New Orleans, LA. December 9-11, 2002.

118. "Uncertainty in quantitative estimates of health risk from diesel particles". Invited plenary talk, Sixth Workshop on Mexico City Air Quality, Hotel Royal Pedregal, México January 21, 2003.

119. "Communicating risks and uncertainties to health managers." Invited talk, Advanced Risk Management Techniques, Strategies, and Modelling Practices: Blood Safety. Statistics and Risk Assessment Section, Blood Safety Surveillance and Health Care Acquired Infections Division. Centre for Infectious Disease Prevention and Control. Population and Public Health Branch. Health Canada. Fairmont Chateau Laurier Hotel. March 13th-14th, 2003.

120. "Nonlinear Low-Dose Hematotoxicity" presented at *Non-Linear Dose-Response Relationships in Biology, Toxicology, and Medicine: An International Conference.* (University of Massachusetts, Amherst, MA, May 28-30th, 2003) http://www.belleonline.com/abstracts/session6.html

121. "Human Health Risks and Benefits of Current Enrofloxacin Use Patterns and Alternatives" (with Dr. Douglas Popken). Poster presented at the *NFID 2003 Annual Conference on Antimicrobial Resistance.* June 23-25th, Hyatt Regency Bethesda, MD, 2003. http://www.nfid.org/conferences/resistance03/.

122. "Quantifying Human Health Impacts of Antimicrobials Used in Veterinary and Human Medicine." Poster presented at the *NFID 2003 Annual Conference on Antimicrobial Resistance*. June 23-25th, Hyatt Regency Bethesda, MD, 2003. http://www.nfid.org/conferences/resistance03/.

123. "The role of risk assessment in assessing the future of antimicrobials in food animal production: an overview." Invited presentation, *Seventh DISCOVER Conference on Food Animal Agriculture: Is There a Future for Antibiotics in Animal Agriculture?* September 21-24, 2003. Abe Martin Lodge, BrownCountyState Park. Nashville, Indianahttp://www.adsa.org/discover/7thDISCOVERProg4-8-03.htm

124. Cox, LA. A Computer Simulation Model of Low-Dose Interactions Among VOC Hematotoxins In Bone Marrow. Presented at Society for Risk Analysis Annual Meeting. Baltimore. December 7-10, 2003.

125. CoxLA., Popken DA. Past and Future Human Health Risks and Benefits from Animal Antimicrobials. Presented at Society for Risk Analysis Annual Meeting. Baltimore. December 7-10, 2003.

126. Cox LA. Quantitative and Qualitative Prediction of Human Health Risks from Emerging Resistance to Animal Antimicrobials. Presented at Society for Risk Analysis Annual Meeting. Baltimore. December 7-10, 2003.

127. Cox LA. Information Theory, Causality, and Objective Hazard Identification . Presented at Society for Risk Analysis Annual Meeting. Baltimore. December 7-10, 2003.

128. Cox LA. Risk Analysis Ideas for Decontaminating Buildings. Invited presentation, NRC Workshop on Standards and Policies for Decontaminating Public Facilities Affected by Exposure to Harmful Biological Agents. Hotel Monaco, Washington, D.C., January 28-29, 2004.

129. Cox, LA. Does the use of antibiotics in food animals pose a risk to human health? A critical review of published data. NARMS Conference. Decatur, Georgia. March 5, 2004.

130. Cox LA. The use of risk assessment models in formulating regulations for antibiotic use in food animal production. 53rd Western Poultry Disease Conference March 7-9, 2004 Capitol Plaza Holiday Inn - Sacramento, California

131. Cox LA. Simulating bone marrow impacts of VOC mixtures. Invited poster presented at the American Chemistry Council's LRI Annual Science Meeting. May 5-6, 2004 Hotel Inter-Continental Miami, Florida

132. Cox LA.Rapid Risk Rating Technique for risk-benefit assessments of antibiotics used in food animals. Invited presentation, ASM General Meeting New Orleans, Louisiana, May, 2004.

133. Cox LA. Detecting causal non linear exposure-response relations in epidemiological data. Poster presented at *Non-Linear Dose-Response Relationships in Biology, Toxicology, and Medicine: An International Conference.*University of Massachusetts, Amherst, MA. June 8-10, 2004.

134. Cox LA. Low-dose nonlinearity of hematopoietic dose-response relations. Poster presented at *Non-Linear Dose-Response Relationships in Biology, Toxicology, and Medicine: An International Conference.*University of Massachusetts, Amherst, MA. June 8-10, 2004.

135. Cox LA. Universality of J-shaped and U-shaped dose-response relations in stochastic transition systems. Talk presented at *Non-Linear Dose-Response Relationships in Biology, Toxicology, and Medicine: An International Conference.* University of Massachusetts, Amherst, MA. June 8-10, 2004.

136. Cox LA. Qualitative vs. Quantitative Risk Assessment of Animal Antimicrobials. Poster presented at the *NFID 2004 Annual Conference on Antimicrobial Resistance.* June 28th, Hyatt Regency Bethesda, MD, 2004. http://www.nfid.org/conferences/resistance04/.http://www.nfid.org/conferences/resistance04/.

137. Cox LA. A Rapid Risk Rating Technique (RRRT) for Quantitative Risk Assessment of Animal Antimicrobials. Poster presented at the *NFID 2004 Annual Conference on Antimicrobial Resistance.* June 28th, Hyatt Regency Bethesda, MD, 2004. http://www.nfid.org/conferences/resistance04/.http://www.nfid.org/conferences/resistance04/.

138. Quantitative comparison of human health risks and benefits caused by alternative decisions on animal drug uses. Invited talk at Society for Risk Analysis Symposium: *Risk Assessment and Antimicrobial Resistance: Past, Present and Future.*HyattRegencyCrystalCity, Arlington, VA. September 28-29, 2004. http://www.sra.org/docs/amr-ra_flyer.pdf

139. Cox LA Jr, Babayev D. Stochastic Optimization Via Random Sampling and Deterministic Solutions. Presented at INFORMS 2004 Annual Meeting. Denver, CO. October, 2004.

140. Popken DA, Cox LA Jr. Results from Simulation-Based Planning of Theatre Air Warfare. Presented at INFORMS 2004 Annual Meeting. Denver, CO. October, 2004.

141. Cox LA Jr. Potential human health benefits of antibiotics used in food animals: a case study of virginiamycin. Poster presented at the Society for Risk Analysis

Annual Meeting. WydhamPalm Springs. Palm Springs, CA. December 5-8, 2004. http://birenheide.com/sra/2004AM/program/singlesession.php3?sessid=P3

142. Cox LA, Jr., G. Charnley, C.L. Gaworski. Linear vs. Nonlinear Models of Excess Lung Cancer Risks Induced by Carbon Filter Particles in Cigarette Smoke. Poster presented at the Society for Risk Analysis Annual Meeting. WydhamPalm Springs. Palm Springs, CA. December 5-8, 2004. http://birenheide.com/sra/2004AM/program/singlesession.php3?sessid=P3

143. Cox, LA Jr. Emergent, Robust Non-Linearity of Dose-Response Relations in Stochastic Transition Models. Invited presentation at the Society for Risk Analysis (SRA) Annual Meeting. Wyndham Palm Springs. Palm Springs, CA. December 5-8, 2004. http://birenheide.com/sra/2004AM/program/singlesession.php3?sessid=P3

144. Cox, LA Jr. BSE Update. Invited presentation, R-CALF Annual National Convention. January 19, 2005 Red Lion Hotel, Denver CO. http://www.lmaweb.com/infonewspast.html , http://www.hpj.com/bsetimeline.cfm

145. Cox, LA Jr. Potential human health impacts of banning antibiotics used in food animals: A case study of virginiamycin. Invited talk, Conference on: Worldwide Ban on Animal Antibiotics on the Horizon? Amsterdam. January 31, 2005.

146. Cox, LA Jr. Quantifying potential human health risks and benefits of animal antibiotics. FDA, Center for Veterinary Medicine (CVM) FASS Symposium, Food Safety, Animal Drugs, and Animal Health Committee. Rockville, MD. February 14th, 2005.

147. Cox, LA Jr. Causal modeling in health risk analysis: Designing safer cigarettes and other applications. Invited talk, Seminar in Special Topics in Optimization, University of Colorado at Boulder, School of Business. 3-16-2005.

148. Cox, LA Jr. Low-dose dose-response nonlinearities as adaptive inventory control risk management strategies for tissues. Invited presentation at the *Fourth Annual International Conference on Hormesis: Implications for Toxicology, Medicine, and Risk Assessment.* University of Massachusetts at Amherst. Amherst, MA, June 8, 2005. http://belleonline.com/BellePrelim_2005.pdf

149. Cox, LA Jr. Complex low-dose nonlinearities: Insights from cadmium. Poster presented at the *Fourth Annual International Conference on Hormesis: Implications for Toxicology, Medicine, and Risk Assessment.* University of Massachusetts at Amherst. Amherst, MA, June 8, 2005. http://belleonline.com/BellePrelim_2005.pdf

150. Cox, LA Jr. Dynamics of u-shaped and n-shaped dose-response in a simple model of cytotoxicity-mediated carcinogenesis. Poster presented at the *Fourth Annual International Conference on Hormesis: Implications for Toxicology,*

Medicine, and Risk Assessment. University of Massachusetts at Amherst. Amherst, MA, June 8, 2005. http://belleonline.com/BellePrelim_2005.pdf

151. Cox LA Jr., Approaches to Antimicrobial Risk Analysis in Food Safety Decision Making in Poultry Medicine. Invited talk, 2005 AAAP/AVMA Annual Meeting. MinneapolisConvention Center. July 17th, 2005.http://www.aaap.info/annlmtg/m2005/Symposium%20AAAP%202005.pdf

152. Cox LA Jr., Modeling Lung Carcinogenesis 1: Genotoxic and epigenetic events in two-stage clonal expansion (TSCE) models. Invited presentation, Philip Morris Research Laboratories Symposium on Genotoxic and Epigenetic Tumorigenesis. Crown Plaza Hotel. Cologne, Germany. November 14-16, 2005

153. Cox LA Jr., Modeling Lung Carcinogenesis 2 : Toward a biologically based model of smoking and lung cancer . Invited presentation, Philip Morris Research Laboratories Symposium on Genotoxic and Epigenetic Tomorigenesis. Crown Plaza Hotel. Cologne, Germany. November 14-16, 2005

154. Cox LA Jr., Food Animal Antibiotics and Human Health. Invited seminar, Sponsored by Seed Science Center/Institute for Food Science & Security. IowaStateUniversity. November 30th, 2005.

155. Cox LA Jr., Assessing and Managing the Human Health Risks from Antibiotics Used in Food Animals: Data, Analysis, and Policy Perspectives. Invited presentation at IowaStateUniversity. December 1, 2005.

156. Cox LA Jr., Food Animal Antibiotics and Human Health: History and Policy Perspectives. Invited presentation at the *Society for Risk Analysis (SRA) 2005 Annual Meeting*. Orlando, Florida. December 4-7th, 2005.
http://birenheide.com/sra/2005AM/program/singlesession.php3?sessid=M19

157. Cox LA Jr., What Fraction of Disease Can be Prevented by Removing Specific Exposures? Presentation at the *Society for Risk Analysis (SRA) 2005 Annual Meeting.*Orlando, Florida. December 4-7th, 2005.
http://birenheide.com/sra/2005AM/program/singlesession.php3?sessid=M4

158. Cox, Tony. Risk analysis and public health – How to get from good intentions to good results: Animal antibiotics and other examples. Invited talk, *Café Scientifique.*DenverColorado. January 17th, 2006.
http://cafescicolorado.org/Cox.htm#topic

159. Cox LA Jr., Using data mining to predict and to influence customer behaviors: Some real-world examples. Invited talk, Seminar in Information Systems and Data Mining, University of Colorado at Boulder, Leeds School of Business. 2-7-2006.

160. Cox LA, Popken DA, Carnevale R. Quantitative risk anlysis for animal antibiotics. *Edelman Award Competition. INFORMS Practitioners Meeting.* Hotel Intercontinental, Miami, Florida. May 1, 2006. http://iol-a.informs.org/index.php?c=401&kat=Franz+Edelman+Award

161. Cox LA Jr..Assessing uncertainty in influential risk assessments. Invited talk, *Public Forum on OMB's Proposed Risk Assessment Bulletin: Implications for Practice Inside and Outside Government.*GeorgeWashingtonUniversityCafritzConferenceCenter. WashingtonD.C. May 24, 2006. http://www.ramas.com/omb1.htm

162. Cox LA Jr. Meta-hormesis for uncertain risks: Arsenic as a case study. Invited presentation and panel discussion. *Fifth Annual International Conference on Hormesis: Implications for Toxicology, Medicine, and Risk Assessment.* University of Massachusetts at Amherst. Amherst, MA, June 7, 2006. http://www.hormesissociety.org/pdf/2006_Hormesis_Preliminary.pdf

163. Cox, Tony. Assessing Construction Defect Risks. *INFORMS 2006 Annual Meeting.* Pittsburgh, Wednesday Nov 08. https://informs.emeetingsonline.com/emeetings/websitepapersv2.asp

164. Cox LA Jr. Hormesis dynamics in a model of lung field cancerization.*Society for Risk Analysis 2006 Annual Meeting.* BaltimoreMD Harbor Renaissance Hotel. December 3-6, 2006. http://birenheide.com/sra/2006AM/program/singlesession.php3?sessid=T3-B

165. Cox LA Jr. Uncertainty, variability and transparency in OMB's Bulletin on Risk Analysis. Invited presentation and panel discussion. *Society for Risk Analysis 2006 Annual Meeting.*BaltimoreMD Harbor Renaissance Hotel. December 6, 2006.

166. Cox, Tony. Simulation of lung carcinogenesis: Some challenges for parameter optimization. Invited talk, School of Engineering, University of Colorado. 2-21-2007.

167. Cox, Tony. Is the A/J Mouse an Appropriate Model for Human COPD Risks? Invited panel discussion. Philip Morris Research Seminar on *The A/J Mouse – A Relevant Animal Model for Cigarette Smoke-Induced Diseases?* Hyatt Hotel. Cologne, Germany. May 29-30, 2007.

168. Cox LA Jr. Hierarchical, knowledge-based, and approximate models can aid prediction, assessment and communication of the lung cancer risks associated with smoking. Invited presentation, *Society for Risk Analysis – Europe. Sixteenth Annual Meeting.* The Hague, Amsterdam. June 17-19, 2007. http://www.sraeurope2007.eu/docs/ConferenceBookofAbstracts.pdf

169. Cox, Tony. Quantifying Potential Human Health Risks from Penicillin/Ampicillin Use in Food Animals. Presentation at the U.S.FDACenter for Veterinary Medicine (CVM). Rockville, Maryland. August 29, 2007.

170. Cox, Tony. Dynamic Simulation of COPD: Neutrophil Accumulation. Invited presentation. Philip Morris International, Research. Neuchatel, Switzerland. September 6, 2007.

171. Cox, Tony. Dynamic Simulation of COPD: Protease-Antiprotease Imbalance. Invited presentation. Philip Morris International, Research. Neuchatel, Switzerland. September 6, 2007.

172. Cox, Tony. Simulating lung cancer risk from conventional and modified cigarettes. Invited presentation at UCDHSC Department of Mathematical Sciences: Operations Research Seminar. December 05, 2007

173. Cox, Tony;Popken, Douglas A; Mathers, Jerry. Do penicillin-based drugs administered to food animals threaten human health? *Society for Risk Analysis 2007 Annual Meeting.* San Antonio, Texas. December 9-12, 2007. http://birenheide.com/sra/2007AM/program/

174. Cox, Tony. Identifiability and prediction uncertainty in a multistage clonal expansion (MSCE) model of carcinogenesis. Invited presentation, *Society for Risk Analysis 2007 Annual Meeting.* San Antonio, Texas. December 9-12, 2007. http://birenheide.com/sra/2007AM/program/

175. Cox, Tony; Urban, Hans-Joerg..Multilevel biologically-based dose-response modeling of complex diseases: Lung cancer and COPD as examples. *Society for Risk Analysis 2007 Annual Meeting.*San Antonio, Texas. December 9-12, 2007. http://birenheide.com/sra/2007AM/program/

176. Cox, Tony. BSE Risk in the US: Update. Invited presentation, *R-CALF Annual Convention,* Omaha, NE. February 21, 2008. www.r-calfusa.com/convention/2008convention.htm

177. Cox, Tony. Data mining and modeling to maximize customer lifetime value. Invited lecture in Business Intelligence, Leeds School of Business, University of Colorado at Boulder. April 23, 2008.

178. Cox, Tony. Hormesis without cell killing in a competing-risks model of carcinogenesis. Presentation at *Dose-Response 2008.*University of Massachusetts at Amherst. April 30, 2008. http://www.dose-response.org/conference/2008/Conference_Program_2008.pdf.

179. Cox, Louis A. How can statisticians help improve the quality of construction defect litigation? Invited presentation, *Joint Statistical Meetings (JSM) 2008.* Denver, Colorado. August 5, 2008.

www.amstat.org/meetings/jsm/2008/onlineprogram/index.cfm?fuseaction=abstract_details&abstractid=301900

180. Cox, Tony. Improving RAMCAP™ and TVC Terrorism Risk Analysis. Invited presentation, *Chief of Naval Operations' Distinguished Fellow Program: Critical Infrastructure Workshop.* Naval PostgraduateSchool. Monterey ,CA. August 14, 2008.

181. Cox, Tony. Short Course on Causality and Decision Analysis for Risk Analysts. *Australia&New Zealand Regional Organisation of the Society for Risk Analysis. 3rd Annual Conference.*Canberra, Australia. September 29, 2008. http://www.acera.unimelb.edu.au/sra/SRA2008/Abstract-program.pdf

182. Cox, Tony. Some limitations of "Risk = Threat x Vulnerability x Consequence" for risk analysis of terrorist attacks. *Australia&New Zealand Regional Organisation of the Society for Risk Analysis. 3rd Annual Conference.*Canberra, Australia. September 30, 2008. http://www.acera.unimelb.edu.au/sra/SRA2008/Abstract-program.pdf

183. Cox, Tony. Some limitations of elicited probabilities for terrorism risk assessment. *Australia&New Zealand Regional Organisation of the Society for Risk Analysis. 3rd Annual Conference.*Canberra, Australia. October 1, 2008. http://www.acera.unimelb.edu.au/sra/SRA2008/Abstract-program.pdf

184. Cox Louis A Jr. Game theory models of telecommunications networks resilient against terrorist attacks. *INFORMS Annual Meeting 2008*Washington, DC. October 13, 2008 https://informs.emeetingsonline.com/emeetings/formbuilder/clustersessiondtl.asp?csnno=8108&mmnno=176&ppnno=33560

185. Cox Louis A Jr. Predicting and controlling customer churn on multiple time scales. *INFORMS Annual Meeting 2008*Washington, DC. October 14, 2008 https://informs.emeetingsonline.com/emeetings/websitepapersv2.asp

186. Cox Louis A Jr. Designing networks to withstand terrorist attacks. Invited presentation, *Society for Risk Analysis 2008 Annual Meeting.* Westin Boston Waterfront Hotel. Boston, MA. December 7-10, 2008. http://www.sra.org/docs/Final_Binder_1.pdf

187. Cox Louis A Jr. Risk management prority rankings are ineffective: A call for change. *INFORMS Roundtable Winter Meeting.* Hyatt Regency San Antonio, Texas. February 22-23, 2009 www.informs.org/site/roundtable/index.php?c=17&kat=Meetings&&p=6|

188. Cox, Tony. Rethinking risk analysis: Outsmarting adaptive attackers. Invited tutorial. *Military Operations Research Society (MORS) Workshop: Risk-Informed*

Decision-Making for Homeland Security Allocation. ANSERConferenceCenter. Shirlington, VA. April 13, 2009. http://www.mors.org/risk/agenda.pdf

189. Cox, Tony. Risk analysis: Traditional and current approaches. Invited presentation. *Military Operations Research Society (MORS) Workshop: Risk-Informed Decision-Making for Homeland Security Allocation.*ANSERConferenceCenter. Shirlington, VA. April 14, 2009. http://www.mors.org/risk/agenda.pdf

190. Cox, Tony. Fixing broken risk management processes. Invited presentation. *INFORMS Practitioners Meeting*, Phoenix Sheraton, Phoenix, Arizona, April 27, *2009.* http://meetings.informs.org/Practice09/risk.html

191. Cox, Tony. Customer data mining, modeling, and optimization of lifetime value. Invited lecture in Business Intelligence, Leeds School of Business, University of Colorado at Boulder. April 28, 2009.

192. Cox, Tony. Theories and realities of risk modeling. Invited presentation to the *Committee to Review the Department of Homeland Security's Approach to Risk Analysis*. National Academy of Sciences, Washington, D.C. May 21, 2009.

193. Cox, Anthony. Health risk assessment and modeling. Invited keynote address, *Quality Risk Management – Implementation Strategies. A Joint FDA/CDER andURICollege of Pharmacy Conference.*Hyatt Regency, BethesdaMD. June 15-16, 2009.

194. Cox, Louis A. What's wrong with hazard-ranking systems? Invited presentation, Section on Statistics in Defense and National Security2009 Joint Statistical Meeting. August 5, 2009. Washington, D.C. http://www.amstat.org/meetings/jsm/2009/onlineprogram/index.cfm?fuseaction=abstract_details&abstractid=302910

195. Cox, Tony. Using risk analysis models to improve decisions: From good intentions to good results. Invited talk, RockyMountain INFORMS Kickoff Meeting. Tivoli Student Union Building, Denver, CO. September 24, 2009. http://www-math.cudenver.edu/events/QueryEvent.php?eid=650

196. Cox, Tony. Advances in health risk assessment and modeling. Four invited lectures presented at Risk Assessment Unit at Evira (Finnish Food Safety Authority) Helsinki. October 22-23, 2009. http://www.evira.fi/attachments/programras2009__2_.pdf

196. Cox, Tony. Quantifying potential human health risks from tetracycline use in food animals. Invited talk presented at FDACenter for Veterinary Medicine. November 12, 2009.

197. Cox, Tony. Use of mode-of-action in risk assessment.Invited presentation, *Society for Risk Analysis 2009 Annual Meeting.*Baltimore. December 7, 2009.

http://birenheide.com/sra/2009AM/program/singlesession.php3?sessid=M4-C&order=1#1 .

198. Cox, Tony. Validating Tox 21C Testing. Invited panel presentation. *21st Century Validation Strategies for 21st Century Tools***.** July 14, 2010 Baltimore, MD.http://caat.jhsph.edu/programs/workshops/july13validation.htm

199. Cox, L. Anthony, Jr. Limits of Predictability. Invited presentation to National Academy of Sciences, Committee on Mathematical Foundation of Verification, Validation, and Uncertainty Quantification. Keck Building, WashingtonD.C. August 24, 2010. http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=4478

200. Cox, Tony. Decisions Without Consequence Probabilities. Invited presentation to OPTTEK. Boulder, Co. September 7, 2010.

201. Cox, Tony. Making Sustainability More Sustainable in a Risky World. *INFORMS Annual Meeting 2010.*Austin, TX. November 9, 2010. http://meetings2.informs.org/Conf/Austin2010/images/split%20pdfs/tracks/Austin%20Service%20Science%20Sections.pdf

202. Cox, Tony. Creating Customer Satisfaction: A Causal Engineering Approach. Invited Keynote Address. C5 Fall Meeting. The CableCenter. Denver, CO. November 15, 2010.

203. Cox, Tony. Models and Mechanisms of Dose-Response Thresholds for Particulate and Nanoparticle-Induced Inflammatory Lung Diseases and Lung Cancer. *Society for Risk Analysis 2010 Annual Meeting.*Salt Lake City. December 7, 2010. http://birenheide.com/sra/2010AM/program/singlesession.php3?sessid=T2-G

204. Cox, Tony. MSHA's Draft Quantitative Risk Assessment (QRA) of RCMD: Current flaws and possible fixes. Presentation at Mine Safety and Health (MSHA) Public Hearing. Arlingon, VA. 2-15-2011. www.msha.gov/REGS/Comments/2010-25249/Transcripts/20110215ArlingtonVA.pdf pp 77-104 and cf p. 243

205. Cox, Tony. Operations Research in Today's Economy. Invited talk and panel discussion, First ORC Day, MIT Operations Research Center. October 15, 2011.

206. Cox, Tony. Principles of Microbial Risk Analysis. Invited lecture. University of Colorado Health Sciences Center. November 1, 2011.

207. Cox LA Reassessing the evidence on health benefits of cleaning air. *Society for Risk Analysis 2011 Annual Meeting.* Charleston, SC. December 7, 2011. http://birenheide.com/sra/2011AM/program/singlesession.php3?sessid=W3-I&order=1#1

208. Cox, Tony. Developing better risk management decision processes for real people. Invited presentation and panel discussion. *Society for Risk Analysis 2011 Annual Meeting.* Charleston, SC. December 5, 2011. http://birenheide.com/sra/2011AM/program/singlesession.php3?sessid=M4-F

209. Cox, Tony. Improving broken risk management decision processes. Invited talk, School of Industrial and Systems Engineering, University of Oklahoma. April 20, 2012.

210. Cox, Tony. Causality for risk analysis. Invited talk at *Workshop on Foundational Issues in Risk Assessment and Management*. Hotel Laurin in Salo, Milano, Italy 3-4 August 2012.http://www.lgi.ecp.fr/~li/materials/workshop-agenda-aug2012-2-alt-30july.pdf

211. Cox, Tony. Extending decision theory to address practical risk analysis problems. Invited talk at *Workshop on Foundational Issues in Risk Assessment and Management*. Hotel Laurin in Salo, Milano, Italy 3-4 August 2012.http://www.lgi.ecp.fr/~li/materials/workshop-agenda-aug2012-2-alt-30july.pdf

212. Cox, Tony. Causal modeling vs. wishful thinking in public health policy. Invited talk, Rocky Mountain INFORMS Chapter Meeting, University of Colorado at Denver, September 19th 2012. http://www.informs.org/Community/Rocky-Mountain-Chapter

213. Cox, Tony. How should communities manage catastrophic risks? 7th Annual DFG-NSF Conference - Reckoning with the Risk of Catastrophe. October 3-5, 2012 Washington DC. http://dfg-nsf2012.mit.edu/wp-content/uploads/2012/09/Conference-brochure.pdf

214. Cox, Tony. Toward more useful decision analysis for real people. Invited talk presented at University of Colorado at Denver School of Business. Denver, CO. November 3, 2012

215. Cox, Tony. Improving risk management comparisons and decisions. Invited webinar, The Society of Information Risk Analysts. November 8, 2012. https://www.societyinforisk.org/content/save-date-tony-cox-present-siras-november-webinar; http://vimeo.com/53151221

216. Cox, Tony. Warmer is healthier: Effects on mortality rates of changes in average fine particulate matter (PM2.5) concentrations and temperatures in 100 U.S. cities. *Society for Risk Analysis 2012 Annual Meeting.* San Francisco. December 12, 2012. http://birenheide.com/sra/2012AM/program/singlesession.php3?sessid=W3-K

217. Cox, Tony. Predictive and prescriptive analytics for increasing customer satisfaction. Rocky Mountain INFORMS Chapter Meeting, University of Colorado

at Denver, January 23rd 2013. http://www.informs.org/Community/Rocky-Mountain-Chapter

218. Cox, Tony. Improving causal analysis in risk-cost-benefit analysis. Invited presentation, Fifth Annual Meeting of the Society for Benefit-Cost Analysis. Washington, D.C.February 21, 2013. http://benefitcostanalysis.org/system/files/SBCA13%20Panel%20Schedule_01%2022%202013.pdf

219. Cox, Tony. Improving causal inference in air pollution risk analysis. Webinar for American Chemistry Council (ACC) members. June 21, 2013

220. Popken DA, Cox T. The good, the bad, and the ugly: How and how not to do quantitative risk analysis of food safety. Rocky Mountain INFORMS Chapter Meeting, University of Colorado at Denver, September 20, 2013. http://www.informs.org/Community/Rocky-Mountain-Chapter

221. Cox, T. How much have historical reductions in air pollution affected mortality rates? Invited presentation, Workshop on Retrospective Review of Risk-Based Regulations. Workshop sponsored by The George Washington University Regulatory Studies Center and National Capital Area Chapter of the Society for Risk Analysis. Washington, D.C. September 27, 2013.

222. Cox, T. Evidence on causality in PM2.5 health effects studies. Invited presentation, Workshop on Retrospective Review of Risk-Based Regulations. Workshop on Health Effects Associated with Elevated Levels of PM2.5. Sheraton, Crystal City, VA. October 22, 2013.

223. Cox, T. Adapting risk management to reduce regret. *Society for Risk Analysis 2013 Annual Meeting.* Baltimore, MD. December 9, 2013.

224. Cox, T. Possible futures for Risk Analysis. *Society for Risk Analysis 2013 Annual Meeting.* Baltimore, MD. December 10, 2013.

225. Cox, T. Have historical reductions in ozone and fine particulate matter caused reductions in mortality rates?*Society for Risk Analysis 2013 Annual Meeting.* Baltimore, MD. December 11, 2013.

226. Cox, LA, Jr. and Popken, DA. Present invited paper on "How well can *in vitro* assays predict *in vivo* results?" at FutureTox II: In Vitro Data and In Silico Models for Predictive Toxicology. January 16–17, 2014 Chapel Hill, North Carolina https://www.toxicology.org/ai/meet/cct_futureToxII.asp

227. Cox, T. Benefits and importance of data sharing. Invited presentation at Institute of Medicine (IOM) Workshop on Principles and Best Practices for Sharing Data from Environmental Health Research. National Academy of Sciences Building,

Washington. D.C. March 19, 2014.https://www.youtube.com/watch?v=iYxLO8tTvl8

228. Cox, LA Jr. Overcoming learning-aversion in evaluating and managing uncertain risks. Paper presented at the Conference on Risk, Perception, and Response. Harvard Center for Risk Analysis. Harvard School of Public Health. Boston, MA. March 20-21, 2014.

229. Cox, T. Intergenerational justice in resilience investments with uncertain future preferences and resources. Invited presentation, International Conference on the Societal Risk Management of Natural Hazards (ICSRM). Hotel and Conference Center University of Illinois at Urbana-Champaign April 17-18, 2014.

230. Cox T. Reducing over-valuation of risk regulations with highly uncertain benefits. *Society for Risk Analysis 2014 Annual Meeting.* Denver, CO. December 8, 2014.

231. Cox T. Vision and scope for Risk Analysis: An International Journal. Invited presentation and panel discussion, *Society for Risk Analysis 2014 Annual Meeting.* Denver, CO. December 9, 2014.

232. Cox, T. Intelligent adversary risk analysis. Invited presentation, Risk Speaker Series, Sandia National Laboratory, Livermore, CA. March 31, 2015.

233. Cox LA. Academic publishing. Invited presentation and panel discussion, Auraria Campus Library. Denver, CO. April 9, 2015.

234. Cox LA. Improving regulatory science. Invited presentation to Board of Mathematical Sciences and their Applications. National Academy of Sciences. Washington, D.C. May 8, 2015.

235. Cox T. Estimating and validating causal concentration-response relations for PM2.5 from data. Invited talk, 41st Annual Summer Meeting of The Toxicology Forum. The Cheyenne Mountain Resort. Colorado Springs, Colorado. July 14, 2015.

236. Cox T. Simple displays of complex risk information: Beyond risk matrices. Invited Webinar, Society for Risk Analysis. August 27, 2015.

237. Cox, T. Applied Risk Analytics. Invited seminar, University of Colorado Department of Mathematics. September 29, 2015.

238. Cox, T. From complex data to complex decisions. Invited talk, National Academy of Sciences, Board of Mathematical Sciences and their Applications. Washington, D.C. October 23, 2015.

239. Cox, T. Causal analytics for improving risk regulation. *Society for Risk Analysis 2015 Annual Meeting.* Arlington, VA. December 9, 2015.

240. Cox, T. Integrity in Publishingfor Scientific Risk Analysis. Invited presentation and panel discussion. *Society for Risk Analysis 2015 Annual Meeting.*Arlington, VA. December 9, 2015

241. Cox, T. Using risk-cost-benefit analysis to improve gain-of-function research decisions. Invited presentation at *Second NAS Symposium on Gain-of-Function Research*. Washington, DC. March 10, 2016

242. Cox, T. Society for Risk Analysis Webinar - A Causal Analytics Toolkit (CAT) for assessing exposure-response relations in epidemiological data. June 29, 2016https://www.youtube.com/watch?v=6EUA03NQ85I&feature=youtu.be

243. Cox, T. Applied risk analytics: Making advanced analytics more useful. Invited Inaugural Distinguished Lecture in Operations Research. Naval Postgraduate School (NPS).Monterery CA. August 4, 2016

244. Cox, T. A Causal Analytics Toolkit (CAT) for assessing causal relations in data. Invited lecture, University of Colorado at Denver, School of Business, September 13, 2016

245. Cox, LA Jr. Probabilistic causation, regulation, and the courts. Law & Economics Center, George Mason University Antonin Scalia Law School. Searle Civil Justice Institute Research Roundtable on Judicial Review of Regulatory Evidence. Wednesday, November 16, 2016

246. Cox T. Automating causal judgments in risk analysis. Invited presentation and panel discussion. *Society for Risk Analysis 2016 Annual Meeting.*San Diego, CA December 12, 2016

247. Cox TL, Popken DA, Kaplan AM, Plunkett LM, Becker RA. How well do high throughput screening (HTS) assay data predict *in vivo* rodent carcinogenicity of pesticides?Invited presentation and panel discussion. *Society for Risk Analysis 2016 Annual Meeting.*San Diego, CA December 14, 2016. (Presented by co-author Dr. Laura Plunkett)

248. Cox T. More objective causal interpretation of exposure-response data. Invited presentation and panel discussion. *Society for Risk Analysis 2016 Annual Meeting.*San Diego, CA December 12, 2016

249. Cox T. Causal Analytics for Benefit-Cost Analysts: What Effects do Policies Cause? Society for Benefit-Cost Analysis (SBCA) 2017 Workshop. George

Washington University Marvin Center, Washington, D.C. March 15, 2017. https://benefitcostanalysis.org/sbca-2017-workshop-offerings#Causal

250. Cox, T. Adaptive benefit-cost analysis forchanging a few of many causes. Society for Benefit-Cost Analysis (SBCA) 2017 Conference. George Washington University Marvin Center, Washington, D.C. March 16, 2017. https://benefitcostanalysis.org/sites/default/files/public/E1%20Tony%20Cox%20Adaptive%20BCA%203-16-17.pdf

251. Cox, T. Evidence-based policy:what constitutes valid evidence of policy effects? Society for Benefit-Cost Analysis (SBCA) 2017 Conference. George Washington University Marvin Center, Washington, D.C. March 16, 2017. https://benefitcostanalysis.org/sites/default/files/public/B2%20Tony%20Cox%20evidence%20based%20policy.pdf

252. Cox, Louis Anthony (Tony), Jr. Progress in risk science and causality. Invited presentation for Topical Session: New Developments in Risk Science and Causality. Association of Air Pollution Control Agencies. AAPCA 2017 Spring Meeting. Hilton Tucson East Hotel. Tucson, Arizona. March 27, 2017. http://www.csg.org/aapca_site/news/documents/WorkingAgenda-AAPCA2017SpringMeeting_001.pdf

BART ERIC CROES

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EDUCATION

B.S. (Chemical Engineering) California Institute of Technology
M.S. (Chemical Engineering) University of California at Santa Barbara
P.E. (Chemical Engineering) State of California

EMPLOYMENT RECORD (California Air Resources Board)

Chief, Research Division (Career Executive Appointment 3)	- February 2008 to present
Chief, Research Division (Career Executive Appointment 2)	- April 2000 to February 2008
Chief, Air Quality Data Branch (Air Resources Supervisor II)	- February 1998 to April 2000
Lecturer, Environmental Resource Science, University of California at Davis	- January 1998 to March 1998
Manager, Atmospheric Processes Research Section (Senior Air Pollution Specialist)	- September 1992 to January 1998
Air Pollution Research Specialist	- October 1988 to August 1992
Associate Air Resources Engineer	- April 1985 to September 1988
Air Resources Engineering Associate	- December 1983 to March 1985
Air Resources Engineer	- August 1981 to November 1983

CURRENT DUTIES

As Chief of the Research Division, supervise 80 scientists, engineers, and other staff studying the effects, causes, and control of air pollutants in order to direct the California Air Resources Board toward effective strategies to combat California's air quality and climate change problems. These activities include:

- Conducted reviews of California ambient air quality standards for particulate matter, ozone, and nitrogen dioxide in response to Senate Bill 25.
- Incorporated health impacts, cost/benefit analysis, and a model of the California economy into the Diesel Risk Reduction Program and other major regulations.
- Developed regulation for ozone emissions from air cleaners as required by Assembly Bill 2276.

- Assessed personal exposure and indoor air quality for homes, schools, and in vehicles for Assembly Bill 1173.
- Developed mitigation options for reducing exposure in near-roadway environments and other sustainable community research in response to Senate Bill 375.
- Developed indoor air filtration guidance and implemented a methane and benzene monitoring network for the Porter Ranch and surrounding communities in response to the Aliso Canyon natural gas leak.
- Developed a Statewide Greenhouse Gas Monitoring Network and monitored methane hot spots and identified methane super-emitters in response to Assembly Bill 1492.
- Developed a Short-Lived Climate Pollutant Reduction Strategy for hydrofluorocarbons in response to Senate Bill 605.
- Publicized health and exposure findings to the California Air Resources Board, news media, schools groups, and the general public.
- Developed regulations for high global warming potential gases, conducted scientific and economic assessments, evaluated emission inventory estimates, and developed tools to promote voluntary change for Assembly Bill 32 (greenhouse gas emission reductions).
- Developed regulations for air conditioning refrigerants, developed VOC reactivity scales, and provided health and economic assessments for the Low Emission Vehicle / Clean Fuel rulemakings.
- Supported rule development for Assembly Bill 1493 (greenhouse gas emission reductions for light-duty cars and trucks) on non-CO_2 climate forcers (i.e., HFCs, N_2O, CH_4, black carbon), economics, and environmental justice.
- Managed a research portfolio with $5,000,000 to $10,000,000 million in new projects each year. Developed 10-year strategic research plan, annual research plans, and research plan for vulnerable populations. Raised over $5,000,000 annually from other organizations.
- Estimated the contribution of atmospheric pollutants to Lake Tahoe water clarity for the 2007 Total Maximum Daily Load (TMDL) planning process.
- Implemented the Innovative Clean Air Technologies program ($1,000,000 per year) to commercialize air pollution control and monitoring technologies. Raised over $1,000,000 from other organizations.
- Compared diesel versus compressed natural gas (CNG) transit buses for emissions of criteria and unregulated pollutants, including toxicity.
- Coordinated efforts (emissions, data analysis, modeling) to analyze the air quality impacts of high NO_2/NO_X emission ratios for diesel aftertreatment devices.
- Analyzed the “weekend effect” for ozone and other pollutants.
- Conducted a hearing to adopt an updated reactivity scale for the Aerosol Coating Regulation.
- Determined the contribution of Asian dust transport to PM2.5 levels in California.
- Organized eight major science-policy meetings on air pollution, energy generation, particulate matter, global climate change, and goods transport for California legislators, State and federal agencies, industry, environmentalists, foundations, and the international community.

PROFESSIONAL EXPERIENCE

As Chief of the Air Quality Data Branch, supervised a staff of 24 engineers and scientists studying the causes of air pollution in order to direct the California Air Resources Board toward effective strategies to combat California's air quality problems. These activities included:

- Determined the fate and transport of ethanol and alkylates in gasoline for Governor's Executive Order D-5-99 on MTBE Phase-out.
- Responsible for California area designations for ambient air quality standards.
- Analyzed data to understand California's ozone, PM10, PM2.5, air toxic, and carbon monoxide problems for State Implementation Plans (SIPs).
- Separated the effects of fuels changes, other regulatory programs, and meteorology on air quality trends.
- Managed statewide planning effort for PM2.5 monitoring network.
- Reconciled emission inventories for hydrocarbons, NO_X, carbon monoxide, PM10, PM2.5, and air toxics with air quality data.
- Serviced the needs of clients for statistical support, especially related to fuels and air toxics issues.
- Maintained, reviewed, and provided web-based access to a database of over 160 million air quality and meteorological measurements.

As Manager of the Atmospheric Processes Research Section, supervised staff of Ph.D.'s studying the physics and chemistry of air pollution. This included lead responsibility for the 1997 Southern California Ozone Study (SCOS97-NARSTO), California's Particulate Matter Research Program, the California Acid Deposition Monitoring Program, atmospheric chemistry and modeling research, Clean Air Act ozone transport research, development and demonstration of remote sensing technologies for upper-air measurements, and emission estimation and evaluation. Was responsible for over $10 million in on-going research projects.

Consultant for projects in Canada (reactivity of alternative fuels), Mexico (air quality modeling), Germany (emission inventory reconciliation, hydrocarbon reactivity), The Netherlands (emission inventory reconciliation, field study design), China (monitoring network design, forecasting, modeling), and Thailand (reformulated fuels).

Program Manager for the $6,000,000 SCOS97-NARSTO and the $1,000,000 SCOS97-NARSTO Aerosol Program and Radiation Study, comprehensive efforts to better understand the processes involved in the formation of high ozone and PM concentrations in southern California. Coordinated over 50 research groups and 300 personnel.

Guided development of hydrocarbon reactivity scale for California's Low Emission Vehicle / Clean Fuel regulations.

Planned modeling and analysis of the $14,000,000 Southern California Air Quality Study in Los Angeles. Designed data management process.

Developed modeling guidelines for New Source Review to include impacts of secondarily formed particles on PM10 and sulfate standards. Invited participant to U.S. EPA workshop to set national policy for modeling in PM10 State Implementation Plans (SIPs).

Developed procedures, used nationwide, for deposition calculations of particle-bound pollutants for California Air Pollution Control Officers Association (CAPCOA) Toxics Manual.

OTHER ACTIVITIES

Member of National Research Council (NRC) / National Academy of Science (NAS) Committee on Review of EPA's "Science to Achieve Results" Research Grants Program, 2016-2017.

Member of South Coast Air Quality Management District (SCAQMD) Air Quality Sensor Performance Evaluation Center (AQ-SPEC) Advisory Board, 2016-present.

Member of National Research Council (NRC) / National Academy of Engineering (NAE) Committee on Energy Futures and Air Pollution in Urban China and the United States, 2005-2007.

Member of Board of Scientific Counselors (BOSC) Subcommittee on Development of U.S. EPA Multi-year Research Plan for Particulate Matter and Ozone, 2005

Member of Ambient Air Monitoring and Methods (AAMM) Subcommittee of Clean Air Scientific Advisory Committee (CASAC), 2004-2010.

Member of Clean Air Technical Advisory Group (TAG) of American Lung Association of California (ALAC), 2004.

Member of National Ambient Air Monitoring Strategy (NAAMS) Subcommittee of Clean Air Scientific Advisory Committee (CASAC), 2003.

Member of South Coast Air Quality Management District (SCAQMD) Asthma Consortium Advisory Committee, 2003.

Member of South Coast Air Quality Management District (SCAQMD) Research Advisory Committee, 2002.

Public Sector Co-chair for NARSTO, 2002-2004.

Member of Haagen-Smit Symposium Steering Committee, 2001-present.

Member of California EPA-Resources Agency-University of California at Davis MOU Joint Steering Committee, 2000.

Member of NARSTO Executive Assembly, 2000-2004.

Peer Reviewer for National Research Council report *Ozone-Forming Potential of Reformulated Gasoline*, 1999.

Member of National Research Council (NRC) / National Academy of Sciences (NAS) Committee on Research Priorities for Airborne Particulate Matter, 1998-2004.

Peer reviewer for U.S. EPA extramural research programs – 1993 (Ozone Research Working Group), 1995 (Reducing Uncertainty in Risk Assessment and Improving Risk Reduction), 1995 (Southern Oxidants Study), 1996 (Southern Oxidants Study, Special Opportunity in Tropospheric Ozone, Tropospheric Ozone and Fine Particulates), 1997 (Southern Oxidants Study), 1998 (Southern Oxidants Study) 1999 (Particulate Matter Supersites), and 2005 (Particulate Matter Research Centers).

Peer reviewer for *Atmospheric Environment, Environmental Science & Technology, Journal of the Air Waste Management Association, Journal of Environmental Engineering, Journal of Environmental Management, Journal of Geophysical Research-Atmospheres, Journal of Toxicology and Environmental Health*, 1992-present.

PEER-REVIEWED PUBLICATIONS

1. National Research Council (2017) A Review of the Environmental Protection Agency's Science to Achieve Results Research Program. National Academy Press, Washington, D.C. ISBN 978-0-309-45857-3. doi: 10.17226/24757.
2. David Parrish, Jin Xu, Bart Croes, and Min SHAO (2016) Air Quality Improvement in Los Angeles - Perspectives for Developing Cities. *Frontiers of Environmental Science and Engineering*, **10 (5):** 11. doi: 10.1007/s11783-016-0859-5.
3. Ralph Propper, Patrick Wong, Son Bui, Jeff Austin, William Vance, Álvaro Alvarado, Bart Croes, and Dongmin Luo (2015) Ambient and Emission Trends of Toxic Air Contaminants in California. *Environmental Science & Technology*, **49 (19):** 11329-11339.
4. Glenn Gallagher, Tao Zhan, Ying-Kuang Hsu, Pamela Gupta, James Pederson, Bart Croes, Donald R. Blake, Barbara Barletta, Simone Meinardi, Paul Ashford, Arnie Vetter, Sabine Saba, Rayan Slim, Lionel Palandre, Denis Clodic, Pamela Mathis, Mark Wagner, Julia Forgie, Harry Dwyer, and Katy Wolf (2014) High-Global Warming Potential F-gas Emissions in California: Comparison of Ambient-Based versus Inventory-Based Emission Estimates, and Implications of Refined

Estimates. *Environmental Science & Technology*, **48 (2):** 1084-1093.
5. Croes, B. E (2012) New Directions: California's programs for improving air quality and minimizing greenhouse gas emissions, *Atmos. Env.,* **47:** 562-563.
6. P.L. Livingstone, K. Magliano, K. Gurer, P.D. Allen, K.M. Zhang, Q. Ying, B.S. Jackson, A. Kaduwela,, M. Kleeman, L.F. Woodhouse, K. Turkiewicz, L.W. Horowitz, K. Scott, D. Johnson, C. Taylor, G. O'Brien, J. DaMassa, B.E. Croes. F. Binkowski, D. Byun (2009) Simulating PM concentration during a winter episode in a subtropical valley: Sensitivity simulations and evaluation methods, *Atmospheric Environment,* **43:** 5971-5977.
7. Craig, L, J. R. Brook, Q. Chiotti, B. Croes, S. Gower, A. Hedley, D. Krewski, A. Krupnick, M. Krzyzanowski, M. D. Moran, W. Pennell, J. Samet, J. Schneider, J. Shortreed, and M. Williams (2008) Air pollution and public health: A guidance document for risk managers. *Journal of Toxicology and Environmental Health, Part A*, **71:** 588-698.
8. Franco, G., D. Cayan, A. L. Luers, M. Hanemann, and B. Croes (2008) Linking climate change science with policy in California. *Climatic Change,* **87 (Supplement 1):** S7-S20.
9. Cayan, D., A. L. Luers, G. Franco, M. Hanemann, B. Croes, and E. Vine (2008) Overview of The California Climate Change Scenarios Project. *Climatic Change,* **87 (Supplement 1):** S1-S6.
10. Cayan, D., A. L. Luers, M. Hanemann, G. Franco, and B. Croes (2006) Scenarios of Climate Change in California: An Overview. A Report From: California Climate Change Center. CEC-500-2005-186-SF, February.
11. National Academy of Engineering and National Research Council in collaboration with Chinese Academy of Engineering and Chinese Academy of Sciences (2007) *Energy Futures and Urban Air Pollution: Challenges for China and the United States.* National Academy Press, Washington, D.C.
12. National Research Council (2004) *Research Priorities for Airborne Particulate Matter: IV. Continuing Research Progress*. National Academy Press, Washington, D.C.
13. Cadle, S. H., B. E. Croes, F. Minassian, M. Natarajan, E. J. Tierney, and D. R. Lawson (2004) Real-World Vehicle Emissions: A Summary of the Thirteenth Coordinating Research Council On-Road Vehicle Emissions Workshop. *J. Air Waste Manage. Assoc.*, **54:** 8-23.
14. Motallebi, N., C. A. Taylor, Jr., K. Turkiewicz, and B. E. Croes (2003) Particulate matter in California: Part 1 – Intercomparison of several $PM_{2.5}$, PM_{10-25}, and PM_{10} monitoring networks. *J. Air Waste Manage. Assoc.*, **53:** 1509-1516.
15. Motallebi, N., C. A. Taylor, Jr., and B. E. Croes (2003) Particulate matter in California: Part 2 – Spatial, temporal, and compositional patterns of $PM_{2.5}$, PM_{10-25}, and PM_{10}. *J. Air Waste Manage. Assoc.*, **53:** 1517-1530.
16. Croes, B. E., and E. M. Fujita (2003) Overview of the Southern California Ozone Study – NARSTO (SCOS97-NARSTO). *Atmos. Env.,* **37 (S2):** 3-26.
17. Croes, B. E., L. J. Dolislager. L. C. Larsen, and J. N. Pitts (2003) The ozone "weekend effect" and NO_X control strategies – Scientific and public health findings and their regulatory implications. *EM,* 27-35, July.
18. Motallebi, N., H. Tran, B. E. Croes, and L. C. Larsen (2003) Day-of-week

patterns of PM and its chemical components at selected sites in California. *J. Air Waste Manage. Assoc.*, **53:** 867-888.
19. National Research Council (2001) *Research Priorities for Airborne Particulate Matter: III. Early Research Progress*. National Academy Press, Washington, D.C.
20. National Research Council (1999) *Research Priorities for Airborne Particulate Matter: II. Evaluating Research Progress and Updating the Portfolio*. National Academy Press, Washington, D.C., August.
21. Schwehr, B., A. Kaduwela, P. Allen, A. Chew, B. Croes, J. Ho, and L. Woodhouse (1999) Assessment of the organic compound reactivity concept for regulatory applications in California. *Air Pollution 99 - Seventh International Conference*, July 27-29, 1999, San Francisco, CA.
22. Bergin, M. S., A. G. Russell, W. P. L. Carter, B. E. Croes, and J. H. Seinfeld (1998) Ozone Control and VOC Reactivity. *Encyclopedia of Environmental Analysis and Remediation*, John Wiley & Sons, Inc., pp. 3355-3383.
23. Takemoto, B. K., B. E. Croes, S. M. Brown, N. Motallebi, F. D. Westerdahl, H. G. Margolis, B. T. Cahill, M. D. Mueller, and J. R. Holmes (1995) Acidic deposition in California: Findings from a program of monitoring and effects research. *Water, Air and Soil Pollution*, **85:** 261-272. And *Acid Reign '95? Proceedings from the 5th International Conference on Acidic Deposition* edited by Grennfelt, Rodhe, Thörnelöf and Wisniewski, pp. 261-272. June 26-30, 1995, Göteborg, Sweden. Published by Kluwer Academic Publishers.
24. Russell, A., J. Milford, M. S. Bergin, S. McBride, L. McNair, Y. Yang, W. R. Stockwell, and B. Croes (1995) Urban ozone control and atmospheric reactivity of organic gases. *Science*, **269:** 491-495, 28 July.
25. McNair, L. A., A. G. Russell, M. T. Odman, B. E. Croes, and L. Kao (1994) Airshed model evaluation of reactivity adjustment factors calculated with the maximum incremental reactivity scale for Transitional-Low Emission Vehicles. *J. Air Waste Manage. Assoc.*, **44:** 900-907.
26. Croes, B. E., J. R. Holmes, and A. C. Lloyd (1992) Reactivity-based hydrocarbon controls: Scientific issues and potential regulatory applications. *J. Air Waste Manage. Assoc.*, **42:** 657-661.
27. Fujita, E. M., B. E. Croes, C. L. Bennett, D. R. Lawson, F. W. Lurmann, and H. H. Main (1992) Comparison of emission inventory and ambient concentration ratios of CO, NMOG, and NO_X in California's South Coast Air Basin. *J. Air Waste Manage. Assoc.*, **42:** 264-276.
28. Fujita, E. M. and B. E. Croes (1991) Formaldehyde emissions in the South Coast Air Basin derived from ambient measurements. *Transactions: Tropospheric Ozone and the Environment* edited by Berglund, Lawson and McKee, pp. 717-739. International Specialty Conference, March 19-22, 1990, Los Angeles, CA. Published by Air and Waste Management Association, Pittsburgh, PA.
29. Croes, B. E. and K. K. Wagner (1987) Shortcomings of EKMA as compared to using the Urban Airshed Model for developing ozone control strategies in Kern County, California. *Transactions of Air Pollution Control Association Specialty Conference on The Scientific and Technical Issues Facing Post-1987 Ozone Control Strategies*. November 17-19, 1987, Hartford, Connecticut.

30. Datta, R., B. Croes, and R. G. Rinker (1983) Transient response of continuous-flow stirred reactors containing heterogeneous systems for catalysis or sorption. *Chemical Engineering Science*, **38(6):** 885-896.

CURRICULUM VITAE

Personal Data

Name: Ana Victoria Diez Roux

Nationality: (b) (6)

Work address: Dean's Office
Drexel University
School of Public Health
3215 Market Street, Nesbitt Hall
2nd Floor, Room 255
Philadelphia, PA 19104

Academic Training

1985	M.D. University of Buenos Aires, Argentina
1989	Licensed in Pediatrics, Argentine Society of Pediatrics, Buenos Aires, Argentina
1991	M.P.H. The Johns Hopkins University, School of Hygiene and Public Health
1995	Ph.D. The Johns Hopkins University, School of Hygiene and Public Health, Department of Health Policy and Management

Traineeships

1986 – 1989	Resident in Pediatrics, Ricardo Gutierrez Children's Hospital, Buenos Aires, Argentina
1989 – 1990	Chief Resident in Pediatrics, Ricardo Gutierrez Children's Hospital, Buenos Aires, Argentina
1995 – 1996	Postdoctoral Fellow, The Johns Hopkins University, School of Hygiene and Public Health, Department of Epidemiology

Academic Appointments

1996 – 2002	Assistant Professor of Medicine, Department of Medicine, Columbia College of Physicians and Surgeons

1996 – 2002	Assistant Professor of Epidemiology, Joseph L. Mailman School of Public Health, Columbia University
2002 – 2003	Faculty Fellow, Institute for Social and Economic Research and Policy, Columbia University
2003 – 2006	Associate Professor of Epidemiology (with tenure), University of Michigan School of Public Health
2003 – 2008	Faculty Associate, Institute for Social Research, University of Michigan
2003 – 2008	Associate Director, Center for Social Epidemiology and Population Health, University of Michigan
2006 – Present	Professor of Epidemiology (with tenure), University of Michigan School of Public Health
2008 – Present	Research Professor, Institute for Social Research, University of Michigan
2009 – Present	Director, Center for Social Epidemiology and Population Health, University of Michigan
2009 – Present	Director, Robert Wood Johnson Health and Society Scholars Program, University of Michigan
2010	Visiting Scholar, Department of Epidemiology and Public Health, University College London
2011	Benjamin Meaker Visiting Professor, Institute for Advanced Studies, University of Bristol
2012 – 2014	Chair, Department of Epidemiology, School of Public Health University of Michigan
2014 – Present	Dean and Distinguished Professor, Epidemiology, Drexel University School of Public Health

Honors

1990 – 1991	Columbus Foundation Stelson Fellow, School of Hygiene and Public Health. The Johns Hopkins University
1991	Delta Omega Honorary Public Health Society
1993	International Friends of Public Health Scholarship

1994	Delta Omega Research Scholarship for Dissertation Research
1996	Phi Beta Kappa Honorary Society
2003 – 2009	Member, MacArthur Network on Socioeconomic Status and Health
2008	Wade Hampton Frost Lecture Award for major contributions to public health, American Public Health Association
2010	Excellence in Research Award, University of Michigan School of Public Health
2010	Elected Member, Institute of Medicine, National Academy of Sciences
2011	Rankin Lectureship Award, Department of Population Health, University of Wisconsin
2012	Delta Omega Lecture, Arnold School of Public Health, University of South Carolina
2012	Elected Member, Academy of Behavioral Medicine Research
2013	Multi-Ethnic Study of Atherosclerosis (MESA) Investigator Award

Professional Organizations and Societies

1997 – Present	Member, Society for Epidemiologic Research
1997 – Present	Member, American Public Health Association. Representative to the Governing Council for the Epidemiology Section 1999-2000
2013	Member, American Epidemiological Society

Departmental and University Committees

1996 – 1998	Admissions Committee, Masters Program, Department of Epidemiology, Mailman School of Public Health
1998 – 2002	Curriculum Committee, Department of Epidemiology, Mailman School of Public Health
2000 – 2002	Diversity Committee, Department of Epidemiology, Mailman School of Public Health
2003 – 2004	Curriculum Committee. Department of Epidemiology. University of Michigan School of Public Health

2003 – 2004	Faculty Search Committee, Chronic Disease Epidemiology. Department of Epidemiology. University of Michigan School of Public Health
2004 – 2005	Admissions Committee, Department of Epidemiology. University of Michigan School of Public Health
2004 – 2005	Faculty Search Committee, Social Epidemiology. University of Michigan School of Public Health
2004-2005	Chair, Faculty Search Committee. Methods in Epidemiology. University of Michigan School of Public Health
2005 – 2006	Doctoral Committee, Department of Epidemiology, University of Michigan School of Public Health
2006 – 2007	Chair, Diversity Committee, University of Michigan School of Public Health
2006 – 2009	Chair, Doctoral Committee, Department of Epidemiology, University of Michigan School of Public Health
2009 – 2010	Chair, Social Epidemiology Search Committee, Department of Epidemiology, University of Michigan School of Public Health

Teaching Experience[1]

Courses

1992 – 1996	Instructor. Introduction to Epidemiology and Epidemiologic Methods (Intermediate Epidemiology). Department of Epidemiology, Johns Hopkins University School of Hygiene and Public Health
1994 – 1997	Instructor. Epidemiologic Methods. The Graduate Summer Program in Epidemiology. Department of Epidemiology. The Johns Hopkins University School of Hygiene and Public Health
1997 – 2002	Lecturer. Introduction to Epidemiology. Joseph L. Mailman School of Public Health, Columbia University
1997 – 2002	Cardiovascular Disease Epidemiology. Division of Epidemiology. Joseph L. Mailman School of Public Health, Columbia University
1998 – 2002	Lecturer. Epidemiologic Methods. Clinical Practice Course (Medical Students). Columbia College of Physicians and Surgeons

1Main faculty responsible for course unless otherwise noted.

1998 – 2002	Lecturer. Advanced Topics in Epidemiologic Methods: Multilevel Analysis. Joseph L. Mailman School of Public Health, Columbia University
2002	Co-Instructor. Social Epidemiology. The Graduate Summer Program in Epidemiology, Johns Hopkins University
2003	Co-Instructor. Critical Appraisal of Epidemiologic Studies. University of Michigan, Department of Epidemiology
2003 – 2006	Strategies and Uses of Epidemiology. University of Michigan, Department of Epidemiology
2003 – Present	Advanced Topics in Epidemiologic Analysis. University of Michigan, Department of Epidemiology
2007– Present	Multilevel Studies and Multilevel Analysis in Public Health. University of Michigan, Department of Epidemiology
2011	Social Epidemiology. University of Michigan, Department of Epidemiology
2012	Introduction to Epidemiology, University of Michigan, Department of Epidemiology

Short Courses and Workshops

1998 – Present	Basic and Intermediate Epidemiology. Masters of Public Health Program. National University of Lanús, Buenos Aires, Argentina
1999	Multilevel analysis: fundamentals and applications in public health. Instititute Universitari de Salut Publica de Catalunya/ Johns Hopkins University. Barcelona, Spain
2000	Co-Instructor Social Epidemiology. Summer Program in Epidemiology. Johns Hopkins University School of Public Health, June 2000.
2000	Multilevel analysis: fundamentals and applications in public health. Spanish Society for Epidemiologic Research. Madrid, Spain
2002	Multilevel analysis in public health. Agency for Primary Health Care Research, Bilbao, Spain
2003	Workshop "Multilevel Analysis: Concepts and Applications in Public Health". American College of Epidemiology, Albuquerque, NM.
2003	Multilevel analysis. University of Lanus, Buenos Aires, Argentina

2003	Fundamentals and applications of multilevel analysis in epidemiology. Mexican Public Health Institute, Cuernavaca Mexico
2003	Multilevel analysis in health research. Workshop on Geographic Information Systems in Health research. Academy Health, Nashville, Tennessee June 2003
2003	Multilevel analysis: applications in social epidemiology. Workshop.Centers for Disease Control. Atlanta, Georgia. June 10-11 2003
2004	Workshop. Introduction to multilevel analysis in public health.Columbia University. Robert Wood Johnson Health and Society Scholars. March 25-26 2004.
2005	Workshop. Introduction to multilevel analysis in public health. Columbia University. Robert Wood Johnson Health and Society Scholars. April 6-7 2006.
2009	Introduction to multilevel analysis in public health. Facultad Nacional de Salud Pública, Universidad de Antioquia. Medellín, Colombia January 2009
2010	Social Epidemiology. Summer Program in Epidemiology. Johns Hopkins University School of Public Health, June 2010.
2009 – 2013	An introduction to social epidemiology (one day course). New York City Health Department
2011	Instructor. 37th Ten day seminar on the epidemiology and prevention of cardiovascular disease, American Heart Association, Tahoe City, CA
2012	Fundamentals of multilevel analysis. University of Michigan Summer Program in Epidemiology

Training and Mentoring

Predoctoral Trainees

2001 – 2006	Sandra Echeverria (Ph.D., 2006 from Columbia University), Research Project: Contextual effects on health behaviors
2003 – 2007	Amy H. Auchincloss (B.S., 1997 from Columbia University; M.P.H., 2006 and Ph.D., 2008 from University of Michigan), Research Project: Neighborhoods and diabetes.

2003 – 2007	Mahasin S. Mujahid (B.S., 2000 from Xavier University, New Orleans, LA; M.S., 2003 and Ph.D., 2007 from University of Michigan), Research Project: Neighborhood Characteristics and Hypertension
2003 – 2007	Latetia V. Moore (B.S., 1998 from FI Southern College; M.P.H., 2002 from University of South Florida), Research Project: The Neighborhood Food Environment and Diet
2005 – 2008	Christina F. Mair (M.P.H., 2005 from University of Washington; Ph.D., 2008 from University of Michigan), Research Project: The Associations of Neighborhood Social and Physical Characteristics with Mental Health
2005 – 2008	Emily T. Lemelin (B.A., 2000 from University of Florida; M.S., 2002 from Michigan State University), Research Project: Neighborhood Poverty and CVD Outcomes over the Lifecourse
2005 – 2009	Zanetta C. Gant (M.P.H., 2005 and Ph.D., 2009 from University of Michigan), Research Project: Social Environment Factors and Their Effects on Risky Sexual Behaviors
2006 – 2010	Melissa J. Smiley (B.A., 1999 from Bryn Mawr College; M.P.H., 2006 from University of Michigan), Research Project: The built environment and health behaviors
2006 – 2010	Nancy L. Fleischer (M.P.H., 2006 from University of California; Ph.D., 2010 from University of Michigan), Research Project: Social patterning of chronic disease risk factors in Argentina
2007 – 2010	Kiarri N. Kershaw (B.S., 2001 from Carnegie Mellon University; M.S., 2004, M.P.H., 2007, and Ph.D., 2010 from University of Michigan), Research Project: Regional and lifecourse effects on hypertension among Blacks
2007 – 2012	Sandra S. Albrecht (M.P.H., 2004 from Columbia University), Research Project: Immigration, acculturation and cardiovascular risk
2009 – Present	Erin B. Ware (B.S., 2006 from Northern Michigan University; M.P.H., 2008 from University of Michigan), Research Project: Gene X Social Environment Interactions and Depressive Symptom Scores
2009 – Present	Felice Le (B.A., 2001 from Brown University; M.P.H., 2009 from University of California, Berkeley), Research Project: Bidirectional associations between health and education
2009 – Present	Yamini Kesavan (B.S., 2001 from University of Michigan; M.S., 2008 from Harvard University), Research Project: Longitudinal analyses of

neighborhood characteristics and cardiovascular risk

2009 – Present Dayna A. Johnson (B.A., 2004 from Purdue University; M.P.H., 2007 from University of Michigan), Research Project: The contribution of sleep to health disparities.

2010 Gabriela Zunino (MS, 2008 from National University of Lanus), Research Project: Multilevel determinants of violence in Argentina

2010 – Present Jana A. Hirsch (B.A., 2010 from University of Pennsylvania), Research Project: The Impact of the Built Environment on Walking in Middle Age and Older Adults

2011 – Present Paulina Kaiser (B.A., 2006 from Northwestern University; M.P.H., 2010 from University of Michigan), Research Project: Epidemiologic methods to understand contextual and spatial influences on health

2011 – Present Paul Christine (B.A., 2008 from Colorado State University; M.P.H., 2011 from University of Iowa), Research Project: TBD

2012 Delores Hofelmann (Visiting Scholar, M.S., 2006 from Federal University of Santa Catarina, Brazil), Research Project: Neighborhood environments and health in Florianopolis, Brazil: a multilevel study

2012 Ana Clara Duran (Visiting Scholar; B.S., M.S., 2009 from Faculdade de Saude Publica Universidade de Sao Paulo), Research Project: Assessment and investigation of the local food environment in Sao Paulo, Brazil.

2012 – Present Amanda J. Richardson (B.A., 2010 and M.P.H., 2012 from Tufts University), Research Project: TBD

2012 – Present Nicole L. Novak (B.A., 2008 from St. Olaf College; O.T.H., 2010 from Oxford University), Research Project: TBD

2012 – Present Kristen M. Brown (B.S., 2010 from Rutgers University), Research Project: TBD

Dissertation Committee Member for >20 additional PhD candidates throughout the University of Michigan.

Postdoctoral Trainees

2003-2005, Sarah A. Burgard; 2003-2005, Allison E. Aiello; 2004-2006, Marie O'Neill; 2005-2007, Sacoby Wilson; 2005-2007 Theresa L. Osypuk; 2005-2007, Craig A. Hadley; 2006-2008 Phoenix Do; 2006-2008, Magdalena Cerda; 2006-2008, Amy H. Auchincloss; 2007-2009, Aydin Nazmi; 2007 – 2009, Briana Mezuk; 2007 – 2009, Malo Hutson; 2007 – 2009, Shawn D.

Boykin; 2007 – 2010, Richard Pilsner; 2007 – 2012, Yong Yang; 2008, Christina F. Mair; 2008 – 2010, Christopher J. Wildeman; 2008 – 2010, Whitney R. Robinson; 2008 – 2010, Cleopatra M. Abdou; 2009 – 2011, Kristin E. Turney; 2009 – 2011, Neil K. Mehta; 2010 – 2012, Julianna L. Pacheco; 2009 –11,Malavika A. Subramanyam; 2009-11, Amy DeSantis; 2010, Monal R. Shroff; 2010 – 12, Aaron P. Mauck; 2010 – Present, Margaret T. Hicken; 2010 – 11, Anjum Hajat; 2011 – Present, Natalie D. Crawford; 2011 – Present, Corina Graif; 2012 – Present, Laura R. Wherry; 2012 – Present, Samson Gebreab; 2012 – Present, Audrey Dorelien; 2012 – Present, Allison Brenner

Junior faculty mentees: Allison Aiello, Marie O'Neill, Ana Baylin, Demarc Hickson, Mario Sims (K award), KT Tomey (K award), Martha Garza (K award), Shakira Suglia (K award), Belinda Needham.

Editorial Activities

1997-present	Associate Editor, American Journal of Epidemiology
2007 - 2010	Editorial Board, Health and Place
2008-present	Associate Editor, Journal of Epidemiology and Community Health
2008 – 2009	Editor, Encyclopedia of Environmental Health, Elsevier Ltd.
2009-present	Editorial Board, Revista de Saúde Pública, Universidade de Sao Paulo, Brazil
2010-present	Editorial Board, Annual Review of Public Health
2012-present	Editorial Board, Preventing Chronic Diseases

Reviewer NEJM, JAMA, Lancet, BMJ, Circulation, Epidemiology, Int J Epidemiol Am J Prev Med, Soc Sci Med, Epidemiology among others. Abstract reviewer Society for Epidemiologic Research and American Heart Association.

Scientific Committees and Review Panels

1999	Working Group on Early Life Influences on Health. National Heart, Lung and Blood Institute.National Institutes of Health. September, 1999
2000 – 2004	Working Group on Macrosocial Determinants of Morbidity and Mortality, Program on Social Variations in Health Expectancy in Europe, The EuropeanScience Foundation
2000 – 2003	Chair, Psychosocial Working Group, the Multiethnic Study of Atherosclerosis

2001	Ad-hoc grant review panels American Heart Association and National Heart, lung, and Blood Institute
2001 – 2003	Advisory Committee, Kellogg Minority Health Disparities Scholars program
2002	Ad-hoc member. Social Environment Working Group. National Children's Study. National Institute of Child Health and Human Development
2002	Community Measures Workshop, OBSSR, National Institute of Health
2003	Advisory Review panel to NHLBI for The Jackson Heart Study.
2003	National Institute on Aging (NIA) Whitehall in Washington Planning Committee
2003 – 2009	Ad-hoc Grant Reviewer Medical Research Council (UK), NICHD (National Institutes of Health), NIH/Fogarty Foundation, and KNOD Study Section
2005	Member Expert Panel on the Primary Prevention of Type II Diabetes, Centers for Disease Control and Prevention
2006	Member, Level 1 Working Group. Translation, Implementation, and Community Research, National Heart Lung and Blood Institute Strategic Planning Process
2006	Member, GAIN (Genetic Association Identification Network) Technical Advisory Group, Foundation for the National Institutes of Health
2006	Special Emphasis Panel ZRG1 HOP B 40 and Adhoc reviewer Kidney, Nutrition, Obesity and Diabetes Study Section
2007 – 2009	Chartered Member, Kidney, Nutrition, Obesity and Diabetes (KNOD) Study Section, National Institute of Health
2007	Blue Cross and Blue Shield Foundation of Minnesota National Advisory Panel on the Social Determinants of Health
2008 – 2012	Federal Advisory Panel, National Children's Study, National Institutes of Health
2009	Member, IOM Planning Committee for Food Deserts Workshop
2009	Member IOM Panel on Public Health Practices to Reduce and Control Hypertension

2009-2012	Scientific Directions Committee, Jackson heart Study, National heart Lung and Blood Institute
2009	Expert Panel, The Food Trust, Philadelphia, PA
2009 – 2010	Scientific Advisory Panel, Research Program on Genes, Environment and Health, Kaiser Permanente, Oakland, CA.
2009 – 2010	National Advisory Committee, Salud América, Robert Wood Johnson Foundation Research Network to Prevent Obesity Among Latino Children
2009 – 2011	Chair, Kidney, Nutrition, Obesity and Diabetes Study Section (KNOD), National Institutes of Health
2009 – 2010	Member, National Academy of Sciences Committee on Health Impact Assessment
2011	Steering Committee Member, National Academies Keck Futures Initiative on Ecosystem Services
2011 – 2012	Member, National Academy of Sciences and Institute of Medicine Committee on Understanding International Health Differences in High-Income Countries
2011-2013	Member, National Health and Aging Trends Study (NHATS) Data Monitoring Board
2011	Co-Chair. Workshop on reducing health disparities: the role of sleep deficiency and sleep disorders. National Heart Lung and Blood Institute
2011	Member. Population Health Consortium Working Group, Office of Behavioral and Social Science Research (OBSSR), National Institutes of Health
2010-present	Member, Network on Inequality, Complexity and Health (NICH), Office of Behavioral and Social Science Research (OBSSR), National Institutes of Health
2011-present	Chair, Coronary Artery Risk Development in Young Adults (CARDIA) Psychosocial Committee
2011-present	Chartered Member, Clean Air Scientific Advisory Committee (CASAC) Environmental Protection Agency
2012	Member, External Scientific Review Panel, Experienced Based Brain and Biological Development (EBBD) Program of the The Canadian Institute for

Advanced Research (CIFAR)

2012-present Member, Scientific Committee on Health and Wellbeing in the Changing Urban Environment: a Systems Analysis Approach, International Council for Science (ICSU)

2013 Board of Scientific Counselors, National Center for Health Statistics. Centers for Disease Control and Prevention

Invited Lectures and Keynotes

1. The use of multilevel models in epidemiology. Cancer Prevention and Control Colloquium. National Cancer Institute, National Institutes of Health. October, 1997

2. Multilevel Analysis in Epidemiology. Universitat Pompeu Fabra, Barcelona, Spain. April, 1998

3. Issues in multilevel analysis. Center for Society and Health. Department of Health and Social Behavior, Harvard School of Public Health. May, 1998

4. Socioeconomic factors and atherosclerosis in the Atherosclerosis Risk in Communities (ARIC) Study. Workshop on socioeconomic factors and cardiovascular disease. Bremen Institute for Prevention. Bremen, Germany. May, 1998

5. Beyond individuals: issues in multilevel analysis. Society for Epidemiologic Research 31st Annual Meeting. Chicago, IL. June, 1998

6. Emerging approaches in epidemiology. Department of Community and Preventive Medicine. Mt. Sinai School of Medicine. New York City. May, 1999

7. Social Causation in Epidemiology. Society for Epidemiologic Research, 32nd Annual Meeting, Baltimore, MD. June, 1999

8. Neighborhood environments and health. MacArthur Network on Socioeconomic Factors and Health. Berkeley, CA. November, 1999

9. Methodological issues in the examination of neighborhood effects. Neighborhoods and Health Symposium, Harvard School of Public Health, June, 2000

10. Marcelino Pascua Conference Speaker. Spanish Society for Epidemiologic Research, Madrid, Spain. October, 2000

11. Keynote speaker. New Mexico Public Health Association. Taos, NM. April, 2001.

12. Seminar on Epistemology and Methods of Multilevel Analysis in the Human Sciences. National Institute of Demography (INED), Paris France, March, 2001

13. Investigating multi-level determinants of health and development. Symposium: Social Epidemiology at the Cross-Roads. Society for Epidemiologic Research, Toronto, Canada. June, 2001.

14. Residential environments and cardiovascular risk. Conference on the Built Environment and Health. New York Academy of Medicine, March 22-25 , 2002

15. The social determinants of health. Population Health Symposium. Society for Epidemiologic Research, Atlanta, Georgia. June, 2003.

16. Neighborhoods and Health: evidence and challenges Invited Lecture. University College London, February, 2004.

17. People and places: methodological issues in the investigation of neighborhood effects. Health Disparities Symposium. University of Washington. April 2004.

18. Social factors in epidemiology: concepts and methods. Department of Epidemiology. Johns Hopkins University. July 2004.

19. Evidence and challenges in the investigation of neighborhood effects. Michigan State University. October 2004.

20. Neighborhood health effects: evidence and challenges. University of South Carolina, March 2005

21. Social factors in epidemiology: conceptualization and measurement. Institute of Medicine Committee on Assessing Interactions among social, behavioral, and genetic factors in health. June, 2005.

22. Social inequalities in health. VI National Congress on Health and Population. Faculty of Social Sciences. University of Buenos Aires, July 2005

23. Exposure to ambient particulate matter and subclinical atherosclerosis. EPA Research Meeting on Mechanisms and Health Risks of Exposure to Ambient Particulate matter, Research Triangle Park, NC April 18-19 2006.

24. Places and cardiovascular risk: evidence and challenges. Center for Environmental Health & Susceptibility (CEHS), University of North Carolina at Chapel Hill, April 20, 2006

25. Neighborhoods and health in the elderly. Invited Discussant. Annual Meeting of the Geriatric Society of America. November 22 2005

26. The built environment and health. Invited Discussant. Michigan Epidemiology Conference. Michigan Public Health Association. April 2006

27. Neighborhoods and cardiovascular risk: evidence and challenges. Key note speaker. Annual Meeting of the Associations of French-Speaking Epidemiologists. May 18-19 2006. Toulouse, France

28. Integrating social and biological factors in health research: a systems view. Symposium speaker. Annual meeting of the Society for Epidemiologic Research, Seattle, June 2006

29. Investigating neighborhoods and health: evidence and challenges. Key note speaker. Australasian Epidemiology Association Annual meeting. Melbourne, Australia. September 2006.

30. Neighborhoods and health: where are we and where do we go from here? Invited Speaker, RAND Corporation. Los Angeles, October 2006

31. Studying the multilevel predictors of health behaviors: theoretical and methodologic challenges. Invited Speaker. 6th Annual Scientific Meeting of the American Academy of Health Behavior. Savannah, GA March 2007

32. Reflecting on researchon neighborhood health effects. Columbia University Robert Wood Johnson Health and Society Scholar's Program, March 2007.

33. Neighborhoods and health: opportunities and challenges for epidemiology. Annual Lecture in Social Epidemiology. Johns Hopkins School of Hygiene and Public Health. April 2007

34. Social epidemiologic perspectives on depression. Invited speaker. Depression Center, University of Michigan, April 2007.

35. Neighborhoods and health in epidemiology. University of Chicago, May 2007

36. Symposium speaker: "Systems approaches in epidemiology: opportunities and challenges". 25th annual meeting American College of Epidemiology, Fort Lauderdale , FL Sept 16-18

37. Symposium on “Unnatural Causes”. Invited Speaker. National Association of Health Services Executives (NAHSE), Detroit Chapter. February 2008.

38. Health, Place and Equity. Symposium Speaker. Third National Summit on Equitable Development, Social Justice, and Smart Growth. New Orleans, Louisiana, March 2008.

39. Study Designs and Analytic Strategies for Environment and Policy Research on Obesity, Physical Activity, and Diet. Invited Discussant. Active Living Research Conference April 2008.

40. Places and health: evidence and challenges. Office of Population Research, Princeton

University, April 2008

41. Neighborhoods and health. Seoul National University, Seoul, South Korea, May 2008

42. Epidemiology and spatial inequalities in health. IVth Congress of the Spanish Societies of Epidemiology and Biostatistics, June 2008

43. Urban Health: the Role of Inequalities and Place. World Congress of Epidemiology. Porto Alegre, Brazil. September, 2008.

44. Health in cities: the role of place.Universidade Federal de Minas Gerais, Belo Horizonte, Brasil. September, 2008

45. Place-based inequalities: evidence and new directions. Invited speaker. Congres National des Observatoires Regionaux de la Santé. Marseille, France, October 2008

46. Symposium Speaker. Is biology destiny: the interaction of biological, behavioral, and social determinants of health. Institute of Medicine 38th Annual Meeting. Washington DC, October 2008

47. Division of Public Health Sciences Distinguished Speaker. Wake Forest University, Winston Salem, NC. December 2008

48. Symposium Speaker. IOM Workshop on Health Impact of Food Deserts. January, 2009

49. The contribution of neighborhood factors to health disparities. Prevention Colloquium. Washington University in St Louis University. March 2009.

50. Symposium Speaker. IOM Panel on Evidence for the Prevention of Obesity. Multi-level approaches to understanding and preventing obesity: analytical challenges and new directions, March 2009

51. Visiting Professor in Minority Health, Northwestern University, Systems thinking in population health/ The contribution of neighborhood environments to health disparities. April 2009

52. Invited Discussant. Capturing context: a conference on bridging spatial and social network analysis. Columbia University, June 2009.

53. Keynote Speaker: Beyond individuals: why neighborhoods matter for health. Blue Cross Blue Shield Foundation of Minnesota. 4th Annual Upstream Health Policy Recognition and Policy Program, October 2009

54. Keynote Speaker. Integrating social and biological factors in health research: pushing the frontier in the study of gene-environment interactions. Congress of the German Society of Behavioral Medicine and Behavior Modification. Leipzig, Germany. October 2009

55. Why neighborhoods matter for cardiovascular health and health disparities, Morehouse School of Medicine March 2010

56. Community-level factors and health. Robert Wood Johnson/Federal Reserve Healthy Communities Conference, Washington DC July 2010.

57. Place-based factors and health inequalities. IX Jornadas Andaluzas Salud Investiga. Cadiz, Spain, October 2010

58. Population health and complex systems approaches. Ohio State University Initiative in Population Research, November 2010

59. Investigating neighborhood health effects: can complex systems approaches help? Centre for Research in Epidemiology and Population Health, Hôpital Paul Brousse. Paris, February 2011

60. Neighborhoods as contributors to intra-urban health inequalities. WHO Centre for Health Development, Kobe, Japan, February 2011.

61. Area health effects: challenges and opportunities of complex systems methods. Department of Social Medicine, University of Bristol. April 2011

62. Systems approaches in health inequalities research. Symposium of Inequalities in Child Health. University of Bristol April 2011

63. Community –level factors and cardiovascular disease. Centro Nacional de Investigaciones Cardiológicas, Madrid May 2011

64. Environmental Determinants of Cardiovascular Risk, Centre for Research in Environmental Epidemiology (CREAL), Barcelona May 2011

65. Invited Speaker. Community-level influences on health: Annual Meeting of the Academy of Behavioral Medicine Research, Deer valley, Utah, June 2011

66. Key note: Challenges and opportunities in social epidemiology. The International Conference on Social Stratification and Health, Tokyo, August 2011

67. Keynote speaker; Neighborhood factors and health: challenges for health promotion. Health for All-A Challenge for Municipalities and Regional Authorities, Leipzig University, Germany. October 2011.

68. Guest lecture; Methodologic issues in the investigative of neighborhood health effects. ICUH 2011, Belo Horizonte, Brazil. November 2011

69. Keynote speaker; Neighborhoods and Health Disparities: old evidence and new

directions. UNC Minority Health Conference, UNC Gillings School of Global Health, February 2012.

70. Invited speaker; Advances and Pitfalls in social epidemiology lessons for population health research. Center for the Study of Social Inequalities and Health, Mailman School of Public Health Columbia University, April 2012.

71. Plenary Session Speaker; Neighborhoods and Health: Evidence and New Directions, Latina Researchers Conferences, John Jay College of Criminal Justice, Cuny New York, NY. April 2012

72. Key note: Systems approaches in Population Health. Instititute on Systems Science and Health. Office of Behavioral and Social Science Research (OBSSR), St. Lous MS June 2012

73. Invited Speaker. Plenary on Using the Principles of Complex Systems Thinking and Implementation Science to Enhance MCH Program Planning and Delivery. Maternal and Child Health Conference, San Antonio TX, December 2012

74. Panelist. Workshop on the Design of the National Children's Study. Factors, Issues, and Values to Balance and Consider Reaching Decisions about NCS Design. Committee on National Statistics, Board on Children, Youth, and Families. National Academy of Sciences. January 2013

75. Grand Rounds: Beyond individual-level risk factors: your patient's address as a cardiovascular risk factor. Mt. Sinai Hospital, New York City. February 2013

76. Grand Rounds: Understanding the Multi-Level Determinants of Health: Challenges and Opportunities for Epidemiology. Department of Epidemiology. University of Miami. February 2013

77. Invited speaker: Systems and health disparities. Prevention Research Center, University of New Mexico. March 2013

78. Invited speaker: Transcending Impasses in Health Disparities Research: Can systems thinking help? Urban Health Disparities Summit: Shaping Action to Reduce Disparities. Georgia State University. March 2013

79. Invited Speaker: Social determinants of health: old and new challenges. National Hispanic Network on Drug Abuse. Thirteenth Annual International Conference. Washington DC, October 9-11, 2013.

80. Invited speaker: Meeting to celebrate Professor Sally Macintyre's contributions to health inequalities research and policy. London, June 2013.

Consultative Activities

1993 – 1994	Research Consultant. Minority Health Project: Health Care Needs of Hispanic and African Americans—Policy Issues and Challenges, 1993-1994. Department of Health Policy and Management. The Johns Hopkins University School of Hygiene and Public Health
1996 – 1998	Research Consultant. Surveillance of risk factors for chronic diseases and injuries in Latin America.Pan American Health Organization (PAHO/WHO). Program for Non-communicable diseases
1996	Research Consultant. Use of multilevel methods in occupational health research. Universitat Pompeu Fabra, Barcelona, Spain. April 1998
1997	Research Consultant. Psychosocial and neighborhood measures in epidemiologic studies of cardiovascular disease. NHLBI-funded Jackson Heart Study. University of Mississippi Medical Center. Jackson, MS
2003 – 2011	Emerging Science and Psychosocial Committee, the Coronary Artery Risk Development in Young Adults Study, NHLBI
2004 – 2008	Robert Wood Johnson Foundation. Young Epidemiology Scholar (YES) Competition Regional and National Judge
2006	Consultant Forum on Access and Coverage for Children in MI and Children's Environmental Health in MI.Michigan Chapter - American Academy of Pediatrics and Motts Children's Hospital
2007	Consultant to Policy Link on Neighborhoods and Health
2011	Consultant on Urban Health Metrics, WHO Centre for Health Development, Kobe.

Fellowship and Grant Support

ACTIVE

PI (Center Director)	$6,257,993	09/01/12 – 08/31/16
NIH\NIMHD (2P60MD002249)		
Michigan Center for Integrative Approaches to Health Disparities		

PI (Director)	$6,944,209	09/01/07 – 08/31/13
NIMHHD/NIH(P60MD002249)		
Michigan Center for Integrative Approaches to Health Disparities		

PI	$3,329,492	06/01/09 – 05/30/14

NIH (5R01 HL071759)
Neighborhoods and CVD risk in a multiethnic cohort

PI $4,216,884 07/01/10– 06/30/14
NIH (R01 HL 5R01HL101161)
Stress, gene-environmnet interactions, and cardiovascular disease

PI $427,625 09/30/11 – 07/31/13
NIH (R21HL106467-01A1)
A Spatial Agent-Based Model of Walking Behavior in Cities.

PI
P60MD002249-05S1 $556,144 09/01/11– 08/31/13
NIH\NIMHD
Environmental Supplement to the Center for Integrative Approaches to Health Disparities

Joint PI
D43 TW009315 $1,136,164 07/01/12 – 06/30/17
NIH-Fogarty
Multilevel &Lifecourse Approaches to NCD Prevention in Latin America

Co-Investigator $3,290,513 09/01/08 – 08/31/13
OBSSR HHSN276200800013C
Application of Systems Approaches to Health Disparities & Population Health

PI $113,114 09/01/08 – 08/31/13
NIH (R03 TW008105)
Social and Neighborhoods Predictors of Obesity in Belo Horizonte

PI – Subcontract $529,577 10/01/05 – 12/31/14
EPA (G3F10287)
Prospective Study of Atherosclerosis, Clinical Cardiovascular Disease, and Long-Term Exposure to Ambient Particulate Matter and Other Air Pollutants in a Multi-Ethnic Cohort

Director $1,122,000 09/01/12 – 08/31/14
RWJ 70278
Robert Wood Johnson Foundation Health & Society Scholars Program

Director $1,216,127 09/01/11 – 08/31/13
RWJ 69250
Robert Wood Johnson Foundation Health & Society Scholars Program

COMPLETED

PI $1,396,894 09/01/10-08/31/12
NIH/NCMHD (P60MD002249-04S1)
Michigan Center for Integrative Approaches to Health Disparities (CIAHD)
Comparative Effectiveness Research to Eliminate Disparities in Cardiovascular Disease (CERED-CVD)

PI $1,199,984 09/30/07 – 07/31/12
NIH (R21DA024273)
Tools for measuring and analyzing cortisol levels in population studies

PI $1,065,392 06/02/03 – 04/30/09
NIH (R01 HL071759)
Neighborhoods and CVD risk in a multiethnic cohort

PI $2,521,375 06/01/04 – 06/30/10
NIH (R01 HL076831)
Socioeconomic patterning of inflammation and hemostasis

PI $159,897 09/30/04 – 04/30/09
NIH (HL071759-S)
Neighborhoods and cardiovascular risk in a multiethnic cohort –Methods Supplement

Director $1,519,648 09/01/10– 08/31/12
67956
Robert Wood Johnson Foundation Health and Society Scholars Program

Director $5,476,781 09/01/06 – 08/31/12
053575
Robert Wood Johnson Foundation Health and Society Scholars Program

PI $768,990 04/01/03 – 03/31/08
EPA (R830543)
Long term exposure to ambient particulate matter and subclinical atherosclerosis

PI $106,790 08/15/04 – 07/31/08
NIH (RO3 TW007020-01)
Social Factors and Cardiovascular Health in Buenos Aires

PI $53,625 03/01/06 – 08/01/07
MacArthur Foundation
Telomeres in MESA

PI $596,750 12/01/97 – 11/30/02
NIH (NHLBI) R29 HL59386
Neighborhood environments and cardiovascular disease

Co-Investigator $569,091 01/01/06–12/31/08
EPA (R832752010)
Heat-related Hospital Admissions among the Elderly: Community, Socio-economic and Medical Determinants of Vulnerability and Economic Impacts

Subcontract PI:
CDC (2142009M31544) $11,737 08/11/09 – 02/01/11
Multi-Ethnic Study of Atherosclerosis (MESA) – Occupational Analysis

Co-Investigator $1,832,589 09/01/05 – 02/28/10
NIH/NICHD (R01 HD050467-01A1)
Urban Social Context, Health and Health Disparities

Subcontract PI $66,085 09/01/05 – 08/31/09
Columbia/NIH(R01 ES014229)
Obesity and the Environment

Co-Investigator $1,913,341 04/01/05–03/31/09
NIA (R01 AG18418)
Understanding Social Disparities in Health and Aging

Core Director (Spatial analysis) $5,020,558 09/27/04 – 08/31/10
NIH (R24 HD047861)
MI Interdisciplinary Center on Social Inequality, Mind & Body

Subcontract PI $564,103 02/01/04 – 01/31/08
NCMHD (MD00206 P60)
Accessing Healthy Communities (Columbia Center for the Health of Urban Minorities)

Subcontract PI $123,004 12/01/04 – 11/30/07
RWJ (5-47961)
Exploring Relationships Between Adult and Physical Activity and Perceived And Objective Measures of Community Environmental Characteristics

Co-Director $4,633,282 09/01/02 – 08/31/07
RWJ 045823
Robert Wood Johnson Foundation Health and Society Scholars Program

Subcontract PI $280,679 02/01/01–11/30/05
NHLBI/NIH (R01 HL64142)
Lifecourse SES, social context, and cardiovascular disease

Co-PI $4,711,859 01/15/99 – 01/15/03
NHLBI/NIH (N01-HC-95161)
Multiethnic Study of Atherosclerosis, Columbia Field Site

Bibliography

Peer Reviewed Articles (§ indicates supervising/senior author)

1. **Diez Roux AV**, Nieto FJ, Comstock GW, Howard G, Szklo M. The relationship between passive smoking and carotid atherosclerosis 12-14 years later. *Preventive Medicine* 1995; 24:48-55.

2. **Diez Roux AV**, Nieto FJ, Tyroler HA, Crum L, Szklo M. Social inequalities and atherosclerosis: the ARIC Study. *Am J Epidemiol* 1995; 141: 960-972.

3. Szklo M, Cerhan J, **Diez Roux AV**, Chambless L, Cooper L, Folsom A, Fried L, Knopman D, Nieto FJ. Estrogen replacement therapy and cognitive functioning in the Atherosclerosis Risk in Communities (ARIC) Study. *Am J Epidemiol* 1996; 144: 1048-1057.

4. **Diez Roux AV**, Nieto FJ, Muntaner C, Tyroler HA, Comstock GW, Shahar E, Cooper LS, Watson RL, Szklo M. Neighborhood environments and coronary heart disease: a multilevel analysis. *Am J Epidemiol.* 1997; 46:48-63.

5. Howard G, Wagenknecht LE, Burke GL, **Diez Roux AV**, Evans GW, McGovern P, Nieto FJ, Tell GS. Smoking and progression of atherosclerosis. *JAMA* 1998; 279:119-124.

6. **Diez Roux AV**. Bringing context back into epidemiology: variables and fallacies in multilevel analysis. *Am J Pub Health* 1998; 88:216-222.

7. **Diez Roux AV**, Nieto FJ, Caulfield L, Tyroler HA, Watson RL, Szklo M. Neighborhood differences in diet: the Atherosclerosis Risk in Communities (ARIC) Study. *J Epidemiol Comm Health* 1999; 53:55-63.

8. **Diez Roux AV**, Northridge M, Morabia A, Bassett M, Shea S. Prevalence and social correlates of cardiovascular disease risk factors in Harlem. *Am J Public Health* 1999; 89: 302-308.

9. Nieto FJ, **Diez Roux AV**, Szklo M, Comstock G, Richey Sharrett A. Short and long-term prediction of clinical and subclinical atherosclerosis by traditional risk factor. *J Clin Epidemiol* 1999; 52:559-567.

10. **Diez Roux AV**. On genes, individuals, society, and epidemiology. *Am J Epidemiol* 1999; 11:1027-1032.

11. **Diez Roux AV**, Link BG, Northridge ME. Income inequality and cardiovascular disease risk factors. *Soc Sci Med* 2000; 50:673-687.

12. Benavides FG, Benach J, **Diez Roux AV**, Roman C. How do types of employment relate to health indicators? Findings from the Second European Survey on Working Conditions. *J Epidemiol Comm Health* 2000; 54:494-501.

13. **Diez Roux AV**. Multilevel analysis in public health research. *Annu Rev Public Health*. 2000; 21:171-92.

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15. **Diez Roux AV,**Kiefe CI, Jacobs DR, Haan M, Jackson SA, Nieto FJ, Paton CC, Schulz R. Area characteristics and individual-level socioeconomic position indicators in three population-based epidemiologic studies. *Annals Epidemiol* 2001;11(6):395-405.

16. Schwartz S, **Diez Roux AV**. Causes of Incidence and Causes of Cases: A Durkheimian Perspective on Rose. *Int J Epidemiol* 2001; 30(3):435-9.

17. **Diez Roux AV**,Stein Merkin S, Arnett D, Chambless L, Massing M, Nieto FJ, Sorlie P., Szklo M., Tyroler HA, Watson RL. Neighborhood of residence and incidence of coronary heart disease. *New England J Med* 2001; 345:99-106.

18. §Barr RG, **Diez Roux AV,** Knirsch CA, Pablos-Méndez A. Neighborhood Poverty and the Resurgence of Tuberculosis in New York City, 1984 to 1992. *Am J Public Health*. 2001; 91(9):1487-93.

19. **Diez Roux AV.** Investigating area and neighborhood effects on health. *Am J Public Health* 2001;91(11):1783-9.

20. Morland K, Wing S, **Diez Roux AV**, Poole C. Neighborhood characteristics associated with the location of food stores and food service places. *Am J Prev Med* 2002;22(1):23-9

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22. **Diez Roux AV.** A glossary for multilevel analysis. *J Epidemiol Commm Health* 2002; 56:588-94.

23. **Diez Roux AV**, Chambless L, Stein Merkin S, Arnett D, Eigenbrodt M, Nieto FJ, Szklo M, Sorlie P. Socioeconomic disadvantage and change in blood pressure associated with aging. *Circulation* 2002; 106 (6):703-10.

§Indicates supervising/senior author or papers in which the first author is a student, trainee, or junior researcher supervised by Dr. Diez Roux.

24. **Diez Roux AV**, Jacobs DR, Kiefe CI. Neighborhood characteristics and components of the insulin resistance syndrome in young adults: results from the Coronary Artery Risk Development in Young Adults (CARDIA) Study *Diabetes Care* 2002; 25(11):1976-82.

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29. **Diez Roux AV.** Residential environments and cardiovascular risk. *J Urban Health* 2003; 80:569-589.

30. Henderson C, Liu X, **Diez Roux A**, Link BG, Hasin D. The effects of US state income inequality and alcohol policies on symptoms of depression and alcohol dependence. *Soc Sci Med* 2004; 58:565-75.

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7. **Diez Roux AV**. Estimating neighborhood health effects: the challenges of causal inference in a complex world. *Soc Sci Med.*2004;58(10):1953-60.

8. **Diez Roux AV**. Commentary: Estimating and understanding area health effects. *Int. J. Epidemiol* 2005; 34: 284-285.

9. **Diez Roux AV**. The persistent social patterning of cardiovascular risk: rethinking the familiar. *Circulation*2005;111(23):3020-1.

10. House J, **Diez Roux AV**. Physicians, Families, and Population Health.*Ann Fam Med* 2005; 3:100-101.

11. Schwartz S, **Diez Roux AV**, Susser E. Causal explanation outside the Black Box. In: Psychiatric Epidemiology. Susser E, Schwartz S, Morabia A, Bromet EJ eds. *Oxford University Press,* New York 2006.

12. Schwartz S, **Diez Roux AV**, Susser E. Dependent and dynamic processes. In: Psychiatric Epidemiology. Susser E, Schwartz S, Morabia A, Bromet EJ eds. *Oxford University Press,* New York 2006.

13. **Diez Roux AV**. *Neighborhood Stress.* In: Encyclopedia of Stress. Fink G. ed. Elsevier Academic Press, 2006.

14. Morenoff JD, **Diez Roux AV**, Hansen B, Osypuk T.Residential environments and obesity; What Can We Learn about Policy Interventions from Observational Studies? In: *Making Americans Healthier: Social and Economic Policy as Health Policy*. Schoeni B, House J, Kaplan G, Pollack H.eds. Russell Sage, New York 2008.

15. **Diez Roux AV.** Next steps in understanding the multilevel determinants of health. *J Epidemiol Comm Health*.2008;62(11):957-9.

16. **Diez Roux AV,** Kershaw K, Lisabeth L. Neighborhoods and cardiovascular risk: beyond individual-level risk factors. *Current Cardiovascular Reports*2008, 2:175-180.

17. **Diez Roux AV.** Towards a realistic and relevant public health: the challenges of useful simplification.*J Public Health (Oxf)*. 2008;30(3):230-1.

18. **Diez Roux AV**. The effects of social capital on health. What twin studies can tell us.*Am J Prev Med*. 2008;35(2):182-3.

19. **Diez Roux AV**, Auchincloss A. Understanding the social determinants of behaviors: Can new methods help? *In J Drug Policy*. 2009;20(3):227-229.

20. Steptoe A, **DiezRoux AV**. Happiness, social networks, and health. *BMJ*. 2008;337.

21. **Diez Roux AV**. The persistent puzzle of the geographic patterning of cardiovascular disease.*Prev Med*. 2009 Aug.-Sept. ;49(2-3):133-4. PMID: 19540873.

22. Echeverría SE, **Diez Roux AV**. Emergent Chronic Conditions. In: Social and Structural Factors Affecting the Health of Latino Males in the United States. Aguirre-Molina M, Borrell L, and Vega W eds. New Brunswick, N.J. Rutgers University Press, 2010

23. O'Neill MS, Jackman DK, Wyman M, Manarolla X, Gronlund CJ, Brown DG, Brines SJ, Schwartz J**, Diez-Roux AV**. US local action on heat and health: are we prepared for climate change? *Int J Public Health*. 2010 Apr;55(2):105-12. PMID: 19774340.

24. **Diez Roux AV**, Alvarez G. *La necesidad de un enfoque multinivel en epidemiología: desafíos conceptuales y metodológicos*. In: Jesús Armondo (ed.): El planteamiento de una epidemiología sociocultural. Un diálogo en torno a su sentido, métodos y alcances. Buenos Aires: Lugar Editorial, 2010.

25. Mujahid M, **Diez Roux A.** Neighborhood factors in health. In: Steptoe A. ed. Handbook of Behavioral Medicine. New York: Springer 2010

26. O'Neill MS, Jackman DK, Wyman M, Manarolla X, Gronlund CJ, Brown DG, Brines SJ, Schwartz J**, Diez-Roux AV**. US local action on heat and health: are we prepared for climate change? *Int J Public Health*. 2010 Apr;55(2):105-12. PMID: 19774340

27. **Diez-Roux AV**. Moving beyond speculation: quantifying biases in neighborhood health effects research. *Epidemiology*. 2011 Jan;22(1):40-1.

28. Air pollution and cardiovascular disease in the multi-ethnic study of atherosclerosis.Gill EA, Curl CL, Adar SD, Allen RW, Auchincloss AH, O'Neill MS, Park SK, Van Hee VC, **Diez Roux A V**, Kaufman JD.Prog Cardiovasc Dis. 2011 Mar-Apr;53(5):353-60

29. Brownson RC, Diez Roux AV and Swartz K. Commentary: Generating Rigorous Evidence for Public Health: The Need for New Thinking to Improve Research and Practice. *Annual review of public health*. 2013.

Book reviews and letters to the editor

1. **Diez Roux AV**, Benach J, Tapia JA. Should policy recommendations be excluded from epidemiologic research papers? [Letter] *Epidemiology* 1994;5:637-638.

2. **Diez Roux AV**. *Disease and Social Diversity*, by Stephen J. Kunitz [book review]. *Am J Epidemiol* 1996;143:1277-1278.

3. Benach J, Benavides FG, Platt S, **Diez Roux A**, Muntaner C. The health-damaging potential of new types of flexible employment: a challenge for public health researchers [Letter]. *Am J Public Health* 2000;90(8):1316-7.

4. **Diez Roux AV**. Social Capital and Health. Kawachi I, Subramanian SV, Kim D. eds [book review] *Am J Epidemiol 2008;168:1339-1342.*

Other Publications

1. Tapia JA, **Diez Roux AV**, Nieto FJ. GLOEPI: An English-Spanish glossary of epidemiological and statistical terms. *Bulletin of the Panamerican Health Organization/Boletín de la Oficina Sanitaria Panamericana* 1994; 117(2):239-257.

University of Rochester Medical Center August, 2017

CURRICULUM VITAE

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PERSONAL INFORMATION

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Date of Birth: (b) (6)
Place of birth: (b) (6)
Citizenship: (b) (6)

EDUCATION

School or College	Field of Study	Degree Earned	Year
New York University	Medicine	M.D.	1973
California State University, Long Beach, CA	Mathematics, Microbiology	None	1965-1969

POSTDOCTORAL TRAINING

Instructor and Fellow, Pulmonary and Critical Care Unit
University of Rochester 1985-1988

Engaged in private practice of internal medicine,
Williamson, NY 1976-1985

Intern and Resident in Internal Medicine
Buffalo General Hospital, Buffalo, NY 1973-1976

MEDICAL LICENSURE

New York State Permanent Medical Licensure No: 120325 Date: 7/74
Certified -- American Board of Internal Medicine, 1976
Certified -- Pulmonary Disease Subspecialty Examination, 1988
Certified -- Critical Care Subspecialty Examination, 1989-1999
NPI # 1710917877

FELLOWSHIP AWARDS

Source of Award	Institution	Purpose	Years
NIH Pulmonary Training Fellowship	University of Rochester	Academic Pulmonary Training	1986-1988

FACULTY APPOINTMENTS

Institution	Rank	Years
University of Rochester	Professor Emeritus	2014
	Professor of Medicine and Environmental Medicine	2003-2014
	Associate Professor of Medicine and Environmental Medicine	1994-2003
	Assistant Professor of Environmental Medicine	1988-1994
Environmental Protection Agency	Visiting Scientist	1996-1997

PROFESSIONAL HOSPITAL AND ADMINISTRATIVE APPOINTMENTS

Institution	Appointment	Years
Strong Memorial Hospital	Attending Physician	1988-Present
Highland Hospital	Attending Physician	1997-Present
Monroe Community Hospital	Attending Physician	1990-1998
Veteran's Administration Hospital, Bath, NY	Attending Physician (Consulting)	1989-2001
Myers Community Hospital, Sodus, NY	Attending Physician (Consulting)	1985-1990
Strong Memorial Hospital	Instructor and Fellow	1985-1988

MEMBERSHIPS IN LOCAL AND STATE ACADEMIC AND PROFESSIONAL ORGANIZATIONS

Organization	Years
New York State Thoracic Society	1988-Present
President	1997-1998
Vice-President	1995-1996
Secretary-Treasurer	1994-1995
Chairman, Program Committee	1993-1994
Member, Program Committee	1992-1993
Chairman, Hospital Affairs Comm.	1991-1992
Governing Council, NYS Lung Research Institute	1993-2000

MEMBERSHIPS IN NATIONAL AND INTERNATIONAL ACADEMIC AND PROFESSIONAL ORGANIZATIONS

Organization	Years
American Thoracic Society	1986-present
Member, Environmental Health Policy Committee	2005-2006
Chair, Section on Bioterrorism	2003-2005
Chair, Task Force on Bioterrorism	2002-2003
Chair, Environmental and Occupational Health Assembly (EOH)	2001-2003
Long Range Planning Committee, EOH	1997-2000 (Chair, 1998-00)
Program Committee, EOH	1992-1996, 2010-2013
Fellow, American College of Physicians	1974-present

MEMBERSHIPS IN LOCAL AND STATE COMMUNITY SERVICE ORGANIZATIONS

Organization	Years
Board of Directors, American Lung Association - Finger Lakes Region	1998-2001
Board of Directors, American Lung Association of NYS	1998-2001
Bi-Synodical Committee on Death and Dying, Evangelical Lutheran Church in America	1992
Committee on Abortion, Upper NY Synod, Evangelical Lutheran Church in America	1990-1991
Family Team, Upper NY Synod, Evangelical Lutheran Church in America	1982-1987

HONORS AND AWARDS

Chair, Assembly on Environmental and Occupational Health, American Thoracic Society, 2001-2003

Invited Faculty Opponent for Thesis Defense of Doctoral Candidates, Norrlands Universitetsjukhus, Umeå, Sweden, May 1998, June 2014.

President, New York State Thoracic Society, 1997-1998

Member, Governing Council, New York State Lung Research Institute 1993-1999

Fellow, American College of Physicians, 1985

EDUCATIONAL CONTRIBUTIONS OF LAST TEN YEARS

1. Medical Students

a. Fourth-year Pulmonary Elective -- 1987-2014.

b. Introduction to Clinical Medicine – Teaching physical examination skills, 10/2000.

c. Daily contact via Pulmonary and Critical Care Unit teaching rounds: average of two students per year for four-week course—1988-2014.

d. Research elective: Eric Reisenfeld, 1999-2000. Awarded MD with Distinction in Research as a result of his project in my laboratory.

e. Adult Inpatient Clerkship, Quarterly Lecture and Journal Club, 2000-2006.

f. Student advisor, MD-PhD Program, 2003-2007.

2. Graduate and Undergraduate Students

a. Lecturer, Toxicology Core Course 521, 1992-2006: "Pulmonary Effects of Atmospheric Pollutants".

b. Summer research projects for undergraduate students:

Jan Oberdörster, 1992; Kyra Blount, 1993 (NHLBI Summer Training Program Grant recipient); Lena Mayes, 1994 and 1996 (NHLBI Summer Training Program); Michael Abraham, 1995 and 1996; Michelle Villasmil, 2004-2005, Katherine Levy, 2005.

c. Advisor for graduate Toxicology Seminar, November 1998, November 2004

d. Lecturer, Detection of Environmental Hazards (ENV 456), February 28, 1996: "Outdoor Air Pollution And Health Effects Of Ozone".

e. Independent Research supervisor for undergraduate students Pamela Collins (1993-1994), Michael Abraham (1995-1996), Nandini Seshan (2010).

f. Advisor for graduate student Richard Kaplan, Master's Essay, 1994-1995.

g. Laboratory experience for graduate student Emily Resseguie, 2010.

3. Residents

a. Pulmonary and Critical Care Unit Rounds --1988 - 2014. Daily rounding and teaching for two to four months per year beginning July 1988.

b. Teaching conferences—1988 - 2014. Biweekly Tuberculosis Conference, weekly Physiology and Clinical Outpatient conferences, and monthly Pathology conference. Utilized as teaching experiences for residents on the Pulmonary and Critical Care Service.

c. Mortality and Morbidity Conference, Strong Memorial Hospital: "Pulmonary Hypertension", November 9, 1990.

d. Medical Service Attending Rounds, Strong Memorial Hospital, 3 to 6-week blocks of service, MWF 10–11:30 AM, 1990-present.

e. Professor's Rounds, Strong Memorial Hospital, two sessions yearly, 1990-2014.

f. Interviewed Internal Medicine Residency Program applicants, 1992-2014.

g. Medical Grand Rounds, Strong Memorial Hospital: "Influenza Pneumonia", February 22, 1990; "Idiopathic Pulmonary Fibrosis", April 2, 1992; "Diagnostic Strategies for Suspected Pulmonary Embolism", Sept. 15, 1994.

h. Resident's Noon Conference: The Treatment of Asthma", August 19, 1992; "Writing and Publishing Case Reports", August 27, 1993; "Pulmonary Function Tests: Beyond Spirometry", March 15, 1995; "Tuberculosis", September 5, 1995; “Clinical Inhalation Studies”, October 31, 2002; “Fever, Weight Loss, and Intrathoracic Adenopathy”, April 1, 2009.

i. Jaspal Singh, Poster presentation: Esophageal leiomyomas mimicking asthma in an adult. 2001.

j. Resident research elective supervisor: Joseph Terrana, February 1999; Anatole Kleiner, February 2005 and January 2006; Amitha Harish, January 2006, Lorenzo Klein, 2005-2007; Ramzy Al-Hourany, 2008.

4. <u>Pulmonary and Critical Care Fellows</u>

a. Director, Pulmonary and Critical Care Fellowship Program, 1999-2007

b. Pulmonary and Critical Care Unit Rounds, 2-4 months per year, 1988 - 2014

c. Regular teaching conferences as noted under Residents.

d. Supervision of Fellows in development of procedural skills, 2-4 months per year, 1988 – 2014.

e. Supervision of Fellow research:

- Jonathan Gavras, 1991-1992. Effects of exposure to oxidant air pollutants on respiratory defense.
- John P. Fogarty, 1993-1994. Effects of oxidant exposure on bronchial epithelial cells obtained by brush biopsy.
- Fadi Malek, 1994. Mediators of the systemic acute phase response to ozone exposure in humans.
- Alfonso Torres, 1994-1996. Oxidative burst of alveolar macrophages in asthma.
- Edgar Geigel, 1995-1997. Exhaled nitric oxide as a marker of airway inflammation.

- Ming Chow, 1996-1998. Comparison of induced sputum leukocyte differential counts using flow cytometry.
- Joseph Boscia, 1997-1999. Effects of oxidant and particulate air pollutants on respiratory health.
- Christopher Daigle, 2000-2002. Effects of exposure to ultrafine particles.
- Carol-Lynn Petronaci, 2003-2005. Particle surface area and pulmonary vascular effects.
- Alpa Shah, 2004-2006. Effects of ultrafine particle exposure on cardiovascular function in diabetics.
- Steven Lee, 2007-2009. Effects of concentrated ambient ultrafine particles on platelet function and coagulation.
- Michael Dentler, 2013-2015. Cardiovascular effects of ozone exposure.
- Ala Muala, June 5, 2014, Invited Thesis Opponent, Umeå University, Umeå, Sweden.

5. Continuing Medical Education

See "Local and Regional Meetings"

PROFESSIONAL SERVICE ASSIGNMENTS AND RESPONSIBILITIES

Consulting Physician, Veterans Administration Hospital, Bath, NY, 1989-2001

Consulting Physician, Monroe Community Hospital, 1990-1998

Outpatient Clinic, Pulmonary and Critical Care Division, 1985-present

Attending Physician, Strong Memorial Hospital, 1988-present

Attending Physician, Highland Hospital, 1997-present

Consulting Physician, TB Clinic, Monroe County Health Department, 1991-Present

PROFESSIONAL ADMINISTRATIVE ASSIGNMENTS AND RESPONSIBILITIES

Buffalo Division Review Committee, Island Peer Review Organization, Inc., 1990-1992

New York State Thoracic Society Scientific Assembly Planning Committee, 1991-1992

Residency Selection Committee, 1990-1993

Director of Critical Care Fellowship Training, Strong Memorial Hospital, 1991-1994

Department of Medicine Quality Assurance Committee, 1991-1996

Invited Internal Reviewer, Department of Pediatrics, April 10-11, 1996

Board of Directors, American Lung Association of NYS, 1998-2001

Board of Directors, American Lung Association - Finger Lakes Region, 1998-2001

Chair, Internal Review Committees: Musculoskeletal Radiology Fellowship, 2000; Hand Surgery Fellowship, 2003; Pediatric Cardiology Fellowship, 2007.

Director, Pulmonary and Critical Care Research, 1998-2006

Graduate Medical Education Committee, 1999-2007

Director, Pulmonary and Critical Care Fellowship Program, 1999-2007

PROFESSIONAL ADMINISTRATIVE ASSIGNMENTS (continued)

Department of Medicine Fellowship Programs Representative, 1999-2007

Director, Wayne County Tuberculosis Clinic, 1978-2012

Director, Pulmonary Function Laboratory, Strong Memorial Hospital, 1999-2014

Scientific Advisory Committee, General Clinical Research Center, 1994-1996, 1998-2012

Associate Director, General Clinical Research Center, 2010-2017

RESEARCH ACTIVITIES

1. Projects in Progress

Each day the average person breathes about 15,000 liters, or approximately 35 pounds, of air. Gaseous and particulate contaminants in that air gain access to the body with each breath, and may have both short and long-term effects on human health. Our ongoing studies examine the effects of particle exposure on lung function, airway inflammation, and cardiovascular function. Utilizing both environmental chamber and mouthpiece exposure systems, subjects are exposed to environmentally relevant concentrations of pollutants, with or without exercise. Respiratory and systemic effects are determined using measures of lung function, examination for markers of inflammation in exhaled air, characterization of blood leukocyte and platelet responses using 3-color flow cytometry, and detailed cardiovascular monitoring.

Ultrafine particles (UFP, <100 nm diameter) may be particularly important with regard to cardiovascular effects because of their potential for evading clearance mechanisms and entering the lung interstitium and vascular space. We have demonstrated in healthy nonsmokers that inhalation of low concentrations of UFP causes changes in leukocyte expression of adhesion molecules, and reductions in the pulmonary diffusing capacity, that are consistent with altered endothelial function. The elderly and people with underlying vascular disease, such as diabetics, may be more susceptible to vascular effects of particle exposure because of impaired endothelial function and increased risk for atherosclerosis. Our studies explore the hypothesis that **inhalation of ultrafine particles alters endothelial function** in healthy and susceptible people. Endothelial dysfunction is critically linked to the pathogenesis of atherosclerotic vascular disease. Data from these human clinical studies of exposure to air pollutants help to elucidate the mechanisms responsible for pollutant health effects, and assist in establishing rational air quality standards.

2. Research Grants Obtained

Current:

a. Principal Investigator: Health Effects Institute, “Cardiovascular Effects of Near-ambient Ozone Exposure in Older Subjects”. 07/01/2011-12/31/2017. Total direct costs: $953,468.

Former:

a. Principal Investigator: American Petroleum Institute, “Susceptibility to the health effects of ultrafine particles: role of glutathione-S-transferase deficiency”. 7/1/2007-06/30/2015. Total costs $102,000.

b. Principal Investigator: NIH - National Heart, Lung and Blood Institute, “Multidisciplinary Training in Pulmonary Research”. 9/1/2001-8/31/2014. Total direct costs: $1,751,585.

c. Principal Investigator: CONCAWE, “Ozone Cardiovascular Effects in Genetically Susceptible People”. 12/01/2010-11/30/2013. Total costs $100,000.

d. Principal Investigator: ExxonMobil, “Ozone Cardiovascular Effects in Genetically Susceptible People”. 12/01/2010-11/30/2013. Total costs $100,000.

e. Principal Investigator: NIH - National Institute of Environmental Health Sciences, “Ozone Cardiovascular Effects in Genetically Susceptible People”. R01ES017428. 06/01/2010- 04/30/2013. Total costs: $1,025,074.

f. Co-Investigator (PI, Research Core 3): Environmental Protection Agency Particle Center Grant (PI: G. Oberdörster), Grant no. RD-83241501-01, “Ultrafine particle characterization, health effects and pathophysiological mechanisms". Effective dates: 6/1/99-9/30/11. Total direct costs: $5,969,473.

g. Principal Investigator: NIH – National Institute of Environmental Health Sciences, “Cardiovascular Effects of Ultrafine Particles in Genetically Susceptible Subjects”. RC1ES018519-01. 9/30/09-7/31/11. Total direct costs: $661,668.

h. Principal Investigator: NIH – National Institute of Environmental Health Sciences, “Ultrafine particle-induced oxidative stress”. 8/1/2004-1/31/2009. Total Direct Costs $1,000,000.

i. Principal Investigator: NIH – National Institute of Environmental Health Sciences, “Cardiovascular effects of ultrafine particle exposure in humans”. 9/20/2002-6/30/2007. Total Direct Costs $1,001,562.

j. Co-Principal Investigator: Electric Power Research Institute (P.I.: M.J. Utell), “Health Effects of Exposure to Ultrafine Particles”. Effective dates: 10/2/98 – 12/31/04. Total Direct Costs: $278,011

k. Co-Investigator: Philip Morris (P.I.: R. Phipps), “Smoking related toxicants: induction of cyclooxygenase-2 and PGE2 and enhancement of pulmonary injury and asthma”. 7/1/01-6/30/04. Total Direct Costs: $542,397.

l. Co-Investigator: NIH - National Heart, Lung and Blood Institute (P.I.: W. Beckett), “Inhaled particle characteristics and early lung effects”. 6/1/00-5/31/04. Total Direct Costs: $800,000.

m. Co-Investigator: New York State Energy Research and Development Authority (P.I.: M.J. Utell), "Clinical Studies of Exposure to Ultrafine Particles". Effective dates: 1/1/99 -12/31/03. Total Direct Costs: $407,415

RESEARCH ACTIVITIES (continued)

n. Co-Investigator: U.S. Navy (P.I.: M. Utell), “Prevalence of airborne particles in the submarine atmosphere”. 6/1/01-11/30/02. Total Direct Costs $75,000.

o. Principal Investigator: Environmental Protection Agency, “Human health effects of exposure to ultrafine particles”. Effective dates: 10/1/98-9/30/02. Total Direct Costs: $463,057

p. Principal Investigator: Center for Indoor Air Research, "Indoor air particles and human health". Effective dates: 7/1/99-6/30/02. Total Direct Costs: $365,856

q. Principal Investigator: Health Effects Institute, “Health effects of exposure to ultrafine carbon particles in healthy subjects and subjects with asthma”. Effective dates: 8/15/98-6/30/02. Total Direct Costs: $769,858

r. Co-Investigator: Dow Corning Corporation (P.I.: M.J. Utell), "Clinical studies on the respiratory and percutaneous effects of silicones". Effective dates: 2/15/94-12/31/01. Total Direct Costs: $3,462,900

s. Co-Principal Investigator: NIH - National Institute of Environmental Health Sciences (P.I.: M.J. Utell), "Toxic effects of particles and oxidants on lung function". Effective dates: 7/1/93 - 6/30/99. Total Direct Costs: $1,148,286

t. Principal Investigator: NIH - National Heart, Lung and Blood Institute, "Human health effects of repeated exposures to ozone". Effective dates: 7/1/93 - 3/31/99. Total Direct Costs: $599,159

u. Co-Investigator: Allied Signal (P.I.: M.J. Utell), "Clinical inhalation studies with HCFC-141b". Effective dates: 7/1/95-12/31/97. Total Direct Costs: $169,460

v. Principal Investigator: Center for Indoor Air Research, "Exposure to nitrogen dioxide: effects on human defenses against respiratory viruses". Effective dates: 7/1/93 - 6/30/96. Total Direct Costs: $536,905

w. Co-Investigator: NIEHS Program Project ESO1640 (P.I. W.G. Thilly, Massachusetts Institute of Technology), "Mutagenic health effects of airborne toxicants in human lungs". Effective dates: 8/1/94-7/31/96. Total Direct Costs (Subcontract): $302,862

x. Principal Investigator: Health Effects Institute, "Mechanisms of airway inflammation in smokers and nonsmokers with varying responsiveness to ozone". Effective dates: 7/1/91 - 12/31/94. Total Direct Costs: $534,160.

y. Principal Investigator: NIH - General Clinical Research Centers, Clinical Associate Physician (CAP) Award. Effective dates: 4/1/89 - 3/31/92. Total Direct Costs: $174,759

z. Co-Investigator: Electric Power Research Institute (P.I.: M.J. Utell), "Effects of sulfuric acid aerosols on pulmonary defense mechanisms in man". Effective dates: 1/1/91 - 12/31/93. Total Direct Costs: $649,573

aa. Co-Investigator: Health Effects Institute (P.I.: M.J. Utell), "Influence of sulfate aerosols on exposure-response characteristics of ozone on human lung function". Effective dates: 11/1/88 - 8/31/92. Total Direct Costs: $458,720

bb. Co-Investigator: R.J. Reynolds Company (P.I. M.J. Utell), "Effects of the 'New' cigarette on indices of epithelial injury and cellular function". Effective dates: 1/1/95-12/31/98. Total Direct Costs: $348,157

cc. Co-Investigator: Center for Indoor Air Research (P.I. J.N. Finkelstein), "Response of extracellular glutathione peroxidase to acute ozone and nitrogen dioxide exposures". Effective dates: 2/1/97-1/31/00. Total Direct Costs: $522,345

PRESENTATIONS AT MAJOR PROFESSIONAL MEETINGS

Local and Regional Meetings

"Mechanisms of nitrogen dioxide toxicity in humans", October 9, 1987. Presented at the Annual Meeting of the Eastern Section of the American Thoracic Society, Providence, RI.

"'Do not resuscitate' orders", November 24, 1987. Presentation to Rochester Area Hospital Chaplains.

"Oxidant pollutants and human respiratory defense", May 17, 1988. Invited speaker at Research Conference, McMaster University, Hamilton, Ontario.

"Effects of oxidants on human alveolar cells", May 26, 1988. Presented at Department of Neonatology Interdisciplinary Research Conference, University of Rochester.

"Recognition and treatment of deep venous thrombosis and pulmonary embolism: an update", April 19, 1989. Invited speaker, Grand Rounds, Veterans Administration Hospital, Bath, NY.

"Community acquired pneumonia", April 27, 1989. Invited speaker, Family Medicine Grand Rounds, Highland Hospital, Rochester, NY.

"Pneumonias of the 1990's", October 6, 1989. Presented at Veterans Administration Hospital Medical Center, Canandaigua, NY.

"Therapeutic considerations in community acquired pneumonia", October 10, 1989. Presented at a meeting of the Medical Societies of the Counties of Oneida, Herkimer, Madison and Chenango.

"Weaning from mechanical ventilation", November 20, 1989. Invited speaker, Myers Community Hospital, Sodus, NY.

"Extrapulmonary tuberculosis", November 1, 1990. Presented at the Gretchen Crisler Memorial conference at the Jewish Home of Rochester.

"Decisions regarding treatment of the dying, elderly, and chronically ill", April 14, 1991. Seminar presented at Mountainrise United Church of Christ.

"Nitrogen dioxide and human health: are you cooking with gas?" June 4, 1991. Department of Medicine Research Seminar, Rochester Academy of Medicine, Rochester, NY.

"Air pollution and respiratory host defense: Effects of exposure to nitrogen dioxide". April 16, 1992. Department of Medicine Research Seminar, Strong Memorial Hospital.

"Tuberculosis", June 19, 1992. Presented at Newark Wayne Community Hospital, Newark, NY.

"Is extrapulmonary TB contagious?" August 26, 1992. City-Wide Chest Conference, Strong Memorial Hospital, Rochester, NY.

"Pulmonary function tests", September 24, 1992. In-service for Kodak Medical Department, Rochester, NY.

"Airway inflammation and exposure to ozone air pollution". January 15, 1993. Immunology Research in Progress Seminar, University of Rochester.

PRESENTATIONS (continued)

"Indoor and Outdoor Air Pollution and Asthma". February 17, 1993. Regional Postgraduate Teaching Morning, Department of Pediatrics, Strong Memorial Hospital.

"Exposure To Ozone Air Pollution: Are Smokers A Susceptible Subpopulation?" April 27, 1993. Respiratory Toxicology Research Seminar, Department of Environmental Medicine.

"Tuberculosis in 1993: Is the hospital a dangerous place?" April 29, 1993. Presented at Veterans Administration Center, Bath, NY

"Human Health Effects of Air Pollution". July 29, 1993. Luncheon Seminar, Strong Children's Research Center, University of Rochester.

"Advances in the management of COPD", October 8, 1993. Presented at Veterans Administration Center, Bath, NY.

"Pediatric tuberculosis in Monroe County" February 8, 1994. Pediatric Pulmonary Conference, Strong Memorial Hospital, Rochester, NY.

"TB skin testing: what's positive?" February 18, 1994. Gretchen Crisler Memorial Conference, Rochester, NY.

"Health Effects of Ozone Air Pollution: Who is at risk?" October 4, 1994. SCOR Seminar Series, University of Rochester.

"Acute Pulmonary Responses To Ozone: Markers Of Epithelial Inflammation And Injury". November 18, 1994. Immunology Research in Progress Seminar, University of Rochester.

"Use Of Fiberoptic Bronchoscopy In Clinical Research". March 22, 1995. GCRC Research Seminar Series, University of Rochester.

"A new wrinkle: coping with the effects of aging". July 17-21, 1995. Presented at the Lutheran Summer Conference, Silver Bay, NY.

"Tuberculosis in Wayne County". October 27, 1995. Grand Rounds, Newark Wayne Community Hospital, Newark, NY.

"Ozone-induced Airway Inflammation in Asthma". November 16, 1995. SCOR Seminar Series, University of Rochester.

"Tuberculosis Prevention in Wayne County". February 19, 1996. Medical Grand Rounds, Myers Community Hospital, Sodus, NY

"Ozone-induced airway inflammation and its relationship to airway responsiveness and disease". Work-in-Progress Seminar, EPA Human Studies Division, January 29, 1997

"Self-Care: Managing Stress". July 14-18, 1997. Presented at the Lutheran Summer Conference, Silver Bay, NY.

"Airway epithelial cell responses to ambient air particles". September 11, 1997. Pulmonary Biology Research Seminar, University of Rochester.

"Environmental Lung Diseases". September 13, 1997, Co-chair of plenary session, Great Lakes Lung Conference, Niagara-on-the-Lake, Ontario, Canada.

"All that wheezes and gets acidotic is not asthma". August 26, 1998. City-Wide Chest Conference, University of Rochester.

"Effects Of Ambient Air Particles From The Utah Valley On Human Airway Epithelial Cells". September 12, 1998. Great Lakes Lung Conference, Niagara-on-the-Lake, Ontario, Canada.

PRESENTATIONS (continued)

"Environmental Lung Diseases". September 13, 1998, Co-chair of plenary session, Great Lakes Lung Conference, Niagara-on-the-Lake, Ontario, Canada.

"Asthma: a modern epidemic of airway obstruction". November 14, 1998. "Breathless in Rochester", a conference on asthma sponsored by the Center for Environmental Information, Rochester, NY.

"Smokers who can't quit: effects of switching to a new type of cigarette". January 7, 1999. Pulmonary Biology Research Seminar, University of Rochester.

"Air pollution particles: are there respiratory and cardiovascular effects?" April 1, 1999. Department of Medicine Research Seminar, University of Rochester.

"Severe steroid-dependent asthma: does methotrexate help?" June 2, 1999. City-Wide Chest Conference, University of Rochester.

"Variability in human responsiveness". September 20, 1999. Pulmonary Journal Club, University of Rochester.

"Another heart-lung interaction: respiratory disease and myocardial infarction". October 20, 1999. City-Wide Chest Conference, University of Rochester.

"The leukocyte oxidative burst". October 4, 1999. Pulmonary Physiology Conference, University of Rochester.

"Particles in the air we breathe: just annoying or really bad?" November 8, 1999. General Clinical Research Center Seminar Series, University of Rochester.

"Medical aspects of air pollution: what's fact and what's hype?" November 9, 1999. Rochester Academy of Medicine.

"Tuberculosis Prevention and Control: Changes are Coming", December 3, 1999. Medical Grand Rounds, Newark Wayne Community Hospital

"Idiopathic pulmonary fibrosis: clinical features and therapeutic options." June 21, 2000. City-Wide Chest Conference, University of Rochester.

“Airways Resistance”. October 30, 2000. Pulmonary Physiology Conference, University of Rochester.

“Idiopathic pulmonary fibrosis”. February 13, 2001. Buffalo Pulmonary Physicians, Buffalo, NY.

"Pulmonary case review at the VA", Twice yearly 1995 - 2001. Presented at Veterans Administration Center, Bath, NY.

“Clinical Studies of Exposure to Ultrafine Particles”, September 24, 2001. New York State Energy Research and Development Authority Annual Conference, Albany, NY.

"Mechanisms for the Morbidity and Mortality Associated with Particulate Air Pollution", January 25, 2002. Immunology Research in Progress Seminar, University of Rochester.

“Fine Particle Air Pollution Has Cardiovascular Effects. What are the Mechanisms?" February 25, 2002. Pathobiology, Oncology and Molecular Medicine Seminar, University of Rochester.

“Human Clinical Inhalation Studies”, October 31, 2002. Medicine Residents’ Noon Conference, University of Rochester.

“The Cardiovascular Effects of Inhaling Cigarette Smoke and Other Particles”, February 10, 2003. Pulmonary Biology Conference, University of Rochester.

PRESENTATIONS (continued)

"Clinical Studies of Ultrafine Particles", April 21, 2003. Town Hall Meeting: "What You and Your Family Need to Know About Air Pollution and How it Affects Your Health". Syracuse, NY.

"Particulate Air Pollution: A New Cardiovascular Risk Factor?" January 12, 2004, Scientific Reasoning in Medicine, MD-PhD Program, University of Rochester School of Medicine.

"Airways Resistance and Methacholine Challenge", September 1, 2004. Pulmonary Physiology Conference, University of Rochester.

"Take it to Heart: The Cardiovascular Effects of Particulate Air Pollution", May 12, 2005. University of Rochester Medical Center.

"Cardiovascular Effects of Ultrafine Particles", June 6, 2005. Community Advisory Board, Environmental Health Sciences Center, University of Rochester Medical Center.

"Ultrafine Particles: Effects Beyond the Lung?" October 24, 2005. Syracuse Center of Excellence, Syracuse, NY.

"The Pulmonary and Cardiovascular Effects of Breathing Ultrafine Particles", May 4, 2006, Environmental Medicine Research Conference, University of Rochester Medical Center.

"Oxidant Gases: Ozone and NO_2", October 2, 2006, Toxicology lecture, University of Rochester.

"Air Pollution Particles and the Heart", November 8, 2006, Cardiology Grand Rounds, University of Rochester.

"Air Pollution, Inflammation, and Cardiovascular Disease", January 10, 2007, Department of Medicine Research Seminar, University of Rochester.

The Acute Respiratory Distress Syndrome", March 2, 2010, Mercy Flight Central, Canandaigua, NY.

"Pulmonary Evaluation for Office Procedures", November 9, 2010, Oral & Maxillofacial Surgery Grand Rounds, Eastman Dental Center, University of Rochester Medical Center.

"Pulmonary Function Testing". 2011, 2012. Organized a series of 6 lectures for pulmonary fellows and pulmonary function laboratory staff.

"Airways Resistance and Challenge Testing", Pulmonary and Critical Care, Strong Memorial Hospital, Annually, 2012-2015.

"History of Air Pollution Research", September 24, 2015, Environmental Health Sciences Research Day, University of Rochester Medical Center.

National Meetings

"Inhalation of 0.60 ppm NO_2: evaluation by bronchoalveolar lavage 18 hours after exposure", May 9, 1988. Presented at the Annual Meeting of the American Thoracic Society, Las Vegas, NV.

"Does exposure to ambient levels of NO_2 impair human respiratory defense?" October 25, 1988. Presented at National Institute of Environmental Health Sciences (NIEHS) Center Director's Meeting, Baltimore, MD.

"Beyond PFT's: assessing effects of atmospheric pollutants on pulmonary immune responses", October 26, 1988. Presented at New York University Institute of Environmental Medicine, Tuxedo, NY.

"Mechanisms of nitrogen dioxide toxicity in humans", April 11, 1989. Presented at the 6th Health Effects Institute Annual Conference, Cambridge, MA.

PRESENTATIONS (continued)

"Light scattering properties of human alveolar cells after inhalation of NO_2", May 14, 1989. Presented at the Annual Meeting of the American Thoracic Society, Cincinnati, OH.

"Effects of NO_2 exposure on pulmonary function and airway reactivity", May 14, 1989. Presented at the Annual Meeting of the American Thoracic Society, Cincinnati, OH.

"Effects of exposure to H_2SO_4 aerosol on alveolar cell populations in humans", May 20, 1990. Presented at the 1990 World Conference on Lung Health, Boston, MA.

"Sulfuric acid inhalation and biochemical characteristics of human airway mucous glycoproteins". Presented at the 1990 World Conference on Lung Health, Boston, MA.

"Effects of exposure to ambient levels of NO_2: is host defense altered in humans?" June 25, 1990. Presented at the 83rd Annual Meeting of Air and Waste Management Association, Baltimore, MD.

"Characterization of the inflammatory response to NO_2 exposure using bronchoalveolar lavage in humans", May 12, 1991. Presented at the 1991 ALA/ATS International Conference, Anaheim, CA.

"The effects of NO_2 on superoxide anion generation by human alveolar macrophages". Presented at the 1991 ALA/ATS International Conference, Anaheim, CA.

"Pollutants and respiratory infections: addressing the issue in humans", May 14, 1991. Invited speaker, 1991 ALA/ATS International Conference, Anaheim, CA.

"Effects of NO_2 exposure on human host defense". Presented at the 1992 ALA/ATS International Conference, Miami Beach, FLA.

"Does pre-exposure to acidic aerosols alter airway responses to ozone in humans?" Presented at the 1992 ALA/ATS International Conference, Miami Beach, FLA.

"Airways responsiveness to ozone in smokers and nonsmokers". Presented at the 1993 ALA/ATS International Conference, San Francisco, CA.

"Immediate and delayed effects of ozone exposure on bronchoalveolar lavage cells in smokers and nonsmokers". Presented at the 1993 ALA/ATS International Conference, San Francisco, CA.

"Asthma is in the air: the role of allergens, irritants, and air pollution." Invited speaker, 1994 Scientific Assembly, American Lung Association of New York State.

"Acidic aerosols: effects on alveolar macrophage function and ozone responsiveness in humans." Presented at the Colloquium on Particulate Air Pollution, Anaheim, CA, January 24, 1994.

"Current issues in air pollution health effects research: SO_2 and acidic aerosols". Invited speaker, 1994 ALA/ATS International Conference, Boston, MA.

"Airway inflammation and functional responsiveness to ozone in humans". Presented at the 1994 ALA/ATS International Conference, Boston, MA.

"Ozone exposure, exercise, and the systemic acute phase response in humans". Presented at the 1994 American Physiological Society Conference, Physiology of the Release and Activity of Cytokines, Baltimore, MD.

"Interspecies comparison of immunotoxicity of inhaled sulfuric acid: I. Human subjects". Presented at the 1994 ALA/ATS International Conference, Boston, MA.

"Acute pulmonary responses to oxidants: markers of epithelial inflammation and injury". Invited speaker, Bowman Gray School of Medicine, Winston Salem, NC, 1994.

"Airway inflammation and functional responsiveness to ozone in humans". Presented at the First Great lakes Lung Conference, Niagara-on-the-Lake, Ontario, Canada, 1994.

PRESENTATIONS (continued)

"Airway inflammation in smokers and nonsmokers with varying responsiveness to ozone". Invited presentation, Health Effects Institute Annual Conference, Chicago, IL, April 1995.

"Predictors of lung function responsiveness to ozone exposure in humans". Presented at the 1995 ALA/ATS International Conference, Seattle, WA.

"Ozone induced airway inflammation--Human studies". Co-Chaired poster discussion, 1995 ALA/ATS International Conference, Seattle, WA.

"The health effects of ozone". Invited speaker, Annual Meeting of Northeast States for Coordinated Air Use Management in Cambridge, MA, July 11, 1995.

Invited participant, Workshop on Human Variability, International Life Sciences Institute, October 16-17, 1995, Washington, DC.

"Health effects of acid aerosols in asthma". Invited speaker, American Academy of Allergy, Asthma and Immunology International Conference in New Orleans, LA, March 19, 1996.

"Lower airway responses of asthmatics to environmental exposures". Invited speaker, Environmental Protection Agency Workshop on Asthma and the Environment, May 7-9, 1996, Chapel Hill, NC.

"Ozone exposure in subjects with asthma increases BAL lymphocyte number and activation". Presented at the 1996 ALA/ATS International Conference, New Orleans, LA.

Invited participant, Ozone Health Research Needs Workshop, EPA National Center for Environmental Assessment, March 25-27, 1997, Chapel Hill, NC.

Invited participant, Clinical Studies of Particulate Matter, American Petroleum Institute, April 30-May 1, 1997, Alexandria, VA.

"Subclinical effects of exposure to atmospheric oxidants". Presented at Health Effects Institute Workshop on Subclinical Cardiorespiratory Effects of Pollutants, May 17, 1997, San Francisco, CA.

"Ozone air pollution: health effects and mechanisms". Co-Chaired poster discussion session, 1998 ALA/ATS International Conference, April 1998, Chicago, IL.

"Pre-existing Cardiopulmonary Disease". 1999 ALA/ATS International Conference, Symposium "Host Susceptibility Factors to Environmental Lung Disease", San Diego, CA, April 28, 1999.

"Health effects of nitrogen oxides". Diesel Engine Emission Reduction Workshop, Castine, Maine, July 6, 1999.

"Particles in the air: Are your patients at risk?" Department of Medicine Grand Rounds, University of California Irvine, September 28, 1999.

"Immunotoxicants–Ambient Gases". Continuing Education Course: "Pulmonary Immunotoxicology", Society of Toxicology 39th Annual Meeting, Philadelphia PA, March 19, 2000.

"Systemic and Cardiovascular Effects of Airway Injury and Inflammation". Workshop: Inhaled Environmental/Occupational Irritants and Allergens: Mechanisms of cardiovascular and systemic responses, Scottsdale, AZ, April 1, 2000.

"Deposition of inhaled ultrafine carbon particles in resting, healthy, nonsmoking adults." 2000 ALA/ATS International Conference, Symposium "Fine and ultrafine particles: distribution and effects". Toronto, Canada, May 8, 2000.

Organizing Committee & speaker: Workshop on Cardiovascular Effects Associated with Air Pollution, Rochester, NY March 7-8, 2001

PRESENTATIONS (continued)

"Health effects of exposure to ultrafine carbon particles in healthy subjects and subjects with asthma". Health Effects Institute Annual Conference, Washington DC, April 30, 2001.

"Mechanistic basis and epidemiologic evidence for cardiovascular effects of air pollution". Co-chaired poster discussion session, 2001 American Thoracic Society International Conference, May 2001, San Francisco, CA.

"Clinical inhalation studies". Presentation to investigative panel, Life Sciences Research Office, December 2001, Chicago, IL.

"Susceptible Populations: Human Clinical Studies". Presentation to National Research Council, Committee on Research Priorities for Airborne Particulate Matter, April 27, 2002, Seattle, WA.

"Effects of ultrafine (carbon) and fine PM (CAPs) on cardiovascular function in humans". Health Effects Institute Annual Conference, April 29, 2002, Seattle, WA.

"Ultrafine Particle Inhalation In Subjects With Asthma: Effects On Blood Leukocytes And Endothelial Activation", Association for the Advancement of Aerosol Research Annual Conference, April 1, 2003, Pittsburgh, PA.

"Air Pollution and inflammation: What do we know?" Health Effects Institute Annual Conference, May 5, 2003, Boulder, CO.

"Concluding remarks: Mechanisms of PM Toxicity." Invited speaker, 2003 ATS International Conference, May 19, 2003, Seattle, WA.

"Human clinical studies of air pollutants: ethical and safety considerations in study design", Invited speaker, Conference on The Ethics, Human Subject Protections and Science of Experimental Human Exposures to Industrial Chemicals, Environmental & Occupational Health Sciences Institute, June 20, 2003, Piscataway, NJ.

"Health effects assessment: oxidative stress and inflammation", Health Effects Institute ACES Workshop, November 6, 2003, Denver, CO.

"From bench to bedside: what a physician needs to know about air pollution", ATS International Conference, May 23, 2004, Orlando, FL.

"Ultrafine Particles: Characterization, health effects, and pathophysiological mechanisms", Science Day, Environmental Protection Agency, Region 2, November 18, 2004, New York, NY.

"Air Pollution and the Blood: Does Breathing Ultrafine Particles Affect the Circulation?" Harvard School of Public Health, November 22, 2005, Boston, MA.

"Cardiovascular Effects of PM Components", Health Effects Institute Annual Conference, April 11, 2006, San Francisco, CA.

"Human Clinical Studies of Ultrafine Particles", invited speaker, Ultrafine Particles: The Science, Technology, and Policy Issues, May 2, 2006, Los Angeles, CA.

"Air Pollution and Cardiovascular Health", Pulmonary Grand Rounds, University of Arizona Medical Center, July 11, 2006, Tuscon, AZ.

Planning committee and co-chair, U.S. EPA/NHLBI/NIEHS Sponsored Meeting, "The Role of Air Pollutants in Cardiovascular Disease", October 12, 2006, Research Triangle Park, NC.

"Vascular and Platelet Effects of UFP in Diabetics", 5th EPA-GSF-Rochester biennial Workshop, May 18, 2007, Montreat, NC.

PRESENTATIONS (continued)

"Clinical Studies of Respiratory and Cardiovascular Effects of Ultrafine Particles", Center for Health Professions, University of Southern California, November 26, 2007, Los Angeles, CA.

"Changes in endothelial and platelet function with inhalation of nanoparticles: effects of oxidative stress?", EPA PM Centers Meeting, Southern California Particle Center, November 27, 2007, Los Angeles, CA.

How can air pollution cause health effects? MIT NESCAUM 2008 Symposium on Urban Transportation, August 12-13, 2008, Dedham, MA.

"Pulmonary and cardiovascular effects of exposure to ambient concentrated ultrafine particles in healthy subjects", NIEHS/EPA workshop, Role of Air Pollutants in Cardiovascular Disease, September 3, 2008, Chapel Hill, NC.

"Biomarkers of air pollution effects in human clinical and panel studies", Global Variability in Response to Air Pollution, September 4-5, 2008, Chapel Hill, NC.

"Pulmonary and Cardiovascular Responses to Ambient Ultrafine Particles in Rochester, NY", EPA PM Centers Research in Progress Seminar Series, January 13, 2009.

"Human Pulmonary and Cardiovascular Effects of Very Small Particles", EOHSI Seminar Series, Environmental & Occupational Health Sciences Institute, University of Medicine & Dentistry of New Jersey, Newark, NJ, February 26, 2009.

"Synthesis Of Evidence From Toxicology", Health Effects Institute Annual Conference, Portland, OR, May 3, 2009.

"Cardiovascular consequences of particulate air pollution", 27th Annual International Symposium on Man and His Environment in Health and Disease, Dallas, TX, June 26, 2009.

"Ultrafine particles, inflammation, and human health", American College of Toxicology, Palm Springs, CA, November 4, 2009.

"Extrapulmonary effects of ambient ultrafine particles: controlled clinical and animal studies", US Environmental Protection Agency Webinar, December 1, 2010.

"How bad is traffic pollution? Health effects and interventions", Chair of Minisymposium, American Thoracic Society International Conference, San Francisco, CA, May 2012.

"Can We Breathe More Easily? Chronic Respiratory Disease and Air Pollution", Co-Chair of Symposium, Health Effects Institute Annual Conference, May 4-6, 2014.

"NO_2: New Insights on an Old Pollutant", Co-Chair of Symposium, Health Effects Institute Annual Conference, May 3-5, 2015.

"All that wheezes is not asthma: pitfalls in diagnosing a common disease", REACH Travelling Symposium, La Jolla, CA, May 14, 2015.

International Meetings

"Infectivity models in clinical inhalation studies". Invited speaker, 3rd Inhalation Symposium, Advances in Controlled Clinical Inhalation Studies, Hannover, Germany, October 11, 1991.

"Exposure to NO_x: Good, Bad, or Irrelevant?" Invited speaker, Umeå University, Umeå, Sweden, May 14, 1998.

"A marker of ozone exposure in humans: aldehyde products of ozonation in the epithelial lining fluid". Presented at the 7th International Inhalation Symposium, Hannover Medical School, Germany, February 24, 1999.

PRESENTATIONS (continued)

"Lung injury and inflammation in smokers: effects of switching to a 'new' cigarette". World Congress on Lung Health, Florence, Italy, September 1, 2000.

"Air Pollution Particles and Cardiovascular Disease: What is the Connection?" Medical Grand Rounds, University of San Juan VA Hospital, San Juan, PR, February 12, 2001.

"Cardiovascular Effects of Ultrafine Particles", Investigators' workshop, Munich, Germany, April 9, 2003.

"Cardiovascular Effects of Inhaled Nanoparticles in Humans". Invited speaker, Toxic Responses of the Cardiovascular System, Korean Society of Toxicology, Seoul, Korea, June 7, 2007.

"Ultrafine Particles: What Do We Know from Toxicology and Controlled Exposure Studies". Invited speaker, 10th Annual Air Quality and Health Workshop, Vancouver, BC, Canada, February 20, 2013.

"Human Studies of Particularly Problematic Pollutants: Ultrafine Particles & Ozone". Invited Speaker, Umeå University, Umeå, Sweden, June 4, 2014.

EDITORIAL ASSIGNMENTS IN PROFESSIONAL JOURNALS

Associate Editor: Inhalation Toxicology, 2008-2015
Editorial Board: Inhalation Toxicology, 2001-2008
Particle and Fibre Toxicology, 2004-2008

Reviewer:
American Journal of Physiology
American Journal of Respiratory and Critical Care Medicine
American Journal of Respiratory Cell and Molecular Biology
Arteriosclerosis, Thrombosis, and Vascular Biology
Applied Occupational and Environmental Hygiene
BMC Pulmonary Medicine
Chest
Circulation
Clinical and Experimental Immunology
European Respiratory Journal
Experimental Lung Research
Human & Experimental Toxicology
Inhalation Toxicology
Journal of General Internal Medicine
Journal of Thrombosis and Haemostasis
Lancet
Medical Principles and Practice
Nanomedicine
Neurology
Particle & Fibre Toxicology
PLOS1
Toxicological Sciences
Toxicology and Applied Pharmacology

MEMBERSHIP AND PARTICIPATION IN NATIONAL ADVISORY AND HEALTH COUNCILS AND RESEARCH REVIEW COMMITTEES

Health Effects Institute grant review panels, (September 1993; January 1996; June 2001, December 2005) and site visits to investigators' laboratories (July 1993, November 1993, November 1995).

Center for Indoor Air Research, review of research proposals, 1993-1997.

US Environmental Protection Agency, grant review panels: May 13-14, 1997, March 24-25, 1998, April 17, 2006.

US Environmental Protection Agency, fellowship review panels: March 10-11, 1999; February 27-28, 2007; July 14-16, 2015.

Science Review Committee, Health Effects Institute, 2010-Present.

Peer Review Medical Research Program (PRMRP) for the Department of Defense Congressionally Directed Medical Research Programs (CDMRP), December, 2015

National Institutes of Health Review Panels:

- NIEHS Program Project Grant review panels: November 2001, May 2002, October 2002.
- NIEHS Review of Environmental Center, November 2002.
- NIEHS K23/24 grant review (Chair), April 8, 2004.
- NHLBI T32 grant review panel, October 13-14, 2004.
- NHLBI General Clinical Research Center review panel, December 8-9, 2004.
- NIEHS Special Emphasis Panel (Chair), October 20, 2005.
- NIAID Asthma Centers review panel, March 8-10, 2006.
- NIH/NIAMS Multidisciplinary Clinical Research Center review panel, October 18-19, 2006.
- NIEHS K12 review panel, February 20, 2007.
- NHLBI Ancillary Studies review panel, August 14, 2008; November 24, 2008; April 7, 2009; July 23, 2009; August 25, 2010; December 10, 2010.
- NIEHS K23 grant review (Chair), August 1, 2011.
- NIAID, Asthma and Allergic Diseases Cooperative Research Centers, March 9-11, 2011, October 1-2, 2012, March 15-17, 2016.
- NHLBI Clinical Trial Pilot Studies (R34), June 27, 2016; October 27, 2016; March 17, 2017.

CONSULTATIONS TO UNIVERSITIES, HEALTH, AND SCIENCE AGENCIES

Environmental Criteria and Assessment Office, U.S. Environmental Protection Agency, to review "Controlled Human Exposure Studies of Oxides of Nitrogen", a chapter of the NO_X Criteria Document, August, 1990.

American Lung Association to review a revision of the Environmental Protection Agency NO_X Criteria Document, March, 1992.

CONSULTATIONS (continued)

California Office of Environmental Health Hazard Assessment to review "Draft Recommendations for an Ambient Air Quality Standard for Nitrogen Dioxide", October, 1992.

Environmental Criteria and Assessment Office, US Environmental Protection Agency, to review draft Ozone Criteria Document, July, 1993.

Environmental Criteria and Assessment Office, US Environmental Protection Agency, to co-author "Air Quality Criteria for Particulate Matter", August, 1994.

External Reviewer, Cooperative Agreement between the Center for Environmental Medicine and Lung Biology and the Health Effects Research Laboratory of the Environmental Protection Agency, 1995-1996.

Office of Research and Development, US Environmental Protection Agency, review of EPA/University of North Carolina Cooperative Agreement, February, 1996.

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California Air Resources Board, Chair, Committee on Vulnerable Populations, 2002-2004.

National Heart, Lung and Blood Institute, “SPARK II” Conference on research initiatives, invited participant, January 20, 2003.

World Health Organization, external reviewer for project, “Systematic review of health aspects of PM, O_3 and NO_2", January 2003.

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105. Bascom R, Bromberg PA, Costa DA, Devlin R, Dockery DW, Frampton MW, Lambert W, Samet JM, Speizer FE, Utell MJ. Health effects of outdoor air pollution, Part 2. Am J Respir Crit Care Med 153:477-498, 1996.

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111. Utell MJ, Frampton MW. Session 5: Who is susceptible to particulate matter and why? In: Phalen RF, Bell YM, eds. Proceedings of the third colloquium on particulate air pollution and human health, Air Pollution Health Effects Laboratory, University of California, Irvine, October, 1999.

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121. Utell MJ, Mehta S, Frampton MW. Determinants of susceptibility. In: Air quality guidelines: global update 2005. Copenhagen: World Health Organization, pp. 111-133, 2006.

122. Frampton MW, Pietropaoli AP, Morrow PE, Utell, MJ. Human Clinical Studies of Airborne Pollutants. In: Gardner DE, ed. Toxicology of the Lung. Fourth ed. Boca Raton: CRC Press, pp. 29-82, 2006.

123. Frampton MW, Utell MJ, eds. Exposure to Airborne Particles: Health Effects and Mechanisms. Clin Occup Environ Med vol. 5, 2006.

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126. HEI Air Toxics Review Panel. Mobile-Source Air Toxics: A Critical Review of the Literature on Exposure and Health Effects. HEI Special Report 16. Health Effects Institute, Boston, Mass. 2007.

127. Frampton MW, Greaves IA. NOx-NOx: Who's there? Am J Respir Crit Care Med 179:1077-1078, 2009 (Editorial).

128. Lee S, Frampton MW. Traffic-related urban air pollution. In: Environmental and Occupational Lung Disease, Tarlo S, Cullinan P, Nemery B, eds. Wiley-Blackwell, West Sussex, UK, 2010.

129. Frampton MW, Utell MJ, Samet JM. Cardiovascular consequences of particles. In: Particle-Lung Interactions, Second Edition, Gehr P; Mühlfeld C, Rothen-Rutishauser B, Blank, F. eds. Lung Biology in Health and Disease, Vol 241, Informa Healthcare USA, Inc, 2010.

130. HEI Panel on the Health Effects of Traffic-Related Air Pollution. Traffic-related air pollution: A critical review of the literature on emissions, exposure, and health effects. HEI Special Report 17. Health Effects Institute, Boston, Mass. 2010.

131. Langrish JP, Frampton MW, Blomberg A. Human exposure studies. In: Cassee FR, Mills NL, Newby DE (eds), Cardiovascular effects of inhaled ultrafine and nano-sized particles. Hoboken, NJ: John Wiley & Sons, 2011, 217-239.

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133. IOM (Institute of Medicine). 2011. Long-Term health Consequences of Exposure to Burn Pits in Iraq and Afghanistan. Washington, DC. The National Academies Press.

134. HEI Review Panel on Ultrafine Particles [Chair]. 2013. Understanding the Health Effects of Ambient Ultrafine Particles. HEI Perspectives 3. Health Effects Institute, Boston, MA.

135. Frampton MW, Rich DQ. Does particle size matter? Ultrafine particles and hospital visits in Eastern Europe. Am J Respir Crit Care Med, 194:1180-1182, 2016 (Editorial).

CURRICULUM VITAE

(b) (6)

JOE G. N. GARCIA, MD
February, 2017

CURRENT APPOINTMENTS:

Dr. Merlin K. DuVal Professor of Medicine
University of Arizona

PERSONAL DATA:

Date of Birth: (b) (6) Home Address: (b) (6)		Business Address: University of Arizona Roy P. Drachman Hall Bldg., B207 1295 North Martin Avenue P.O. Box 210202 Tucson, AZ 85721-0202 Tel: (520) 626-1197 E-mail: skipgarcia@email.arizona.edu

EDUCATION AND TRAINING:

BS Biology, 1972-1976	University of Dallas, Irving, Texas
MD, 1976-1980	University of Texas Southwestern Medical School Dallas, Texas
Intern and Resident, 1980-1983	University of Iowa Hospitals and Clinics Department of Internal Medicine, Iowa City, Iowa
Fellow, 1983-1985	Albany Medical College Division of Pulmonary Diseases, Albany, New York

PROFESSIONAL EXPERIENCE:

Instructor, Department of Medicine, 1984-1985
Albany Medical College of Union University, Albany, New York

Assistant Professor of Medicine, 1985-1988
University of Texas Health Center at Tyler, Tyler, Texas

Associate Professor of Medicine, Physiology and Biophysics, 1988-1992

Indiana University School of Medicine, Indianapolis, Indiana

Dr. Calvin H. English Professor of Medicine (Physiology/Biophysics), 1992-1998
Endowed Chair, Indiana University School of Medicine, Indianapolis, Indiana

Dr. David Marine Professor of Medicine, 1998-2005
Endowed Chair, Johns Hopkins University School of Medicine, Baltimore, Maryland

Professor of Environmental Health Sciences, 1999-2005
Johns Hopkins University School of Hygiene, Baltimore, Maryland

Professor of Biomedical Engineering, 2001-2005
Johns Hopkins University School of Medicine, Baltimore, Maryland

Dr. Lowell T. Coggeshall Professor of Medicine, 2005-2010
Endowed Chair, University of Chicago, Chicago, Illinois

Earl M. Bane Professor of Medicine, 2010- 2013
Endowed Professorship, University of Illinois at Chicago, Chicago Illinois

Professor of Bioengineering, 2010- 2013
College of Engineering, University of Illinois at Chicago, Chicago Illinois

Professor of Pharmacology, 2010- 2013
College of Medicine, University of Illinois at Chicago, Chicago Illinois

Dr. Merlin DuVal Professor of Medicine, September 2013- present
Endowed Chair, College of Medicine, University of Arizona, Tucson, Arizona

Other Professional Experience:

University of Texas Health Center at Tyler
Director, Occupational Medicine, 1986-1988
University of Texas Health Center at Tyler, Tyler, Texas

Indiana University
Graduate Faculty (Physiology/Biophysics), 1989-1998
Indiana University, Bloomington, Indiana

Director, Indiana University Occupational Lung Center, 1988-1998
Indiana University School of Medicine, Indianapolis, Indiana

Johns Hopkins University
Director, Division of Pulmonary and Critical Care Medicine,
Johns Hopkins University, Department of Medicine, 1998-2005

Director, Johns Hopkins University Occupational Lung Center, 1999-2005

Deputy Director for Basic and Translational Research,

Johns Hopkins University, Bayview Campus, 2002-2005

Director, Center for Translational Respiratory Medicine,
Johns Hopkins University Department of Medicine, 2002-2005

University of Chicago

Chairman, Department of Medicine
University of Chicago, 2005-2009

Interim Section Chief, Section of Cardiology
University of Chicago, 2006-2007

Interim Section Chief, Section of Geriatrics and Palliative Medicine
University of Chicago, 2007-2008

University of Illinois

Vice Chancellor for Research
University of Illinois at Chicago, 2010-2012

Director, Institute for Personalized Respiratory Medicine
University of Illinois at Chicago, 2010-2013

Graduate Faculty, Honors College
University of Illinois at Chicago, 2010- 2013

Vice President for Health Affairs
University of Illinois, 2011- 2013

University of Arizona

Senior Vice President for Health Sciences
University of Arizona, September 2013-January 2017.

Interim Dean, College of Medicine -Tucson
University of Arizona, March 2014-February 2015

Arizona Bioscience Roadmap Steering Committee
September 2013-present

University of Arizona Health Network Board
September 2013- February 2015

LEADERSHIP POSITIONS AND ACCOMPLISHMENTS

Johns Hopkins University- Director, Division of Pulmonary and Critical Care Medicine (PCCM), Department of Medicine, 1998-2005. Over a 7-year period, as the David Marine Professor of Medicine, I successfully led the PCCM Division to the pinnacle of academic pulmonary medicine with a research portfolio that rose from a 1998 ranking of ~20th nationally in NIH funding (~$2M/yr) to the #1 NIH-funded PCCM division in the nation in 2005 (~$30M/yr) including 3 new SCCORs, 1 new P50, 2 new P01s, and a new U01 in Genomic Applications (Garcia PI).

University of Chicago- Chairman, Department of Medicine, 2005-2009. As the Lowell T. Coggeshall Professor and Chairman of the Department of Medicine (DOM) at the University of Chicago, I began my tenure with a stated lofty goal of pushing the DOM to the top 10 of national DOMs in terms of NIH funding. Within four years, via an emphasis on translational research and strategic recruitments, the DOM climbed from a ranking of #25 to a 2010 ranking of #10, an accomplishment particularly laudable given a faculty size ~50% of the top ranked departments. In addition, I served as PI of the UC CTSA application (NIH Roadmap).

University of Illinois at Chicago- Vice Chancellor for Research, 2010-2012. As VCR, I oversaw a $400M research portfolio (70% biomedical research) and launched a broad strategic plan that continues to drive the deployment of resources and created and recruited Directors for 3 new Institutes: Institute of Human Genetics, Institute of Minority Health, and an Institute of Interventional Health Informatics. I passionately championed the physician scientist career path to students, housestaff and fellows to expand the pool of physician scientists, particularly underrepresented individuals, and instituted sweeping culture changes to address this need.

University of Illinois - Vice President for Health Affairs (VPHA), 2010- 2013. Reporting only to the President of the University of Illinois, I oversaw a $1.5 billion enterprise in total annual clinical operating revenues & expenses with all clinical activities reporting through the VPHA. I implemented a complete rebranding of University Medical Center to newly launched **University of Illinois Hospital and Health Science System,** an integrated system that included a 495 bed University hospital, a VA hospital, over 60 outpatient care clinics, 12 Federally Qualified Health Centers, 7 health science colleges and 4 regional campuses. The UI Health System provided significant proportion of health care delivered to underserved Chicagoland populations with more than 850,000 patient care encounters and ~$2.1 billion in charge activity (Hospital: $1.6B; practice plan: $350M). The healthcare enterprise employed more than 8,000 full time providers and support staff. We aggressively remodeled our Health System in order to be responsive and successful in the changing ACA-driven healthcare landscape. Though modest, the FY 2012 margin for the UI Health System was the highest in the past 15 years.

University of Arizona- Senior Vice President for Health Sciences, September 2013- January 2017; Interim Dean, College of Medicine –Tucson, March 2014-February 2015. As the Dr. Merlin DuVal Professor of Medicine, I was lead member of the UA Health Science (UAHS) team to successfully bring a transformative academic partnership between UAHS and Banner Health to closure after an arduous 14 months of highly complex, labor-intensive negotiations. Over the 3.5 yr time frame in this leadership of UAHS, I recruited 3 Health Science College Deans, 10 key Department Chair positions, 10 new Associate Vice President and Center Directors, and 12 Division directors, as well a a number of key scientific leaders. I recruited Andrew Kraft MD to direct the UA NCI-designated Comprehensive Cancer Center after a 2-year failed search, who successfully led the renewal of our critical NCI Comprehensive Cancer Center grant July 2016. I also led the rebranding of Arizona Health Science Center to become the University of Arizona Health Science (UAHS) with sweeping integration of UAHS critical services with improvements in cost efficiency and quality of service (Pre- and Post Award Research Management, Development, Informatics, Biobanking, etc). I also successfully led a University–wide effort to promote 4 UAHS thematic areas of excellence in health disparities, population health, precision medicine, and neuroscience resulting in a 50% increase in UAHS NIH funding compared with 2012, and the award of a $43M NIH Precision Medicine Initiative award, the largest in Arizona's history.

RESEARCH ACTIVITIES
PUBLICATIONS:
(~500 publications, >30,000 citations, Web of Science h-index 80, Google Scholar h-index 91)

1. **Garcia JG**, Hunninghake GW, and Nugent KM. Thoracic gas volume measurement. Increased variability in patients with obstructive ventilatory defects. *Chest,* 85(2): 272-275. PMID: 6692709. 1984.

2. **Garcia JG**, and Keogh BA. Bronchoalveolar lavage: a decade later. *Irish Medical J,* 77(12): 399-401. PMID: 6394542. 1984.

3. Malik AB, Noonan TC, Selig WM, and **Garcia JG**. Effects of exogeneous leukotrienes on the pulmonary circulation. *Progress Clinical Biologic Research,* 199: 221-235. PMID: 2999824. 1985.

4. **Garcia JG**, Parhami N, Killam D, Garcia PL, and Keogh BA. Bronchoalveolar lavage fluid evaluation in rheumatoid arthritis. *American Review Respiratory Disease,* 133(3): 450-454. PMID: 3485395. 1986a.

5. **Garcia JG**, Wolven RG, Garcia PL, and Keogh BA. Assessment of interlobar variation of bronchoalveolar lavage cellular differentials in interstitial lung diseases. *American Review Respiratory Disease,* 133(3): 444-449. PMID: 3954253. 1986b.

6. **Garcia JG**, Siflinger-Birnboim A, Bizios R, Del Vecchio PJ, Fenton JW, and Malik AB. Thrombin-induced increase in albumin permeability across the endothelium. *J Cellular Physiology,* 128(1): 96-104. PMID: 3722274. 1986c.

7. **Garcia JGN**, Perlman MB, Garcia PL, and Keogh BA. Effects of BAL fluid on neutrophil function in rheumatoid arthritis. *Chest,* 89(3 Supplement): 151S-153S. PMID. 1986d.

8. Burhop KE, **Garcia JG**, Selig WM, Lo SK, van der Zee H, Kaplan JE, and Malik AB. Platelet-activating factor increases lung vascular permeability to protein. *J Applied Physiology,* 61(6): 2210-2217. PMID: 3804927. 1986.

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10. Cooper JA, Del Vecchio PJ, Minnear FL, Burhop KE, Selig WM, **Garcia JG**, and Malik AB. Measurement of albumin permeability across endothelial monolayers in vitro. *J Applied Physiology,* 62(3): 1076-1083. PMID: 3571065. 1987.

11. **Garcia JG**, Munim A, Nugent KM, Bishop M, Hoie-Garcia P, Parhami N, and Keogh BA. Alveolar macrophage gold retention in rheumatoid arthritis. *J Rheumatology,* 14(3): 435-438. PMID: 3114483. 1987a.

12. **Garcia JG**, Noonan TC, Jubiz W, and Malik AB. Leukotrienes and the pulmonary microcirculation. *American Review Respiratory Disease,* 136(1): 161-169. PMID: 3037955. 1987b.

13. **Garcia JG**, James HL, Zinkgraf S, Perlman MB, and Keogh BA. Lower respiratory tract abnormalities in rheumatoid interstitial lung disease. Potential role of neutrophils in lung injury. *American Review Respiratory Disease,* 136(4): 811-817. PMID: 2821854. 1987c.

14. **Garcia JGN**, and Griffith DE. Tobacco smoking and asbestosis: Is there a link? *J National Asbestos Council,* 5(33): 35. PMID. 1987.

15. Idell S, Gonzalez K, Bradford H, MacArthur CK, Fein AM, Maunder RJ, **Garcia JG**, Griffith DE, Weiland J, Martin TR, and et al. Procoagulant activity in bronchoalveolar lavage in the adult respiratory distress syndrome. Contribution of tissue factor associated with factor VII. *American Review Respiratory Disease,* 136(6): 1466-1474. PMID: 3688650. 1987.

16. Selig WM, Burhop KE, **Garcia JG**, and Malik AB. Substance P-induced pulmonary vasoreactivity in isolated perfused guinea pig lung. *Circulation Research,* 62(2): 196-203. PMID: 2448056. 1988.

17. **Garcia JG**, Perlman MB, Ferro TJ, Johnson A, Jubiz W, and Malik AB. Inflammatory events after fibrin microembolization. Alterations in alveolar macrophage and neutrophil function. *American Review Respiratory Disease,* 137(3): 630-635. PMID: 2830812. 1988a.

18. Wallace RJ, Jr., Steele LC, Brooks DL, Forrester GD, **Garcia JG**, Luman JI, Wilson RW, Shepherd S, and McLarty J. Ampicillin, tetracycline, and chloramphenicol resistant Haemophilus influenzae in adults with chronic lung disease. Relationship of resistance to prior antimicrobial therapy. *American Review Respiratory Disease,* 137(3): 695-699. PMID: 3257853. 1988.

19. Griffith DE, and **Garcia JGN**. Asbestos exposure and small airway disease. *J National Asbestos Council,* 6(41): 43. PMID. 1988a.

20. Griffith DE, and **Garcia JG**. Asthmatic bronchitis. *Seminars Respiratory Infection,* 3(1): 27-39. PMID: 3283880. 1988b.

21. Griffith DE, and **Garcia JGN**. Tobacco smoking, asbestos exposure and lung cancer. *J National Asbestos Council,* 6: 82-86. PMID. 1988c.

22. **Garcia JG**, Azghani A, Callahan KS, and Johnson AR. Effect of platelet-activating factor on leukocyte-endothelial cell interactions. *Thrombosis Research,* 51(1): 83-96. PMID: 2842887. 1988b.

23. **Garcia JG**, Gray LD, Dodson RF, and Callahan KS. Asbestos-induced endothelial cell activation and injury. Demonstration of fiber phagocytosis and oxidant-dependent toxicity. *American Review Respiratory Disease,* 138(4): 958-964. PMID: 3202471. 1988c.

24. Idell S, **Garcia JG**, Gonzalez K, McLarty J, and Fair DS. Fibrinopeptide A reactive peptides and procoagulant activity in bronchoalveolar lavage: relationship to rheumatoid interstitial lung disease. *J Rheumatology,* 16(5): 592-598. PMID: 2666653. 1989.

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26. **Garcia JG**, Dodson RF, and Callahan KS. Effect of environmental particulates on cultured human and bovine endothelium. Cellular injury via an oxidant-dependent pathway. *Laboratory Investigation,* 61(1): 53-61. PMID: 2747217. 1989b.

27. **Garcia JGN**, Griffith DE, Levin JL, and Idell S. Tobacco smoke exposure in Occupational Lung Disease. *Seminars Respiratory Critical Care Medicine,* 10(04): 372-385. PMID. 1989c.

28. Levin JL, and **Garcia JGN**. Cancer risk of low level asbestos exposure. *J National Asbestos Council,* 8: 133-137. PMID. 1989.

29. Stocks JM, Wallace RJ, Jr., Griffith DE, **Garcia JG**, and Kohler RB. Ofloxacin in community-acquired lower respiratory infections. A comparison with amoxicillin or erythromycin. *American J Medicine,* 87(6C): 52S-56S. PMID: 2690620. 1989.

30. Griffith DE, and **Garcia JGN**. Tobacco Cigarettes, Smoking, Smoking Cessation, and Chronic Obstructive Pulmonary Disease. *Seminars Respiratory Critical Care Medicine,* 10(04): 356-371. PMID. 1989.

31. Idell S, and **Garcia JGN**. Mechanisms of Smoking-Induced Lung Injury. *Seminars Respiratory Critical Care Medicine,* 10(04): 345-355. PMID. 1989.

32. Rizzo MT, Tricot G, Hoffman R, Jayaram HN, Weber G, **Garcia JG**, and English D. Inosine monophosphate dehydrogenase inhibitors. Probes for investigations of the functions of guanine nucleotide binding proteins in intact cells. *Cell Signaling,* 2(6): 509-519. PMID: 1981974. 1990.

33. **Garcia JG**, Painter RG, Fenton JW, English D, and Callahan KS. Thrombin-induced prostacyclin biosynthesis in human endothelium: role of guanine nucleotide regulatory proteins in stimulus/coupling responses. *J Cellular Physiology,* 142(1): 186-193. PMID: 2105325. 1990a.

34. Parkinson JF, **Garcia JG**, and Bang NU. Decreased thrombin affinity of cell-surface thrombomodulin following treatment of cultured endothelial cells with beta-D-xyloside. *Biochemistry Biophysical Research Communications,* 169(1): 177-183. PMID: 2161655. 1990.

35. **Garcia JG**, Griffith DE, Williams JS, Blevins WJ, and Kronenberg RS. Reduced diffusing capacity as an isolated finding in asbestos- and silica-exposed workers. *Chest,* 98(1): 105-111. PMID: 2163299. 1990b.

36. Taylor GS, **Garcia JG**, Dukes R, and English D. High-performance liquid chromatographic analysis of radiolabeled inositol phosphates. *Analytical Biochemistry,* 188(1): 118-122. PMID: 2221351. 1990.

37. Callahan KS, Griffith DE, and **Garcia JG**. Asbestos exposure results in increased lung procoagulant activity in vivo and in vitro. *Chest,* 98(1): 112-119. PMID: 2361375. 1990.

38. Dodson RF, **Garcia JG**, O'Sullivan M, Corn C, Levin JL, Griffith DE, and Kronenberg RS. The usefulness of bronchoalveolar lavage in identifying past occupational exposure to asbestos: a light and electron microscopy study. *American J Industrial Medicine,* 19(5): 619-628. PMID: 1647134. 1991.

39. Kronenberg RS, Levin JL, Dodson RF, **Garcia JG**, and Griffith DE. Asbestos-related disease in employees of a steel mill and a glass bottle manufacturing plant. *Toxicology Industrial Health,* 7(1-2): 73-79. PMID: 1853355. 1991a.

40. English D, Taylor G, and **Garcia JG**. Diacylglycerol generation in fluoride-treated neutrophils: involvement of phospholipase D. *Blood,* 77(12): 2746-2756. PMID: 2043770. 1991.

41. Dominguez JH, **Garcia JG**, Rothrock JK, English D, and Mann C. Fluoride mobilizes intracellular calcium and promotes Ca2+ influx in rat proximal tubules. *American J Physiology,* 261(2 Pt 2): F318-327. PMID: 1652206. 1991.

42. **Garcia JG**, Dominguez J, and English D. Sodium fluoride induces phosphoinositide hydrolysis, Ca2+ mobilization, and prostacyclin synthesis in cultured human endothelium: further evidence for regulation by a pertussis toxin-insensitive guanine nucleotide-binding protein. *American J Respiratory Cell Molecular Biology,* 5(2): 113-124. PMID: 1654060. 1991.

43. Kronenberg RS, Levin JL, Dodson RF, **Garcia JG**, and Griffith DE. Asbestos-related disease in employees of a steel mill and a glass bottle-manufacturing plant. *Annals New York Academy Science,* 643: 397-403. PMID: 1809151. 1991b.

44. English D, Akard LP, Taylor GS, Rizzo MT, Dominguez J, and **Garcia JG**. Gp-regulated phosphoinositide hydrolysis in turkey and human erythrocytes exposed to fluoride ion: relationship to calcium influx. *J Laboratory Clinical Medicine,* 119(1): 87-98. PMID: 1309378. 1992.

45. Stasek JE, Jr., and **Garcia JG**. The role of protein kinase C in alpha-thrombin-mediated endothelial cell activation. *Seminars Thrombosis Hemostasis,* 18(1): 117-125. PMID: 1574713. 1992.

46. Griffith DE, **Garcia JG**, James HL, Callahan KS, Iriana S, and Holiday D. Hyperoxic exposure in humans. Effects of 50 percent oxygen on alveolar macrophage leukotriene B4 synthesis. *Chest,* 101(2): 392-397. PMID: 1310457. 1992.

47. **Garcia JG**, Stasek J, Natarajan V, Patterson CE, and Dominguez J. Role of protein kinase C in the regulation of prostaglandin synthesis in human endothelium. *American J Respiratory Cell Molecular Biology,* 6(3): 315-325. PMID: 1540395. 1992a.

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CURRENT GRANTS - PRINCIPAL INVESTIGATOR

P01 HL126609-A1 PPG "Cytoskeletal Regulation of Lung Endothelial Pathobiology." National Heart, Lung and Blood Institute (NHLBI). 4/1/2016-3/31/2021. Total Direct Costs: $8,307,207. Total Costs $11,715,253. Program Director/PI- Joe G.N. Garcia, MD. Final PPG Score: 10

- Project #1: Structure-Function Analysis of nmMLCK in EC Barrier Responses. Project Leader: Joe G.N. Garcia, MD.
- Project #2: Mechanisms of Peripheral Remodeling of the EC Cytoskeleton. Co-I: Joe G.N. Garcia, MD.
- Core A, Administrative Core. Core Leader: Joe G. N. Garcia, MD.

R25HL126140-01 Arizona PRIDE-25: Advanced Health Disparities Training Program In Heart, Lung, Blood, And Sleep Conditions, National Heart, Lung and Blood Institute (NHLBI) 9/15/2014-5/31/2018. Total Direct Costs: $1,233,303. Total Costs: $1,331,967. Program Multiple PIs: Joe G.N. Garcia, MD & Francisco A. Moreno, MD.

R01-HL 91889- "nmMLCK Contributes to Genetic and Environmental Asthma Susceptibility" (renewal), National Heart, Lung and Blood Institute (NHLBI), April 2015-2020, Total Direct

Costs: $1,593,671. Multiple-PI: Joe G.N. Garcia, MD and Ting Wang, PhD. Impact Score 29; Percentile 11%.

R01-HL 125615- "Regulation of non-muscle myosin light chain kinase structure and function in ARDS" National Heart, Lung and Blood Institute (NHLBI), 9/1/2015-8/31/2019. Total Direct Costs: $1,624,998. Total Costs $2,493,018. PI: Joe G.N. Garcia, MD. Impact score 18, Percentile 2%.

CURRENT GRANTS – CO-INVESTIGATOR (or subcontracts)

U01HL125208-01 Phenomic and Genomic Study to Subphenotype Hispanics with Pulmonary Hypertension, National Heart, Lung, and Blood Institute (NHLBI) 09/15/2014-7/31/2019. Total Direct Costs: $950,000. Total Costs: $1,456,042. Multiple-PIs: Franz P. Rischard, DO & Jason X.J. Yuan, MD/PhD.
Co-Investigator-- Joe G.N. Garcia, MD.

PENDING GRANTS – PRINCIPAL INVESTIGATOR

P01 HL134610-01 (A1) PPG "Genetics, Epigenetics, And Post-Translational Modifications In The Development of Ventilator-Induced Lung Injury (VILI)." National Heart, Lung and Blood Institute (NHLBI). 12/1/2017-11/30/2022. Total Direct Costs: $8,307,207. Total Costs $11,715,253. Program Director/PI- Steve Black PhD, Joe G.N. Garcia, MD Co-PI.

- Project #2: Critical role of NAMPT and Toll-Like Receptor 4 in mechanical ventilation-induced lung inflammation and injury (VILI). Project Leader: Joe G.N. Garcia, MD.
- Project #2: PTM- and SNP-specific regulation of sphingosine 1-phosphate receptor signaling in ventilator-induced lung injury (VILI), Co-I: Joe G.N. Garcia, MD.
- Core B: Molecular Biology and Genetics Core. Core Leader: Joe G. N. Garcia, MD)

P01 HL137633-01 PPG "Novel Pathogenic Mechanisms of Pulmonary Arterial Hypertension." National Heart, Lung and Blood Institute (NHLBI). 4/1/2017-3/31/2022. Total Direct Costs: $8,307,207. Total Costs $11,715,253. Program Director/PI- Jason Yuan MD, PhD, Joe G.N. Garcia, MD, Co-PI.

- Project #3: Novel Involvement of NAMPT and TLR4 in PAH Vascular Remodeling. Project Leader: Joe G.N. Garcia, MD.
- Core B: Molecular Biology and Genetics Core. Co-Core Leader: Joe G. N. Garcia, MD)

PENDING GRANTS – CO- INVESTIGATOR (or subcontracts)

R01-HL 131433- "Sox18 Dysregulation in acute lung injury", National Heart, Lung and Blood Institute (NHLBI), 12/1/2017-11/30/2020. Total Direct Costs: $1,250,000. Total Costs $1,901,319. PI: Stephen M. Black, PhD.
Co-Investigator: Joe G.N. Garcia, MD.

PENDING GRANTS –SPONSOR – K Awards

"*SELPG1* polymorphisms in ARDS in African Americans." National Heart, Lung and Blood Institute. K-01 HL 120021, $455,151 (Direct Costs). PI: Christian Bime, MD. Sponsor: Joe G.N. Garcia, MD

PREVIOUS RESEARCH GRANTS >$3M– PRINCIPAL INVESTIGATOR

P01 HL98050 PPG "Role of sphingolipids in lung pathobiology." National Heart, Lung and Blood Institute (NHLBI), 2011-2016, Total Direct Costs: $9,878,593. Total Costs $15,810,145. Program Director - Viswanathan Natarajan, PhD; Co-PI-Joe G.N. Garcia, MD.

- Project #2: Differential Role of S1P Receptors in Inflammatory Lung Injury
  Project Leader: Joe G. N. Garcia, MD.
- Core C- Preclinical models of ARDS
  Core Leader: Joe G. N. Garcia, MD.
- Core D- Genetics of ARDS
  Core Leader: Joe G. N. Garcia, MD.

U01 HL105371-01- "Carbon Monoxide for Idiopathic Pulmonary Fibrosis" National Heart, Lung and Blood Institute (NHLBI) June 2011-2014
Total Direct Costs: $2,136,737. Total Costs: $3,572,593.
Program PIs: Augustine Choi MD (Harvard Medical School), Joe G.N. Garcia, MD.

PPG P01 HL58064 "Cytoskeletal regulation of lung endothelial pathobiology." National Heart, Lung and Blood Institute (NHLBI). Program Project NHLBI, 1998-2013, Total Direct Costs: $10,578,593. Total Costs $16,510,145. PI- Joe G.N. Garcia, MD.

- Project #1: Regulation of Lung Pathobiology by nmMLCK.
  Project Leader: Joe G. N. G arcia MD. (This project scored a 10)
- Core A, Administrative Core. Core Leader: Joe G. N. Garcia, MD.

U01 HL 66583 "Applied genomics in cardiopulmonary disease." National Heart, Lung and Blood Institute (NHLBI). 2000-2004. $2,400,000 Annual Direct Costs. Total Costs: $14,000,000. Overall Program PI: Joe G. N. Garcia, MD.

T32 HL 07534-21 "Multidisciplinary Training Program in Lung Diseases." National Heart, Lung and Blood Institute (NHLBI). 2002-2007, $5,612,775 Total Direct Costs. PI: Joe G.N. Garcia, MD.

P50 HL 073994 "Molecular Approaches to Ventilator-Associated Lung Injury." NHLBI Specialized Centers of Clinically Oriented Research (SCCOR), 2003-2008, $13,740,424. Total Direct Costs. $21.2 M Total Costs. Overall Program Director: Joe G.N. Garcia, MD (until 5/05).

- Project #4: Novel Therapies for VALI-induced Vascular Leak. $1,110,930 Total Direct Costs. Project Leader: Joe G. N. Garcia, MD.

PREVIOUS RESEARCH GRANTS – PRINCIPAL INVESTIGATOR 2005-present

U01 HL112696- UCSF/University of Arizona. "GRADS- Genomic Regulation of Alpha 1 Antitrypsin Deficiency and Sarcoidosis" Clinical Network" National Heart, Lung and Blood Institute (NHLBI) 5/1/2012-4/30/2016. Total Direct Costs: $368,747. Total Costs: $592,693. Program Multiple-PIs: Laura Koth, MD (UCSF) & Joe G.N. Garcia, MD (UA).

RC2 HL101740-01 "Novel Biomarkers and Phenotyping Tools in Idiopathic Fibrosis"
Program PI: Fernando Martinez, MD, University of Michigan, 2010-2013
Joe G.N. Garcia, MD. 5% effort, Core Leader for Genomic Analyses

U01 HL105371-01-Ancillary Grant- "Genomic Signatures in Idiopathic Pulmonary Fibrosis" National Heart, Lung and Blood Institute (NHLBI) September 2011-2014
Total Direct Costs: $368,747. Total Costs: $592,693.

Program PI: Joe G.N. Garcia, MD.

U01 HL105371- Brigham & Women's Hospital/University of Arizona. "Phase II Study of Inhaled Carbon Monoxide for the Treatment of Idiopathic Pulmonary Fibrosis" National Heart, Lung and Blood Institute (NHLBI) 9/24/2010-6/30/2015. Total Direct Costs: $134,491. Total Costs: $181,532. Multiple-PIs: Joe G.N. Garcia, MD (UA) & Ivan O. Rosas, MD (Brigham).

R41 HL110707 STTR- Small Business Technology Transfer. 9/1/2011-6/30/2014.
"Aqualung Therapeutics, Corp." "PBEF Neutralizing Humanized Monoclonal Antibodies As Novel Therapeutic Approaches" Total Direct Costs: $500,000. Total Costs: $631,234.
Program PI: Joe GN Garcia MD.
Phase-I. These efforts are to generate a novel therapeutic strategy in ventilator-induced lung injury.

R13HL116010-01 "Translational Approaches to Reducing Health Disparities in Lung Disease"
Principal Investigator: Joe G.N. Garcia, MD. July 2012-2013.
Direct Cost: $25,000

SBIR "Improved Formulations to Enhance Bio-availability for Antisense Therapeutics Chemical and Biological Defense (CBD)"SBIR- Small Business Innovation Research HDTRA1-10-P-0041
Program PI: Luis Nunez, LNK Chemsolutions LLC. Department of Defense. 5/2010-11/16/2010.
Joe G.N. Garcia 5%. Phase-I. These studies utilizing nanotechnology to develop new delivery and strategies for therapeutics in acute lung injury/sepsis.

R01- HL-91889 "Regulation of Asthmatic Inflammation by Non-Muscle MLCK." National Heart, Lung and Blood Institute (NHLBI), September 2008-2012
Total Direct Costs: $1,695,043.
PI: Joe G. N. Garcia, MD.

R01- HL-90860 "Regulation of Lung Barrier Function by Endothelial Cell Myosin Light Chain Kinase." National Heart, Lung and Blood Institute (NHLBI), September 2008-2012; $1,495,049. Total Direct Costs. PI: Joe G. N. Garcia, MD. (relinquished with PPG HL50864 renewal)

U01 "NHLBI Program in Proteomics." Program PI: Jenny Van Eyck, PhD, Johns Hopkins University, 2002-2009 (subcontract) U01 $18,500,000, Total Costs. Joe G.N. Garcia, MD.
Project #2 Leader: Post-translational modification of endothelial cell myosin light chain kinase.
Project Direct Costs- $30,000/yr

U01 "Re-engineering Translational Research at the University of Chicago" NIH Roadmap CTSA $26,077,000 (2007-2012) PI: Julian Solway MD, Training Cluster Director: Joe G. N. Garcia, MD. 10% effort

R01 "Sickle Cell Anemia- Insights into Pulmonary Hypertension" Program PI- Victor Gordeuk, Howard University, 2005-2010 (subcontract) Joe G.N. Garcia, MD Project Leader: Functional Genomics and Bioassays

R01 $1,250,000 (Direct Costs)/year, Project Direct Costs- $128,800/yr
U50 "Health Effects of Particulate Matter" –Environmental Protection Agency RD83241701
Program PI- Jon S. Samet, Johns Hopkins University, 2005-2010 (subcontract)
Joe G.N. Garcia, MD- Project Leader: Functional Genomics and Bioassay Program.
Project Direct Costs- $185,000/yr

PREVIOUS RESEARCH GRANTS – PRINCIPAL INVESTIGATOR 1995-2004

"Rapid Diagnosis of TB in Migrant Farm Workers by Polymerase Chain Reactions." Potts Memorial Foundation. 1995-1997, $22,500 (Direct Costs). PI: Joe G.N. Garcia, MD.

"Molecular Regulation of Endothelial Cell Permeability." National Heart, Lung and Blood Institute (NHLBI). 2-R-01 HL57362 1996-2001, $922,000 (Direct Costs). PI: Joe G.N. Garcia, MD.

"Regulation of Lung Edema Formation by Myosin Phosphatases". VA Merit Review Award 1995-2000, $368,000 (Direct Costs) PI: Joe G.N. Garcia, MD.

"Regulation of Lung Endothelial Cell Contraction/Permeability." National Heart, Lung, and Blood Institute (NHLBI). R01 50533-6, 1994-2003, $1,756,550 (Total Direct Costs), Annual Costs $205,000. PI: Joe G.N. Garcia, MD.

"Lung Vascular Barrier Preservation by Platelet Products." National Heart, Lung and Blood Institute (NHLBI). R01 HL 69340, 2001-2006. $250,000 (Annual Direct Costs). Total Costs: $1,996,929. PI: Joe G.N. Garcia, MD.

"Protein Phosphatases in Endothelial Cell Permeability." National Heart, Lung and Blood Institute (NHLBI). R01 HL57402, 1997-2002, $824,000 (Total Direct Costs). Annual Direct Costs $185,000. PI: Joe G. N. Garcia, MD.

"Molecular Regulation of Endothelial Cell Permeability." National Heart, Lung and Blood Institute (NHLBI). Program Project NHLBI P01 HL58064, 1998-2003, $5,984,000 (direct costs). Annual Costs $924,000. PI: Joe G. N. Garcia, MD.

- Project #1: Regulation of Endothelial Cell Contraction, $142,000/yr. Project Leader: Joe G. N. Garcia, MD.
- Project #2: Novel Mechanisms of Endothelial Permeability, $151,000/yr. Project Leader: Joe G. N. Garcia, MD.
- Administrative Core, $58,000. Core Leader: Joe G. N. Garcia, MD.

"Cytoskeletal regulation of lung endothelial pathobiology." National Heart, Lung and Blood Institute (NHLBI). Program Project NHLBI P01 HL58064, 1998-2008, $7,878,593 Total Direct Costs. Total Costs $11,810,145. Overall PI - Joe G.N. Garcia, MD.

- Project #1: Regulation of Lung Pathobiology by EC MLCK. $1,115,043 Total Direct Costs. Project Leader: Joe G.N. Garcia, MD.
- Project #3: Endothelial cytoskeletal responses to platelet phospholipids. $1,110,930 Total Direct Costs. Project Leader: Joe G.N. Garcia, MD.

Core A, Administrative Core. $273,444 Total Direct Costs. Core Leader: Joe G.N. Garcia, MD.

"Applied genomics in cardiopulmonary disease." National Heart, Lung and Blood Institute (NHLBI). U01 HL 66583, 2000-2004. $2,400,000 Annual Direct Costs. Total Costs: $14,000,000. Overall Program PI: Joe G. N. Garcia, MD.

- Administrative/Bioinformatics Component. Total Costs: $341,856/yr. PI: Joe G. N. Garcia, MD.
- Clinical Component. Total Costs: $1,172,699/yr. Co-PI: Joe G. N. Garcia
- Animal/Proteomic Component. Total Costs: $766,115/yr. Co-I: Joe G. N. Garcia, MD.

"Multidisciplinary Training Program in Lung Diseases." National Heart, Lung and Blood Institute (NHLBI). T32 HL 07534-21 2002-2007, $5,612,775 Total Direct Costs. PI: Joe G. N. Garcia, MD. This grant funds 15 postdoctoral positions and 7 pre-doctoral positions.

"Short-Term Training for Minority Students" National Institutes of Health. T-35 HL 99-018, 2000-2004, $480,000 total costs. Annual Costs $120,000. PI: Joe G. N. Garcia, MD.

R01 "Novel Role of PBEF in Acute lung Injury" National Heart, Lung and Blood Institute (NHLBI) HL080042, 2007-2012, $319,190/yr.
Program PI: Shui Q. Ye, PhD, University of Missouri-Columbia,
Co-I Joe GN Garcia, MD. 10% effort

PREVIOUS RESEARCH GRANTS – PRINCIPAL INVESTIGATOR 1984-1994

"Bronchoalveolar Lavage Evaluation of the Lower Respiratory Tract in Patients with Rheumatoid Arthritis." The Potts Foundation, Albany, NY, 1984-85, $10,000. PI: Joe G.N. Garcia, MD.

"Mechanisms of Neutrophil Mediated Endothelial Cell Injury." American Heart Association, 1986-1988, $50,000. PI: Joe G.N. Garcia, MD.

"Leukocyte-Endothelial Interaction in Vascular Injury." American Lung Association, 1986-1988, $35,000. PI: Joe G.N. Garcia, MD.

"Inflammatory Effects of Amosite Asbestos on Pulmonary Endothelium." Biomedical Research Support Grant, University of Texas Health Center at Tyler, 1986 87, $10,000. PI: Joe G.N. Garcia, MD.

"Role of G Proteins in Ligand-Induced Endothelial Cell Activation." Biomedical Research Support Grant. Indiana University School of Medicine 1988-1989, $17,700. PI: Joe G.N. Garcia, MD.

"Mechanisms of Hyperglycemia-Induced Endothelial Cell Dysfunction." American Diabetes Association, Indiana Affiliate 1988-1989, $15,000. PI: Joe G.N. Garcia, MD

"Signal Transduction in Cultured Endothelium." Research Advisory Group Application, Veteran Administration 1989-1990, $29,500. PI: Joe G.N. Garcia, MD

"Regulation of Prostacyclin Synthesis in Human Endothelium." American Heart Association-Indiana Affiliate 1989-1991, $43,000. PI: Joe G.N. Garcia, MD.

"Cytoskeleton Control of Endothelial Cell Permeability." NIH/NHLBI Clinical Investigator Award, K08 HL 02312 1988-1993 $298,000 (direct costs). PI: Joe G.N. Garcia, MD.

"Regulation of Endothelial Cytoskeletal Protein Phosphorylation." Veterans Administration Merit Review Award. 1990-1993, $137,000. PI: Joe G.N. Garcia, MD.

"Effect of 5-Lipoxygenase Inhibitors on Human Alveolar Macrophage LTB_4 Production." Eli Lilly Co. Research Grant. 1991-1992, $29,500. PI: Joe G.N. Garcia, MD.

"Regulation of Myosin Phosphorylation in Cultured Endothelium." National Institutes of Health.
1990-1995, $350,000 (direct costs). PI: Joe G.N. Garcia, MD.

CURRENT RESEARCH GRANTS– SPONSOR –

"Integrating Genomic Approaches to Pulmonary Hypertension of Sickle Cell Disease". NIH-NCRR 5KL2RR029878. Center for Clinical and Translational Science (CCTS) KL2 Scholars Award. 2012-2014. $160,000. PI: Christian Bime MD, MPh. Assistant Professor of Medicine, Pulmonary, University of Arizona. Sponsor: Joe G.N. Garcia, MD

None

PREVIOUS RESEARCH GRANTS– SPONSOR– NRSA

"Oxidant stress-induced apoptosis: role of heme oxygenase." NRSA F32 Award 1998-1999, $30,144. PI: Irina Petrache, MD. Sponsor: Joe G.N. Garcia, MD.

"Cortactin in Lung Endothelial Contraction/Permeability." National Heart, Lung and Blood Institute, NRSA F32 Award. 1999-2001, $85,000 (Direct Costs). PI: Steven M. Dudek, MD. Sponsor: Joe G.N. Garcia, MD.

"Novel MLCK-MIF interactions in endothelial cells." National Heart, Lung and Blood Institute, NRSA F32 Award. 2001-2003, $85,000 (Direct Costs). PI: Ari Lev Zaiman, MD, PhD. Sponsor: Joe G.N. Garcia, MD.

"Stretch-induced changes in endothelial contractility." National Heart, Lung and Blood Institute, NRSA F32 Award. 2002-2004, $85,000 (Direct Costs). PI: Jeffrey R. Jacobson, MD. Sponsor: Joe G.N. Garcia, MD.

"Role of myosin light chain kinase in angiogenesis." National Heart, Lung and Blood Institute. NRSA F32 Award. 2004-2005. $90,000 (Direct Costs). PI: Laura Linz-McGillem, PhD. Sponsor: Joe G.N. Garcia, MD.

"Gene profiling of ventilator-induced acute lung injury." National Heart, Lung and Blood Institute.
NRSA F32 Award. 2004-2005. $90,000 (Direct Costs). PI: Dmitry N. Grigoryev, MD, PhD. Sponsor: Joe G.N. Garcia, MD.

"Sphingosine 1-phosphate and lipid rafts in endothelial cell barrier regulation". NRSA F32 Award. 2005-2008. $90,000 (Direct Costs). PI: Patrick A Singleton PhD. Sponsor: Joe G.N. Garcia, MD.

"Sphingosine 1–phosphate as a novel therapy for VALI-induced vascular leak. National Heart, Lung and Blood Institute. NRSA F32 Award. 2004-2005. $90,000 (Direct Costs). PI: Bryan McVerry MD. Sponsor: Joe G.N. Garcia, MD.

"Mechanism of activated protein C in endothelial barrier regulation." National Heart, Lung and Blood Institute, NRSA F32 Award. 2005-2007, $95,000 (Direct Costs). PI: Jay R. Finigan, MD. Sponsor: Joe G.N. Garcia, MD.

"Candidate genes in ventilator-associated lung injury." National Heart, Lung and Blood Institute, NRSA F32 Award. 2005-2007, $95,000 (Direct Costs). PI: Stephanie Nonas, MD. Sponsor: Joe G.N. Garcia, MD.

"EPCR in Congestive Heart Failure Thrombosis" National Heart, Lung and Blood Institute, NRSA, F32 Award. 2006-2009. $135,000. PI – Josh Lovelock, MD. Sponsor: Joe G.N. Garcia, MD

"GADD45a in Acute Inflammatory Lung Injury" National Heart, Lung and Blood Institute, NRSA, F32 Award. 2006-2008. $135,000. PI – Nuala Meyers, MD. Sponsor: Joe G.N. Garcia, MD

"Genomic Studies in a Rodent Model of Pulmonary Hypertension: A Consomics Approach" National Heart, Lung and Blood Institute, NRSA F32 Award, 2007-2008, 2010-2011. $112,816. PI- Ankit A. Desai, MD. Sponsor: Joe G.N. Garcia, MD

PREVIOUS RESEARCH GRANTS– SPONSOR – K Awards

"Mechanisms of Vascular Barrier Regulation." National Heart, Lung and Blood Institute. K-08 HL 03666 1997-2002, $455,151 (Direct Costs). PI: Kane L. Schaphorst, MD. Sponsor: Joe G.N. Garcia, MD

"Glycocalyx and endothelial barrier regulation." National Heart, Lung and Blood Institute. K08 Award. 2000-2005, $608,375 (Direct Costs). PI: Randal O. Dull, MD. Sponsor: Joe G.N. Garcia, MD

"Cytoskeletal regulation of endothelial cell apoptosis." National Heart, Lung and Blood Institute. K-08 HL 04396. 2000-2005, $608,375 (Total Direct Costs). PI: Irina Petrache, MD. Sponsor: Joe G.N. Garcia, MD

"Endothelial cell cytoskeletal regulation by cortactin." National Institutes of Health, K-08 HL 70013 Award, 2002-2007, $608,750 (Total Direct Costs). PI: Steven M. Dudek, MD. Sponsor: Joe G.N. Garcia, MD

"Modifying genes in pulmonary hypertension." National Heart, Lung and Blood Institute, K08 Award. 2004-2009, $616,250 (Direct Costs). PI: Ari L. Zaiman, MD. Sponsor: Joe G.N. Garcia, MD

"Endocardial Thrombosis in Cardiac Transplant Rejection." National Heart, Lung and Blood Institute, K-08 Award. 2007-2011, $685,000 (Direct Costs). PI – Tony Kim, MD. Sponsor: Joe G.N. Garcia, MD

"Mechanism of activated protein C in endothelial barrier regulation." National Heart, Lung and Blood Institute K-08 Award. 2006-2011, $685,000 (Direct Costs). PI – James H. Finigan, MD. Sponsor: Joe G.N. Garcia, MD

"ICOS as a co-stimulatory molecule in lung inflammation" National Heart, Lung and Blood Institute, K-08 Award. 2006-2011, $685,000 (Direct Costs) PI: Rebecca Schilling MD. Present Position: Assistant Professor of Medicine, Indiana University. Sponsor: Joe G.N. Garcia, MD

"Sorafenib as therapy in pulmonary arterial hypertension." Doris Duke Clinical Scientist Award. (K23 equivalent) 2006-2011, $565,000 (Direct Costs). PI – Mardi Gomberg, MD, Present Position: Associate Professor of Medicine, University of Chicago.

"Mechanisms of simvastatin-induced endothelial cell barrier protection." National Heart, Lung and Blood Institute, K-08 Award. 2005-2010, $685,000 (Direct Costs). PI: Jeffrey R. Jacobson, MD, Present Position: Associate Professor of Medicine, University of Illinois at Chicago. Sponsor: Joe G.N. Garcia, MD

"Carbon monoxide therapy in severe pulmonary hypertension" National Heart, Lung and Blood Institute K-12 Award. 2008-2011, $685,000 (Direct Costs). PI– Roberto F. Machado MD. Associate Professor of Medicine, University of Illinois at Chicago. Sponsor: Joe G.N. Garcia, MD

"Role of HMGB1 and RAGE receptors in acute inflammatory lung injury". K08 NIH Career Development Award. 2008-2013. $695,000. PI: Rachel K. Wolfson MD. Assistant Professor of Pediatrics, University of Chicago. Sponsor: Joe G.N. Garcia, MD

"Integrating Genomic Approaches to Pulmonary Hypertension of Sickle Cell Disease". NIH-NCRR 5KL2RR029878. Center for Clinical and Translational Science (CCTS) KL2 Scholars Award. 2012-2014. $160,000. PI: Ankit A. Desai MD. Assistant Professor of Medicine, Section of Cardiology, University of Illinois at Chicago. Sponsor: Joe G.N. Garcia, MD

"Carbon monoxide therapy in severe pulmonary hypertension" National Heart, Lung and Blood Institute K-23 Award. 2010-2015, $685,000 (Direct Costs). PI: Roberto F. Machado MD. Associate Professor of Medicine, University of Illinois at Chicago. Sponsor: Joe G.N. Garcia, M.D.

PREVIOUS RESEARCH GRANTS– SPONSOR - Miscellaneous

"Ischemia/Reperfusion Activation of Human Endothelium: Role of Protein Kinase C." American Heart Association. Fellowship Award 1992-1993, $18,000. PI - Jerome E. Stasek, Sponsor: Joe G.N. Garcia, MD. (Winner of the John Hickam Award for Most Meritorious Post Doctoral Fellowship Application).

"Thrombin Regulation of Thrombomodulin in Smooth Muscle and Endothelium." American Heart Association Graduate Student Award, 1993-1996, $35,000. Recipient - Shwu Fan Ma, MS. Sponsor: Joe G.N. Garcia, MD.

"Regulation of Endothelial Cell Barrier Function by Protein Tyrosine Kinase/Tyrosine Phosphatase Activities." American Heart Association, Indiana Affiliate Fellowship Award. 1996-1998, $41,000. PI: Shu Shi, MD. Sponsor: Joe G.N. Garcia, MD.

"Neutrophil migration activates the endothelial cytoskeleton." American Lung Association Fellowship Award. 1998-2000, $70,000. PI: Michael Ober, MD. Sponsor: Joe G.N. Garcia, MD

"Mechanisms of endothelial cell barrier regulation." Parker B. Francis Foundation Award. 2005-2008, $145,000 (Direct Costs). PI: Jeffrey R. Jacobson, MD, Present Position: Associate Professor of Medicine, University of Illinois at Chicago. Sponsor: Joe G. N. Garcia, MD.

"Toxicogenomic Assessment of Ambient Particulate Matter Induced Cardiac Toxicity"

Parker B Francis Fellowship Award. 2010-2014.$195,000. PI: Ting Wang, Ph.D. Present position: Assistant Professor of Medicine, University of Arizona. Sponsor: Joe G.N. Garcia, M.D.

"Imaging & genomic approaches to identify cardiac fibrosis and enhance risk profiles of sickle cell-related sudden death". 14CRP18910051. AHA- National Population & Mentored Clinical Research Program. 2014-2015. $154,000. PI: Ankit A. Desai MD. Assistant Professor of Medicine, Division of Cardiology, University of Arizona. Sponsor: Joe G.N. Garcia, M.D.

"Sudden Death and Sickle Cell Disease – An Electrophysiological and Molecular investigation". Arizona Health Sciences Center Career Development Award. 2014-2016. $160,000. PI: Ankit A. Desai MD. Assistant Professor of Medicine, Division of Cardiology, University of Arizona. Sponsor: Joe G.N. Garcia, M.D.

PATENTS-STARTUP COMPANIES

Founder and President, Aqualung Therapeutics, Corp. November 2010-present.

"Compositions and methods for treating pulmonary hypertension" by Mardi Gomberg Maitland, Mark Ratain, Joe G.N Garcia, Michael Maitland, and Liliana Moreno. Office of Technology and Intellectual Property Office, University of Chicago. US 60/761,612 - January 24, 2006. US 60/833,934- July 28, 2006. International filing, PCT/US2007/060995 - January 24, 2007.

"Method for treating endothelial and epithelial cell disorders by administering high molecular weight PEG-like compounds" by John C. Alverdy, Joe G.N Garcia, and Steven Dudek. Office of Technology and Intellectual Property Office, University of Chicago. US 60/778,165 - February 28, 2006. US 60/787,548 - March 29, 2006. International filing, PCT/US2007/063007 - February 28, 2007.

"Use of opioid antagonists to attenuate endothelial cell proliferation and migration" by Jonathan Moss, Mark Lingen, Patrick A. Singleton, Joe G.N Garcia, and Chun-Su Yuan. Office of Technology and Intellectual Property Office, University of Chicago. US/06007892 - March 7, 2006. International filing, PCT/US2006/007892 - March 7, 2006. PCT/US2007/066806 - April 17, 2007. Publication, US20060258696 - November 16, 2006. Publication US20100286059 - November 11, 2010.

"Method and compositions for treating diseases and conditions involving higher molecular weight hyaluronan" by Patrick A. Singleton, and Joe G.N Garcia. Office of Technology and Intellectual Property Office, University of Chicago. US 60/970,857 - September 7, 2007. International filing, PCT/US2008/075437 - September 5, 2008.

"Methods and Compositions involving pre-B-cell colony enhancing factor (PBEF) inhibitors for lung inflammation conditions and diseases" by Joe G.N Garcia. US Provisional Patent- ARCD 474 USP1, Office of Technology and Intellectual Property Office, University of Chicago - July 23, 2009. US Patent - 12/842,773, Office of Technology Management, University of Illinois at Chicago - July 23, 2010. Publication US20110020364 - January 27, 2011.

"Method of treating acute lung injury using sphingosine 1 phosphate analogs or sphingosine 1 phosphate receptor agonists" by Joe G.N Garcia and Steven M. Dudek. Office of Technology Management, University of Illinois at Chicago. US Provisional Patent- 61/309,948, March 3,

2010. US Patent- 13/582627 - March 3, 2011. International filing - PCT/US2011/027074, March 3, 2011. Publication, US20130079309, March 28, 2013.

"Nitrated sphingosine 1-phosphate 3 receptor as a predictor of acute lung injury-associated mortality" by Joe G.N Garcia. Office of Technology Management, University of Illinois at Chicago , US Patent- 61/515,527- August 5, 2011. International filing - PCT/US2012/049761. August 6, 2012. Publication, WO/2013/022841, February 14, 2013.

"Biomarkers for assessing idiopathic pulmonary fibrosis" by Imre Noth, Huang Yong, Jose D. Herazo-Maya, Naftali Kaminski, Kevin Gibson, and Joe G.N Garcia. Office of Technology Management, University of Illinois at Chicago, US Patent- 61/561,543 - November 18, 2011. International filing - PCT/US2012/065540, November 16, 2012.

"Methods and compositions using oxidized phospholipids" by Joe G.N Garcia, Knostatin Birukov, Norbert Leitinger, Valery Bochkov. Office of Technology and Intellectual Property Office, University of Chicago. Publication, US20120028921- February 2, 2012.

"Modulation of cell barrier dysfunction" by John C. Alverdy, Jonathan Moss, Mark W. Lingen, Patrick A. Singleton, and Joe G.N Garcia. , Office of Technology and Intellectual Property Office, University of Chicago. Publication, US20120316190- December 13, 2012.

"Genetic variants in interstitial lung disease subjects" by Imre Noth, Joe Garcia, and Naftali Kaminski. Office of Technology and Intellectual Property Office, University of Chicago, US Patent- 61/759,820 5. - February 1, 2013. International filing - PCT/US2014/014395, February 3, 2014.

"Systems and methods for characterizing cancer" by Joe G.N. Garcia. Tech Transfer Arizona, University of Arizona, UA15-028, UAZ34078/US1/PRO, US Provisional Patent- 62/037,744. - August 15, 2014.

"Systems and methods for characterizing granulomatous diseases" by Joe G.N. Garcia and Tong Zhou. Tech Transfer Arizona, University of Arizona, UA15-193, UAZ-34465/US-1/PRO, US Provisional Patent- 62/161,521. - May 14, 2015.

EDUCATIONAL ACTIVITIES-TEACHING/MENTORING:

Physician-Scientist Trainees (in chronologic order)

Jerome E. Stasek, MD (Pulmonary Fellow in laboratory, 1990-1993)
1990 Midwest AFCR Trainee Award, 1991 National AFCR Trainee Award, 1992 John B. Hickam Award from the Indiana American Heart Association. Present position: Assistant Professor-Clinical, Pulm, Allergy, Crit Care & Sleep, The Ohio State University

Chris Bahler, MD, PhD (Pulmonary Fellow in laboratory, 1990-1992)
1991 Midwest AFCR Trainee Award, 1991 National AFCR Trainee Award
Present position: Private practice, Kokomo, Indiana

Kane L. Schaphorst, MD (Pulmonary Fellow in laboratory, 1991-1995)
1992 Midwest AFCR Trainee Award, 1992 National AFCR Trainee Award, 1995 National AFCR Trainee Award, K08 NIH HL 03666 "Mechanisms of Vascular Barrier Regulation."

1997-2002. R01 Funded & American Heart Established Investigator. Present position: Associate Professor of Medicine, U. South Alabama School of Medicine.

Sandeep Gupta, MD (Pediatric Gastroenterology Fellow in laboratory, 1995-1996)
Present Position: Associate Professor of Pediatrics, Indiana University School of Medicine.

Lydia Gilbert-McClain, MD (Pulmonary Fellow in laboratory, 1995-1997)
Present position: Deputy Director, Division of Pulmonary, Allergy, Rheumatology Products (DPARP), FDA, Bethesda, MD.

Randal O. Dull, MD, (Trainee in Laboratory, 1999-2002). Johns Hopkins University, Clinician Scientist Award, 2001. K08 Award, "Endothelial Glycocalyx Regulation of Permeability." (2001-2006). Present position: Professor of Anesthesiology, University of Illinois, Chicago.

Yasushi Shikata, MD. (Visiting Post-doctoral Fellow in laboratory, 2001-2002)
Present position: Chief Physician, Fujitsuna Hospital/Okayama University Medical School, Japan.

Kamon Kawkitinarong, MD. (Visiting Pulmonary Fellow, 2002-2004)
Present Position: Associate Professor, Chulalongkorn University, Pathumwan, Thailand

Irina Petrache, MD, (Pulmonary Fellow in lab, 1998-2000)
NRSA F32 Recipient. "Oxidant stress-induced apoptosis: Role of heme oxygenase." 1998-2000 K08 Award, "Cytoskeletal Regulation of Endothelial Cell Apoptosis." 2000-2005, R01 funded x2. Present position: Chief of the Pulmonary Division, Professor of Medicine, Nationl Jewish Hospital, University of Colorado

Ari Lev Zaiman, MD, PhD. (Pulmonary Fellow in lab, 2000-2003)
NRSA F32 Recipient, "Novel MLCK-MIF interactions in endothelial cells." (2001-2003)
K08 "Modifier genes in pulmonary hypertension". Present position: Assistant Professor of Medicine, Johns Hopkins University.

Bryan J. McVerry, MD. (Pulmonary Fellow in lab, 2002-2005)
NRSA F32 Recipient, "Sphingosine 1–phosphate as a novel therapy for VALI-induced vascular leak."(2004-2005). K-08 "Novel barrier enhancement in canine lung injury". Present Position: Associate Professor of Medicine, University of Pittsburgh

Stephanie A. Nonas, MD (Pulmonary Fellow in lab, 2003-2005)
NRSA F32 Recipient, "Candidate genes in ventilator associated lung injury." K08 "Cox2 in Ventilator-Induced Lung Injury". Present Position: Associate Professor of Medicine, Oregon University School of Medicine

James H. Finigan, MD (Pulmonary Fellow 2003-2005)
NRSA F32 Recipient, "Mechanism of activated protein C in endothelial barrier regulation." K08 "Novel Role of Activated Protein C in ALI". Present Position: Associate Professor of Medicine, University of Colorado School of Medicine

Sascha N. Goodewardena, MD. (Internal Medicine Resident in lab 2006-2007). "Effect of Particulate Matter on Cardiopulmonary Toxicity". Present Position: Assistant Professor of Medicine, University of Michigan.

Nuala J. Meyer, MD. (Pulmonary Fellow in lab 2006-2008); NRSA F32, "Role of GADD45a in Acute Lung Injury" (2007-2010). Present position: Assistant Professor of Medicine, Department of Medicine, University of Pennsylvania.

Tony Kim, MD. (Faculty Mentee 2005-2008) American Heart Association Award. K-08 "Coagulation Genes in Cardiac Failure", 2007-2012. Present position: Associate Professor of Medicine, Department of Medicine, Oregon University School of Medicine.

Sang Bum Hong, MD (Visiting Scientist from University of Seoul Korea) "PBEF in Acute Lung Injury". Present position: Associate Professor of Medicine, Department of Medicine, University of Seoul, Korea.

Steven M. Dudek, MD, (Pulmonary Fellow in lab, 1998-2002); 1999 Midwest AFCR Trainee Award, 2000 Central Society for Clinical Research (CSCR) Travel Award. NRSA F32 Recipient "Cortactin in Lung Endothelial Contraction/ Permeability." K08 "Endothelial cell cytoskeletal regulation by cortactin". R01 funded and PPG Project Leader x2. Present position: Associate Professor of Medicine, Chief of Division of Pulmonary, Critical Care, Sleep, and Allergy, University of Illinois at Chicago.

Jeffrey R. Jacobson, MD. (Pulmonary Fellow in lab, 2001-2004); NRSA F32 Recipient- "Stretch-induced changes in endothelial contractility". Parker B. Francis Fellowship Recipient. K-08 Award "Mechanisms of simvastatin -induced endothelial cell barrier protection." R01 funded and Program Project Leader. Present position: Associate Professor of Medicine, Director of Pulmonary Function Laboratory, University of Illinois at Chicago.

Rebecca A. Schilling MD. (Faculty Mentee 2006-2008) K-08 Award "ICOS as a Co-stimulatory molecule in lung inflammation" Present position: Associate Professor of Medicine, Department of Medicine, University of Illinois at Chicago.

Mardi Straitland Gomberg MD. (Faculty Mentee 2005-2008). Doris Duke Career Development Award. "Novel Therapeutic Kinase Inhibitors in Pulmonary Hypertension", Present position: Associate Professor of Medicine, Department of Medicine, University of Chicago.

Rachel K. Wolfson MD. (Faculty Mentee 2007-present); K08 Award (2008-2013) "Role of HMGB1 and RAGE receptors in acute inflammatory lung injury". Present position: Associate Professor of Pediatrics, University of Chicago

Ankit A. Desai MD. (Internal Medicine Resident in lab 2006-2008). NRSA F32 Award. "Use of consomic rodents to identify pulmonary hypertension candidate genes" American Heart Association Award, 2013-2016). " Enhancing Risk Profiling of Pulmonary Hypertension in Sickle Cell Disease". Present position: Assistant Professor of Medicine, Division of Cardiology, University of Arizona.

Gabriel D. Lang MD. (4^{th} year Medical Student UIC while in lab, 2007-2008). "Effect of Particulate Matter on Cardiopulmonary Toxicity." Present position: GI Fellow, Department of Internal Medicine Resident, University of Chicago.

Xiaoguang Sun MD PhD. (Postdoctoral Fellow in lab (2007-2009). "Role of S1P1 polymorphisms in inflammatory lung injury." NRSA F32 Postdoctoral Fellowship. Present position: Research Assistant Professor of Medicine, University of Arizona.

Charulata Ramaprasad MD (Infectious Disease, Fellow mentee 2008-2009) NRSA Award "Aspergillus and lung toxicities in transplant patients". K23 NIH Career Development Award (pending) "Biomarker and genomic assessment in bone marrow transplantation complications". Present position: Infectious disease fellow, University of Chicago.

Kevin Gregg MD (Infectious Disease Fellow, mentee 2008-2009) NRSA Award "Mechanisms of Hypogammaglobulinemia in Solid Organ Transplant Recipients". Present position: Infectious disease fellow, University of Chicago.

Roberto F. Machado MD (Faculty Mentee 2008-2013) NHLBI K-12 Award. 2008-2009, NHLBI K23 funded "Carbon monoxide therapy in severe pulmonary hypertension". R01- funded- "Genomic strategies in sickle cell ACS". Present Position– Associate Professor of Medicine, University of Illinois at Chicago.

PhD Post-Doctoral Trainees (in chronologic order)

Harold Davis, PhD. (Post-doctoral Fellow, in laboratory 1990-1993)
Awarded NIH FIRST Award (1993) and Indiana AHA Grant-in-Aid Award (1991)
Present position: Associate Professor of Surgery, University of Cincinnati School of Medicine.

Alexander D. Verin, PhD (Post-doctoral Fellow in laboratory 1994-1997)
Midwest AFCR Trainee Award, 1994, American Lung Association Grant-in-Aid Research Award 1995-1997, American Heart Association Research Award 1998-2000, R01 HL 67307 in 2001, "Microtubules in lung endothelial cell barrier regulation." R01 2004 "Novel mechanisms of calmodulin-dependent endothelial cell barrier regulation." Holds 2 additional R01s.
Present position: Professor of Physiology, Medical College of Georgia

Shwu Fan Ma, PhD – (Graduate student and Post-doctoral Fellow, 1996-1998 in lab)
Indiana AHA Graduate Student Award. Present position: Research Associate Professor of Medicine, University of Chicago

Shu Shi, MD (Post-doctoral Fellow, 1994-1996)
Awarded AHA Postdoctoral Fellowship 1996-1998. Present Position: Research Scientist, Eli Lilly Company, Indianapolis, IN.

Csilla Csortos, PhD (Visiting Post-doctoral Fellow in laboratory 1996-1998)
Present position: Associate Professor, University of Hungary, Budapest, Hungary.

Natasha V. Bogatcheva, PhD, (Post-doctoral Fellow, 1998-2001)
Present position: Research Assistant Professor of Medicine, Medical College of Georgia

Raj Wadgaonkar, PhD (Post-doctoral Fellow, in laboratory 2000-2004)
VA Merit Award "Role of TNFR-dependent sphingolipids in endothelial cell survival and apoptosis." New York State ECRIP Award"Identification of novel biomarkers in sickle cell disease and pulmonary hypertension" Present Position: Associate Professor of Medicine, SUNY, Stony Brook NY

Kostya G. Birukov, PhD (In laboratory 1998-2002)
R01 2004 "Novel regulation of endothelial cell barrier regulation by oxidized phospholipids." Holds 2 additional R01s. Present Position: Associate Professor of Medicine, University of Chicago.

Laura Linz-McGillem, PhD (Research Fellow, 2002-2004).
NRSA F32 Recipient, "Role of myosin light chain kinase in angiogenesis." (2004-2005). Present Position: Office of Intellectual Properties, Johns Hopkins University

Li Gao, PhD (Research Fellow, 2002-2005)
"Association/function of MLCK SNP with acute lung injury." Present Position: Research Associate, Pulmonary and Critical Care Medicine, Johns Hopkins University

Dmitry Grigoryev, MD, PhD (Research Fellow, 2002-2005)
NRSA F32 Recipient, "Gene profiling of ventilator-induced acute lung injury."
Present Position: Instructor, Pulmonary and Critical Care Medicine, Johns Hopkins University.

Jaideep Moitra, PhD – (Post-doctoral Fellow 2003-2005)
PPG Transgenic Core Leader. Present position: Senior Scientist, Abnovas Inc., Mumbai, India

Liliana Moreno, PhD (Post Doctoral Research Fellow, 2004--2005)
Mayo Clinic Angiogenesis Symposium Travel Award 2004. Present Position: Research Assistant Professor of Medicine, University of Chicago

Carlos Flores PhD (Visiting Post-Doctoral Research Fellow, 2005-2007)
"Role of Genetic Variants in Ventilator Associated Lung Injury".
Present Position: Senior Research Scientist, Instituto Geneticos, Tenerife, Canary Islands Spain

Patrick A. Singleton, PhD (Post-Doctoral Research Fellow, 2004-2007)
NRSA F32 Recipient, "Sphingosine 1-phosphate and lipid rafts in endothelial cell barrier regulation". AHA Scientist Award, R01 funded "Hyaluranan in Acute Lung Injury". Present Position- Assistant Professor of Medicine, University of Chicago

Ting Wang PhD (Post-Doctoral Research Fellow, 2007-2010)
AHA Scientist award "Effect of particulate matter on murine asthma and cardiopulmonary responses". Present Position: Assistant Professor of Medicine, University of Arizona.

Biji Mathew PhD (Post-Doctoral Research Fellow, 2007-2010)
"Role of the sphingolipid pathway in radiation- induced lung injury". Present Position: Research Assistant Professor, University of Illinois at Chicago.

Sumegha Mitra PhD (Post-Doctoral Research Fellow, 2008-present). "Role of GADD45 in acute lung injury" Present Position: Adjunct Assistant Professor of Biochemistry and Molecular Biology, Indiana University Bloomington IN.

Past Graduate Student Trainees/Thesis Advisor

Shwu Fan Ma, PhD - Graduate Student, Department of Physiology and Biophysics, (1993-1996)
Thesis Advisor: Joe G.N. Garcia, M.D. Thesis: Molecular cloning of the thrombin receptor.
Indiana AHA Graduate Student Award 1992-1995, Sponsor: Joe G. N. Garcia, MD.

(Post-doctoral Fellow 1996-1998). Present position: Research Assistant Professor of Medicine, University of Chicago

Devrim Pesem, PhD. Dept. of Biological Chemistry, Member, PhD Thesis Committee (2002-2004). Present position: Associate Professor, İzmir Institute of Technology, Turkey.
--Celeste M. Nelson, PhD. Dept. of Biomedical Engineering, Member, PhD Thesis Committee (2001-2003). Present position: Associate Professor of Chemical & Biological Engineering and Molecular Biology, Princeton University.

Kammran Fehrez, MD. Dept. of Pharmacology, Member, Thesis Committee (2010)

Yuka Shimizu, PhD Graduate Student, Department of Molecular Biochemistry (2011-2014)
Thesis Advisor: Joe G. N. Garcia, M.D. Thesis: "Epigenetic regulation of MLCK expression in asthma"

Alicia Rizzo, MD PhD Pharmacology Student- "MLCK Pseudogene effects in cancer pathobiology" (2011-2014

Current Graduate Student Trainees/Thesis Advisor

Venkateswaran Ramamoorthi, MS. PhD Pharmacology Student "DNA Methylation of the Visfatin gene in ventilator-induced lung injury" (2011-present)

SUMMER RESEARCH STUDENTS AND RESEARCH TRAINEES:

Name	**Date**		**Present Position**
Allison Farber (HS)	1990-93	(36 months)	Occupational Therapist, Indianapolis
Michael Inman (Coll)	1991	(summer)	Physician-Anesthesiology
Luis Barajas (Coll)	1994	(summer)	Physician-Family Practice
John Zurasky (MS)	1994	(12 months)	Physician-Internal Medicine
Douglas Lowery (MS)	1994	(summer)	Orthopedic Surgeon
Tom Schussler (MS)	1995	(12 months)	Physician-Internal Medicine
Melissa Walsh (Coll)	1993	(summer)	PhD, Biology
Nathan Whitmore (HS)	1997	(12 months)	Biology Major
Julie Miranda (HS)	1997	(12 months)	Biology Major
Brie Teaboldt (HS)	1997-1998	(12 months)	Biology Major
Pradeep Khandelwal (Coll)	1996-1997	(24 months)	Medical Student
George Mathews (MD)	1996-1997	(12 months)	Internal Medicine, Private Practice
Claire Cooke (MS)	1996-1997	(24 months)	Medical Student, IU
Brad Houts (MS)	1996-1997	(24 months)	Orthopedic Surgeon
Lucy Robles-Rivera (Coll)	1995-1996	(24 months)	Research Technician, Ohio State U.
Anila Ricks-Cord (Coll)	1997-1999	(24 months)	Medical Student, Howard University
Keri Jacobs (Coll)	1998-2001	(30 months)	Emergency Physician, U Maryland
Nicholas Wunder (Coll)	1999-2000	(4 months)	Nurse Practitioner
Cheryl Miller (Coll)	2000-2001	(4 months)	Villa Julie College, Baltimore
Sarah Ramirez (Coll)	2001-2002	(15 months)	Research Technician, JH University
Eric Payne (Coll)	2001-2002	(6 months)	Villa Julie College, Baltimore
Alejandro A. Flores (Coll)	2001-2002	(12 months)	Pediatrician, Saddle Brook, NJ
Sam Arujo (Coll)	2001-2002	(6 months)	Louisiana State University
Bernice Rumala (Coll)	2002	(3 months)	Excelsior College, New York
Akinsiku Bukola (Coll)	2002	(3 months)	University of Maryland, Baltimore

Betty Booker (Coll)	2002	(3 months)	Grambling State University, Louisiana
Christopher Murphy (Coll)	2003	(3 months)	Dentist, US Peace Corps
Imudia Ehanrie (Coll)	2003	(3 months)	Mount St. Mary's College, Maryland
Joe Johnson (Coll)	2004	(2 months)	University of Dallas
Andrew Ollerton (Coll)	2004	(2 months)	Brigham Young University
Elena Yates (Coll)	2005	(2 months)	MSTP Awardee St Louis University
Janani Vigneswaran (HS) (Coll)	2006-9	(1,3 months)	UIC Medical School
Erika Urban (Coll)	2006	(2 months)	Baylor University SOM
Alayna Grabavoy (Coll)	2006	(2 months)	Loyola University
Jesse Theisen-Toupal (Coll)	2006	(3 months)	Mass General IM Residency
Morgynn Wiley (HS)	2006	(3 months)	King College Park High School
Natalie Vokes (Coll)	2006	(2 months)	Richmond University
Ann Pan (HS)	2006	(12 months)	IMSA
Georgia Scott (Coll)	2006-7	(12 months)	University of Chicago
Jared D. Linares (Coll)	2007-9	(3 months)	UIC Internal Medical Residency
Justin Choi (Coll)	2007-9	(3 months)	Yale U. Internal Medicine Resident
Matt Kulchner (MD)	2007	(3 months)	University of Chicago IM Resident
Joe Messana (Coll)	2008-9	(3 months)	Ortho Resident, Albany Medical
Matt Sullivan (Coll)	2008	(3 months)	University of Dallas
Anjali Vera (Coll)	2008-9	(15 months)	UIC Medical School
Daniel Lloveras Turner (MD)	2007-9	(3 months)	Physician UCLA
Crystal Unzueta (Coll)	2008-9	(3 months)	UIC Med School
Lyndsay Pearson (Coll)	2009	(3 months)	UT Southwestern Med School
Hector Quijada (Coll)	2011	(3 months)	Medical Student UA Health Science

HS = High School Coll = College Student MS = Masters Student MD = Medical Student

CURRENT JOURNAL EDITORIAL ACTIVITIES:

Associate Editor:

Pulmonary Circulation (2010-present)
Nature: Scientific Reports (2015-present)

Editorial Board Member:

American Journal of Respiratory and Critical Care Medicine (2008-present)

PAST EDITORIAL ACTIVITIES:

Co-Editor in Chief

Microvascular Research (2002-2013)

Managing Editor-in-Chief

Current Opinion in European Medicine (2002-2004)

Associate Editor:

American Journal of Respiratory Cell & Molecular Biology (1998-2003)
Journal of Stem Cell Research (2003-2013)
Journal of Organ Dysfunction (2005-2013)
Translational Research (2006-2013)

Encyclopedia of the Microvasculature (D. Shepro Editor) Elsevier 2004
Consulting Editor

Editorial Board Member:
Circulation Research (2002-2007)
American Journal of Physiology: Lung Cellular and Molecular Physiology (1993-2005)
Current Opinion in Clinical Experimental Research (2001-2004)
Journal of Smoking-Related Diseases (1991-1995)
Journal of Laboratory Clinical Medicine (1994-2005)
Endothelium: Journal of Endothelial Cell Research (1999-2013)
Physiologic Genomics (2004-2013)
Journal of Cardiothoracic-Renal Research (2005-2013)
Medicine (2005-2013)
Proceedings of the American Thoracic Society (2005-2013)

Consulting Editor
Respiratory & Pulmonary Medicine Internet Resource Guide, (2000-2001)
eMedguides.com, Inc., Princeton, New Jersey, (2000-2001)

Current Journal Peer Review Activities:
American Journal of Physiology: Cell Physiology; American Journal of Physiology: Lung Cellular and Molecular Physiology; American Journal of Physiology:Heart and Circulation; American Journal of Respiratory Cell and Molecular Biology, American Journal of Respiratory and Critical Care Medicine; Biochemic Biophysica Acta; Blood, Coagulation and Fibrinolysis; British Journal of Pharmacology; Chest; Circulation Research; Critical Care Medicine; Current Opinion in Clinical Experimental Research; Cytogenetics and Cell Genetics; Endothelium; Experimental Lung Research; European Journal of Pharmacology; European Respiratory Journal; FASEB Journal; Genomics; Physiologic Genomics; Heart and Vessel ;Journal of Applied Physiology; Journal of Biochemical Pharmacology; Journal of Biological Chemistry; Journal of Cell Biology; Journal of Cellular Biochemistry; Journal of Cellular Physiology; Journal of Clinical Investigation;Journal of Investigative Medicine; Journal of Laboratory Clinical Medicine.; Journal of Leukocyte Biology;Journal of Pharmacologic Experimental Therapeutics; Journal of Vascular Research Medicine; Microvascular Research; Nature Medicine; Thrombosis Research;Translational Research

CLINICAL ACTIVITIES: CERTIFICATION AND BOARDS:
Licensure: Texas, New York, Iowa, Indiana, Maryland, Illinois
Diplomate, American Board of Internal Medicine, 1983

Diplomate, Pulmonary subspecialty
American Board of Internal Medicine, 1986

Diplomate, Critical Care Medicine subspecialty
American Board of Internal Medicine, 1988

ORGANIZATIONAL ACTIVITIES:
INSTITUTIONAL ADMINISTRATIVE APPOINTMENTS:
<u>The University of Texas Health Center at Tyler:</u>

Member, Medical Intensive Care Unit Committee 1985-1988
Member, Utilization Review Committee 1985-1986
Member, Medical Records Committee 1985-1986
Member, Surgical Case Review Committee 1985-1986
Member, Blood Utilization Review Committee 1985-1986
Member, Human Subjects Investigation Committee 1986-1988
Member, Clinical Research Advisory Committee 1986-1988 (ad hoc chairman)
Member, Feasibility Committee 1987-1988

Indiana University School of Medicine:
Member, Lilly Institutional Review Board 1988-1990 (ad hoc chairman)
Alternate, IUPUI Institutional Review Board (IRB) 1990-1996
Member, Academic Standards Committee 1991-1993
Member, Pulmonary Procedure Committee 1989-1991
Member, Search Committee for Chairman, Dept. of Medicine 1990
Member, Faculty Development Committee, Dept. of Physiology/Biophysics 1991
Member, Space Distribution Committee, Department of Medicine 1991
Member, Search Committee, Dept. of Physiology/Biophysics 1992
Chairman, Pulmonary Research Committee 1988-1992
Member, VA Research and Development Committee 1991-1993
Chairman, VA Research and Development Committee 1993-1994
Member, Junior Clerkship Review Committee 1990-1994
Elected Representative IUPUI Faculty Council 1992-1995
Alternate, Clinical Research Center Advisory Committee 1990-1995
Member, VA Transfusion Committee 1995-1996
Chairman, Minority Health Topic Committee 1992-1996
Member, Tenure and Promotion Committee, Department of Medicine, 1995-1996
Member, Tenure and Promotion Committee, Department of Physiology/Biophysics 1992-1996
Member, Dean's Task Force on Minority Education, 1994-1998
Member, Dean's Task Force on University Research, 1996-1998
Member, VA Respiratory Therapy Standards Board, 1996-1998.

The Johns Hopkins School of Medicine:
Member, Postdoctoral Program Advisory Board, 1998-Present
Member, Graduate Program in Cellular and Molecular Medicine, Minority/Disability Committee, 1998-Present.
Chair, Search Committee for Director of Hematology Division, 1999.
Member, Search Committee for Physician-in-Chief, Department of Medicine Johns Hopkins Bayview Medical Center. 1999-2000.
Member, Department of Medicine Development Committee, 1999-2003
Member, Intern and Resident Selection Committee, 1999-2003
Member, Young Investigators' Day Award Review Committee, 1999-2000.
Member, David Israel Macht Memorial Research Prize Committee, 1999-2000.
Member, Michael A. Shanoff Research Award Committee, 1999-2000.
Member, Johns Hopkins Medicine Cardiorespiratory Council, 2000-2001.
Member, Goal V Committee, 2001-2004
Member, Search Committee for Director, Translational Research in Lung Cancer, 2001
Member, Search Committee for Director of Division of Allergy and Clinical Immunology, 2002
Member, Diversity Committee, 2002-2005
Chair, Comprehensive Transplant Research Council, 2000-2001

Member, Comprehensive Transplant Center Leadership Council, 2000-2001
Director, Center for Translational Respiratory Medicine, 2002-2005
Member, Environmental Health Sciences Departmental Review Committee, 2002-2003
Chair, T-32 Training Grant Executive Committee
Chair, T-35 Short-term Minority Training Grant Executive Committee (2000-2005)
Member, Emerging Techology Task Force Committee, 2003-2005

University of Chicago
Member, Executive Committee, University Practice Plan
Member, Biological Science Division, Executive Committee
Member, Cancer Center Internal Advisory Board, 2005-present
Member, Research Advisory Committee (RAC) May 2007-2009
Chair, Search Committee: Chief UCMC Quality Officer 2006
Chair, Search Committee: Chair, Department of Surgery 2006
Chair, RAC Imaging Sub-Committee 2007
Member, Urban Health Initiative Steering Group 2006-8
Co-Chair, Search Committee: Chair, Department of Pediatrics 2007

University of Illinois at Chicago
Member, Chancellors Executive Committee, 2010-2012
Board of Governors Argonne National Laboratories, 2010-2012
Member, CCTS Internal Advisory Board 2010-2012
Member, Executive Committee of Chancellors Committtee for Latino Affairs
Member, Deans Council, 2010-2012
Chair, Health Science Center Leadership Council, 2010-2012
Member, Academic Directions Task Force 2010-2012
Chancellor's Committee on the Status of Latinos 2010-2012
Member, Presidents Cabinet 2010-present
Chair, Search Committee for Chairman of Medicine 2010-2011

University of Arizona
Member, Senior Leadership Committee of the President

PROFESSIONAL SOCIETIES:

Association of American Professors (2005)
American Clinical and Climatological Association (2004)
American College of Chest Physicians (1983), Fellow (1985)
American College of Physicians (1980), Fellow (1988)
American Federation for Clinical Research (1985-1998)
American Heart Association (1985), Fellow (1999)
American Lung Association-Indiana (1988)
American Physiologic Society (1992)
American Society for Cell Biology (1998)
American Society for Clinical Investigation (1996)
American Thoracic Society (1980)
Association of Academic Professors (2005)
Central Indiana Society of Occupational Medicine (1988)
Central Society for Clinical Research (1989)
Indiana State Medical Association (1988)
Interurban Clinical Club (2000)

Maryland Thoracic Society (1998)
National Academy of Medicine of the National Academies (2011)
National Board of Medical Examiners Test Committee (1986-1989)
Sigma Xi Research Society (1991)

SOCIETAL AND GOVERNMENT APPOINTMENTS AND LEADERSHIP POSITIONS

American Clinical and Climatological Association (2004- present)
Vice President (2012)

American Federation for Clinical Research (Midwest Section)
Councilor, 1989 - 1990
Chairman-Elect, Chairman, Past Chairman, 1990 - 1993

American Federation for Medical Research (National)
Nominating Committee, 1990-1992
Section Committee, 1990-1992
Public Policy Committee, 1990-1995
Awards Committee, 1991-1995
Program/Publication Committees, 1991-1995
Science Education Committee, 1992-1995
National AFCR Councilor, 1992-1997

American College of Chest Physicians
Pulmonary Vascular Disease Liaison, 2001-2004
Health and Science Policy Committee, 2001-2004
Pulmonary Vascular Network Steering Committee, 2002
Pulmonary Hypertension Guidelines Panel, 2002-2004

American Heart Association
Vascular Biology, Basic Science Council and Program Committee, 1993-1995
Vascular Biology Study Section, 1996-1998
Member, Cardiopulmonary Resuscitation Review Committee, 2000-2004
Co-Chair, Cardiopulmonary Resuscitation Review Committee, 2001
Member, Council on Cardiopulmonary Perioperative Critical Care, 2005-2009
Fellow, American Heart Association, 2006
Chair, Program Committee, CardioPulmonary Resuscitation Council, 2009
Member, Resuscitation Symposium Program Committee, 2008-present
At Large Member, CardioPulmonary Resuscitation Council, 2009-present

American Lung Association
Career Investigator and Research Fellowship Review Committee, 1994-1997
Asthma Research Center Review Committee, 1996
Program Coordinating Committee, 1996-1998
Committee for Research Review, 1999-2000

American Thoracic Society
Member, Program Committee, Assembly on Pulmonary Circulation, 1993-1995; 1997-2000
Chair-elect, Chair, Program Committee, Assembly on Pulmonary Circulation, 1997-1999
Member, Executive Committee, Assembly on Pulmonary Circulation, 1999-Present

Member, Long Range Planning Committee, Assembly on Pulmonary Circulation, 1996-1998, 2002-2004
Chair, Long Range Planning Committee, Assembly on Pulmonary Circulation, 1999-2002
Member, Work Group, Assembly on Environmental Occupational Health: "What constitutes an adverse health effect?" 1996-1999
Member, International Conference Committee, 1998-1999
Member, Pulmonary and Critical Care Training Committee, 1998-2001
Member, Research Advocacy Network, 1999-Present
Member, Work Group, Pulmonary Circulation Assembly, "Treatment and Hazards of Inhaled Nitric Oxide Therapy"
Member, Grover Conference Organizing Committee
Member, Research Advocacy Committee, 2002-2004
Member, Pulmonary Circulation Assembly Planning Committee, 2002-2003
Member, Working Group "Physician Scientist Career Development", 2002-Present
Member, Search Committee for Editor, American Journal of Respiritory Cell and Molecular Biology, 2002-2003
Member, Board of Directors, 2003-2005
Chair, Pulmonary Circulation Assembly, 2003-2004
Member, Audit and Finance Committee, 2003-2004
Member, 2020 Strategic Planning Committee, 2004-2006
Member, Minority Training and Mentorship, 2000-2008
Member, Pulmonary, Critical Care and Sleep Career Task Force, 2008
Chair, Academic Career subcommittee 2008

Association of Professors of Medicine
Member, APM Physician-Scientist Initiative Conference Planning Committee, 2007

Association for Respiratory Health of Minorities
Executive Board, 1992-1995
Chairman, Constitutional Bylaws Committee, 1992-1995

Central Society for Clinical Research
Long Range Planning Committee, 1992
Secretary/Treasurer, 1995-2002
Vice President, 2002
President-Elect, 2003
President, 2004
Councilor, 2005-2008
Chair, Search Committee, for Editor of Journal Laboratory Clinical Medicine, 2005

Foundation for Sarcoidosis Research Scientific Advisory Board
Member, Board of Directors, 2006-present

Health Effects Institute (Environmental Protection Agency sponsored)
Member, Research Review Committee, 2008-2011

Indiana State Committee on Respiratory Care (Governor-Appointed) (1992-1998)

Indiana State Department of Health, Medical Advisory Board for Tuberculosis, (1993-1996)

National Academies of Science
National Research Council
Member, Committee to review IRIS process, 2012-2013

National Institutes of Health (NIH)
Member, Lung Biology and Pathology (LBPA) Study Section, 1995-1999
Member, ARDS Protocol Review Committee, 1995-1998
Chair, ARDS Protocol Review Committee, 1998-Present
Member, Special Emphasis Panel: Tuberculosis Academic Award, 1994
Member, Special Emphasis Panel: Asthma Academic Award, 1995
Member, Special Emphasis Panel: Sickle Cell Pathobiology, 1996
Member, NHLBI Program Project Review Subcommittee, 1996-1999
Member, K08 and K01 Career Development Award Committee, 2000-2002
Ad hoc Chair, K08 Career Development Award Committee, 2000
Co-chair, Endothelial Workshop, "Phenotypic Differences in Vascular Endothelium", 2000
Chair, SCCOR In Acute Lung Injury Review Committee, 2000
Member, Steering Committee, NHLBI Program in Genomic Applications, 2000-2004
Chair, Data Safety Monitoring Board, Pulmonary Branch, NHLBI, 2000-Present
Member, NHLBI Parent Program Project Review Committee, 2001-2005
Member, Advisory Board Cardiopulmonary Genomics, 2002-Present
Chair, NHLBI Parent PPG Committee, 2003-2005
Member, Proteomics Working Group, 2003
Member, SARS Pulmonary Research Committee, 2003
Member, SCCOR Advisory Group, 2003
Member, Working Group on "Lung Transplant complications", 2004
Member, NHLBI Strategic Planning Committee on Personalized Medicine, 2006
Member, Expert Blue Ribbon Panel on Medical Chemical Countermeasures, 2006
Member, NHLBI Advisory Council, 2007-2010
Member and Discussion Leader, "Genes to Function" Working Group, 2009
Member, Scientific Advisory Committee, NIH Clinical Research Center, 2009-2013
Member, NHLBI Chronic Thromboembolic Pulmonary Hypertension Workshop, 2011
Member, NHLBI Hermansky Pudlak Syndrome Workshop, 2011
Member, NHLBI Sickle Cell Advisory Board, 2012- 2015
Member, External Advisory Panel, NHLBI TOPMed Program 2015-present

Texas State Asbestos Advisory Board, Texas Department of Health (1987 1988)

CONSULTING AGENCIES/INSTITUTIONS

Howard Hughes Medical Institution, 2003-2005
Nebraska Medical Center Tobacco Settlement Biomedical Research Fund, 2003
Tobacco-Related Disease Program, Review Committee State of California, 2001
Spanish Institute of Science: Grants Review Committee, 2004
Gilead Inc. Scientific Advisory Board, 2009-2013
Lovelace Research Institute, Scientific Advisory Board, 2010-present
University of Iowa Board of Regents Healthcare Advisory Board, 2012-2014
American Academic Health Centers, Board of Directors 2016-present
ECFMG, Board of Directors 2016-present

NIH Clinical Translational Science Award (CTSA) External Advisory Board Memberships

University of Oregon Health Science Center, 2007- 2014
University of Colorado Health Science Center, 2007-present
University of Southern California, 2011- 2014
University of Michigan Health Science Center, 2012-present

SYMPOSIA OR CONFERENCES ORGANIZED:

1998 American Thoracic Society Annual Meeting, San Francisco, Chairman of Scientific Symposium,
"Transmembrane Signaling."

1998 American Federation for Clinical Research, Chicago, IL. Satellite Symposium, "Novel Pathways of Transmembrane Signaling."

1999 American Thoracic Society, International Conference, San Diego, CA. Chair and State of the Art Speaker. Mini-Symposium: "Regulatory Mechanisms of Lung Permeability."

1999 Johns Hopkins University School of Medicine "Update in Pulmonary and Critical Care Medicine" Conference, Santa Fe, NM. Organizer and Speaker.

1999 Johns Hopkins University School of Medicine, "Update in Occupational Lung Disease," Symposium, Baltimore, MD, Organizer and Speaker.

2000 Central Society for Clinical Research, "SNPs, Chips and Functional Genomics," Chicago, IL, Symposium Organizer.

2000 Johns Hopkins University Department of Medicine. "Update in Pulmonary and Critical Care Medicine." CME Symposium: Santa Fe, NM. Organizer and Speaker.

2001 Johns Hopkins University School of Medicine. "First Annual PPG Symposium on Molecular regulation of vascular permeability: Novel mechanisms and therapies. Baltimore, MD. Organizer and Speaker.

2001 American Thoracic Society Meeting, San Francisco Mini Symposium, "Endothelial Injury and Signal Transduction." Chairman and Speaker.

2001 Johns Hopkins University Department of Medicine. "Update in Pulmonary and Critical Care Medicine." CME Symposium: Jackson Hole, WY. Organizer and Speaker.

2001 Central Society for Clinical Research, "Vascular Endothelial Cell Homeostasis—It's a matter of life and death," Chicago, IL. Symposium Organizer and Speaker.

2002 American Thoracic Society, Atlanta, Post-Graduate Course, "SNPs, Chips and Functional Genomics." Co-Chairman and Speaker.

2002 Johns Hopkins University Department of Medicine. Fourth Annual "Update in Pulmonary and Critical Care Medicine." CME Symposium: Santa Fe, New Mexico. Organizer and Speaker.

2002 Central Society for Clinical Research, "Endothelial and Epithelial Cell Boundaries—Implications for Organ Dysfunction and Host Defense. Chicago, IL. Symposium Organizer.

2003 NIH/NHLBI Workshop, "Using functional genomics to understand complex lung disease." American Thoracic Society International Meeting, Seattle, WA.

2004 Gordon Conference, "Endothelial Cell Phenotypes in Health and Disease, Andover, NH. Vice Chair and Speaker.

2004 Sepsis Diagnosis, Pathogenesis and Novel therapies; Course Organizer and Chair, Baltimore, MD.

2005 2nd International Shanghai Conference on Respirology, Shanghai, China. Organizing Committee and Speaker.

2006 Gordon Conference, "Endothelial Cell Phenotypes in Health and Disease, Biddiford, Maine. Chair and Speaker.

2013 Chicago Respiratory Health Disparities Symposium. Organizer and speaker, Chicago IL

INVITED NAMED LECTURESHIPS

The Dr. David Dines Lecture, Mayo Clinic, Scottsdale, AZ, 2000
The Dr. Irving Kass Memorial Lecture, University of Nebraska, NE, 2001
The Dr. David Dines Lecture, Mayo Clinic, Rochester, MN, 2001
The Heinman Lecture, University of California, Davis, CA, 2002
The Simon Rodbard Memorial Lecture, American College of Chest Physicians Convocation Ceremony, San Diego, CA, 2002
The Robert F. Johnston Memorial Lecture, Drexel University/Hahneman School of Medicine, Philadelphia, PA, 2003
The I. Jerome Flance Lecture, Washington University School of Medicine, St. Louis MO, 2004
The James E. Bowman Lecture, University of Chicago, Chicago IL, 2006
The Julius H. Comroe Jr. Distinguished Lecture, American Physiologic Society, San Francisco CA, 2006
The Dickinson Richards Distinguished Lecture, American Heart Association, Chicago IL, 2006
The Roland H. Ingram Jr. Lecture, Emory University, Atlanta GA, 2006
The Neil S. Cherniak Distinguished Lecture, Case Western, Cleveland OH, 2006
The Sunnyside Guild Lecture, Indiana University School of Medicine, Indianapolis IN, 2007
The William N. Kelley Lecture, University of Michigan, Ann Arbor MI, 2008
The Stephen Kurtides Memorial Lecture, Northshore University, Evanston, IL 2009
The Pfizer Medical & Academic Lecture, University of California San Diego, San Diego CA, 2010
The Dr. Johnson McGuire Lecture, University of Cincinnati, Cincinnati, OH, 2010
The Dr. David Deiss Distinguished Lecture, UTMB, Galveston, TX, 2010
Giles F. Filley Lecture, Aspen Lung Conference, Aspen, CO, 2010
Cohn Symposium Distinguished Lecture, Rush University Medical Center, Chicago IL, 2010
Harold F. Dvorak Lecture, Center for Vascular Biology Research, Harvard, Boston, MA, 2010
Branscomb-Briggs Lecture, University of Alabama Birmingham, Birmingham, AL, 2011
John Hickam MD Lecture, Central Society for Clinical Research Annual Meeting, Chicago, IL, 2011
Fessinger-Springer Lecture, College of Science, University of Texas at El Paso, 2011
Robert M Roger Lecture, Department of Medicine, Pittsburgh, PA, 2013
Beckwith Lecture, Brown University, School of Medicine, Providence, RI, 2014
Barney Kully MD Lecture, Cedar Sinai Medical Center, Los Angeles, CA, 2015
Flexner Lecturer, Vanderbilt University, Nashville, TN, 2015

RECOGNITION: AWARDS AND HONORS:

Public Health/National Health Scholarship Award, 1978-1980
NIH Postdoctoral Fellowship in Physiology, 1984-1985
Fellow-American College of Chest Physicians, 1986
Fellow-American College of Physicians, 1988
Dr. Calvin H. English Investigator of Medicine, Indiana University, 1989-1994
Central Society for Clinical Research, 1989 (elected)
Henry F. Christian Award for Meritorious Research, 1990, 1992
Boehringer-Ingelheim Research Award, Midwest AFCR, 1991
Dr. Calvin H. English Professor of Medicine, Indiana University, 1994-1998
Physician Community Service Award, Indiana State Medical Association, 1994
Otis R. Bowen Award for Community Service - Indianapolis Medical Society, 1994
NIH Lung Biology and Pathology Study Section, Member, 1995-1999
American Society for Clinical Investigation, 1996 (elected)
Dr. David Marine Professor of Medicine, Johns Hopkins University, 1999-2005
David M. Levine Excellence in Mentoring Award, Johns Hopkins University, 2002

Interurban Clinical Club, 2000-2005 (elected)
American Thoracic Society, Distinguished Scientist Award, Seattle, WA, 2003
Honorary AOA Membership- University of Texas Southwestern Medical School, Dallas, TX, 2004
American Clinical and Climatologic Society, 2004 (elected)
Association of American Professors (AAP), 2005 (elected)
Dr. Lowell Coggeshall Professor of Medicine, University of Chicago 2005-2010
Chair & Vice Chair -Gordon Research Conference, 2006 & 2008
W. J. Youden Award in Interlaboratory Testing (Microarray Platforms, *Nature Methods* 2005) 2007
NHLBI Advisory Council, 2007-2010
Association of Professors of Medicine- Diversity Award for Innovation in Medicine, 2009
Earl M. Bane Professor of Medicine, University of Illinois Chicago 2011-2013
National Academy of Medicine of the National Academies- elected 2011
Chicago Healthcare Executive Forum for UI Health System Initiatives, 2012
Leadership Awards, Chicago Hispanic Physicians Assocuiation, 2012
Maestro de Campo Award from Chicago's Latino Caucus, 2012
Dr. Merlin DuVal Professor of Medicine, University of Arizona, 2014-present
ATS Pulmonary Circulation Assembly Leadership Award, 2015
La Estrella Award, from the Tucson Hispanic Chamber of Commerce, 2015
ATS Trudeau Medal Award, American Thoracic Society, 2015

INVITED TALKS - NATIONAL (since 2002)

2002 - Medical College of Wisconsin Cardiovascular Research Center, Visiting Professor, Milwaukee, WI
- University of California Davis, Invited Lecturer, Heinman Professorship, Davis, CA
- Medical College of Richmond/McGuire VAMC, Medical Grand Rounds, Richmond, VA
- North Carolina State University, Visiting Professor, Raleigh, NC
- Johns Hopkins University Department of Biological Chemistry, Baltimore, MD
- ATS, American Thoracic Society, International Conference State of the Art, Atlanta, GA
- AHA/ATS Grover Conference, Regulation of pulmonary vascular permeability by thrombin and Edg receptors," Sedalia, CO.
- ATS, "Genomics in acute lung injury", Atlanta, GA.
- ACCP, The Simon Rodbard Memorial Lecture, "Insights into ARDS: Contractile tweaks, vascular leaks and functional genomics", San Diego, CA
- Temple University, Visiting Professor, Philadelphia, PA

2003 - University of Chicago, Committee on Cell Biology, Visiting Professor, Chicago, IL
-Northwestern University, Medicine Grand Rounds, "Insights into acute lung injury: The power of genomics", Chicago, IL
-Eli Lilly and Company, "Genomics of acute lung injury", Indianapolis, IN
-ATS, "Barriers and solutions to a pulmonary related research career in academic medicine," Seattle
WA
-ATS, Recognition for Scientific Accomplishments Award. Seattle, WA
-ATS, NIH/NHLBI Workshop: Using functional genomics to understand complex lung disease. "Applied genomics in acute lung injury", Seattle, WA
-University of Tennessee, Visiting Professor, Memphis, TN
-Washington Area Critical Care Society Annual Meeting. Featured Speaker. Washington, DC

-American Society of Nephrology Annual Meeting, Plenary Speaker. "Disruption of endothelial barrier function in disease process." San Diego, CA
-FASEB Conference "Lysophospholipids & related lipids in biology and diseases" Snowmass, CO
-Second Pittsburgh International Lung Conference. "Insights into ARDS: Contractile tweaks, vascular leaks and functional genomics", Farmington, PA
- NIH Annual Functional Genomics of Critical Care Illness Symposium Bethesda, MD
- Drexel University College of Medicine, Visiting Professor, Philadelphia, PA
- Hahneman University Hospital, Robert F. Johnston Memorial Lecturer, Philadelphia, PA
- Merck & Company, "Use of lipid growth factorys in acute inflammatory lung injury", Rahway, NJ

2004 -Visiting Professor for Harvard Multi-Institutional Training Program, Boston, MA
-Brigham and Women's Hospital Grand Rounds, Boston, MA
-Massachusetts General Medical Center Grand Rounds, Boston, MA
-University of Rochester, Lung Biology Seminar Series, Rochester, NY
-Howard University Grand Rounds, Washington, DC
-American Academy Asthma and Allergy Immunology Meeting, San Francisco, CA
-Washington University School of Medicine, The I. Jerome Flance MD Lecturer, St. Louis, MO
-Experimental Biology 2004, "Novel Genomic Insights into Acute Lung Injury", Washington, DC
-University of Chicago Grand Rounds, Chicago, IL
-Medical College of Georgia, Visiting Professor, Macon, GA
-NHLBI/ATS, Post Grad Course "Barriers and solutions to a pulmonary related research career in academic medicine", Orlando, FL
-ATS, Post Grad Course "Endothelial cytoskeleton: Insights into lung fluid balance", Orlando, FL
-ATS, Post Gread Course "Functional genomics to understand complex lung disease", Orlando, FL
-NHLBI/ATS, Post Grad Course "Barriers and solutions to a pulmonary related research career.
-ATS Post Grad Course "Applied genomics in acute lung injury." Orlando, FL.
-Chicago Thoracic Society – Chicago IL
-NIH Workshop on Lung Transplant: Genomic Strategies for Obliterative Bronchiolitis
-Gordon Conference: Endothelial Cell Phenotypes in Health and Disease. "Endothelium and barrier function", Andover, MA.
-Twelfth Grover Conference, "Endothelial cells as clinical targets", Sedalia, CO
-University of Minnesota Grand Rounds, and Pulmonary Research Seminar, Minneapolis, MN
-Third Pittsburgh International Lung Conference. "Genomic Insights into ARDS: Glimpse into the Future", Farmington, PA.
- North Shore Research Institute, New York City, NY
- Sepsis Diagnosis, Pathogenesis and Novel Therapies; Course Organizer & Chair, Baltimore, MD

2005 -UCLA Pulmonary Grand Rounds, Los Angeles, CA
-Ohio State University, Visiting Professor, Grand Rounds, Columbus, OH
-Society of Critical Care Medicine, Annual Meeting, Featured Speaker, Phoenix, AZ
-NYU Bellevue Pulmonary Grand Rounds, New York City, NY
-Case Western Reserve, Visiting Professor, Cleveland, OH
-University of South Alabama- Visiting Professor, Mobile, AL
-Univeristy of Dublin, Mater Hospital, Dublin, Ireland
-University of Maryland Mucosal Biology Center, Visiting Professor, Baltimore, MD

-Columbia-Presbyterian Medical Center Grand Rounds, New York City, NY
-ATS Postgrad Course Endothelial-Epthelial Barrier Regulation, San Diego, CA
-CDC Conference on Endothelium, Crete, Greece
-2nd International Shanghai Conference on Respirology, Shanghai, China
-Novel treatment of pulmonary edema in acute lung injury, Liaocheng, China
-American Heart Association, Invited Session Speaker, Dallas, TX

2006 - Management of Acute Lung Injuy and VILI, Soorya Hospital, Chennai, India
- Duke University/EPA/University of North Carolina, Visiting Scholar, Durham, NC
- Julius Comroe Jr. Lectureship, Am Physiologic Society, San Francisco, CA
- Institute of Environmental Medicine, Philadelphia, PA
- University of Pennsylvania, Visiting Professor and Grand Rounds, Philadelphia, PA
- ATS Graduate Course, Genomics and ALI, San Diego, CA
- ATS Minority Luncheon Featured Speaker, San Diego, CA
- Gordon Research Conference, Biddeford, ME
- Emory University, Grand Rounds, Atlanta GA
- Roland H. Ingram Lecture, Emory University, Atlanta, GA
- Dickinson Richards Lectureship, American Heart Association Annual Meeting, Chicago, IL
- Neil Cherniak Lectureship, Case Western University, Cleveland, OH

2007 - University of Maryland Translational Research Series, Baltimore, MD
- National Academy of Science, Toxicogenomics Workshop, Washington, DC
- Stanford University, Visiting Professor, Palo Alto, CA
- University of Texas San Antonio, Keynote Speaker, Medicine Research Day, San Antonio, TX
- University of Pittsburgh, Visiting Professor, Pittsburgh, PA
- Health Effects Institute Annual Conference, Invited Plenary Speaker, Chicago, IL
- Chicago Lung Association, Women Health Conference, Feature Speaker
- ATS Featured Speaker, Genomics and ALI Symposia, San Francisco, CA
- ATS Featured Speaker, Sphingolipids and ALI Symposia, San Francisco, CA
- Aspen Lung Conference, Invited "State of the Art" Plenary Speaker, Aspen, CO
- FASEB Conference "Sphingolipids in Health and Disease", Tuscon, AZ
- Indiana University School of Medicine, Sunnyside Guild Lecturer, Indianaopolis, IN

2008 - University of Michigan, William N Kelley Visiting Professor, Ann Arbor, MI
- European Respiratory Society Plenary Lecture, Estoril, Portugal
- Loyola University School of Medicine, Burn and Shock Trauma Institute, Chicago, IL
- University of Texas Medical Branch, DOM Grand Rounds, Galveston, TX
- University of Virginia, DOM Grand Rounds, Charlottesvile, VA
- ATS Featured Speaker, Vascular Permeability and Lung Genetics, Toronto, CA
- Northwestern University, DOM Grand Rounds, Chicago, IL
- University of Chicago Grand Rounds, Chicago, IL
- University of Alabama Birmingham, DOM Grand Rounds, Birmingham, AL

2009 - NIH, NHLBI Biomedicine Lecture Series, Bethesda, MD
- Northwestern University Feinberg Cardiovascular Research Series, Chicago, IL
- Philippine Thoracic Society, State of the Art Speaker, Manila, Philippines
- ATS Featured Speaker, Angiogenesis and the Pulmonary Circulation, San Diego, CA
- ATS Featured Speaker, Sphingolipids and the Pulmonary Circulation, San Diego, CA
- ATS Featured Speaker, Genetics of Lung Injury and Repair, San Diego, CA
- Northshore University, Stephen Kurtides Memorial Lectureship, Evanston, IL

- Duke University, Special DOM Lecture, Durham, NC
- University of Washington, Grand Rounds & PCCM Research Conference, Seattle, WA
- Eli Lilly Co., Pharmacogenomics Seminar Series, Indianapolis, IN
- Visiting Scholar Lecture, EPA/Duke U/NC State U/U North Carolina, Chapel Hill, NC
- AHA, Resuscitation Symposia on Endothelium, Orlando, FL
- AHA, Cardiopulmonary Genomics Symposia, Orlando, FL
- AHA, Cardiopulmonary Council Awards Dinner Featured Speaker, Orlando, FL
- University of California Davis, Grand Rounds & PCCM Research Conference, Davis, CA

2010 - Pfizer Academic Partnership Visiting Professorship, U. California San Diego, San Diego, CA
- Dr David Deiss Distinguished Lecture, U. Texas Medical Branch Alumni Meeting, Galveston, TX
- The Johnson McGuire Visiting Professorship, University of Cincinnati, Cincinatti, OH
- Washington University – K12 Visiting Distinguished Scholar Series, St. Louis, MO
- European Respiratory Society, State of the Art Lecturer, Lisbon, Portugal
- 50th Japanese Thoracic Society, State of the Art Plenary Speaker, Kyoto, Japan
- Cohn Symposium Keynote Speaker, Rush University Medicial Center, Chicago, IL
- ATS Featured Speaker, Sphingolipids and the Pulmonary Circulation, New Orleans, LA
- ATS Featured Speaker, Genetics of Lung Injury and Repair, New Orleans, LA
- International Drug Discovery Institute 1st Symposium, Invited Speaker, Sienna, Italy
- Giles Filley Lecture, Aspen Lung Conference, Aspen, CO
- Pulmonary Hypertension Association Annual Meeting, Featured Speaker, Orange, CA
-Harold F. Dvorak Plenary Lecture, Center for Vascular Biology Research, Beth Israel Hospital and Harvard Medical School, Boston, MA
- Emory University Department of Medicine Research Day, Featured Speaker, Atlanta, Georgia
- Medical College of Georgia, Vascular Biology Center Retreat, Featured Speaker, Augusta GA
- Davis Heart Lung Research Institute Research Day, Ohio State University, Columbus, OH
- AHA, Plenary Speaker Cardiopulmonary Genomics Symposia, Chicago, IL
- Cleveland Clinic Foundation-Featured Speaker-Respiratory Institute Research Day, Cleveland, OH
- Oregon Health Science Center-DOM Grand Rounds, Distinguished Scholar Series, Portland, OR

2011 - Rush University, Grand Rounds, Chicago, IL
- University of Iowa, Dept of Medicine Research Day Speaker & Grand Rounds, Iowa City, IA
- University of California, San Francisco, Pulmonary Research Conference, San Francisco, CA
- Experimental Biology Meeting, Plenary Speaker, Washington, DC
- Branscomb-Briggs Lecture, University of Alabama Birmingham, Birmingham, AL
- John Hickam MD Lecture, Central Society for Clinical Research Annual Meeting, Chicago, IL
- Fessinger-Springer Lecture, College of Science, University of Texas at El Paso, El Paso, TX
- ATS Featured Speaker, Career Advice Postgraduate Course, Denver, CO
- NCI/NHLBI Centers for Population Health and Health Disparities, Chicago, IL
- NIH Workshop on PE and CTEPH, Personalized Medicine, Bethesda, MD
- FASEB Sphingolipid Symposia, Lucca, Italy
- NIH Workshop on Hermansky-Pudlak Syndrome, Bethesda, MD
- Microcirculation International, State of the Art Speaker, Munich, Germany
- Sixteenth Congress of the Asian Pacific Society of Respirology (APSR), Shanghai, China
- 2nd Annual Soochow University International Clinical Forum, Suzhou, China
- Pittsburgh Lung Conference, Plenary Speaker, Pittsburgh, PA
- Eli Lilly Co., Translational Research Seminar Series, Indianapolis, IN

- Illinois Legislative Latino Caucus Foundation, Healthcare Panel, Chicago, IL

2012 - University of California at Merced, San Joaquin Valley Seminar Series, Merced, CA
- Baxter Healthcare Corporation, Latinos at Baxter Conference, Chicago, IL
- University of Texas Medical Branch, Biological Chemistry Student Organization, Galveston, TX
- Keynote speaker for University of Michigan, CTSA Annual Symosium, Ann Arbor, MI
- Christ Advocate Medical Center Department of Internal Medicine Grand Rounds, Chicago, IL
- 4th Latino Medical Student Association, keynote speaker, Chicago, IL
- 1st International Conference in Regenerative Lung Medicine, Marburg, Germany
- European Respiratory Society, State of the Art Lecturer, Vienna, Austria
- Illinois Legislative Latino Caucus Foundation, Healthcare Panel speaker, Rosemont, IL
- Freiburg Translational Symposium, Freiburg, Germany
- ATS Featured Speaker, Career Advice Postgraduate Course, San Francisco, CA
- Edgars Fellow Program, Future of Healthcare, Urbana, IL
- American Associaton of Academic Leaders, Plenary preseantation, Phoenix, AZ
- Future of Translational Research in AMCs, Creighton Alegent Health, Omaha, NE

2013 - Seeing at Nanoscale, Northwestern University, Evanston, IL
- ATS Featured Speaker, Philadelphia, PA
- Robert M Roger Lecture, Department of Medicine, Pittsburgh, PA
- American Society of Artificial Organs, Annual Meeting, Plenary presentation, Chicago, IL
- Stanford University, Dept of Medicine Grand Rounds & Research Day Speaker, Palo Alto, CA
- ATS Featured Speaker, Career Advice Postgraduate Course, Philadelphia, PA
- University of Illinois Dept of Medicine Research Day Plenary Speaker, Chicago, IL
- International Union of Physiologic Societies, State of the Art Speaker, Birmingham, UK
- University South Alabama, Grand Rounds & College of Medicine Research Day, Mobile, AL
- University of Louisville, Dept of Medicine Grand Rounds, Research Day Plenary Speaker, KY
- Arizona Thoracic Society, Plenary Speaker, Tucson, AZ

2014 - Beckwith Lecture, Brown University, School of Medicine, Provdence, RI
- UCLA Pulmonary Grand Rounds, Los Angeles, CA
- 64th AMSA Convention, American Medical Student Association, New Orleans, LA
- Arizona State University, BioDesign Lecture Series, Phoenix, AZ
- ATS Featured Speaker, Mechanosensing, San Diego, CA
- ATS Featured Speaker, Vascular Barrier Regulation, San Diego, CA
- International Vascular Biology Meeting Symposium "Vascular Barrier Function" Kyoto, Japan
- Medical University of South Carolina, DOM Grand Rounds, Charleston, SC
- Medical University of South Carolina, PCCM Grand Rounds, Charleston, SC
- Weill Cornell Medical College, DOM Grand Rounds, New York City, NY

2015 - Cedar Sinai, Barney Kully MD Lecture, Los Angeles, CA
- Cedar Sinai, Pulmonary Grand Rounds, Los Angeles, CA
- UCSD Bioengineering Seminar, La Jolla, CA
- ATS Featured Speaker, Genetics of Mechanosensing, Denver, CO
- ATS Featured Speaker, Gene Expression in Carbon Monoxide subjects, Denver, CO
- ATS Health Disparities Symposium speaker, Denver, CO
- University of Nebraska, DOM Grand Rounds, Omaha, NE
- Plenary Speaker Denmark Institute for Health, Copenhagen University, Copenhagen, Denmark
- International Society for Critical Care, Plenary Session Speaker, Seoul, Korea

- Sanford Imagentix Genomic Symposiium, Sioux Falls, South Dakota
- UC Davis Pharmacology Seminar, Davis, CA
- Vanderbilt University Flexner Lecturer, Nashville, TN

2016 -Plenary Speaker, Beijing University of Chinese Medicine 60th Anniversary, Beijing, China

INVITED LECTURES – INTERNATIONAL

1991 Georgia Institute of Technology, Asbestos in Health and Disease, Frankfurt, Germany
1991 Hôpital Calmette, Visiting Professor, Lille, France
1994 Fourth Biennial Meeting on Blood Coagulation and Platelet Biology, Megeve, France
1996 Third Annual Franz Volhard Symposium, Berlin, Germany
1997 31st Penner Coagulation Conference, Sophia, Bulgaria
2000 NATO Advanced Study Institute, Etiology and Treatment of Acute Lung Injury, Corfu, Greece
2001 EuroConference on Chronic Lung Disease, Institût Pasteur EuroConferences, Paris, France
2001 McGill University, Dr. Dorothy Wiselberg Symposium on Acute Lung Injury, Montreal, Canada
2001 Second European Meeting on Vascular Biology, European Society of Cardiology, Ulm, Germany
2002 University of Toronto and Toronto General Hospital, Visiting Professor, Toronto, Canada
2002 Seventh Congress of the Asian Pacific Society of Respirology (APSR), Taipei, Taiwan
2003 Sixth Endotheliome Conference, Otaru, Japan
2004 Barbados/Hopkins Symposium on Complex Lung Disease, Christ's Church, Barbados
2004 1st International Sphingolipid Symposium, Sapporo, Japan
2004 13th Panhellenic Congress on Lung Diseases, Patras, Greece
2005 Update in Respiratory Disease Management, Dublin, Ireland
2005 NATO Advanced Study Institute, Knossos. Crete, Greece
2005 2nd International Shanghai Conference on Respirology, Shanghai, China
2005 Visiting Professor, Liaocheng Hospital, Liaocheng, China
2006 Visiting Professor, Soorya Hospital, Chennai, India
2006 Univeristy of Dublin, Mater Hospital, Dublin, Ireland
2008 European Respiratory Society, State of the Art Lecturer, Lisbon, Portugal
2008 FASEB Sphingolipid Symposia, Sussex, England
2009 Philippine Thoracic Society, State of the Art Plenary Speaker, Manila, Philippines
2010 European Respiratory Society, State of the Art Lecturer, Lisbon, Portugal
2010 50th Japanese Thoracic Society, State of the Art Plenary Speaker, Kyoto, Japan
2010 International Drug Discovery Institute 1st Symposium, Invited Speaker, Sienna, Italy
2011 FASEB Sphingolipid Symposia, Lucca, Italy
2011 Microcirculation International, State of the Art Speaker, Munich, Germany
2011 Novartis Global Respiratory Institute, Horsham, United Kingdom
2011 Sixteenth Congress of the Asian Pacific Society of Respirology (APSR), Shanghai, China
2011 2nd Annual Soochow University International Clinical Forum, Suzhou, China
2012 1st International conference in Regenerative Lung Medicine, Marburg, Germany
2012 European Respiratory Society, State of the Art Lecturer, Vienna, Austria
2012 Freiburg Translational Symposium in Inflammation, Freiburg, Germany
2013 International Union of Physiologic Societies, State of the Art Speaker, Birmingham, United Kingdom
2014 International Vascular Biology Meeting Symposium "Vascular Barrier Function", Kyoto, Japan
2015 Plenary Speaker, Denmark Institute for Health, Copenhagen, Denmark
2015 International Society for Critical Care, Plenary Session Speaker, Seoul, Korea
2016 Beijing University of Chinese Medicine, Plenary Speaker, 60th Anniversary, Beijing, China

Curriculum Vitae

Date Prepared: **August 1, 2017**

Name: **Eric Garshick**

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Work FAX: **857.203.5670**

Place of Birth: (b) (6)

Education

1975	BS *summa cum laude*	Chemical Engineering	Tufts University Medford, MA
1975	BA *magna cum laude*	Biology	Tufts University
1979	MD	Medicine	Tufts University School of Medicine, Boston, MA
1984	Master of Occupational Health	Occupational Medicine	Harvard School of Public Health, Boston, MA

Postdoctoral Training

07/79-06/82	Clinical Fellow	Medicine	Beth Israel Deaconess Medical Center, Boston, MA
07/79-06/82	Clinical Fellow	Medicine	Harvard Medical School, Boston, MA
07/82-06/84	Research Fellow	Medicine	Harvard Medical School
07/82-06/84	Research Fellow	Medicine (Clinical epidemiology focus)	Brigham and Women's Hospital, Boston, MA
07/84-06/85	Clinical Fellow	Pulmonary Medicine	Brigham and Women's Hospital
07/84-06/85	Clinical Fellow	Medicine	Harvard Medical School

Faculty Academic Appointments

07/85-09/91	Instructor	Medicine	Harvard Medical School
10/91-04/06	Assistant Professor	Medicine	Harvard Medical School
05/06-2/16	Associate Professor	Medicine	Harvard Medical School
03/16-	Professor	Medicine	Harvard Medical School
7/10-	Adjunct Associate Professor (no voting privileges)	Medicine	Boston University School of Medicine, Boston, MA

Appointments at Hospitals/Affiliated Institutions

07/85-06/86	Physician	Occupational and Environmental Health Center	Brigham and Women's Hospital
07/85-06/98	Associate Physician	Medicine, Channing Laboratory	Brigham and Women's Hospital
07/85-06/07	Associate in Medicine	Medicine, Pulmonary Division	Beth Israel Deaconess Medical Center
07/86-06/00	Staff Physician	Medicine, Pulmonary Division	Brockton/West Roxbury Veterans Affairs Medical Center, Boston, MA
07/98-06/03	Physician/Research Staff	Medicine, Channing Laboratory	Brigham and Women's Hospital
07/00-	Staff Physician	Medicine, Pulmonary and Critical Care Medicine Section	VA Boston Healthcare System, Boston, MA
07/03-01/14	Physician	Medicine, Channing Division of Network Medicine	Brigham and Women's Hospital
01/14-	Physician/Research Staff	Medicine, Channing Division of Network Medicine	Brigham and Women's Hospital

Other Professional Positions

1974	Chemical Engineer	E.I. DuPont de Nemours Company, Deepwater, NJ
1975, 1976	Chemical Engineer, Technology Division	Geophysics Corporation of America (GCA) Corporation, Bedford, MA

1983-1984	Part-time Physician, Medical Department	New England Telephone Company, Boston, MA
1983-1986	Consultant, Biosafety Committee	Biogen, Inc., Cambridge, MA
2001-2011	Consultant, Libby (Montana) Medical Program	Health Network America, Tinton Falls, NJ

Major Administrative Leadership Positions

Local

1985-1986	Assistant Medical Director, Pulmonary Function Laboratory	Brigham and Women's Hospital
1988-1989	Practicum Director, Harvard School of Public Health Occupational Medicine Residency Program	Brockton VA Medical Center, Brockton, MA
1988-1992	Director, Occupational Screening Clinic	Brockton VA Medical Center
2002-	Associate Chief, Pulmonary and Critical Care Medicine Section	VA Boston Healthcare System
2003-2004	Director, Rehabilitation Medicine Epidemiology Fellowship	Harvard Medical School/Spaulding Rehabilitation Hospital
2005-	Medical Director, Pulmonary Function Laboratory	VA Boston Healthcare System
2010-2016	Director, Clinical Studies Unit	VA Boston Healthcare System

Committee Service

Local

1991-1995	Medical Grand Rounds Organizing Committee	Brockton/West Roxbury VA Medical Center
1991-1996	Tissue Committee	Brockton/West Roxbury VA Medical Center
1991-1999	Human Studies Subcommittee	Brockton/West Roxbury VA Medical Center
	1993-1999	Chairperson
1994-1995	Task Force on Medical Support Issues	Brockton/West Roxbury VA Medical Center

2000-2002	Human Studies Subcommittee	VA Boston Healthcare System Co-Chairperson
2002-	Particles Research Core	Harvard National Institute of Environmental Health Sciences Center for Environmental Health, Harvard School of Public Health
2003-2005	Board of Directors	New England Medical Research Institute

National

1990-2000	Clean Air Scientific Advisory Committee Diesel Review Panel	US Environmental Protection Agency
2003-2004	Committee on Gulf War and Health Phase 3: Environmental Particulates, Pollutants, and Synthetic Compounds	Institute of Medicine of the National Academies, Washington, DC
2004-2005	Hours of Service Review Panel	Federal Motor Carrier Safety Administration, U.S. Department of Transportation, Washington, DC
2008-2010	Advisory Panel, National Cooperative Freight Research Program	Transportation Research Board of the National Academies, Washington, DC
2013	Advisory Panel, Health Risks of Air Pollution Clinical Studies	National Health and Environmental Effects Laboratory, US Environmental Protection Agency, Chapel Hill, NC
2013-2014	Airborne Hazards and Open Burn Pit Registry Questionnaire Working Group	Post-9/11 Era, Environmental Health Program, Department of Veterans Affairs, Washington, DC
2014	Human Cancer Epidemiology State-of-the Science Workshop on Chemically Induced Mouse Lung Tumors: Application to Human Health Risk Assessment	Integrated Risk Information System, US Environmental Protection Agency, Research Triangle Park, NC Session Chair
2014-2016	Airborne Hazards and Open Burn Pit Registry Analysis and Reporting Working Group	Post-9/11 Era, Environmental Health Program, Department of Veterans Affairs, Washington, DC

International

1993-1994	International Program on Chemical Safety and Diesel Fuel and Exhaust Emissions	World Health Organization, Geneva, Switzerland Physician Advisor

1996	International Program on Chemical Safety Workshop/Working Group in Inhalation Toxicology	World Health Organization, Research Triangle Park, NC Consultant
2012	Expert Working Group, Carcinogenicity of Diesel and Gasoline Exhausts and some Nitroarenes	International Agency for Research on Cancer, Lyon France Cancer in Humans Subgroup

Professional Societies

1983-	American Thoracic Society	Member
	2013	International Conference Symposium Organizer: Links Between Occupational and Environmental Particles in Neoplasia
	2016	Environmental Health Policy Committee
1989-	American College of Chest Physicians	Fellow
	1991-1995	Steering Committee, Section on Occupational and Environmental Health
1998-	European Respiratory Society	Member
2004-	International Society of Environmental Epidemiology	Member
	2012	International Conference Symposium Organizer: Case studies of what we have learned from pulmonary environmental epidemiology
2009-	Academy of Spinal Cord Injury Professionals	Member
2011-	American Spinal Cord Injury Association	Member

Grant Review Activities

2005-2011	Permanent Member, Infectious Diseases, Reproductive Health, Asthma and Other Pulmonary Diseases (IRAP) Study Section	Center for Scientific Review, National Institutes of Health, Bethesda, MD
2008-2016	Rehabilitation Research and Development Merit Review Panel	US VA Research and Development, Washington, DC
	2014, 2015, 2016	Chair, Spinal Cord Injury and Neuropathic Pain Panel
2013-2014	Tobacco Control Review Panel	Center for Scientific Review, National Institutes of Health, Bethesda, MD
2014	Worldwide Cancer Research	Fife, Scotland

2015	Quality Enhancement Research Initiative Study Section	US VA Research and Development, Washington, DC
2017	National Heart, Lung, and Blood Institute Special Emphasis Review Panel	Center for Scientific Review, National Institutes of Health, Bethesda, MD

Editorial Activities

2016- Associate Editor, BMC Pulmonary Medicine
2015- Associate Editor, Topics in Spinal Cord Injury Rehabilitation

Ad hoc Reviewer

1989- *Cancer Research*
1992 *Preventative Medicine*
1992- *Chest*
1994- *American Journal of Respiratory and Critical Care Medicine*
1997- *American Journal of Epidemiology*
2001- *Journal of Spinal Cord Medicine*
2002- *Environmental Health Perspectives*
2006- *Cancer Causes and Control*
2006- *Spinal Cord*
2009- *Lung*
2010- *Archives of Physical Medicine and Rehabilitation*
2011- *Thorax*
2012- *American Journal of Physical Medicine and Rehabilitation*
2013- *Spinal Cord Rehabilitation*
2013 *Annals of Internal Medicine*
2014 *Epidemiologic Reviews*
2016 *International Journal of Chronic Obstructive Pulmonary Disease*

Honors and Prizes

1974	Department of Chemical Engineering Prize	Tufts University	Highest class rank
1974	Tau Beta Pi	Tufts University	National Engineering Honor Society
1978	Alpha Omega Alpha	Tufts University School of Medicine	National Medical Honor Society

Report of Funded and Unfunded Projects

Funding Information

Past

1989-1992 Alcohol Consumption and Chronic Pulmonary Disease

VA Merit Review
Principal Investigator
Assesses the relationship between alcohol consumption with pulmonary function and respiratory symptoms in a cohort that includes persons from a VA alcohol unit

1994-1998 Assessment of Respiratory Function in Chronic Spinal Cord Injury (SCI)
VA Health Services Merit Review IIR93-155
PI
Assess the cross-sectional relationship between pulmonary function and level and severity of chronic spinal cord injury, adjusting for multiple confounding factors.

1998-2000 A Prospective Study of Respiratory Function and Illness in Chronic SCI
VA Health Services R&D Merit Review EPP97-066
PI
Assess the longitudinal relationship between pulmonary function decline level and severity of chronic spinal cord injury, adjusting for multiple confounding factors

1999-2000 Lung Cancer Risk and the Quantitative Assessment of Diesel Exhaust Exposure in the U.S. Trucking Industry: A Feasibility Study
Health Effects Institute
PI
Conduct a one-year study to assess the feasibility of reconstructing exposure and assessing lung cancer risk in a large cohort of trucking industry workers.

1999-2003 Diesel Exhaust and Occupational Lung Cancer Risk
National Institutes of Health (NIH)/National Institute of Occupational Safety and Health (NIOH) R01/CCR115818
PI
Conducts a historical review of changes in diesel locomotive technology as part of an assessment of lung cancer mortality in a cohort of 55,000 railroad workers.

1999-2004 Lung Cancer and Diesel Exhaust Exposure
NIH/National Cancer Institute (NCI) R01 CA079725
PI
Determines the relationship between diesel exhaust exposure and lung cancer in a cohort of 55,000 railroad workers with long-term exposure.

2001-2008 Diesel Particle Exposure and Lung Cancer
NIH/NCI R01 CA090792
PI
Established a retrospective cohort of 55,750 unionized trucking company workers and assessed the quantitative relationship between diesel exhaust exposure and lung cancer.

2002-2009 Respiratory Function and Illness in Spinal Cord Injury
NIH/National Institute of Child and Human Development R01 HD042141
PI
Assess determinants of longitudinal change in lung function and illness in chronic SCI. A cohort was followed for an additional 5 years, and additional subjects recruited.

2004-2007 Air Toxics Hot Spots in Industrial Parks and Traffic
(PI T. Smith) Health Effects Institute
Co-Investigator
Occupational and environmental exposures to air toxics were determined in US trucking terminals and in vehicles throughout the US.

2006-2010 Blood Markers of Mobile Source Particle Exposure
NIH/National Institute of Environmental Health Sciences (NIEHS) R21 ES013726
PI
Collect blood samples and recruit study participants from a national cohort of unionized trucking company to demonstrate the feasibility conducting field studies in this industry.

2006-2010 Threshold Regression Methodology for Cancer Risk Assessment
(PI M.L. Lee) NIH/NIOSH R01 OH008649
Co-Investigator
Develop threshold regression into a practical tool for occupational risk assessment and to apply the methodology to two large occupational studies of lung cancer.

2007-2008 Assessment of Osteoporosis in Chronic Spinal Cord Injury
VA Health Services RRP-07-312
PI
(1) Identify risk factors for fracture-related hospitalizations; (2) Use an internet-based survey to assess current practice patterns; (3) Assess barriers to obtaining dual-energy x-ray absorptiometry scans.

2007-2010 Dyspnea Outcome Assessment for COPD Research
(PI A. Norweg) NIH/National Heart Lung and Blood Institute (NHLBI) R21 HL091237
Site PI
Develop computer-assisted approaches to elicit information on several aspects of dyspnea in patients with chronic obstructive pulmonary disease (COPD) using a prototype computer adaptive test (CAT) approach.

2008-2012 Bone Density and Circulating Mediators of Bone Metabolism in Chronic SCI
(PI L. Morse) NIH/NICHD R21 HD057030
Site PI
Investigate differences in bone mineral density at the knee among persons SCI to relate bone density assessment to circulating markers of the receptor activator of nuclear factor kappa-B ligand/osteoprotegerin pathway.

2008-2014 Biomarkers of Exposure and Effect in a Traffic Exposed Population
(PI F. Laden) NIH/NIEHS R01 ES016284
Co-Investigator
Assess relationships between traffic-related particulate matter and biomarkers of exposure and oxidative and inflammatory effects, including microarray analysis.

2009-2011 Functional Analysis of NHA-oc/NHA2 in vivo
(PI R. Bataglino) NIH/ National Institute of Dental and Craniofacial Research

R03 DE018740
Co-Investigator
The long-term goal is to establish the role that a gene, nha-oc/NHA2 plays in regulating resorption that characterizes osteoclast-based diseases.

2009-2012 Respiratory Function, Mobility, and Systemic Inflammation in Chronic SCI
VA Rehabilitation Research and Development Merit Review B6618R
PI
Define the cross-sectional association between circulating markers of systemic inflammation with pulmonary function and clinical factors in chronic SCI.

2009-2014 Long-Term Oxygen Treatment Trial
(PI M. Moy) NIH/ NIHLBI Contract No. NO-HR-76183
Co-Investigator
Assess the relationship between chronic oxygen use and mortality in COPD.

2010-2013 Role of NHA-oc/NHA2 in Osteoclast Differentiation and Function
(PI A. Battaglino) NIH/ National Institute of Arthritis and Musculoskeletal and Skin Diseases 1R21 AR057915
Co-investigator
Characterize the effect of NHA-oc/NHA2 deficiency on bone mass under physiological conditions and also during rapid bone remodeling induced by bilateral ovariectomy.

2012-2014 Determinants of Telomere Length in Chronic SCI: A Pilot Study
1 I21 RX000596 VA Rehabilitation R&D Pilot
PI
By using telomere length as a molecular biomarker, we propose to study SCI spinal cord injury as a disease state that promotes accelerated aging at the cellular level.

2010-2014 Functional Electrical Stimulation-Rowing versus Zoledronic acid to improve bone health in SCI
(PI L. Morse) Department of Defense/SC090027
Co-Investigator
Clinical trial to compare efficacy of 1 year of Functional Electrical Stimulation rowing with or without Zoledronic acid on bone loss in chronic SCI.

2010-2015 Adiposity and Bone Loss in Spinal Cord Injury
(PI L. Morse) NIH/AR059270
Site PI
Assess the relationship between the rate of bone loss in persons with chronic SCI with the degree of central fat and circulating adipokines

2014-2016 Cooperative Study #595: Respiratory Health and Deployment to Iraq and Afghanistan
VA Cooperative Studies Program Pilot Project
PI ($815,638)
Pilot study to obtain preliminary data to assess association of airborne exposures encountered during deployment with current measures of respiratory health among US Veterans who served in Iraq and Afghanistan.

2011-2017 The Spaulding-Harvard Spinal Cord Injury Model System
(PI: R. Zafonte) National Institute of Disability and Rehabilitation Research
H133N110010
Co-Investigator and Project Director ($99,721)
Direct national project to assess associations between activity, dyspnea, and quality of life in the SCI Model Systems program with 3 other SCI centers

Current

2011-2018 Lung Cancer Early Detection Clinical Consortium Award. The Detection of Early Lung Cancer Among Military Personnel (DECAMP)
(PI A. Spira) Department of Defense
Co-Investigator
A multidisciplinary, translational research program designed to develop and validate molecular biomarkers that can serve as tools for the early detection of lung cancer.

2012-2018 COPD and Response to Traffic Related Particles
NIH/NIEHS 1 R01 ES109853-01A1 (in extension)
PI ($2,509,604)
Exposure to traffic-related particles as measured by black carbon will result in exacerbations of COPD, a reduction in pulmonary function, an increase in systemic and pulmonary inflammation and systemic oxidative stress

2013–2018 Tadalafil for Pulmonary Hypertension Associated with Chronic Lung Disease
(PI R. Goldstein) VA Clinical Science Merit Review
Prospective, double-blind, placebo-controlled randomized clinical trial in 150 subjects to assess whether PDE-5 inhibition with tadalafil for 1 year effective at improving cardiopulmonary mechanics and exercise capacity in COPD with pulmonary hypertension
Co-Investigator

2013-2017 Vitamin D, Respiratory Function, and Illness in Chronic SCI
RX00 0792 VA Rehabilitation R&D Merit Review
PI ($872,833)
In 330 persons with chronic SCI we will longitudinally assess the relationship between vitamin D levels with pulmonary function and the risk of future chest illness.

2014-2017 Interpreting COPD Dyspnea Change: Responsiveness and Predictive Validity of the Dyspnea Management Questionnaire –Computer Adaptive Test
(PI A. Norweg) National Institute of Disability and Rehabilitation Research
H133G140186
Site-PI ($68,820)
Test the relative sensitivity, responsiveness and predictive validity of a new dyspnea outcome computer adaptive test (CAT) designed to be more efficient and valid than existing dyspnea scales and measures new dyspnea constructs for COPD research

2016-2022 VA Cooperative Study #595: Pulmonary Health and Deployment to Southwest Asia and Afghanistan
Co-Study Chair ($14,646,000)

Military personnel deployed to Iraq, Afghanistan, Kuwait, Qatar, Djibouti, United Arab Emirates, and Kyrgyzstan in support of Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn were exposed to high levels of airborne particulate matter (PM). We will validate a statistical exposure model that integrates Air Force visibility data with aerosol optical depth data available from NASA satellites to reconstruct historical $PM_{2.5}$ exposures. We will assess the association of $PM_{2.5}$ exposures during land-based deployments with measures of pulmonary health among 4,500 Veterans.

Training Grants and Mentored Trainee Grants

2006-2009 Improving Exercise Tolerance and Health-Related Quality of Life (HRQL) in Veterans with COPD
Mentor
VA Rehabilitation Research and Development
Marilyn L. Moy, MD, MS VA Career Development Award-1 (CDA-1)
This study examined the determinants of health-related quality of life and the use of an accelerometer device to measure free-living ambulation in persons with COPD

2009-2014 Improving Exercise Tolerance and HRQL in Veterans with COPD
Mentor
VA Rehabilitation Research and Development
Marilyn L. Moy, MD, MS, VA Career Development Award-2 (CDA-2) F6847W
The major goal was to adapt an Internet-mediated, pedometer based walking intervention for persons with COPD, called Every Step Counts for Lung Health, and to assess its feasibility, safety, and preliminary ability to increase ambulation

2012-2013 The Role of Macroautophagy in Cellular Damage during Sepsis
Mentor
Department of Veterans Affairs
Jeffery A Haspel, MD, PhD, New England Healthcare System Career Development Award
Assess the connection between a fundamental cellular process, known as macroautophagy, and sepsis severity

2016-2021 The Epigenetics of Exercise and Physical Activity in COPD
Mentor
VA Rehabilitation Research and Development
Emily S. Wan, MD, VA Career Development Award-2 (CDA-2), funding 6/2016
Exercise capacity (EC) and physical activity (PA) represent potentially modifiable risk factors among patients with chronic obstructive pulmonary disease which correlate strongly with quality of life, acute exacerbations, and mortality. This project seeks to determine epigenetic signatures associated with baseline EC and PA as well as responses to exercise training of differing intensities

Report of Local Teaching and Training

Teaching of Students in Courses

Harvard Medical School

1985-1991 Patient-Doctor II (IN709M.Jb)

	Two 2nd-year medical students	4-hour contact; 1 hour preparation/year
1991-2002	Second-Year Human Systems Respiratory/ Cardiovascular Course (IN708.0) (Tutor/ Section Leader)	
	Eight medical students	40-hour contact; 10 hour preparation/year
1996-	Patient-Doctor II (IN709M.Jb)	
	Twelve 2nd-year medical students	4- to 8-hour contact; 4 hour preparation/year
2000-2001	Second-Year Human Systems Respiratory/ Cardiovascular Course (IN708.0) (Course Planner)	
	Eight medical students	40 hour contact; 25 hour preparation/year
2005-	Introduction to Clinical Medicine (HST 201)	Harvard-Massachusetts Institute of Technology Health Sciences and Technology Program
	Twelve 2nd-year doctoral students	3-hour contact; 4-hour preparation/year
2007-2016	Patient-Doctor II (IN709M.Jb)	
	Entire 2nd-year II class. Lung sound lecture	4-hour lecture/demonstration; 6-hour preparation/year
2017-	Practice of Medicine	3-hour lecture/demonstration; 6-hour preparation/year

Harvard School of Public Health

1985-1988	Occupational Health Rounds	
	Five to 10 medical residents	2-hour lecture; 1 hour preparation/year
2002-2011	Environmental and Occupational Epidemiology (ID215): Exposure Assessment: Going Beyond Job Title	
	Forty to 60 students	Two 3-hour lectures; 3-hour preparation/year

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

Local

1986-	Medical Service Teaching Lectures on Various Topics in Clinical Pulmonary Medicine	Brockton/West Roxbury VA Medical Center and VA Boston Healthcare System
	Ten to 20 interns and residents	6 to 10 1-hour lectures; 6- to 10-hour preparation/year

1986-	Spinal Cord Injury Service Rounds and Conferences Two to 10 Spinal Cord Injury Service physicians, nurses, other clinical staff	Brockton/West Roxbury VA Medical Center and VA Boston Healthcare System 1 or 2 1-hour lectures; 1 or 2-hour preparation/year

Clinical Supervisory and Training Responsibilities

1985-1986	Pulmonary Consultation Service Attending 2 medical students, 1 resident, and 1 fellow, Brigham and Women's Hospital	1 month/year
1986-1999	Attending Physician, Medical Service and Pulmonary and Critical Care Medicine	Brockton/West Roxbury VA Medical Center
1986-2003	Pulmonary Clinic Preceptor, Psychiatry Residents	3 hours/week
1986-2007	Medical Service Attending Supervisor of 2 medical students, 2-3 interns, and 1 resident, Brockton/West Roxbury VA and VA Boston	1 to 2 months/year
1986-	Pulmonary Consultation, Medical Intensive Care Unit, and Acute Care Clinic Attending Supervision of fellow and house staff, Brockton/West Roxbury VA and VA Boston Healthcare System	Daily rounds or consult service rounds 2 to 6 months/year
1991-1993	Preceptor, Boston University Hospital Occupational Health Program Practicum	Brockton VA Medical Center
2004-2005	Preceptor, Pulmonary Fellows Clinic, Harvard Training Program	4 hours/week

<u>Clinical Supervisory and Training Responsibilities</u>

2013-	Site Director, VA BWH-VA Harvard Pulmonary and Critical Care Fellowship, VA Boston Healthcare System	3 hours/month

<u>Formally Supervised Trainees and Faculty</u>

1988-1989	Elaine C. Holmes, MD, Practice of Occupational Medicine, Portsmouth, NH. Preceptor during Harvard School of Public Health Occupational Medicine Residency - published one manuscript
1994-1996	Keith L. Tully, PhD, Instructor in Psychiatry, HMS, McLean Hospital, Belmont, MA. Pre-doctoral research associate - published one manuscript

1996-1998 Matthew Wien, BS, Associate Director at Biogen Idec, Cambridge, MA. Research associate - published one manuscript

1996-1998 Najib Ayas, MD, MPH, Associate Professor, Faculty of Medicine (Respiratory Division), the University of British Columbia, Vancouver. Research mentor during pulmonary fellowship – published two manuscripts

1996-1998 Alyson Kelley-Hedgepeth, MD, Signature Medical Group, Brockton, MA. Pre-doctoral research Associate - published one manuscript.

1997-2000 Emma K. Larkin, PhD, Research Assistant Professor of Medicine, Allergy, Pulmonary, and Critical Care Medicine, Vanderbilt University, Nashville, TN. Pre-doctoral research associate - published one manuscript.

1998-2000 Francine Laden, ScD, Associate Professor of Medicine, Harvard Medical School; Professor of Environmental Epidemiology, Harvard School of Public Health. Research mentor during post–doctoral fellowship; published 5 manuscripts.

1999-2008 Jaime E. Hart, ScD, Assistant Professor of Medicine, Harvard Medical School, Channing Division of Network Medicine, Brigham and Women's Hospital. Pre-doctoral research associate - published two manuscripts.

2002-2003 Anne Garrison, MD Assistant Obstetrics-Gynecology Residency Program Director, UMass Memorial Medical Center, Worcester, MA. Pre-doctoral research associate - published one manuscript.

2003-2004 Noel Grandas, MD, Physiatrist, Edward Hines Veterans Affairs Hospital, General Medicine Clinic, Chicago. IL. Post-doctoral fellowship – published one manuscript

2004-2008 Leslie R. Morse, DO, Assistant Professor, Department of Physical Medicine and Rehabilitation, Spaulding Rehabilitation Hospital, Harvard Medical School. Research mentor – funded R21, R01, published six manuscripts.

2003-2005 Nitin Jain, MD, MSPH, Associate Professor, Physical Medicine and Rehabilitation, Director of PM&R Research, Vanderbilt University, Nashville, TN. Post-doctoral fellowship – published four manuscripts.

2004-2014 Marilyn L. Moy, MD, MS. Assistant Professor of Medicine, Harvard Medical School, VA Boston Healthcare System, Post-doctoral mentor – 2 VA career development awards, 2004-2010, 2010-2014 – published eight manuscripts

2006-2008 Kelly L. Stolzmann, MS, Research Analyst, Center for Healthcare Organization and Implementation Research, VA Boston Healthcare System. Research associate - published two manuscripts.

2006-2008 Evan L. Stepp, MD, Pulmonary Associates, Stamford, CT. Research mentor during pulmonary fellowship – published one manuscript.

2006-2008 Anthony Waddimba, MB ChB, MSc, DSc, Health Services Research, Bassett Medical Center Cooperstown, NY. Research mentor during pre-doctoral fellowship – published one manuscript.

2007-2010 Yueh-Hsiu Chiu, ScD. Post-doctoral research fellow, Department of Pediatrics, Icahn School of Medicine, Mount Sinai, NY. Harvard School of Public Health doctoral dissertation committee – published three manuscripts.

2008-2010 Valery A. Danilack, MPH, Valery Danilack, PhD Student in Epidemiology, Brown University, Providence, RI. Research associate - published one manuscript.

2011-2013 Jeffery A Haspel, MD, PhD, Assistant Professor of Medicine, Pulmonary and Critical Care, Washington University, St. Louis, MA. Mentor for post-doctoral VA Career Development Award.

2012-2015 Nathaniel Marchetti, DO, Assistant Professor, Department of Medicine, Section of Pulmonary and Critical Care Medicine, Temple University School of Medicine,

Philadelphia, PA. COPDGene Occupational Working Group research mentor – published one manuscript, submitted R01 February 2015

2014-2016 Shahir Masri, MS, doctoral candidate, Department of Environmental Health, Harvard School of Public Health, doctoral dissertation committee

2016- Emily S. Wan, MD, Instructor in Medicine, HMS. Department of Veterans Affairs Rehabilitation Medicine Career Development Award, mentor, funding 2016

2017- David Monroe, ENS, MC, USNR Class of 2020, Tufts University School of. Medicine, MPH project advisor

Formal Teaching of Peers (e.g., CME and other continuing education courses)

No presentations below were sponsored by outside entities

1987	Occupational Medicine Session (Co-Director) Brigham and Women's Hospital/Beth Israel Postgraduate Medical Series	Single presentation 2-hour lecture; 10-hour preparation
1999-2007	Geriatric Medicine Review Course: Recognition and Treatment of Airflow Obstruction Harvard Medical School	Yearly presentations 1.5-hour lecture; 40-hour preparation
2002	Internal Medicine Review Course: COPD Massachusetts General Hospital	Single presentation 1-hour lecture; 20-hour preparation
2004	Community Acquired Pneumonia: A Guide to Recent Guidelines VA Boston Continuing Education Seminar	Single presentation 1-hour lecture; 3-hour preparation
2008-	Geriatric Medicine Review Course: COPD Update Harvard Medical School	Yearly presentation 1-hour lecture; 8-hour preparation

Local Invited Presentations

No presentations below were sponsored by outside entities

1992 Alcohol Consumption and Chronic Pulmonary Disease, Medical Grand Rounds
Brockton/West Roxbury VA Medical Center

1998 Respiratory Disease in Chronic Spinal Cord Injury, Medical Grand Rounds:
Brockton/West Roxbury VA Medical Center

2001 Epidemiology of Respiratory Disease in Chronic SCI, Medical Grand Rounds,
Spaulding Rehabilitation Hospital, Boston, MA

2003 Diesel Exhaust: Health Effects and New Research Studies, Medical Grand Rounds:
VA Boston Healthcare System

2005 Lung Cancer and Inhaled Particulate Matter, Medical Grand Rounds:
VA Boston Healthcare System

2007 Diesel Exhaust Exposure Health Effects, Pulmonary Grand Rounds
Massachusetts General Hospital

2011 Going Beyond Level of Injury: System Effects of SCI Respiratory Therapy Rounds
Spaulding Rehabilitation Hospital, Cambridge, MA

2012 Lung Cancer and the Regulation of Diesel Exhaust, Medical Grand Rounds
VA Boston Healthcare System

2014, 2015, 2016 Epidemiology of Lung Cancer - Boot camp for Cancer Biology graduate students, Harvard Medical School.

Report of Regional, National and International Invited Teaching and Presentations

No presentations below were sponsored by outside entities

Regional

1990 Epidemiology of COPD, Pulmonary Grand Rounds
Mercy Hospital, Portland, ME

1993 The Occupational History, Medical Grand Rounds:
Northampton VA Medical Center, Leeds, MA

1994 The Epidemiology of COPD, Medical Grand Rounds
Northampton VA Medical Center

1995 The Epidemiology of Lung Cancer, Medical Grand Rounds:
Manchester VA Medical Center, Manchester, NH

1997 Respiratory Disorders in Chronic Spinal Cord Injury, VA Spinal Cord Injury Symposium
Brockton-West Roxbury VA Medical Center

1998 A Retrospective Cohort Study of Diesel Exhaust and Lung Cancer, Guest Lecture
Occupational Medicine Course
Boston University School of Public Health, Boston, MA

1998 Managing Respiratory Risk in the Occupational Health Setting. New England College of Occupational and Environmental Medicine Annual Conference, Burlington, MA

1998-2006 Pathophysiology of Cigarette Smoking and Air Pollution, Yearly Guest Lecture
Boston University Sargent College, Boston, MA

2004 Health Effects of Diesel Exhaust, Occupational Medicine Grand Rounds
Yale Occupational Health Program, New Haven, CT

2004 Diesel Exhaust Exposure and Lung Cancer in the Transportation Industry, Symposium
New England College of Occupational and Environmental Medicine Annual Conference, Burlington, MA

2014 Occupational Study Design and Diesel Exhaust as a Lung Carcinogen. Invited lecture.
Yale Occupational Health Program, New Haven, CT

National

1994 Is This Cancer Work Related? An Epidemiologic Approach - Symposium
American College of Chest Physicians Meeting, New Orleans, LA

1995 Diesel Exhaust and Lung Cancer - Seminar
University of California Graduate Student Seminar, Davis, CA

1995 Considerations in the Use of Epidemiologic Data for Quantitative Risk Assessment
Health Effects Institute Diesel Exhaust Workshop, San Francisco, CA

1997 Predictors of Respiratory Symptoms and Respiratory Illness in Chronic SCI
American Paraplegia Society Symposium on SCI and the Lung: What's New and What to Do, Las Vegas, NV

1997 Diesel Exhaust and Lung Cancer: Epidemiologic Studies - Symposium
Society for Risk Analysis 10th Annual Symposium on Health Risk Assessment: Current Issues, Monterey, CA

1998 Diesel Exhaust and Lung Cancer: Proposed Trucking Industry Study
Engine Manufacturers Association Diesel Health Summit Meeting, Chicago, IL

1998 Health Risk Assessment for Diesel Exhaust: Comments and Critique
California Air Resources Board Scientific Review Panel Meeting, Los Angeles, CA

1999 Diesel Exhaust and Lung Cancer: Results and Research Needs
Cummins Engine Company Science and Technology Council, Columbus, IN

2001 Diesel Exhaust and Lung Cancer: New Epidemiologic Studies, Invited lecture
World Truck Conference, Monterey, CA

2001 Diesel Exhaust: Health Effects and Research Needs, Invited Lecture
Pacific Maritime Association Waterfront Diesel Emission Conference, Long Beach, CA

2002 Issues in Chronic Health Epidemiology Studies, Lessons Learned in Assessing Exposure/Invited lecture, Health Effects Institute Diesel Signature Conference, Baltimore, MD

2003 The Trucking Industry Particle Study, Invited lecture
World Truck Conference, Monterey, CA

2003 Epidemiology of Respiratory Dysfunction in Spinal Cord Injury, Invited Lecture
Third Annual Spinal Cord Conference, San Diego, CA

2004 Epidemiology of Diesel: Exposure Assessment and Health Outcomes, Workshop
Society of Toxicology Annual Meeting, Baltimore, MD

2005 Update on Trucking Epidemiology Study, Invited lecture
Air & Waste Management Association Conference on Diesel Exhaust: Partnering with Stakeholders to Reduce Emissions, Chicago, IL

2007 Diesel Exhaust Health Effects Overview, Invited lecture
Law Seminars International, Los Angeles, CA

2008 Epidemiology of Transportation Emission Hazards, Symposium
American College of Occupational Medicine Meeting, New York, NY

2012 Epidemiologic Evidence on Diesel Emissions: Overview of
Historical and Recent Studies: Health Effects Institute Annual Conference, Chicago, IL

2012 Epidemiologic evidence supporting diesel exhaust as a lung carcinogen, graduate seminar.
Center of Excellence in Environmental Toxicology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

2013 Diesel and Gasoline Exhaust and Cancer. International Agency for Research on Cancer.
Assessment of diesel and gasoline exhaust: Overview of the epidemiologic evidence.
Society of Toxicology Annual Meeting, San Antonio, TX

2013 Update on VA Cooperative Study of Respiratory Health and Deployment to Iraq and Afghanistan. Joint VA/DOD Air Hazards Symposium, Aberdeen Proving Ground, MD

2013 Determinants of pulmonary function and chest illness in chronic SCI and relationships with mortality. Secondary conditions in SCI symposium, American Spinal Cord Injury Association Meeting, Chicago, IL

2013 Human health effects of diesel exhaust and traffic exposures. Toxicity of alternative fuels symposium. American Chemical Society Annual Meeting, Indianapolis, IN

2014 Trucking industry particle study. Diesel exhaust, lung cancer and quantitative risk assessment. Health Effects Institute Workshop, Boston, MA

2014 Update on VA Cooperative Study 595: Respiratory Health and Deployment to Iraq and Afghanistan Joint VA/DoD Airborne Hazards Symposium, Alexandria, VA

2015 Review of Deployment Related Particulate Matter Exposures in Iraq and Afghanistan. Symposia Speaker. American College of Occupational & Environmental Medicine Annual Meeting, Baltimore, MD

2015 Air Pollution and Respiratory Health. Scientific Advances in Respiratory Health and Military Deployments, War Related Illness & Injury Study Center, Department of Veterans Affairs, New Jersey Health Care System, East Orange, NJ

2017 Pulmonary Function and Health in Chronic SCI, Spinal Cord Injury Grand Rounds
Medical University of South Carolina, Charleston, SC

2017 SHADE Study: Cooperative Study #595 Pulmonary Health and Deployment to Southwest Asia and Afghanistan. VA/DoD Airborne Hazards Symposium . Alexandria, VA

International

1984 A Case-Control Study of Lung Cancer and Diesel Exhaust Exposure in Railroad Workers. Oral abstract. American Thoracic Society (International) Annual Meeting, Miami, FL

1999 Injury Level as a Predictor of Pulmonary Function in Chronic Spinal Cord Injury American Thoracic Society (International) Annual Meeting Neuromuscular Disease Symposium, San Diego, CA

2011 Lung Cancer and Elemental Carbon Exposure in US Trucking Industry Workers. Oral abstract. Annual Conference of the International Society for Environmental Epidemiology, Barcelona, Spain

2012 Regulation of Diesel Exhaust and Lung Cancer - Case Studies of What We Have Learned from Pulmonary Environmental Epidemiology Symposium. Annual Conference of the International Society for Environmental Epidemiology, Columbia, SC

2012 Considerations in Occupational Epidemiology and the Regulation of Diesel Exhaust, Early Morning Session. Annual Conference of the International Society for Environmental Epidemiology, Columbia, SC

2013 Health Effects of Diesel Particles. Epidemiology of Cancer and Diesel Exhaust - Invited lecture. Congress of International Society for Aerosols in Medicine, Chapel Hill, NC

2013 Diesel Exhaust and Lung Cancer Risk in the US Trucking and Railroad Industries. Symposia speaker. American Society International Annual Conference. Philadelphia, PA

2017 Outdoor Air Pollution: Epidemiology and Mechanisms. Chair, poster discussion session. American Thoracic Society International Annual Conference. Washington, DC.

2017 Veterans Affairs Interest Group Meeting. Update: Cooperative Study #595: Pulmonary Health and Deployment to Southwest Asia and Afghanistan. American Thoracic Society International Annual Conference. Washington, DC

Report of Clinical Activities and Innovations

Current Licensure and Certification

1982 Medical License, Commonwealth of Massachusetts

1982 Diplomate, Internal Medicine, American Board of Internal Medicine (ABIM)

1986 Diplomate, Pulmonary Disease, ABIM

1989 Diplomate, Critical Care Medicine, ABIM, recertified 1999, 2009

Practice Activities

1985-1986	Pulmonary Consultation Service Attending	Brigham and Women's Hospital	1 month/year
1986-	Outpatient Consultation and Pulmonary Continuity Clinic	VA Boston Healthcare System	one session/week
1986-	Pulmonary Consultation Service and Medical Intensive Care Unit Attending	VA Boston Healthcare System	2-4 months per year

Report of Education of Patients and Service to the Community

Those presentations below sponsored by outside entities are so noted and the sponsor is identified.

2001-2011 Annual meeting of the Libby (Montana) Medical Program. Annual lecture to health plan members on various aspects of pulmonary disease, including asbestos exposure, asthma, and chronic obstructive pulmonary disease.
Sponsored by medical program administrator, Health Network America, Tinton Falls, NJ

2012-2016 Medical Day on the Hill. Evening meeting with Tufts University undergraduates to discuss options for a medical career

2013 Combining Medicine and Environmental Health Research: The Regulation of Diesel Exhaust and Lung Cancer. Lecture to the Tufts University Pre-Medical Society, Tufts University

Report of Scholarship

Peer-reviewed publications in print or other media

Research investigations

1. Schenker MB, **Garshick E**, Munoz A, Speizer FE. A population-based case-control study of mesothelioma deaths among U.S. railroad workers. Am Rev Respir Dis. 1986;134(3):461-5.

2. **Garshick E**, Schenker MB, Woskie SR, Speizer FE. Past exposure to asbestos among active railroad workers. Am J Ind Med. 1987;12(4):399-406.

3. **Garshick E**, Schenker MB, Munoz A, Segal M, Smith TJ, Woskie SR, Hammond SK, Speizer FE. A case-control study of lung cancer and diesel exhaust exposure in railroad workers. Am Rev Respir Dis. 1987;135(6):1242-8.

4. O`Donnell CR, Sneddon SL, Schenker MB, **Garshick E**, Speizer FE, Mead J. Accuracy of spirometric and flow-volume indices obtained by digitizing volume-time tracings. Am Rev Respir Dis. 1987;136(1):108-12.

5. Woskie SR, Smith TJ, Hammond SK, Schenker MB, **Garshick E**. Speizer FE. Estimation of the diesel exhaust exposures of railroad workers: I. Current exposures. Am J Ind Med. 1988; 13(3):381-94.

6. Woskie SR, Smith TJ, Hammond SK, Schenker MB, **Garshick E**. Speizer FE. Estimation of the diesel exhaust exposures of railroad workers. II. National and historical exposures. Am J Ind Med. 1988; 13(3):395-404.

7. **Garshick E**, Schenker MB, Munoz A, Segal M, Smith TJ, Woskie SR, Hammond SK, Speizer FE. A retrospective cohort study of diesel exhaust exposure and lung cancer in railroad workers. Am Rev Respir Dis. 1988;137(4):820-5.

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13. **Garshick E**. Effects of short- and long-term exposures to ambient air pollution on COPD. Eur Respir J. 2014;44(3):558-61.

Books/Textbooks for the medical or scientific community

1. Patterson RM, Bornstein MI, **Garshick E.** Assessment of potential air pollution impact of 14 industrial chemicals outside the work environment. Vol I-XIV. Research Triangle Park, NC: US Environmental Protection Agency; 1976. Contract No. 68-02-1337.

2. Rosner G. World Health Organization., Fraunhofer-Institut fur Toxikologie und Aerosolfschung (Hannover, Germany). International Program on Chemical Safety., United Nations Environment Programme., International Labour Organisation., &WHO Task Group on Environmental health criteria for diesel fuel and exhaust emissions. 1996. Diesel fuel and exhaust emissions. Geneva: World Health Organization. **Member of WHO drafting and Task Group.**

3. U.S. Environmental Protection Agency (EPA). Health assessment document for diesel engine exhaust. Prepared by the National Center for Environmental Assessment, 2002. Washington, DC, for the Office of Transportation and Air Quality; EPA/600/8-90/057F. **Consultant to EPA Clean Air Advisory Committee who provided extensive document review and text editing**

4. Institute of Medicine Committee on Gulf War and Health: Literature Review of Selected Environmental Particulates, Pollutants, and Synthetic Chemical Compounds. Gulf War and Health Volume 3. Fuels, Combustion Products, and Propellants. Washington, DC: National Academies Press; 2005. **Member of committee that drafted the review.**

5. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Diesel and gasoline engine exhausts and some nitroarenes. Vol 105. International Agency for Research on Cancer, Lyon 2013. **Member of international working group that drafted the monograph.**

6. U.S. Environmental Protection Agency (EPA). Summary Report. State of the Science Workshop on Chemically-induced Mouse Lung Tumors: Applications to Human Health Assessments. Held on January 7-8, 2014. EPA/600/R-12/002. **Session Co-chair and speaker who provided extensive editing of session summary for publication.**

Letters to the Editor

1. Gomolin IH, **Garshick E**. Ethacrynic acid-induced deafness accompanied by nystagmus. N Engl J Med 1980; 303: 702.
2. **Garshick E**, Laden F, Hart JE, Davis ME, Eisen EA, Smith TJ. Cox model setup: Garshick et al. respond. Environ Health Perspect. 2012; 120(10):a382-3.
3. Vermeulen R, Portengen L, Silverman DT, **Garshick E**, Steenland K. Meta-analysis of lung cancer risk from exposure to diesel exhaust: Vermeulen et al respond. Environ Health Perspect. 2014;122(9):A230-1.
4. Jain NB, Harris MB, **Garshick E**. Trends in Traumatic Spinal Cord Injury--Reply. JAMA. 2015; 314(15):1643-4.

Professional educational materials or reports, in print or other media

1. 1998 Annual Conference of The New England College of Occupational and Environmental Medicine Syllabus: “Managing Respiratory Risk in the Occupational Health Setting.”

2. Geriatric Medicine 1999, 2000, 2001, 2002, 2003, 2004, 2006, 2007, 2008: Division on Aging, Harvard Medical School, Syllabus: “Recognition and Treatment of Airflow Obstruction; 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017: "COPD Update."

3. Harvard Medical School Pulmonary Pathophysiology Tutorial Case: “The Great Uncle.” Revised 11/2000.

4. **Garshick E,** Klebine P, Gottlieb DJ, Chiodo A. SCI Fact Sheets: Respiratory Health and Spinal Cord Injury. Model Systems Knowledge Translation Center. August 2015. http://www.msktc.org/lib/docs/ Factsheets/SCI_RespHealth.pdf

5. **Garshick E,** Klebine P, Gottlieb DJ, Chiodo A. Respiratory Health and Spinal Cord Injury. Information/education page. Am J Phys Med Rehabil 2016; 97(4):655-6.

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings

1. **Garshick E,** Morse LR, Tun CG, Brown R. Determinants of mortality in chronic spinal cord injury. American Spinal Cord Injury Association Annual Conference, Denver, CO. 2012.

2. Palmer V, Hart JE, **Garshick E**, Smith TJ, Laden F. Trace metal exposure and inflammatory biomarkers in a cohort of US trucking industry workers. International Society for Environmental Epidemiology 2013 Conference, Basel, Switzerland.

3. **Garshick E,** Hart JE, Morse LR, DeVivo. Predictors of telomere length in chronic spinal cord injury. 2014 American Thoracic Society International Conference, San Diego, CA.

4. Stinson D, Marchetti N, Hart JE, Blanc PD, Washko G, Jaramillo M, James J, **Garshick E**, and the COPDGene Investigators, Risk of chronic respiratory symptoms, QCT measures of disease, and COPD attributable to occupational factors is similar for job exposure matrix, self-reported exposure, and lower educational level as an exposure surrogate in COPDGene. 2015 American Thoracic Society International Conference, Denver, CO.

5. **Garshick E**, Grady S, Hart JE, Moy ML, Coull B, Schwartz J, Laden F, Koutrakis P. Indoor air pollution exposures and reduced pulmonary function in COPD. 2015 American Thoracic Society International Conference, Denver, CO. Am J Respir Crit Care Med 2015; 191: A4043.

6. **Garshick** E, Grady S., Hart J., Moy ML, Coull B, Schwartz J, Laden F, Koutrakis P. Traffic related particulate matter and elevated CRP in COPD. 2016 American Thoracic Society International Conference, San Francisco, CA. Am J Respir Crit Care Med 2016; 193: A4442.

7. Grady S., Koutrakis P, Hart J., Zhang J, Moy ML, Coull B, Schwartz J, Laden F, **Garshick E.** Particulate matter, pulmonary function, and oxidative stress in COPD. 2016 International Society of Envirionmental Epidemiology Conference, Rome, Italy. Environ Health Perspect 2016; http://dx.doi.org/10.1289/ehp.isee2016.

8. Norweg A, Steffen A, Jette A, Moy ML, Grady S, Garshick E. DMQ-CAT. Multidimensional dysonea severity predicts risk of acute respiratory events in COPD. 2017 American Thoracic Society International Conference, Washington, DC. Am J Respir Crit Care Med 2017;195:A5455

Narrative Report

My principal effort at VA Boston Healthcare System and HMS is in the design and execution of clinical epidemiologic studies assessing causes and consequences of chronic pulmonary diseases and lung cancer. My focus has been on environmental and occupational particle exposures, including the health effects of diesel exhaust and particulate matter, and on respiratory function and illness in chronic spinal cord injury (SCI). I am also Medical Director of the VA Boston Pulmonary Function

Laboratory, and practice pulmonary and critical care medicine. My remaining effort is devoted to teaching and other administrative tasks.

My publications outlining lung cancer risk in 55,000 railroad workers and 31,000 trucking company workers (including a national exposure assessment) provided the scientific basis for classifying diesel exhaust as a human lung carcinogen. In 2012 I served on a working group at the International Agency for Research on Cancer in Lyon, France, and have given over 30 local, regional, and national invited presentations on this topic. The study of exhaust exposures has directly translated to a NIH-funded study of 170 VA Boston COPD patients where I am measuring home particle exposures, and assessing pulmonary function, exacerbations, and inflammatory biomarkers. In 2013 I was asked by the VA Cooperative Studies Program to assist with the design a national study assessing the respiratory effects of particulate matter exposures in Iraq and Afghanistan. As a result of this work, a VA Cooperative Study #595 has been funded. In this study we are reconstructing particulate matter exposures among previously deployed troops and linking these exposures to pulmonary function assessed by spirometry.

My other major research focus is based on my experience in caring for SCI patients. In 1994 I began a longitudinal study assessing determinants of pulmonary function in in 550 SCI subjects funded by NIH and VA. In 2009, I began a second longitudinal cohort of 350 SCI subjects to study systemic inflammation and vitamin D as determinants of pulmonary function. I also previously led project (conducted with 4 other US SCI centers) to assess determinants of dyspnea and quality of life in SCI as part of the Department of Education US SCI Model Systems program.

My clinical activities include weekly pulmonary clinic, and Medical ICU and Pulmonary consultative effort (8 to 12 weeks/yr). My institutional activities include directing the VA Boston Pulmonary Function Laboratory and overseeing the VA Boston Clinical Studies Unit. I previously served for 9 years as VA Boston Institutional Review Board chairperson.

My teaching includes serving as a tutor (1991-2002) in the HMS second-year pulmonary and cardiology pathophysiology course. Since 2001 I have taught the pulmonary examination course to 2nd -year HMS students at VA Boston, and 2007-2016, I have given the annual lung sound lecture to the entire 2nd-year class, and have continued this for students based at VA Boston. I have also mentored 23 individuals at various stages of their careers.

In summary, I am a physician-scientist active in clinical epidemiologic investigation. I also provide patient care, administration, and am involved in teaching and mentoring. These activities occur primarily at VA Boston and HMS, and flow through my interests in the health effects of inhaled particles, and respiratory function and illness in chronic SCI.

Hon. Nan Hayworth, M.D.

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[redacted]

CURRICULUM VITAE

[Skip to: Congressional Service; Media Appearances; Congressional Honors and Recognition; Business Experience; Medical Experience; Further Political Experience; Education; Nonprofit Board Memberships and Volunteer Leadership]

CONGRESSIONAL SERVICE:

January, 2011-January, 2013: Member of the United States House of Representatives for the 19th District of New York, the only female physician Member of Congress in history

- Member, House Financial Services Committee (HFSC) under Chairman Spencer Bachus
  - Member, HFSC Subcommittee on Capital Markets, Insurance, and Government-Sponsored Entities under Chairman Scott Garrett
  - Member, HFSC Subcommittee on Oversight under Chairman Randy Neugebauer
  - Member, HFSC Subcommittee on Domestic Monetary Policy under Chairman Ron Paul
- Selected by Speaker John Boehner as negotiator for the House Majority, Joint House-Senate Conference Committee for H.R. 3630, The Middle Class Tax Relief and Job Creation Act of 2012 (Public Law 112-96), extending through December 31, 2012 the payroll-tax holiday, Medicare reimbursement, and federal unemployment benefits
- Selected by Speaker John Boehner as negotiator for the House Majority, Joint House-Senate Conference Committee to renew the Violence Against Women Act (VAWA)
- Co-Chair, Hurricane Irene Coalition, bringing together Republican and Democratic Members from Districts affected by Hurricane Irene and Tropical Storm Lee to speed relief and facilitate long-term reconstruction
- Member, Whip Team under Majority Whip Kevin McCarthy and Deputy Whip Peter Roskam
- Member, select messaging team of the House Republican Conference under Chairman Jeb Hensarling
- Member, select messaging team jointly of the House and Senate Republican Conferences under Chairman Jeb Hensarling
- Member, House Republican Policy Committee under Chairman Tom Price
- Member, Leader's Circle of House Majority Leader Eric Cantor
- Member, House Doctors Caucus
- Co-founder with David Cicilline (D, RI-1), House Common Ground Caucus, bringing Republicans and Democrats together for social events to facilitate greater comity
- Primary Sponsor, H.R. 3001, Raoul Wallenberg Centennial Celebration Act (Public Law 112-48)
- Primary Sponsor, H.R. 2599, PACE Assessment Protection Act, to facilitate affordable energy- and water-conserving modifications to homes and other properties

CONGRESSIONAL HONORS AND RECOGNITION:

Guardian of Small Business Award, National Federation of Independent Business
Spirit of Enterprise Award, U.S. Chamber of Commerce
Manufacturing Legislative Excellence Award, National Association of Manufacturers
Champion of Healthcare Innovation Award, Healthcare Leadership Council
Standing Up for America's Seniors Award, RetireSafe
Guardian of Seniors' Rights Award, 60 Plus Association
Friend of the Farm Bureau Award, American Farm Bureau Federation
Endorsed for re-election in 2012 by Humane Society of the United States in recognition of my work to protect animals from cruelty and abuse
Recognition for action to protect environment:
- Wilderness Society: Great Outdoors Congressional Champion Award
- ConservAmerica
- League of Conservation Voters: highest rating of any New York Republican House Member on H.R. 1, 2011
- Sierra Club: among highest-rated Republican House Members on Water Conservation Scorecard for 112th Congress

Certificate of Appreciation, Lions Clubs International, for support of their humanitarian programs
Appointed by Speaker Boehner to U.S. Holocaust Memorial Council
Numerous awards from regional and local Republican organizations
Named by *Politico* one of the five "highest-profile freshmen" in House of Representatives, April 2012
Named by *Politico* "Most Likable" freshman woman in House of Representatives, December 2011
Named to *The Hill*'s "Fifty Most Beautiful," July 2012

FURTHER POLITICAL EXPERIENCE:

June 2017-present: Donald J. Trump for President, Inc.

Member of Advisory Board, organized by campaign to appear in both national and local media to support the President

June 2017-present: America First Policies

Member of speakers' panel, pursuing advocacy for President Trump's policies in both national and local media

November 2016-present: Trump Administration transition communications team

Primary national media surrogate for EPA Administrator nominee Scott Pruitt

Additional media engagements supporting transition in general

December 2014-February 2015: CARLY for America

August 2015-February 2015: Co-chair for New York; national media surrogate for Ms. Fiorina on all major cable networks and on both nationally syndicated radio programs and local radio programs throughout the United States

January, 2013-November, 2014: Candidate for United States House of Representatives,

18th District of New York, on Republican, Conservative, and Independence lines

Won Independence Party primary versus incumbent in June, 2014

Endorsed by U.S. Chamber of Commerce, National Federation of Independent Business, Governor Mitt Romney, Governor Chris Christie, Ambassador John Bolton, American Medical Association, Medical Society of the State of New York, American Academy of Ophthalmology, American Congress of Obstetricians and Gynecologists, Log Cabin Republicans, Maggie's List, ConservAmerica

Designated "Young Gun" by National Republican Congressional Committee

Supported for Congress in 2014 by nearly 1500 individual donors and 135 committees in Medicine, Business, Financial Services, and Manufacturing

Through three election cycles 2009-2014 Friends of Nan Hayworth raised $7.5M

MEDIA APPEARANCES:

June, 2010-present: Television appearances on national and regional programs

Multiple appearances on *Cavuto Coast to Coast*, *Making Money* with Charles Payne, *Risk and Reward*, *Anderson Cooper 360*, *Lou Dobbs Tonight*, *CNN Tonight with Don Lemon*, *State of America* (CNN International), *Fox and Friends First*, *FBN:AM*, *Squawk Box*, *Sunday Morning Futures with Maria Bartiromo, MTP Daily* with Chuck Todd and Steve Kornacki; MSNBC, Fox News Network, and CBSN political coverage; *On the Record* with Greta Van Susteren*, Newsmax Prime*, *At This Hour* (CNN)*, Up* (MSNBC), *The Kudlow Report*, *Third Rail* (Al Jazeera)*, Starting Point with Soledad O'Brien*, *Early Start* (CNN), *Washington Journal*, *Good Day New York*, *Capital Tonight*, and *Richard French Live*

Additional appearances on *Your World with Neil* Cavuto, *Varney & Co.*, *Hannity*, *Mornings with Maria*, *New Day*, *CNN Newsroom, Squawk on the Street*, *America's News Headquarters*, *Power Lunch*, *The Willis Report*, *Erin Burnett Out Front*, *The Daily Rundown*, *Martin Bashir* (CNN), *Piers Morgan Tonight*, *Power Play with Chris Stirewalt* (Fox News online), NH1/WBIN (Concord, NH), and *Krystal Clear* (MSNBC online)

June, 2010-present: Radio appearances on nationally syndicated and regional programs

Multiple appearances on *The Larry Kudlow Show*, *The John Batchelor Show*, *The Morning Briefing with Tim Farley, POTUS Radio*, *The Steve Gruber Show* (WJIM, MI)Boston Herald Radio, and local programming on Hudson Valley stations WTBQ, WVOX, WPDH, WAMC, WKIP, and Sound of Life

Additional appearances on (not limited to) Breitbart News Radio, *The Alan Nathan Show* (nationally syndicated), *Trending Today with Rusty Humphries* (nationally syndicated), *Mornings on the Mall with Larry O'Connor* (WMAL, MD), *The Mark Davis Show* (AM 660, Dallas), *The Ray Appleton Show* (KMJ), *The John Williams Show* (Minneapolis), *LaCrosse Talk with Mike Hayes* (WIZM, WI), *The Derrell Day Show* (WYOO, FL), *The Joyce Kaufman Show* (WFTL, FL), *The Simon Conway Show* (1040 WHO, Iowa), and with Lars Larson, Sean Hannity, Geraldo Rivera, Vicki McKenna (WIBA/WISN), Dan "Ox" Ochsner (KNSI), Zeb Bell (KBAR), Rocky Dee (South Carolina), Curtis Sliwa, Joe Bartlett, Joan Hamburg, Michael Robinson, and Jane Silk

BUSINESS EXPERIENCE:

March 2017-present: HealthEC, Piscataway, New Jersey
Board Member

July 2016-present: Pilot Growth Equity, New York, New York and San Francisco, California
Strategic Business Development Advisor

November 2014-present: The Kinetix Group, New York, New York
Consulting Medical Director, Clinical Strategy

September 2007-May 2009: Cline Davis & Mann, Inc., New York, New York
Vice President, Medical Director, Medical and Scientific Affairs, October 2008-May 2009
Scientific expert in Ophthalmology and Retina for product team
Responsibilities included:
- Reporting from major specialty and subspecialty meetings with analysis of data and presentations re implications for product, industry, and target market
- Reviewing and reporting on relevant literature with analysis
- Teaching teams on both Agency and client sides via monographs, decks, and live presentations
- Assisting Agency and client teams in development of messages and content for physician and patient audiences
- Assisting clients in strategic and tactical approaches to product development
- Teaching Agency colleagues in diverse medical subject areas
- Participating in pitches to potential new clients in related areas
- Mentoring young Department members

Vice President, Associate Medical Director, Medical and Scientific Affairs, September 2007-October 2008

MEDICAL EXPERIENCE:

January 1996-June 2005: Mount Kisco Medical Group, Mount Kisco, New York, largest multispecialty medical group in the Hudson Valley
Partner, practicing adult and pediatric ophthalmology and ophthalmic surgery
Special interest in anterior-segment disorders, external disease, refractive issues/contact lenses, cataract, and glaucoma
Heavily involved in implementation and refinement of electronic medical records systems

July 1989-January 1996: Solo practice of Ophthalmology, Mount Kisco, New York
Practice encompassed adult and pediatric ophthalmology and ophthalmic surgery with special interests as above

2002-2007: Office of Professional Medical Conduct, State of New York Department of Health
Expert Consultant

2000-2005: Aetna Quality Assurance Committee for Northeast Region, Specialty Representative

MEDICAL CERTIFICATION:

Diplomate, American Board of Ophthalmology, October 1992, recertified 2002
Diplomate, National Board of Medical Examiners, July 1986; Certificate Number 309487
Licensed by New York State Department of Health, License Number 169147, granted 1986

FACULTY AND HOSPITAL APPOINTMENTS:

Mount Sinai School of Medicine, New York, New York, 1989-2005
Highest rank: Assistant Clinical Professor
Northern Westchester Hospital Center, Mount Kisco, New York, 1989-2005
Attending Ophthalmologist

MEDICAL PROFESSIONAL HONORS:

Best Doctors in America, 2005-2014
America's Top Ophthalmologists, Consumers' Research Council of America, 2004-2005
Guide to Top Doctors, Consumers' Checkbook, 2002
How to Find the Best Doctors: New York Metro Area, 1999

MEDICAL PROFESSIONAL SOCIETIES:

American Academy of Ophthalmology: Fellow as of 1992; Member, 1988-1992
Association for Research in Vision and Ophthalmology: Member, 2008-2010
New York State Ophthalmological Society: Member, 1989-2005

MEDICAL PUBLICATIONS:

Hayworth, N. and Asbell, P., 1990. Therapeutic contact lenses. The CLAO Journal 16:137-142.
Hayworth, N. and Asbell, P., 1988. Corneal thickness changes induced by 24-hour eyelid occlusion. Invest. Ophthalmol. Vis. Sci. 29:258.
Devereux, R.B., Lutas, E.M., Hayworth, N., Kramer-Fox, R., Glashow, J., Hartman, N., and Brown, W.T., 1984. Autonomic dysfunction in mitral valve prolapse. Clin. Res. 32:160.

NONPROFIT BOARD MEMBERSHIPS AND VOLUNTEER LEADERSHIP POSITIONS:

Boy Scouts of America, Westchester-Putnam Council
Member, Advisory Council, May 2013-present

ConservAmerica
Chair, Board of Directors, February 2017-present
Member, Board of Directors, April 2013-August 2014 and July 2015-February 2017

Goodman Institute for Public Policy Research
Member, Board of Directors, March 2016-present

Independent Women's Forum
Member, Board of Directors, January 2013-present

New York Affordable Reliable Electricity Alliance (New York AREA), 2016-present
Member, Advisory Board

Princeton University
Member, Politics Department Advisory Council, May 2015-present
Class Agent for Annual Giving, Class of 1981, July 2006-July 2009
National Annual Giving Committee, 2004-2009
Chair, Volunteer Diversity Subcommittee, 2007-2009
25th Reunion Annual Giving Participation Chair, Class of 1981, 2004-2006
Co-winner, Class of 1926 Trophy, for leadership of alumni class raising the largest sum for Annual Giving in the 2005-2006 campaign
Annual Giving solicitor, Class of 1981, 1999-2004
Alumni Schools Committee, 1988-1993, 2006-2009

United Way of Westchester and Putnam
Member, Board of Directors, November 2015-present
Member, Women's Leadership Council, November 2013-present

Westchester County Health Care Corporation
Member, Board of Directors, May 2016-present

VOLUNTEER SERVICE:

Defenders of Wildlife
Volunteer liaison to the Republican congressional majority, 2015-present

Mount Kisco Lions Club
Robert J. Uplinger Distinguished Service Award, October 2006, given to Lions who "embody the Ideals, Ethics, and Objects of Lionism"
Lion Sponsor, Fox Lane High School Leos Club, 2002-2007

Northern Westchester Hospital Center
Chair, "Essentials" lecture series, 2006-2007
Physician Co-Chair, Crystal Ball, 1994

Westchester Science and Engineering Fair, regional affiliate of Intel International Science Fair
Judge, 2003-2009

EDUCATION:

The Mount Sinai Hospital, New York, New York: Resident, Department of Ophthalmology, July 1986-June 1989

Honored upon graduation by junior residents for excellence in teaching

The New York Hospital, New York, New York: Intern, Department of Medicine, July 1985-June 1986

Cornell University Medical College (now Weill Medical College of Cornell University), New York, New York: M.D., 1985

Honors: John Metcalf Polk Prize, awarded to top three students in graduating class

Elected to Alpha Omega Alpha medical honors society

American Medical Women's Association Prize, 1985

Lange Medical Publications Award, 1985

American Association of University Women Educational Foundation Fellowship, 1984-1985

Mosby Scholarship Book Award for Scholastic Excellence, 1982 and 1983

Clinicopathologic Conference Prize for diagnostic acumen, 1983

Princeton University, Princeton, New Jersey: A.B. *summa cum laude*, Biology, 1981

Honors: Senior Book Prize of the Department of Biology, awarded to top three graduating seniors in the Department

Elected to Phi Beta Kappa

Attended with National Merit Scholarship sponsored by Inland-Ryerson Foundation

Munster High School, Munster, Indiana, 1977

Honors: Salutatorian; National Merit Scholar; Presidential Scholar finalist; Indiana State Champion in Original Oratory, National Forensic League, 1977; editor-in-chief, *The Crier*, nationally recognized biweekly student newspaper; German scholar, Indiana University Honors Program in Foreign Languages

Selected as one of ten inaugural members of Alumni Hall of Fame, 2015

CURRICULUM VITAE

CAROL JANICE MORGAN HENRY, PH.D., D.A.B.T.

CONTACT INFORMATION:

(b) (6)
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PROFESSIONAL EXPERIENCE:

2007 - present **Advisor and consultant for toxicology and public and environmental health.**

2008 - present **Professorial Lecturer, George Washington University, Milken Institute School of Public Health, Department of Environmental and Occupational Health, Washington, D.C.**

Carol J. Henry is an adviser and consultant for toxicology and public and environmental health to public and private organizations, focusing on the impacts or potential impacts of chemicals on health and the environment. She serves as Environmental Health Advisor to Cummins Inc., where she monitors developments in environmental health sciences and toxicology that relate to air pollution, focusing on topics which may have an impact on heavy-duty engine emission regulations. She is the scientific liaison for Cummins to the Health Effects Institute, a not-for-profit organization chartered under the Clean Air Act and supported with balanced funding from the U.S. Environmental Protection Agency and the worldwide motor vehicle industry.

She holds a position as Professorial Lecturer at the George Washington University (GWU) Milken Institute School of Public Health, Department of Environmental and Occupational Health (EOH). She was the instructor (2008-2015) for the required EOH graduate course "Protecting Public Health and the Environment: Policies, Politics, and Programs." This course reviewed the legislative, regulatory, judicial, and political system in the United States developed to protect human health and the environment, within a context of national and global public and environmental health agencies, policy development, and current topics. She was also a Session Leader for the GWU online course Environmental Health in a Sustainable World.

Dr. Henry was a lecturer for the National Institute of Health's Foundation for Advancement of Education in the Sciences at the National Institutes of Health (2013, 2015) and has lectured on sustainability, globalization, corporate responsibility and environmentalism at Portland State University and the University of Portland. She served as a consultant to and member of the Society of Automotive Engineers (SAE) International from 2009-2014, where she provided guidance for SAE's Green Technology Steering Committee, chartered by SAE's Motor Vehicle Council for developing standards and best practices for green innovation and sustainability in the automotive industry.

She has served as a member of the National Academy of Science, Engineering, and Medicine's Board on Environmental Studies and Toxicology (1998-2004), Board on Chemical Sciences and Technology (2008-2014), and several National Research Council (NRC) Committees, including :

- Board on Chemical Sciences and Technology-Board on Environmental Studies and Toxicology Board on Life Sciences Joint Review Group to the Division of Earth and Life Studies (2016);

- Strengthening the US Environmental Protection Agency Laboratory Enterprise (2014); and
- Design and Evaluation of Safer Chemical Substitutions (2014).

She served as Chair of the Federal Advisory Committee for the National Children's Study of the National Institute of Child Health and Human Development (2010-2012), Co-Chair of the Montgomery Country Maryland Water Quality Advisory Group (2012), which advises the county executive and council on water quality issues. She was an invited participant for the EPA's Nanomaterials Case Study Workshop: Developing a Comprehensive Environmental Assessment Research Strategy for Nanoscale Silver in 2011 and EPA's Nanomaterial Case Study Workshop Process: Identifying and Prioritizing Research for Multiwalled Carbon Nanotubes, 2012.

Dr. Henry is a member of the American Chemical Society (ACS) and the ACS's Committee on Environmental Improvement, where she led the Writing Teams for the ACS Public Policy Statements on Energy (2015-2018) and Chemical Risk Assessment and Regulatory Decision Making (2016-2019). She is a member of the American College of Toxicology, of which she was president (1989-1990); the Society of Toxicology; the American Association for the Advancement of Science, and the International Society of Exposure Science. She serves as a reviewer for Environmental Health Perspectives, Critical Reviews in Toxicology and Environmental Science and Technology.

2005-2007 Vice President, Industry Performance Programs, American Chemistry Council, Arlington, VA

Dr. Henry retired from the American Chemistry Council in November 2007. Prior to that time, she served as Vice President, Industry Performance Programs (IPP) at ACC, with executive management responsibility for ACC's four public service performance programs: Responsible Care®, Long-Range Research Initiative (LRI), CHEMTREC®, and Economics and Statistics. A newly created department in ACC's reorganization in 2005, Industry Performance Programs strengthened the foundation of ACC's public policy and product stewardship efforts, while delivering direct business value to ACC's members. Dr. Henry was one of five vice-presidents, reporting directly to the President and CEO of ACC. She was responsible for the strategic direction, effective operation and execution of the overall IPP mission that supported ACC's priorities and the impacts they had on ACC's programs. She had responsibility for budgets in excess of $25M in 2007, a significant proportion of ACC's overall budget; over 50 employees; and revenue generation of over $9M. She represented the programs to the ACC Board of Directors, the International Council of Chemical Associations Board of Directors, other associations, company members, government agencies, and non-government organizations.

Dr. Henry worked with each of the four IPP programs to support ACC's policies and priorities in representing over 130 member companies and 70 partner companies, which account for over 90% of the chemical manufacturing production in the United States. The four programs have diverse missions, but all have a public service focus: CHEMTREC provides emergency response information and assistance 24-hours per day for any chemical leak or spill; Economics and Statistics provides widely-distributed economic analyses of policy initiatives, business trends and changing chemical industry dynamics; the LRI provides independent research on the potential impacts of chemicals on health and the environment to enable society and the industry to make responsible product stewardship decisions concerning the production, marketing, and use of industry products; and Responsible Care provides a business ethic and practice for continuous improvement and protection of the environment, health, safety, and security of employees and communities.

In addition, she assured a science based approach and a positive forward strategy in the public health policy arena, meeting with high-ranking national or international officials on behalf of ACC, initiating dialogue, making presentations, or participating in scientific and policy organizations such as the

National Research Council, the Institute of Medicine, the Environmental Protection Agency, the Centers for Disease Control and Prevention, the National Institute of Environmental Health Sciences, the Society of Toxicology, the American Chemical Society, the International Union of Pure and Applied Chemistry, the World Health Organization, non-government organizations, and academic institutions.

1999-2005 Vice President, Science and Research, American Chemistry Council (formerly the Chemical Manufacturers Association), Arlington, VA

Dr. Henry served as Vice President for Science and Research at the American Chemistry Council (ACC). She directed and managed the ACC's Long-Range Research Initiative (LRI), the multi-million dollar, independent research program that the chemical industry committed to study the potential impacts of chemicals on health and the environment to enable society and the industry to make responsible product stewardship decisions concerning the production, marketing, and use of industry products. Key objectives of this comprehensive program include: conducting new research through world-renowned scientific institutions, developing new tools to support risk assessment; and supporting informed decision-making by government, industry, and citizens. Dr. Henry was a peer with American Chemistry Council company member representatives and served as an Ex-Officio Member of the ACC's Board Research Committee. The LRI is a global initiative of the chemical industry and Dr. Henry managed the international interactions with LRI programs in Europe and Japan. As an officer of the ACC, Dr. Henry reported to the President and Chief Executive Officer of ACC.

1997-1999 Director, Health and Environmental Sciences Department, American Petroleum Institute, Washington, DC

Dr. Henry was the chief scientist for API and was responsible for formulating the scientific policies of the Institute. She was the principal scientific liaison to API member companies, regulatory agencies, public and private research organizations, universities, and the broader scientific community. The Health and Environmental Sciences Department provided the scientific basis and rationale for API's health and environmental regulatory and product-stewardship program. In collaboration with API technical committees, she was responsible for development and implementation of API's health and environmental research program. She directed and supervised the scientific and administrative staff who managed API's health and environmental research and provided analyses for API policies and positions. HESD staff was responsible for publishing API technical reports and professional scientific articles. Staff included 25 professionals, including doctoral and masters level environmental and health scientists, with a research and operating budget of approximately $7 million.

1994-1997 Associate Deputy Assistant Secretary for Science and Risk Policy, Office of Science and Technology, Office of Environment Management, United States Department of Energy, Washington, DC

Science and Policy Director, Office of Integrated Risk Management, Office of Environmental Management, United States Department of Energy, Washington, DC

Consultant to the Assistant Secretary for Environmental Management, United States Department of Energy

As the Associate Deputy Assistant Secretary for Science and Risk Policy, Dr. Henry had technical, management, and fiscal responsibilities for risk and science initiatives in the Office of Science and Technology. She was responsible for establishing and directing the Environmental Management Science Program, a targeted long-term basic research program for the Office of Environmental Management. The objective of this Congressionally mandated program was to generate new knowledge that would lead to

less costly, more innovative cleanup technologies and would reduce risks to workers, the public, and the environment from waste and contamination from past nuclear weapons production. Initiated in fiscal year 1996 with $47 million awarded to 140 universities and laboratories, the second Request for Application was issued in December 1996, with ~$20 million available for new awards. The program was developed in partnership with the Office of Energy Research, the basic research arm of the Department. Two criteria were used for selection and evaluation of these awards--scientific merit and program relevance.

In addition, Dr. Henry was responsible for developing policy, requirements, and guidance to ensure that risk analysis theory and practices were integrated into coherent decision-making processes. These programs in the Office of Science and Technology provided the bridge to the larger needs-driven applied technology development programs of the Office and served as a stimulus for focusing the Nation's infrastructure on critical national environmental management problems. The FY97 budget for the science and risk initiatives was ~$70 million.

Following formal appointment to the Senior Executive Service (Level 6, Limited Term) as Science and Policy Director for the Office of Integrated Risk Management in December 1994, Dr. Henry had responsibility for development of major policies, systems, and guidelines for DOE's Environmental Management risk management programs and activities.

An important goal was to define and then to institute, across all programs at DOE, Principles for Risk Assessment, Risk Management, Risk Communication and Priority Setting. Dr. Henry also directed the response to the Congressional Committees on Appropriations request to report by June 1995 on the risks to public health and safety addressed by cleanup activities as required by compliance agreements at weapons complex sites. The objective of this Congressional request was for DOE to establish priorities among competing cleanup requirements in light of limited Federal discretionary funds.

1992-1994 Director, Office of Environmental Health Hazard Assessment (OEHHA) of the California Environmental Protection Agency, State of California, Sacramento, CA

Dr. Henry was responsible for the department within the State of California, which evaluates the health risks of chemicals in the environment. One of the primary goals of OEHHA is to provide information to environmental regulators and the public about the adverse health effects of environmental exposures to noninfectious agents. OEHHA identifies, quantifies, and recommends health-based standards for chemicals in the environment; provides technical and scientific support to government agencies and the public; develops scientific risk assessment policies, procedures and guidelines; and provides oversight and regulatory guidance on scientific aspects of environmental protection.

The position of Director is appointed by the Governor and requires confirmation by the California State Senate. Dr. Henry was confirmed in June 1993, by a vote of 33-0. OEHHA had a staff of ~100 professionals, with a budget in fiscal year 1993-94 of about $14 million.

During her term as Director, Dr. Henry established an external OEHHA Science Advisory Board to review the scientific basis for regulatory decisions and to provide independent peer-review of health risk assessments; completed the California Comparative Risk Project, a state-wide effort to identify and rank the most important environmental threats facing California; and establishment of an organizational structure, requiring approval by the Governor and the legislature, for the Office of Environmental Health Hazard Assessment so that it could function as an independent department within California EPA.

1988-1992 Executive Director, The Risk Science Institute (RSI) of the International Life Sciences Institute, Washington, DC

The Risk Science Institute is a not-for-profit research foundation founded to improve the scientific basis of risk assessment. Dr. Henry was responsible for providing scientific direction and management of RSI's programs. She fostered the development of the Risk Science Institute as a catalyst between government, industry, and academia to address scientific issues that impact on public health and the assessment of health risks. RSI's research, education, training, conferences and workshops were critical components in the institute's objectives to improve the science and methodology in risk assessment, both in the United States and throughout the world. In 1991, RSI's budget was $1.4 million, with five scientists and four administrative full-time staff. Approximately one-third of RSI's budget was derived from federal sources, with the remaining two-thirds from foundations and the private sector.

1985-1988 Vice President, ICF/Clement, Fairfax, VA

Dr. Henry was co-manager of ICF's services in the areas of chemical emergency preparedness and prevention. She directed and managed a group of 20-25 scientists and policy analysts providing technical support to the Environmental Protection Agency's Office of Toxic Substances efforts under Title III, Emergency Response and Community Right-to-Know of the Superfund Amendments and Reauthorization Act (SARA). She was an Instructor for EPA's Office of Emergency and Remedial Response training course, entitled “Risk Assessment in Superfund,” prepared for EPA and state agency staff. This course was delivered in all ten regions of the country and was attended by over 800 state and federal employees. During 1985, as co-manager, Dr. Henry was responsible for generating $2.4 million in billings to public and private sector clients.

1981-1985 Director, Inhalation Toxicology, and Assistant Director of Research, Microbiological Associates, Inc., Bethesda, MD

Dr. Henry was responsible for the scientific, administrative, financial, and marketing goals of the Division of Toxicology, with specific responsibilities for Inhalation Toxicology and General Toxicology, including supervision of six senior (Ph.D. and M.S. level) and 8 support staff, managing facilities, as well as providing scientific direction for these departments and coordinating and maintaining technical efforts with Genetic Toxicology. Acute, subchronic, and chronic toxicity studies were conducted, using all routes of administration. Dr. Henry was responsible for development and implementation of a battery of short-term tests that could be performed concurrently and which provided considerable additional technical information. Dr. Henry was approved as Toxicologist for the National Toxicology Program for the Toxicology Research and Testing Program. The division had billings in excess of $6 million in 1985, from both government and industrial clients. Dr. Henry was personally responsible for developing and maintaining a commercial client base in inhalation toxicology from zero sales in 1980 to over $1 million in 1985. During this period Dr. Henry was first or senior author on 8 peer-reviewed papers, 15 abstracts presented at national meetings, and 3 book chapters.

1977-1981 Department Director and Project Director, Microbiological Associates, Inc., Bethesda, MD

Dr. Henry was responsible for the scientific and administrative direction of the Department of Experimental Oncology, with direct supervision of 3 Ph.D. level and 8-10 support staff and management of a 10,000 square foot independent facility.

1976-1977 Assistant Project Director, Microbiological Associates, Inc., Bethesda, MD

Dr. Henry was responsible for the daily operation and experimental scheduling of the Smoke Inhalation Facility; direct supervision of junior staff; implementation of experimental protocols; verification of summary data; assisted the project director in preparation of progress reports and publications.

1975-1976 Research Associate, Sloan-Kettering Institute for Cancer Research, New York, NY

Dr. Henry developed a project to explore altered gene expression in relationship to carcinogenesis using young rats fed diets containing aminoazo dyes. She was awarded a competitive National Institutes of Health Post-Doctoral Fellowship.

1974-1975 Research Assistant, Sloan-Kettering Institute for Cancer Research, New York, NY

Assisted in developing and standardizing an assay to examine and quantitate carcinogen membrane interactions using hemolysis of erythrocytes as a model system.

1973 Postdoctoral Fellow, Princeton University, Princeton, NJ

Developed P32-labeling techniques for DNA and RNA from Caulobacter crescentus, a single cell organism used to study differentiation.

1972-1973 Postdoctoral Fellow, Friedrich-Miescher Labor, Max Planck Institute, Tubingen, West Germany

Isolated and characterized the RNase H from Escherichia coli, an enzyme that specifically cleaves RNA hydrogen bonded to DNA.

1968-1971 Graduate Student, University of Pittsburgh, Pittsburgh, PA

Isolated and characterized the outer cell wall protein from Bacillus brevis Pl. For her Ph.D. thesis, Dr. Henry demonstrated that the protein was a large molecular weight glycopeptide, noncovalently bound to the cell wall; electron microscopy was used to follow the isolation and purification of the protein. She developed conditions were the protein could be self-assembled into extended, regular tetragonal sheets and complete, three-dimensional cylinders. Bacteriophage were isolated from sewage that could be neutralized with isolated and purified protein, while others required both cell wall components and protein. She was awarded a competitive National Institute of Health Pre-Doctoral Fellowship and an Andrew Mellon Fellowship.

1967-1968 Research Assistant, Mellon Institute, Pittsburgh, PA

Assisted in the organic synthesis and characterization of several polycyclic chlorinated olefins.

1966-1967 Junior Scientist, University of Minnesota, Minneapolis, MN

1964-1966 Undergraduate Research Assistant, University of Minnesota, Minneapolis, MN

Worked part-time as an undergraduate research assistant until the B.A. was awarded. Synthesized and characterized a series of olefinic dienes and studied reaction kinetics to determine structure-activity relationships.

EDUCATION

2014	American Board of Toxicology, Recertified in General Toxicology
2009	American Board of Toxicology, Recertified in General Toxicology
2004	American Board of Toxicology, Recertified in General Toxicology
1999	American Board of Toxicology, Recertified in General Toxicology
1994	American Board of Toxicology, Recertified in General Toxicology
1989	American Board of Toxicology, Recertified in General Toxicology
1984	Diplomate of the American Board of Toxicology
1973	Postdoctoral Fellow, Princeton University, Princeton, NJ
1972	Postdoctoral Fellow, Max Planck Institute, Tubingen, West Germany
1972	Ph.D., Microbiology, University of Pittsburgh, Pittsburgh, PA
1966	B.A., Chemistry, University of Minnesota, Minneapolis, MN

ADDITIONAL TRAINING

1984	Mid-American Toxicology Course, Kansas City, Missouri, 40-hours training in toxicology
1978	Workshop in Experimental Pathology and Toxicology, Massachusetts Institute of Technology, Cambridge, MA, 40-hour course in toxicology (certificate)
1978	Inhalation Toxicology Workshop, Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM, 32-hour course in inhalation toxicology (certificate)

ACADEMIC FELLOWSHIPS AND AWARDS

Recipient, Distinguished Service Award, American College of Toxicology, November 2002

Recipient, Vice President's Hammer Award, EPA's Acute Exposure Guidelines Levels Programs, 2001

Recipient, Vice President's Hammer Award, DOE's Environmental Management Science Program, 1998

Postdoctoral Fellow, National Institutes of Health, Sloan-Kettering Institute, 1975-1976

European Molecular Biology Fellow, Biozentrum der Universitat Basel, Basel, Switzerland, 1973

Predoctoral Fellow, National Institutes of Health, University of Pittsburgh, Department of Biophysics and Microbiology, 1970-1971

Andrew Mellon Fellow, University of Pittsburgh, Department of Biophysics and Microbiology, 1968-1969

Sigma Xi, Scientific Honorary, University of Minnesota, 1966

Iota Sigma Pi, Chemistry Honorary, University of Minnesota, 1966

Chimes, Junior Women's Honorary, University of Minnesota, 1965

PROFESSIONAL SOCIETIES

American Chemical Society
American Association for the Advancement of Science
American College of Toxicology
International Society of Exposure Science
Society of Toxicology
Sigma Xi

PROFESSIONAL RECOGNITION / ELECTED POSITIONS

Member, Committee on Environmental Improvement, American Chemical Society, 2015-2016, 2017-2018;
Member, NSF International Council of Public Health of Consultants, 2013-2015
Associate, Committee on Environmental Improvement, American Chemical Society, 2012-2014
Councilor, American Chemical Society, Chemical Society of Washington, 2011-2013
President, Chemical Society of Washington, 2009, 2010
President-Elect, Chemical Society of Washington, 2008
Board of Managers, Chemical Society of Washington, 2007-2008
Nominating Committee, Society of Toxicology, 2006-2007
President, American College of Toxicology, 1989-1990
Past President, American College of Toxicology, 1991
President-Elect, American College of Toxicology, 1988-1989
Vice President, American College of Toxicology, 1987-1988
Treasurer, American College of Toxicology, 1984-1986 and 1986-1988
Councilor, National Capitol Area Chapter-Society of Toxicology, 1989-1991
Secretary-Treasurer, Inhalation Specialty Section, Society of Toxicology, 1987-1989
Councilor, Risk Assessment Specialty Section, Society of Toxicology, 1989-1990
Member, Nomination Committee, Society of Toxicology, 1992-1993; 1998-1999
Member, Finance Committee, Society of Toxicology, 2000-2001

BOARDS OF DIRECTORS AND COMMITTEES OF BOARDS

Environmental Health Advisor, Cummins Inc., Columbus, Indiana, 2011-present;

Member, Innovative Technology Advisory Board, Scott's Miracle-Gro Company, Columbus, Ohio, 2009-2012;

Member Board of Directors, CIIT Centers for Health Research, Research Triangle Park, NC, 2001-2006
Officer, Corporate Secretary, Board of Directors, 2002-2006

Ex-Officio Member, Board Research Committee, American Chemistry Council Board of Directors, Arlington, VA, 1999-2005

Member, International Council of Chemical Associations (ICCA), Long-Range Research Initiative Planning Group, a committee of the ICCA Board of Directors, Arlington, VA, and Brussels, Belgium, 1999-2005

Ex-Officio Member, ICCA Long-Range Research Initiative Steering Committee, a committee of the ICCA Board of Directors, Arlington, VA, and Brussels, Belgium, 1999-2005

PROFESSIONAL RECOGNITION / ADVISORY BOARDS

Member, NRC Committee of the Board on Chemical Sciences and Technology-Board on Environmental Studies-Board on Life Sciences Joint Review Group to the Division of Earth and Life Studies, 2016

Member, Joint Committee, ANSI NSF Green Chemistry Institute NSF GCI 355 Greener Chemicals and Processes Information Standard, 2009-2015

Member, Environmental Health Perspectives Editorial Review Board, 2003-2007, 2008-2011, 2012-2016

Member, NRC Committee on Strengthening the US Environmental Protection Agency Laboratory Enterprise (2014);

Member, NRC Committee on the Design and Evaluation of Safer Chemical Substitutions, 2013-2014;

Member, Board on Chemical Sciences and Technology, National Research Council, 2008-2011; 2012-2014;

Member, Steering Committee for *Workshop on the Design of the National Children's Study*, Institute of Medicine, 2012-2013;

Chair, Federal Advisory Committee for the National Children's Study, National Institute of Child Health and Human Development, 2010-2012

Co-Chair, Montgomery County Maryland, Water Quality Advisory Group, 2010-2012

Invited Participant, Nanomaterial Case Study Workshop Process: Identifying and Prioritizing Research for Multi-walled Carbon Nanotubes, RTI and the U.S. Environmental Protection Agency, Summer 2012

Invited Reviewer and Workshop Participant, Nanomaterials Case Study Workshop: Developing a Comprehensive Environmental Assessment Research Strategy for Nanoscale Silver, ICF & the U.S. Environmental Protection Agency Research Triangle Park, NC, January 4-7, 2011

Co-Investigator, State of Michigan Grant to SAE International, Feasibility Study for a Center for Green Innovation and Technology Transfer for the Automotive Industry in Michigan, 2009-2010

Member, Montgomery County Maryland, Water Quality Advisory Group, 2008-2012;

Member, Federal Advisory Committee for the National Children's Study, National Institute of Child Health and Human Development, 2008-2012

Chair, North American Research on Tropospheric Ozone (NARSTO) Review Panel, 2009

Reviewer, National Research Council, Committee on Improving Risk Analysis, 2008

Co-Chair, Science Advisory Board for the Harvard School of Public Health-Cyprus International Initiative for the Environment and Public Health, 2005-2010

Member, Institute of Medicine, Roundtable on Environmental Health Sciences, Research, and Medicine, 1998-2001; 2001-2004, 2004-2008

Member, National Research Council, Committee on Science, Engineering, and Public Policy (COSEPUP), Committee on Evaluating the Efficiency of Research and Development Programs at the Environmental Protection Agency, 2007-2008

Advisor, National Center for Environmental Health's Report on the State of the Nation's Environmental Health, 2007-2008

Member, Stakeholder Panel, EPA's Business and Industry Environmental Justice Achievement Award, Washington, DC, July 2007

Member, Steering Committee, Boston University's Consensus Project on Biomonitoring, 2006

Member, National Research Council, Committee on Human Biomonitoring for Environmental Chemicals, 2004-2006

Member, NIEHS/EPA Superfund Basic Research Program (SBRP) External Advisory Group, 2003

Member, National Research Council, Committee to Review EPA's STAR Grant Program, 2002-2003

Consultant, EPA Science Advisory Board

- Committee on National Air Toxics Assessment, 2001
- PM Centers, 2002

Member, Chemical Sciences Roundtable, National Research Council 2000-2002, 2003-2006

Member, DOD/DOE/EPA Strategic Environmental Research and Development Program (SERDP) Science Advisory Board, 2000-2003

Reviewer, National Research Council, Research Priorities for Airborne Particulate Matter II, Evaluating Research Progress and Updating the Portfolio, National Academy Press, Washington, DC, 1999

Ad Hoc Reviewer, EPA Office of Research and Development, Board of Scientific Counselors, Review of Particulate Matter 2.5 Research Program, November 1999

Member, EPA's Clean Air Advisory Committee Panel on Oxygenate Use in Gasoline, 1999

Member, Board on Environmental Studies and Toxicology, National Research Council, 1998-2001; 2001-2004

Member, Science and Research Subgroup, EPA's Children's Health Federal Advisory Committee, 1998-2001

Reviewer, National Research Council, Research Priorities for Airborne Particulate Matter I, National Academy Press, Washington, DC, 1997

Member, Board of Scientific Councilors, National Toxicology Program, 1994-1998

External Reviewer, National Research Council, First Report of the Committee on Research Priorities for Airborne Particulate Matter: Immediate Priorities and Long-term Research Portfolio. March 1998

Invited Reviewer, State of the Science in Support of the Chemical Industry's Long-Range Research Initiative, Research Triangle Park, NC, November 10-11, 1997

Reviewer, EPA Board of Scientific Councilors Subcommittee Review Team, National Center for Environmental Assessment, 1997

Advisory Committee, State Environmental Health Services Project, John Hopkins University, 1993

Member, Expert Committee to Assist EPA/Environmental Criteria Assessment Office, Cincinnati, OH, August 8-9, and September 17, 1990

Member, Center for Alternative Animal Testing, Committee on Validation and Technology Transfer, Johns Hopkins University, 1989-1991

Special Reviewer, National Institute of Dental Research, September 1986, August 1987
Member, Special Study Section, "Small Business Innovative Research Grants – Immunology," Division of Research Grants; National Institutes of Health, July 1-3, 1986

Ad Hoc Member, Toxicology Study Section, Division of Research Grants; National Institutes of Health, 1985

Member, Special Study Section, "The Physiology of Lactation and the Biology of Human Milk," Division of Research Grants, National Institutes of Health, July 14-17, 1985

Consultant, Department of Energy, Office of Health and Environmental Research, Review of Complex Mixtures Program, Albuquerque, N.M, June 20-22, 1984, and Washington, DC, July 17-18, 1984

Reviewer for the journals Toxicology, Cancer Research, and Toxicology and Applied Pharmacology, Fundamentals of Applied Toxicology, Science, Environmental Mutagenesis, and Environmental Health Perspectives, Critical Reviews in Toxicology, and Environmental Science and Technology.

PRESENTATIONS / INVITED LECTURES (1998-present)

Invited Speaker, Particulate Matter Research--Directions for Future Studies Committee on Research Priorities for Airborne Particulate Matter, National Research Council, Washington, DC, January 20, 1998

Concepts and Methods of Comparative Risk Assessment and Priority Setting: A Federal and State Perspective, New Jersey Department of Environment's Blue and Gold Committee, Merck Conference Center, Whitehouse, NJ, January 23, 1998

Issues and Approaches in Assessing Risk of Air Toxics, Annual Meeting of the Health Effects Institute, Boston, MA, April 6, 1998

Exposure Analysis: Opportunities/Challenges for both Epidemiology and Toxicology-Characterizing Human Risk: Linking Epidemiology and Toxicology for Improved Environmental Risk Assessment, IBC Environmental Health Forum, Washington, DC, May 14, 1998

Overview of API's Health and Environmental Sciences Program, Executive Committee of the Environmental Coordinators, Houston, TX, May 28, 1998

Benzene Update, North Carolina Science Advisory Board on Toxic Air Pollutants, Raleigh, NC, September 4, 1998

From 1999 to present, Dr. Henry has made numerous presentations in her capacity as Vice President for Science and Research at the American Chemistry Council. The major emphasis of these presentations is the implementation and progress of the Long-Range Research Initiative.

Presentations include:

- International Council of Chemical Associations meetings in Brussels, June 1999; Montreaux, Switzerland, October 1999; Research Triangle Park, NC, March 2000; Tokyo, July 2000; Research Triangle Park, NC, July 2000; Houston, TX, October 2001; Tokyo, February 2002, Dublin, Ireland, October 2002; Brussels, Belgium, November 2002; Reston, VA, June 2002; Barcelona, Spain, October 2003; Brussels, Belgium, November 2003; Amsterdam, Netherlands, October 2004; Nice France, September 2005; Brussels, Belgium, September 2006;

- Keynote speaker with Dr. Jim Bus, Dow Chemical, Long-Range Research Initiative, CIIT Annual Meeting, May 2000
- Annual Responsible Care® Conference, Orlando, May 2000
- Congressional Staff Briefing, July 1999
- Individual company briefings on the LRI on a continuing basis from 1999-2005:
- Status reports and briefings to the ACC Board Research Committee on a continuing basis, three times yearly
- Status reports and briefings to the ICCA Board of Directors and Committees on a continuing basis, once per year, various European locations

Respondent, Science Advisory Panels: Balancing Expertise and Impartiality, Science & the Congress Project, American Chemical Society, August 20, 2001

Invited Speaker, Executive Leadership Group, American Chemistry Council, Houston, TX, February 7, 2002

Invited Speaker, "Research Making a Difference," Environmental Council of States (ECOS) Annual Meeting, Honolulu, HI, August 27, 2001

Invited Speaker, Executive Leadership Group, American Chemistry Council, Linden, NJ, September 25, 2001

Invited Speaker, Science, Technology and Law Panel, The National Academies, Washington, DC, November 5-6, 2001

Invited Speaker, Presidents' EHS Committee, Ashland Corporation, Covington, KY, January 30, 2002

American Chemistry Council's Long-Range Research Initiative LRI Overview, Executive Leadership Group, Houston, TX, February 7, 2002

Environmental Health Monitoring: A View from Industry, Roundtable on Environmental Health Sciences, Research and Medicine, Institute of Medicine, Washington, DC, April 10, 2002

Use of Genomics in Toxicology and Epidemiology, National Occupational Research Agenda Workshop, Washington, DC, May 8, 2002

Long-Range Research Initiative (LRI), EPA Public Meeting, Washington, DC, May 23, 2002

American Chemistry Council's Long-Range Research Initiative: Use of Genomic Technologies in Toxicology and Epidemiology, Roundtable on Computational Toxicology, EPA Campus, Research Triangle Park, NC, July 12, 2002

Genomics and the Chemical Industry, National Research Council Committee on Emerging Issues and Data on Environmental Contaminants, Washington, DC, November 4, 2002

Distinguished Service Award, American College of Toxicology, "Evolution of Toxicology for Risk Assessment," Hershey, PA, November 11, 2002

American Chemistry Council's Long-Range Research Initiative, American Chemical Society, Washington, DC Chapter, December 12, 2002

American Chemistry Council's Long-Range Research Initiative, Presented to the American Chemistry Council Public Health Team, Arlington, VA, January 8, 2003

Presence of Trace Chemicals in the Human Body, American Chemistry Council Leadership Dialogue Meeting, February 21, 2003

Science, Research and Emerging Issues, New Jersey Chemical Industry Council, Atlantic City, NJ, April 28, 2003

Genomics and the Evolution of Toxicology for Risk Assessment, George Washington University Seminar on Environment and Occupational Health , Washington, DC, December 10, 2003

Environmental Health in Industry: Partnerships and Responsible Care, Institute of Medicine Workshop, Houston, TX, January 23, 2004

NTP in the 21st Century, NTP Board of Scientific Counselors Working Group, Baltimore, MD, March 25, 2004

Opportunities and Dangers: Career Paths, Women in Science at Yale, New Haven, CT, April 22, 2004,

Partnerships for Responsible Nanotechnology Development, National Research Council Workshop on Nanotechnology, Washington, DC, March 24, 2005

Global Research Strategy: Long-Range Research Initiative, Alliance for Chemical Safety, Cincinnati, OH, July 20, 2005

Peer Review and Conflict of Interest at ACC's Long-Range Research Initiative, Society of Toxicology, Town Hall Meeting, San Diego, March 8, 2006

Scientific and Legal Perspectives on the Use of Science in Regulatory Activities, Project on Scientific Knowledge and Public Policy, Coronado III, San Diego, March 9, 2006

Industry Performance Programs, Environment, Health, and Safety Roundtable, Conference Board, Washington, DC, March 23, 2006

Charting the Future of Environmental Public Health, National Environmental Public Health Conference, Atlanta, GA, December 4, 2006

Interpretation of Human Biomonitoring Data—ACC's Perspective, National Environmental Public Health Conference, Atlanta, GA, December 5, 2006

Nanotechnology: What Is It? Awakening Conference, Sea Island, GA, January 6, 2007

Interpretation of Human Biomonitoring Data—ACC's Perspective, Boston University Consensus Conference on Biomonitoring, Boston, MA, December 9, 2006

Children's Environmental Health: Chemical Industry Perspective, National Policy Consultation Series on Children's Health and Environment, Ottawa, Canada, January 23, 2007

Integrating Environment and Human Health: Guiding Research, National Council on Science and Environment, Washington, DC, February 2, 2007

Standards and Practices for Judging the Quality of Scientific Work, DRI's Toxic Torts and Environmental Law Seminar, New Orleans, LA, March 9, 2007

International Council of Chemical Associations: Responsible Care and New Strategies for Product Stewardship, 44th International Union of Pure and Applied Chemistry General Assembly, World Chemistry Leadership Meeting, Turin, Italy, August 10, 2007

Decision-Making and Communication Under Uncertainty at EPA: Questions about Probabilistic Risk Assessment, Institute of Medicine Committee on Decision-Making Under Uncertainty, Public Workshop, Washington, DC, January 11, 2008

Human Biomonitoring of Environmental Chemicals, Graduate Seminar, Dept. of Environmental and Occupational Health, George Washington University, Washington, DC, February 28, 2008

Plenary Lecture: Competition & Regulation: Is There Room for Innovation and Entrepreneurship within a Strict Regulatory Frame? Public Health and Environment Perspective, 7th World Congress on Surfactants, Paris, France, June 25, 2008

Collaborative Research & Standards and Practices for Health and Environmental Research, Center for Science and the Public Interest: Rejuvenating Public Sector Science, Washington, DC, July 11, 2008

Human Biomonitoring For Environmental Chemicals, American Chemical Society Science & the Congress Project and the Society of Toxicology Briefing, 485 Russell Senate Office Building, Washington, D.C., March 20, 2009

Feasibility Study for Establishing a Center for Green Innovation & Technology Transfer for the Automotive Industry in Michigan, Supplier Partnership for the Environment Meeting, General Motors Technical Center, Warren, MI, May 1, 2009

Overview George Washington University Dialogue: Sponsorship and the Quality of Scientific Testing and Research on the Health Effects of Chemical Exposures, George Washington University, Washington, D.C., May 18, 2009

Feasibility Study for Establishing a Center for Green Innovation & Technology Transfer for the Automotive Industry in Michigan, ACS 13th Annual Green Chemistry & Engineering Conference, College Park, MD, June 23, 2009

Corporate Responsibility, Washington College, Chestertown, MD, November 2, 2009

Recommendations for an SAE-Michigan Center for Green Innovation and Technology Transfer in the Automotive Industry, ACS 14th Annual Green Chemistry & Engineering Conference, Washington, DC, June 22, 2010

Lessons Learned and Path Forward for Green Innovation in the Automotive Industry, Michigan 2010 GreenUp Conference, October 20, 2010, Ann Arbor, MI

Corporate Social Responsibility, Public Health & Sustainability, Washington, College, Chestertown, MD, October 12, 2011

Environmental Sustainability for the Automotive Industry: Progress & Next Steps, Michigan GreenUp Conference, Ann Arbor, MI, October 27, 2011

Public Health, Corporations, Sustainability: What Role for Green Chemistry & Engineering? George Washington University, Department of Chemistry, Washington, DC, October 5, 2012

Green Innovation and Sustainable Practices in the Automotive Sector, A. Smart, P. Beattie, and C. Henry, Michigan GreenUp, Ann Arbor, MI, 2012

Invited Lecturer, National Institutes of Health, Foundation for Advanced Education in the Sciences, Bethesda, MD:

- Introduction to Environmental and Occupational Health Policy and Regulations, March 4, 2013
- Environmentalism, Corporate Responsibility, Public Health & Environmental Policy, April 26, 2013

Public Health & the Environment: Where Have We Been & Where Are We Going? Grand Valley State University (GVSU) and Michigan Green Chemistry Clearinghouse (MGCC) Webinar: Green Chemistry and Toxicology Education, April 23, 2013

Protecting Public Health & the Environment: What Role for Toxicology & Green Chemistry? Green Centre Canada, Sustainable Chemistry Summit, Montreal, Canada, June 6, 2013

Corporate Social Responsibility: A Case for Public Health and Environmental Protection? University of Minnesota Law School, Minneapolis, MN, September 19, 2014

Corporate Social Responsibility: Task Force Report, NSF International Council of Public Health Consultants Annual Meeting, Ann Arbor, MI, October 9, 2014;

Invited Lecturer, National Institutes of Health, Foundation for Advanced Education in the Sciences, Bethesda, MD:

- Introduction to Environmental and Occupational Health Policy and Regulations, January 28, 2015
- Sustainability, Globalization, Corporate Responsibility, Environmentalism: Impact on Environmental Health, April 22, 2015

Invited Lecturer, University of Portland, School of Business, Portland, OR; Sustainability, Globalization, Corporate Responsibility, Environmentalism: Impact on Environmental Health, September 7, 2015

Invited Lecturer, Portland State University, Environmental Science and Management, Portland, OR; Sustainability, Globalization, Corporate Responsibility, & Environmentalism: Future Impacts on Environmental & Occupational Health, May 8, 2017

CONFERENCES, WORKSHOPS, SYMPOSIA

Facilitator, Workshop for the Environmental Protection Agency, Methods to Develop Exposure Concentrations for Planning and Evacuation for SARA Title III, March 28-29, 1988

Organizing Committee Member, Annual Meeting of the American College of Toxicology, Baltimore, MD, October 29-31, 1988

Convener, Meeting of the Expert Committee, Criteria to Identify and List Reproductive Toxicants under California's Proposition 65, Little Rock, AR, October 4-6, 1988

Session Chair and Organizing Committee Member, Mouse Liver Carcinogenesis: Mechanisms and Species Comparison, Austin, TX, November 30-December 3, 1988

Session Chair, Integrative Approach to Assessing Human Health Risks, Assessment of Inhalation Hazards, Hanover, West Germany, February 19-24, 1989

Session Chair and Organizing Committee Member, Regulatory Management of Carcinogenic Chemical Risks, Wrightsville Beach, NC, May 2-5, 1989

Workshop Chair and Organizing Committee Chair, Methanol Vapors and Health Effects: What We Know and What We Need to Know, Washington, DC, June 14-15, 1989

Organizing Committee Member, Regional Risk Assessment Workshops for State Public Health Officials, 1989-1992

Session Chair, Critical Target Genes in Chemical Carcinogenesis, Research Triangle Park, NC, September 10-14, 1989

Program Chair, Annual Meeting of the American College of Toxicology, Williamsburg, PA, October 29-31, 1989

Conference Co-Chair, Mouse Liver Tumor Workshop, Washington, DC, November 14-15, 1989

Session Chair and Organizing Committee Member, Chemically-Induced Cell Proliferation: Implications for Risk Assessment, Austin, TX, November 29-December 2, 1989

Session Chair and Organizing Committee Member, Biological Effects of Dietary Restriction Conference, Washington, DC, March 5-7, 1990

Conference Co-Chair, Principles of Route-to-Route Extrapolation for Risk Assessment, Hilton Head, SC, March 19-21, 1990

Conference Co-Chair, Methodology for Assessing Health Risks from Complex Mixtures in Indoor Air, Arlington, VA, April 17-19, 1990
Workshop Co-Chair, Route-to-Route Workshop Meeting, Durham, NC, July 9-12, 1990

Session Chair, Annual Summer Toxicology Forum, Peroxisome Proliferation, Aspen, CO, July 16-20, 1990

Organizing Committee, Annual Meeting of the American College of Toxicology, Orlando, FL, October 29-31, 1990

Conference Co-Chair, Similarities and Differences Between Children and Adults: Implications for Risk Assessment, Hunt Valley, MD, November 5-7, 1990

Conference Co-Chair, Second International Mouse Liver Tumor Workshop, Washington, DC, November 14-15, 1990

Session Chair, Relevance of Animal Studies to Evaluate Human Cancer Risk, Austin, TX, December 5-8, 1990

Conference Co-Chair, Potential Hazards of Municipal Solid Waste Recycling, Cincinnati, OH, February 25-26, 1991

Conference Co-Chair, Interim Guidance for Dermal Exposure Assessment, Herndon, VA, April 2-4, 1991

Conference Co-Chair and Organizing Committee Member, Regulating Risk: The Science and Politics of Risk, Washington, DC, June 24-25, 1991

Conference Co-Chair, Peroxisome Proliferation Working Group Meeting, Washington, DC, July 10, 1991

Organizing Committee, International Conference on Safety of Water Disinfection: Balancing Chemical and Microbial Risks, Washington, DC, August 31-September 2, 1992

Chair, Physiological Parameters Working Group, Washington, DC, September 4, 1991

Session Chair, International Conference on Antioxidants, American Health Foundation, Tarrytown, NY, October 8-10, 1991

Organizing Committee Member, Health Effects of Gasoline, Miami, FL, November 6-8, 1991

Advisory Board Member and Conference Organizing Committee, Cancer Dose Response Workshops: Workshop I: Linearity and Additivity to background, Herndon, VA, September 19-20, 1991; Workshop II: Use of Biological Data, Herndon, VA, December 5-6, 1991

Workshop Co-Chair, Third Workshop on Mouse Liver Tumors, Health and Environmental Science Institute, Crystal City, VA, October 29-30, 1991

Co-Chair, Peroxisome Proliferation Working Group, Washington, DC, December 2, 1991

Organizing Committee, International Conference on Safety of Water Disinfection: Balancing Chemical and Microbial Risks, Washington, DC, August 31-September 3, 1992

Session Chair, American College of Toxicology Symposium on Critical Factors in Assessing Exposure in Different Populations, San Francisco, CA, October 21-24, 1992

Workshop Session Chair, Mechanistic Information, Cancer Risk Assessment Guidelines, Environmental Protection Agency, Crystal City, VA, September 12-14, 1994

Workshop Co-Chair, Diesel Exhaust Scientific Workshop, Sponsored by California Environmental Protection Agency, US Environmental Protection Agency, National Institute for Occupational Safety and Health, Health Effects Institute, and World Health Organization, San Francisco, CA, January 29-30, 1996

Session Chair and Steering Committee Member, Benzene Workshop, University of Ottawa, Toronto, Canada, December 16-17, 1999

Steering Committee, 1999 International Oil Spill Conference, Seattle, WA March 7-11, 1999

Workshop Chair, International Council of Chemical Associations (ICCA) Genomics Workshop, Orlando, FL, March 7-8, 2001

Session Chair, The Environmental Council of the States 2001 Annual Meeting, Honolulu, HI, August 26-28, 2001

Session Chair, Translating Research Intent into Action, ICCA Biomonitoring Science Meeting, Minneapolis, MN, July 26-27, 2006

Moderator, The Social Pillar of Sustainable Water: Health Research Gaps; Institute of Medicine Roundtable on Environmental Health, Science, Research, and Medicine, Global Environmental Health: Research Gaps and Barriers for Providing Sustainable Water, Sanitation, and Hygiene Service, Washington, DC, October 18, 2007

Invited Participant, Designing Safer Chemicals Summit, Yale University, New Haven, CT, December 13-14, 2007

Participant, Center for Strategic International Studies Water Working Group, Washington, DC, 2007-2009

Invited Participant, Suppliers Partnership Meeting, Ford Motor Company, Dearborn, MI, May 27, 2009

Invited Participant, American National Standards Institute (ANSI) Green Chemistry Institute (GCI) Green Chemistry Stakeholder Meeting, NSF International Headquarters, Ann Arbor, MI, July 14-15, 2009

Invited Participant, American National Standards Institute (ANSI) NSF International Green Chemistry Institute (GCI) Green Chemistry Stakeholder Meeting, NSF International Headquarters, Ann Arbor, MI, July 14-15, 2009

Co-Organizer, Examples of Green Innovation and Sustainable Practices in the Automotive Sector: An Expert Panel Discussion, SDP114, SAE World Congress, Detroit, MI, April 14, 2011

Co-Organizer, Green Chemistry for Automotive Applications, SDP112, SAE World Congress, April 14, 2011, Detroit, MI, April 14, 2011

Workshop Chair, SAE's Workshop to Characterize Biobased Materials in Vehicles for the USDA BioPreferred^{SM} Program, Detroit, MI, April 15, 2011.

Session Chair, Auto Session, 15th Annual American Chemical Society's Green Chemistry & Engineering Conference, Washington, DC, June 21, 2011

Invited Participant, Mini-Symposium on Green Chemistry Alternatives Assessment Tools, DuPont, Wilmington, DE, July 21-22, 2011

PUBLICATIONS

CHAPTERS, BOOKS

Henry, C.J., Whitmire, C.E., Lopez, A., Dansie, D.R., Avery, M.D., Caton, J.E., Stokely, J.R., Holmberg, R.W., Guerin, M.R., and Kouri, R.E. "The Dosimetry and Distribution of Whole Cigarette Smoke Particulates in Inbred Strains of Mice: Comparison of a Large Smoke-Exposure Machine (SEM) with a Small-Capacity Smoke Exposure Machine (Walton)." In: Pulmonary Toxicology of Respirable Particles. C.L. Saunders, F.T. Cross, G.E. Dagle, and J.A. Mahaffey (eds.), Technical Information Center, U.S. Department of Energy, NTIS. pp. 177-192, 1980

Schechtman, L.M., Henry, C.J., and Kouri, R.E. "Exposure, Uptake and Distribution of Chemical Carcinogens." In: Genetic Differences and Chemical Carcinogenesis. R.E. Kouri (ed.) CRC Press, Boca Raton, FL, pp. 1-20, 1980

Kouri, R.E., Billups, L.H., Hall, W.C., and Henry, C.J. "A Mouse Lung Carcinoma Model System." Proc. of the 12th Conference on Environmental Toxicology, 35-49, 1982

Henry, C.J. and Kouri, R.E. "Specialized Test Article Administration: Nose-Only Exposure and Intratracheal Inoculation." In: Inhalation Toxicology. H. Salem (ed.), Marcel Dekker, New York, 1986

Hall, W.C., Lubet, R.A., Henry, C.J., and Collins, M.J. "Sendai Virus -- Disease Processes and Research Complications." In: Complications of Viral and Mycoplasmal Infections in Rodents to Toxicology Research and Testing. T. Hamm (ed.), Hemisphere, Washington, DC, 1986

Anderson, E.L. and Henry, C.J. "Risk Assessment/Risk Management as a Toxic Control Strategy." In: World Conference in Large Lakes, 1986

Henry, C.J. (ed.) "Exposure Assessment: State-of-the-Art." In: Journal of the American College of Toxicology, Vol. 8, No. 5, 1989

Henry, C.J. "Safety Assessment: The Process/Procedure to Be Followed," In: Food Policy Trends in Europe (in press). H. Deelstra, M. Fondu, W. Ooghe, R. van Havave (eds.), Ellis Horwood, New York, 1991

Gerrity, T., and Henry, C.J. (eds). "Principles of Route-to-Route Extrapolation for Risk Assessment" Elsevier, New York, 1990

D'Amato, R.D., Slaga, T.J., Farland, W.F., and Henry, C. "Preface" and "Introduction." In: Relevance of Animal Studies to the Evaluation of Human Cancer Risk. Wiley-Liss, New York, 1992

Guzelian, P.S., Olin, S.S., and Henry, C.J. (eds). Similarities and Differences Between Children and Adults: Implications for Risk Assessment. ILSI Press, Washington, DC, 1992

Burke, T., Tran, N., Roemer, J., Henry, C.J. (eds). Regulating Risk: The Science and Politics of Risk. ILSI Press, Washington, DC, 1993

William, G.M., Sies H., Baker, III G.7., Erdman, Jr., J.W., Henry, C.J. Antioxidants Chemical, Physiological Nutritional and Toxicological Aspects (eds). Princeton Scientific Publishing Co., Princeton, 1993

Henry, C.J., "Risk Assessment, Risk Evaluation, and Risk Management," In: Food Safety and Toxicity. J. deVries (ed.). CRC Press, Boca Raton. 1996

ABSTRACTS

(Please note that Dr. Carol Henry's earlier abstracts and papers are published under the name of C.M. Sprecher.)

Mock, W., Sprecher, C.M, Stewart, R.F. and Northolt, M.G. Abstracts, 159th National Meeting of the American Chemical Society, Houston, TX, February, 1970, ORGN 113

Billups, L.H, Henry, C.J., Whitmire, C.E., and Kouri, R.E. Pathogenesis of Chemically Induced Lung Lesions in Mice. Proc. Amer. Assoc. Cancer Res., No. 565, 1978

Henry, C.J., Billups, K.H., Avery, M.D., Dansie, D.R., Lopez, A., Breth, L.A., Rude, T.H., and Kouri, R.E. - Lung Cancer Model Systems in Inbred Strains of Mice. Proc. Am. Assoc. Cancer Res., 20:242, 1979

Rasmussen, R.E., Boyd, C.H., Henry, C.J, and Kouri, R.E. - DNA Repair Is Reduced in Lungs of Mice Exposed to Cigarette Smoke. Proc. Am. Assoc. Cancer Res., 20, 242, 1979

Henry, C.J., Lopez, A., Whitmire, C.E., Caton, J., Henderson, C.M., and Kouri, R.E. - Deposition and Distribution of Total Particulate Matter (TPM) in BC3F1 Mice after Exposure to Cigarette Smoke. Toxicol. Appl. Pharmacol., 49:A5, 1979

Henry, C.J., Avery, M.D., Danise, D.R., Lopez, A., Breth, L.A., Billups, L.H., and Kouri, R.E. The Effect of Exposure to Whole Cigarette Smoke on 3-Methylcholanthrene (MCA) Induced Lung Tumors in BC3F1/Cum Mice. Proc. Am. Assoc. Cancer Res., 21:31, 1980

Dinowitz, M., Nims R., Bhooshan, B., Kouri, R.E., and Henry, C.J. Induction of Ornithine Decarboxylase (ODC) by 12-0-Tetradecanoylphorbol-13-acetate (TPA) in Pulmonary Tissue: A Model System for Tumor Promotion in Mouse Lungs. Proc. Am. Assoc. Cancer Res., 21:31, 1980

Henry, C.J., Billups, L.H., Dinowitz, M., Rasmussen, R.E. Avery, M.D., Dansie, D.R., Lopez, A., Breth, L.A., Mullinax, H.D., and Kouri, R.E. The Effect of Exposure to Whole Cigarette Smoke on Pulmonary Mixed Function Oxidase, Ornithine Decarboxylase, DNA Repair Capacity and on 3-Methylcholanthrene (MCA) Induced Lung Tumors in BC3F1/Cum Mice. Symposium on CoCarcinogenesis and Biological Effects of Tumor Promoters, Castle of Elmau, D-8101 Klais/Bavaria, Federal Republic of Germany, p. 56, 1980

Henry, C.J., Lopez, A., Danise, D.R., Avery, M.D., Whitmire, C.E., Caton, J.E., Stokely, JR., Guerin, M.R., Curren, R.D., and Kouri, R.E. Distribution and Clearance of Three Cigarette Smoke Constituents, Dotriacontane (DTC), Nicotine (NIC) and Benzo(a)pyrene (BP), after Exposure of Mice to Whole Cigarette Smoke. The Toxicologist, 1:139, 1981

Henry, C.J, Collins, M.R., Hall, W.C., Putman, D., Lubet, R.A., Dansie, D.R., Avery, M.D., McKinney, C., and Kouri, R.E. Effects of Sendai Virus and Vaccine on Short-Term Toxicological and

Immunological Markers in Strain A/J Mice. 32nd Annual Meeting, Am. College Vet. Path, p. 127, 1981

Hwang, K.K., Sonko, O., Dansie, D.R., Kouri, R.E. and Henry, C.J. Studies on the Deposition and Distribution of Catechol from Whole Cigarette Smoke in BC3F1/Cum Mice. The Toxicologist, 2:46, 1982

Kanagalingam, K.K., Reed, S.M., Dansie, D.R., Hall, W.C., Kouri, R.E., and Henry, C.J., Autoradiographic Analysis of DNA Synthesis in Pulmonary Tissues of Mice Exposed to Whole Cigarette Smoke. The Toxicologist, 2, 46, 1982

Henry, C.J., Billups, L.H, Hall, W.C., Avery, M.D., Dansie, D.R., Mullinax, H.D., and Kouri, R.E. The Effect of Lifetime Exposure to Whole Cigarette Smoke in BC3F1/Cum Mice. Proc. 13TH International Cancer Congress, 52, 1982

Henry, C.J., Kanagalingam, K.K., Hwang, K.K., Dinowitz, M., Lubet, R.A., Hall, W.C., Rasmussen, R., Benedict, W., and Kouri, R.E. The Effect of Exposure to Whole Cigarette Smoke on Short-Term Endpoints in BC3F1/Cum Mice. Proc. 13th International Cancer Congress, 51, 1982

Kanagalingam, K.K., Banerjee, A., Reed, S.M., Dansie, D.R., Benedict, W.F., Kouri, R.E., and Henry, C.J. Cigarette Smoke Increases DNA Replication in Lung and Sister Chromatid Exchange (SCE) in Bone Marrow of Mice. Proc. Am. Assoc. Cancer Res., 23:56, 1982

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Schechtman, L.M., Gallagher, M.A., Henry, C.J., Kouri, R.E., Lubet, R.A. Induction of Neoplastic Transformation and Single Strand DNA Breaks in C3H 10T Cells by Polycyclic Hydrocarbons and Short Chain Alkylating Agents. Proc. Fed. Am. Soc. for Experimental Biologists, 641, 1982

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Henry, C.J., Hall, David, R.M., and Stone, C.J. Methodology for Toxicological Evaluation of Cigarette Smoke. The Toxicologist, 2:271, 1984

Curren, R.D., David, R.M., Henry, C.J., and Stone C.J. Cytological and Biochemical Evaluation of Pulmonary Lavage Fluid from Rats Exposed to Cigarette Smoke. The Toxicologist, 4:246, 1984

Stephenson, E.H., Moeler, R.B., Pavone, C.G., Young, H.W., and Henry, C.J. Nose-Only Vs. Whole Body Aerosol Exposure. Pro. American Industrial Hygiene Conference, No. 263, Detroit, MI, May 20-25, 1984

Curren, R.D., David, R.M., Stone, C.J., and Henry, C.J. The Use of Bronchoalveolar Lavage to Evaluate the Pulmonary Response of Rats Exposed to Cigarette Smoke. Proc. Int. Conf. on Bronchoalveolar Lavage, No. 19, Columbia, MD., May 16-18, 1984

Henry, C.J. and Hughes, D.J. Risk Assessment with Emphasis on Exposure Assessment. Continuing Education Course, Annual Meeting of the Society of Toxicology, Seattle, WA, The Toxicologist, February 20, 1992

LETTERS TO THE EDITOR

Henry, C.J. Industry-Government Collaboration, Science 298, 13 December 2002

Edwards, E.S., Green, N., Henry, C.J., Landrigan, P.J., and Swartz, D. Tracking Children's Health to Age 21. Science 302, 781, 31 October 2003

Henry, Carol J. Questions About Disclosure, Science 304, 1448, 2004

JOURNAL ARTICLES

(Please note that Dr. Carol Henry's earlier abstracts and papers are published under the name of C.M. Sprecher.)

Garbisch, E.W., Jr., Schildcrout, S.M., Patterson, D.B., and Sprecher, C.M. "Strain Effects. II. Diimide Reduction of Olefins," J. Amer, Chem, Soc., 87:2932-2944, 1965

Garbisch, E.W., Jr., Sprecher, C.M., and McCallum, R.J. "Structure Reactivity Relationships for Diimide Reductions of Unsaturated Hydrocarbons," J. Chem. Phys., 67:1908, 1970

Mock, W.L., Sprecher, C.M., Stewart, R.F., and Northolt, M.G. "2,3,4-Trichloropentacyclo (6.4.02, 4.03, 10.05, 9) dodeca-6,11-diene," J. Amer. Chem. Soc., 94:2015-2020, 1972

Henry, C.M. "Studies on the Tetragonal Self-Assembling Protein Layer of Bacillus brevis Pl." Ph.D. Thesis, University of Pittsburgh, Pittsburgh, PA, 1972

Aeibi, U., Smith, P.R., Dubochet, J., Henry, C., and Kellenberger, E. "A Study of the Structure of the T-layer of Bacillus brevis," J. Supramolecular Structure, 1:498-522, 1973

Henry, C.J., Ferdinand, F.J., and Knippers, R. "Hybridase from Escherichia coli," Biochem.Biophys. Res. Comm., 50:603-611, 1973

Litman, G.W., Litman, R.T., and Henry, C.J. "Analysis of Lipophilic Carcinogen-Membrane Interactions Using a Model Human Erythrocyte Membrane System," Cancer Res., 36:438-444, 1976

Kouri, R.E., Rude, T.H., Curren, R.D., Brandt, K.R., Sosnowski, R.G., Schechtman, L.M. Benedict, W.F., and Henry, C.J. "Biological Activity of Tobacco Smoke and Tobacco Smoke-Related Chemicals," Environ. Health Perspective, 29:63-69, 1979

Kouri, R.E., Billups, L.H., Rude, T.H., Whitmire, C.E., Sass, B., and Henry, C.J. "Correlation of Inducibility of Aryl Hydrocarbon Hydroxylase with Susceptibility to 3-Methylcholanthrene Induced Lung Cancer," Cancer Letters, 9:277-284, 1980

Henry, C.J., Caton, J.E., Stokely, J.R., Guerin, M.R., Lopez, A., Avery, M.D., Dansie, D.R., Henderson, G.M., Gayle, T., Whitmire, C.E., and Kouri, R.E. "Deposition and Distribution of Total Particulate Matter of Cigarette Smoke in Mice Using a Large Capacity Smoke Exposure System," Toxicol. Appl. Pharmacol.. 58 399-409, 1981

Henry, C.J., Billups, L.H., Avery, M.D., Rude, T.H., Dansie, D.R., Lopez, A., Sass, B., Whitmire, C.E., and Kouri, R.E. "Lung Cancer Model System Using 3-Methylcholanthrene in Inbred Strains of Mice," Cancer Res., 41-5027-5032, 1981

Rasmussen, R.E., Boyd, C.H., Dansie, D.R., Kouri, R.E., and Henry, C.J. DNA "Replication and Unscheduled DNA Synthesis in Lungs of Mice Exposure to Cigarette Smoke," Cancer Res., 41-2583-2588, 1981

Hwang, K.K., Bhooshan, B., Kouri, R.E., and Henry, C.J. "Synthesis of Tritium Labeled Catechol," J. of Labeled Compounds and Radiopharmaceuticals, 19:35-38, 1981

Hwang, K.K., Sonko, O., Dansie, D.R., Kouri, R.E., and Henry, C.J. "Studies on the Deposition and Distribution of Catechol from Whole Cigarette Smoke in BC3F1/Cum Female Mice," Toxicol. Appl. Pharmacol, 64:405-414, 1982

Benedict, W.F., Banerjee, A., Kanagalingam, K.K., Dansie, D.R., and Henry, C.J. "Increased Sister Chromatid Exchange in Mice Exposed to Whole Cigarette Smoke," Mutation Res., 136:73-80, 1984

Henry, C.J., Gayle, T., Florant, L., Dansie, D.R., Greespan, J., Guerin, M., Holmberg, R., Kanagalingam, K.K., and Kouri, R.E. Chronic Inhalation Studies in Mice: I. Facilities and Equipment for "Nose-Only" Exposure to Cigarette Smoke," Beitr. Tabakforch Int., 13:37-53, 1985

Putman, D.L., David, R.M., Melhorn, J.M., Dansie, D.R., Stone, C.J., and Henry, C.J. "Dose-Responsive Increase in Sister Chromatid Exchanges in Bone Marrow Cells of Mice Exposed Nose-Only to Whole Cigarette Smoke," Mutation Research, 156:181-186, 1985

Henry, C.J. and Kouri, R.E. "Chronic Inhalation Studies in Mice II. The Effects of Long-Term Exposure of 2R1 Cigarette Smoke to BC3F1/Cum Mice," J. National Cancer Inst., 77, 203-212, 1986

Fishbein, L. and Henry, C.J. "Introduction: Workshop on the Methodology for Assessing Health Risks from Complex Mixtures in Indoor Air," Environmental Health Perspectives, 95:3-5, 1991

Henry, C.J., Fishbein, L., Meggs, W.J., Ashford, N.A., Schulte, P.A., Anderson, H., Osborne, J.S., Sepkovic, D.W., "Approaches for Assessing Health Risks from Complex Mixtures in Indoor Air: A Panel Overview," Environmental Health Perspectives 95:135-143, 1991

Guzelian, P., Farland, W.F., Olin, S.S., and Henry, C.J. "Letter to the Editor," Pediatrics, March 1992

Avenill, E., Henry, C.J., Rubenstein, H., Sattler, E., and Tirey, S.L. "Content of Worker Notification," American Journal of Industrial Medicine, 23:71-76, 1993

Henderson, R., and Henry, C.J., The Need for Policy and Risk Assessment for Chemicals, Journal of Toxicologic Pathologists, in press, 1997

Henry, C., and Moses, M. "Risk-based Decision Making in the DOE: Challenges and Status," Technology: Journal of the Franklin Institute, 333A: 53-58, 1997

Krewski, C. and Henry, C., "Introduction to The Hematotoxicity Modeling Workshop," In: Journal of Toxicology and Environmental Health Special Issue on Benzene, 2000

Henry, Carol J., "The Chemical Industry's Commitment: Update on The Long-Range Research Initiative," In: Chemistry Business, The Journal of the American Chemistry Council, Vol. 28, 11-12, 2000

Henry, C.J., Carpanini, F., Corton, J.C., Craig, K., Igarashi, K., Leboeuf, R., Marchant, G., Osborn, K., Pennie, W.D., Phillips, R., Smith, L.L., Teta, M.J., Vu, V. "Use of Genomics in Toxicology and Epidemiology: Findings and Recommendations of a Workshop," Environmental Health Perspectives, 110(10):1047-1050, 2002

Henry, C. J., "It's Not Bad Science, It's Beneficial Science," The Environmental Forum of The Environmental Law Institute, Washington, DC, pp4-6, March/April 2002

Henry, C.J., "Evolution of Toxicology for Risk Assessment," International Journal of Toxicology, 22: 3-7, 2003

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Beattie, P., Henry, C. J., and Bradburn, J. "SAE's Green Technology Systems Group: Focus on Environmental Sustainability for the Automotive Industry, SAE Publications 2011-01-1258

GOVERNMENT REPORTS FOR WHICH DR. HENRY HAD PRIMARY RESPONSIBILITY

State of California

Toward the 21st Century: the California Comparative Risk Project, California Environmental Protection Agency, Sacramento, CA, May 1994

United States Department of Energy

Risks and the Risk Debate: Searching for Common Ground-the First Step, Office of Environmental Management, Department of Energy, Washington, DC, submitted in June 1995 to the United States Senate, Appropriations Committee

State of Michigan

SAE Green Engineering & Technology Transfer Workshop: How Can a Green Center Help the Automotive Industry Succeed? Feasibility Study for Establishing a Center for Green Innovative Technology Transfer for the Automotive Industry in Michigan; Workshop Report, April 30, 2010; http://www.sae.org/events/green/finalreport.pdf

CURRICULUM VITAE
Robert Eugene Johnson, M.D., F.A.C.S.

I. PERSONAL DATA:

Citizenship status: (b) (6)
Work address: Vidalia ENT Associates
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Vidalia, GA 30474
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CURRENT POSITION (2015-present): Otolaryngologist, Vidalia ENT Associates. In my current position, I provide medical and surgical care for patients suffering with disorders of the ear, nose, throat and the head and neck with an emphasis on thyroid and parathyroid disorders, head & neck cancers, sino-nasal disease and voice and swallowing pathology.

Concurrent position: President, Southeast ENT & Facial Plastic Surgery, PC, 2001-present

II. UNDERGRADUATE EDUCATION:

USAF/University of Oklahoma Physician Assistant Program (B.S.), 1979-82

III. MEDICAL EDUCATION:

School Of Medicine, Medical College of Georgia
M.D. awarded 9 June 1990

HONORS:
Alpha Omega Alpha Medical Honor Society, April 1989
W.B. Saunders Book Award for highest achievement in the Anatomic Sciences, 1987
McGraw-Hill Book Award for ranking second in the freshman class, 1987
Dean's Student Research Fellow, 1988
Faculty Wives' Scholarship for ranking first in junior class, 1989
Lange Medical Publications Student Book Award, 1989 and 1990
Physician's Physician Award; elected upon graduation by the Class of 1990

ACTIVITIES:
Vice president of freshman class
AMA Medical Student Section member, 1986-90; delegate to AMA National Convention, 1988
Member, Institutional Self-study Committee, MCG, 1988-89

IV. GRADUATE MEDICAL EDUCATION:

Surgical Internship, Eisenhower Army Medical Center, Augusta GA, 1990-91
Otolaryngology-Head and Neck Surgery Resident, Brooke Army Medical Center, San Antonio, TX, 1991-95
Fellow, Head & Neck Oncologic and Reconstructive Surgery, University of Iowa Hospitals and Clinics, Iowa City, Iowa, 1995-96

HONORS:

Resident Research Competition, First Place, Texas Society of Otolaryngology, 1995
American Cancer Society Clinical Oncology Fellowship, 1995-96

V. ACADEMIC APPOINTMENTS:

Clinical Assistant Professor, Department of Surgery, John A. Burns School of Medicine, University of Hawaii, 1960 East-West Rd., Honolulu, Hawaii 96822; 1996-2002
Assistant Professor of Surgery, F. Edward Hebert School of Medicine, Uniformed Services University of Health Sciences, Bethesda, Maryland, 20814; 1996-2014

VI. CERTIFICATION AND LICENSURE :

Medical Curricula:

National Board of Medical Examiners, Diplomate, #391752, 1990
Georgia Composite State Board of Medical Examiners license #035071
Iowa State Board of Medical Examiners license #30464 (inactive)
Hawaii State Board of Medical Examiners, license #11018(inactive)
American Board of Otolaryngology, Diplomate, 1996
Joint Council for the Approval of Advanced Training in Head & Neck Oncologic Surgery, 1996
American Board of Facial Plastic & Reconstructive Surgery, Diplomate, 2000
"The Care and Use of Laboratory Animals" Renaissance Research Associates, Inc., Certificate 1998

WMD and Disaster Management Curricula:

"Medical defense against biological weapons course" U.S. Army Medical Research Institute of Infectious Diseases, 1997
"Medical management of chemical casualties course" U.S Army Medical Research Institute of Chemical Defense, Certificate, 1997
"Mass fatalities incident response course" Federal Emergency Management Agency, Certificate, 1997
"Emergency responder- nuclear, biological and chemical operations training" U.S. National Domestic Preparedness Program, Certificate 1998
"Special Response Teams Telemedicine Course" U.S. Army Telemedicine and Advanced Technology Research Center, Certificate 1998
Advanced Wilderness Life Support Certificate, Wilderness Medical Society, 2009

VII. PROFESSIONAL SOCIETIES:

American Medical Association: 1986-present
American Academy of Otolaryngology-Head and Neck Surgery: 1991-present
American College of Surgeons, Fellow, 1999- present
American Head and Neck Society, Fellow, 1999
American Academy of Facial Plastic & Reconstructive Surgery, Fellow, 2000
Society of Military Otolaryngologists. 1993-present
Hawaii Society of Otolaryngology-Head & Neck Surgery. 1996-2001
Treasurer, 1998-99; Secretary 1999-2000; President 2000-2001
Georgia Medical Society, 2001-2016

Medical Association of Georgia, 2002- present

VIII. TEACHING ACTIVITIES:

Chief, Head & Neck Oncologic Surgery, Tripler Army Medical Center Otolaryngology-Head & Neck Surgery Residency Program, August 1996- May 2001

Faculty: Tripler Army Medical Center Otolaryngology Grand Rounds, weekly conference, August 1996- May 2001

Director: Tripler Army Medical Center Head And Neck Tumor Board, Bi-weekly conference, August 1996- May 2001

Lecturer: University of Iowa School of Medicine "Detection of Head And Neck Cancer" *Introduction to Clinical Medicine* series, April 1996

Course Instructor: University of Iowa Head and Neck Cancer and Reconstructive Course, June 1995, 1996

Course Instructor: Neurology Update, University of Iowa School of Medicine; "Surgical management of obstructive sleep apnea", November, 1995

Course Moderator: 4th International Conference on Head & Neck Cancer; conference entitled "Tumors of the parapharyngeal space", July 1996

Course Instructor: American Academy of Otolaryngology-Head & Neck Surgery Instructional Course "The radial forearm free flap: workhorse flap of the 1990's", with Valentino J; September 1996

Assistant Course Director and Instructor: University of Iowa Head and Neck Laser Course, June 1996

Course Instructor: Third Annual Trauma Symposium, San Antonio, Texas "Major Maxillofacial Trauma" August 1997

Course Instructor: American Academy of Otolaryngology-Head & Neck Surgery Instructional Course "Severe Maxillofacial Trauma: Evaluation, Stabilization, Reconstruction" with Funk GF; September 1997, September 1998

Course Instructor: American Academy of Otolaryngology-Head & Neck Surgery Instructional Course "Bone Grafting Techniques: a Comprehensive Overview" with Burgess LP; September 1997

Course Instructor: "Head and Neck Carcinoma- an Overview." Grand Rounds, Department of Medicine, Tripler Army Medical Center, March 1998

Course Instructor: "Weapons of Mass Destruction: an Overview of the Community Threat." Advances and Issues in Pre-Hospital Emergency Care, Honolulu, HI. April 1998

Course Instructor: “Head and Neck Carcinoma- an Overview.” Primary Care Update in Otolaryngology- Head and Neck Surgery, Tripler Army Medical Center, April 1998

Course Instructor: “Emergency Airway Management.” 82nd Annual Meeting of the Pacific Coast Oto-Ophthalmological Society, Kauai, Hi, June 1998

Panelist: “Current Issues in Parotid Neoplasms.” 82nd Annual Meeting of the Pacific Coast Oto-Ophthalmological Society, Kauai, Hi, June 1998

Course Instructor: “Confined space medicine and search and rescue.” National Mass Casualty Workshop & Exercise, Apia, Samoa, August 1998

Director: First Tripler Interdisciplinary Laryngology Conference, Honolulu, HI, September 1998

Course Instructor: “Techniques in Emergency Airway Management.” Hawaii Society of Physician Assistants Annual Conference, Honolulu, HI, October 1998

Course Instructor: “Emergency Airway Management in Austere Environments.” Battlefield Casualty Care Course, Center of Excellence in Disaster Management and Humanitarian Assistance, Tripler Army Medical Center, Honolulu, HI, February, 1999

Course Instructor: “Perioperative Considerations in Head & Neck Surgery.” Anesthesia Service Grand Rounds, Tripler Army Medical Center, Honolulu, HI, May 1999

Course Instructor: “Military Medicine and Humanitarian Assistance.” Riga, Latvia, July 1999

Course Co-director: “Special Response Teams and Battlefield Care Course.” Singapore, August 1999

Course Instructor: “Head & Neck Cancer: an Overview” and “Obstructive Sleep Apnea.” Primary Care Update, Tripler Army Medical Center, Honolulu HI, August 1999

Panel Moderator: “Current Issues in Head & Neck Reconstruction.” 25th Biennial Meeting Pan-Pacific Surgical Association, Honolulu, HI, January, 2000

Course Instructor: American Academy of Otolaryngology- Head & Neck Surgery Annual Meeting Instructional Course “Emergency Airway Management: A Multidisciplinary Approach.” with Wong SL; September 2000

Instructor, “Weapons of Mass Destruction: Special Response Teams” Surgical Grand Rounds, Memorial Health University Medical Center (MHUMC); September 2001

Instructor, “Obstructive Sleep Apnea”, Family Practice Grand Rounds, MHUMC, September 2001

Course Director, ATLS Provider Course, MHUMC, Savannah, GA; October 2001

Course Instructor, "Weapons of Mass Destruction: The Community Medical Response", Chatham Health Department and MHUMC; December 2001- March 2002

Course Instructor, "Head & Neck Reconstruction" and "Bioterrorism", East Georgia Health Cooperative Program, St Simon's Island, GA, September 2002

Speaker, "How to Win the Snore Wars", Community Health Forum, St Joseph's /Candler Health System, Candler Hospital, Savannah, GA, September 2002

Instructor, Tactical Medic Course, Rescue Training Inc., Savannah, GA, 2002 – 2012

Lecturer, Otolaryngology Grand Rounds, Medical College of Georgia, January 2006

Course Instructor: "American Thyroid Association 2016 Recommendations for the Management of Well-differentiated Thyroid Cancers" Meadows Regional Medical Center, March 2017

IX. OTHER PROFESSIONAL ACTIVITIES:

Chairman, EENT Dept., St. Joseph/Candler Health System, Savannah, GA 2010-2012

Cancer Care Committee, St. Joseph's/Candler Health System, Savannah, GA, 2002- 2008

Head & Neck Disease Management Team, Memorial Health University Medical Center, Savannah, GA, 2003- 2006

Head & Neck Disease Management Team, J.C. Lewis Cancer Pavilion, 2007-2015

Board of Directors, Savannah Speech & Hearing, 2002- 2010

Consultant, Bioterrorism and Disaster Response, Chatham Health Department, 2001-2007

ATLS Course Director and State Faculty, November 1996-2001. ATLS faculty 1992-2005

Chief, Tripler Army Medical Center Special Medical Augmentation Response Teams (SMART) 1996- 2000.

Consultant, City and County of Honolulu Metropolitan Medical Response System, 1997-1999

Member, Tripler Army Medical Center Maxillofacial Trauma Team, 1996-2001

Chair, Head & Neck Oncologic Surgery Critical Pathway development committee, Tripler Army Medical Center, 1999-2000

Affiliate Faculty, Center of Excellence in Disaster Management and Humanitarian Assistance, Honolulu, HI, 1998- 2001. This Center was a collaboration of the University of Hawaii, the Centers for Disease Control and the U.S. Pacific Command.

Member, American Board of Facial Plastic and Reconstructive Surgery Graduate Medical Education Committee, 2001-2004

Major, U.S. Army, retired. Active duty from July 1975 to August 1986, then again from June 1990 until retirement in June, 2001. Enlisted service from 1975-1981 as U.S Army Ranger and in the U.S. Army Institute for Military Assistance, attaining rank of E-6. Served as Physician Assistant and medical platoon leader from 1981-1986 in the Berlin Brigade, in the 1st Armor Division in Germany and in the Dept. of Family Medicine at Eisenhower Army Medical Center in Augusta, GA, attaining rank of CW3. Following medical school, residency and fellowship training, served as Chief, Head & Neck Oncologic and Reconstructive Surgery and Assistant Chief, Otolaryngology-Head & Neck Surgery Residency Program, Tripler Army Medical Center, Honolulu, HI from 1996-2001.

During my last assignment, I also led the Special Medical Response Teams (SMRT) for Tripler Army Medical Center, Honolulu, HI. The SMRT was tasked with responding to natural and manmade disasters as well as providing faculty to train emerging nations and allies in disaster response. This position required advanced proficiency in chemical and biological warfare casualty management, interdisciplinary management of disaster response, and in depth understanding of community disaster response models. In this capacity, I travelled to Independent Samoa, Thailand, Singapore, Christmas Island (Kiribati), Latvia and sites in the US.

X. BIBLIOGRAPHY:

MANUSCRIPTS

Nuclear Magnetic Resonance Imaging: The current state of a new diagnostic technology. **Johnson RE**, Hospital Physician, 20(10), Oct 84. Reprinted in the Medical Bulletin of the Seventh Medical Command, U.S. Army, Europe, 43(5), Jul 85.

Surfactant effects on the rate of rabbit corneal epithelial healing. Green K, **Johnson RE**, Chapman JM, Nelson E, and Cheeks L. J. Toxicol.-Cutan. and Ocular Toxicol. 8(3), 253-69, 1989.

Preservative effects on the healing rate of rabbit corneal epithelium. Green K, **Johnson RE,** Chapman JM, Nelson E and Cheeks L. Lens Eye Tox Res 1989;6:137-141.

Oronasal fistulae following cleft palate repair. **Johnson RE**, Dirksen K. Proceedings of the Annual Research Symposium of the Department of Surgery, Brook Army Medical Center, San Antonio Texas, April 1992.

Tortuous carotid artery presenting as an oropharyngeal mass. **Johnson RE**, Stambaugh K.I. et al. Otolaryngology-Head and Neck Surgery 1995;112:479-482.

Laryngoceles and saccular cysts. Sniezek, JC, **Johnson RE** et al. Southern Medical Journal 1996;89:427-430.

Surgical margin shrinkage in the canine oral cavity following resection and histologic preparation. **Johnson RE**, Sigman J et al. Head & Neck 19:281-86, 1997

Eagle's syndrome. Balbuena L; Hayes D; Ramirez SG; **Johnson RE.** South Med J 1998;90(3): 331-4

The effects of linear acceleration on distortion product otoacoustic emissions in human ears. **Johnson RE**, Allen JR et al. Aviation, Space and Environmental Medicine 69:40-44, 1998.

Tripler's Emergency Medical Response Team. **Johnson RE**. Hawaii Medical Journal 1998;57:427

Cranial polyneuropathies in a multiple sclerosis patient: a case report. Thomas RW, Liening DA, Auber AA, **Johnson RE**. ENT Journal 78:2;118-21, 1999.

Gluteus maximus reconstruction with a latissimus dorsi free flap. Nassab PF, Kavolius JP, **Johnson RE** et al. Submitted to Orthopedics, April 2001.

Telemedicine: Teleproctored Endoscopic Sinus Surgery. Burgess LP, Syms MJ **Johnson RE** et al. Laryngoscope, February 2002

CHAPTERS

Squamous cell carcinoma of the hypopharynx: strategies for success. **Johnson RE**, Hoffman HT. Head and Neck Cancer vol. IV: Proceedings of the Fourth International Conference on Head and Neck Cancer, Toronto, Canada. July 1996.

ABSTRACTS/PRESENTATIONS

Preservative effects on the healing of rabbit corneal epithelium. Green K, **Johnson RE,** Chapman JM, Forbes E, and Cheeks L. First Congress of the International Society of Ocular Toxicology, Toronto, Canada, June 6-9, 1988. Abstract.

Tortuous carotid artery presenting as an oropharyngeal mass. **Johnson RE**, Stambaugh KI et al. 97th Annual meeting, American Academy of Otolaryngology- Head and Neck Surgery, Minneapolis, MN; Oct, 1993.

Laryngoceles and saccular cysts. Sniezek JC, **Johnson RE** et al. 88th Annual Scientific Assembly, Southern Medical Association, Orlando Fl, November 1994.

The effects of linear acceleration on distortion product otoacoustic emissions in human ears. **Johnson RE**, Allen JR et al. 99th Annual Meeting, American Academy of Otolaryngology-Head and Neck Surgery, New Orleans, LA, September 1995.

The effects of linear acceleration on distortion product otoacoustic emissions in human ears. **Johnson RE**, Allen JR, Liening DA (presenter) et al. Second International Symposium on Modern Problems of Physiology and Pathology of Hearing, Moscow, Russia, October 1995.

Phase II trial of taxol and cisplatin in advanced squamous cell carcinoma of the head and neck. Kambhu S, Clamon G, **Johnson RE** et al. Proceedings of the American Society of Clinical Oncology 1996;15:322.

Surgical margin shrinkage in the canine oral cavity following resection and histologic preparation. **Johnson RE**, Sigman J et al. 4th International Conference on Head & Neck Cancer, Toronto, Canada, July 1996.

Dermatofibrosarcoma protuberans presenting as a massive scalp lesion-a case report. Sniezek JC, **Johnson RE** et al. 100th Annual Meeting, American Academy of Otolaryngology-Head & Neck Surgery, Washington D.C., September, 1996

Severe midfacial burns resulting from ignition of nasal packing. Boeve T, **Johnson RE** et al. 100th Annual Meeting, American Academy of Otolaryngology-Head & Neck Surgery, Washington, D.C., September 1996.

Radial forearm free flap with palmaris longus reconstruction of an upper lip defect in a child. **Johnson RE**, Syms, MJ. 101st Annual Meeting, American Academy of Otolaryngology-Head & Neck Surgery, San Francisco, CA, September 1997

Large teflon granuloma excision and concurrent vocal fold medialization via thyrotomy. Ramsey MJ, **Johnson RE** et al. 101st Annual Meeting, American Academy of Otolaryngology-Head & Neck Surgery, San Francisco, CA, September 1997

Innovations in microvascular reconstruction of the oral cavity. **Johnson RE**, Syms MJ. 24th Biennial Congress of the Pan-Pacific Surgical Association, Honolulu, HI, January 1998

Multiple schwannomas of the parapharyngeal space. Suk SA, **Johnson RE**. 24th Biennial Congress of the Pan-Pacific Surgical Association, Honolulu, HI, January 1998

Anterior craniofacial reconstruction with a partially de-epithelialized radial forearm free flap. **Johnson RE**, McCulloch T et al. 2nd International Interdisciplinary Congress on Craniofacial and Skull Base Surgery, Cancun, Mexico, January 1998

Lymphatic mapping and sentinel lymph node biopsy. Hall DJ, Kavolius J, **Johnson RE**, Holtel M. 82nd Annual Meeting of the Pacific Coast Oto-Ophthalmological Society, Kauai, HI, June 1998

Percutaneous Tracheostomy. Hall, DJ, Holtel M, **Johnson RE**. 82nd Annual Pacific Coast Oto-Ophthalmological Society, Kauai, HI, June 1998

Chondroma resulting in tracheal compression. Gross, RD, Nauschuetz KK, **Johnson RE**. 102nd Annual Meeting, American Academy of Otolaryngology-Head & Neck Surgery, San Antonio TX, September 1998

Massive cervicofacial necrotizing fasciitis: a reconstructive challenge. Tsai PD, **Johnson RE**. 102nd Annual Meeting, American Academy of Otolaryngology-Head & Neck Surgery, San Antonio TX, September 1998

Special Response Teams: translating military medicine to disaster response. **Johnson RE**, Ninth Annual Asia-Pacific Military Medical Conference, Bangkok, Thailand, March 1999

Head & Neck Surgery at Tripler Army Medical Center: a Pan-Pacific experience. **Johnson RE**. Tenth Annual Asia-Pacific Military Medical Conference, Singapore, May 2000

Grisel's syndrome associated with osteomyelitis of C1 and C2. Boole JR, Ramsey MJ, **Johnson RE**. 104th Annual Meeting, American Academy of Otolaryngology-Head & Neck Surgery, Washington, DC, September 2000

Treatment of osteoradionecrosis of the cervical spine. Marathe U, **Johnson RE**. 106th Annual Meeting, American Academy of Otolaryngology-Head & Neck Surgery, San Diego, CA, Sept 2002

XI. COMMUNITY ACTIVITIES

Candidate for the Republican Congressional Primary in the 1st District of Georgia, 2013-2014

Consultant in bioterrorism, Chatham County Health Department, 2001-2007

Member and Medical Director, Savannah Medical Reserve Corps team (Dept. of Homeland Security). Deployment to Hurricane Katrina, September 2005-2015

Campaign Committee Co-chairman, The Committee to Elect Pearl Persad, (Georgia House of Representatives, District 162) Savannah, GA. 2004

President, CHAPIC (Chatham Area Physicians' Interest Club) 2004 –2008
Founding member

Troop Committee Chairman, Troop 57, BSA, 2006- 2009; Cubmaster, Cub Scout Pack 57, Skidaway Presbyterian Church, Savannah, GA, 2002- 2003; Webelos den leader, 2003-2004. Scoutmaster, Troop 16, Augusta, GA, 1985-86

Soccer coach, Coastal Georgia Soccer Association, 2002-2004

Team physician, Savannah Swim Team, 2001 to 2002

XII. HONORS

Certificate of Honor, American Academy of Otolaryngology- Head & Neck Surgery, for distinguished service in continuing education and scientific exhibits. September, 2003

Featured in History Channel production "***Search & Rescue II***" in 2000. This was a dramatization of a high seas rescue directed by our Special Medical Response Team at Tripler Army Medical Center.

CURRICULUM VITAE

DATE: Revised 6/19/2017

NAME: HOWARD MATTHEW KIPEN

PRESENT TITLES: Interim Chair and Professor, Department of Environmental and Occupational Health
Chief, Clinical Research and Occupational Medicine Division
Acting Associate Director, Environmental and Occupational Health Sciences Institute (EOHSI)
Rutgers School of Public Health
Rutgers, The State University of New Jersey

HOME ADDRESS: (b) (6)

OFFICE ADDRESS: Environmental and Occupational Health Sciences Institute
170 Frelinghuysen Road
Piscataway, NJ 08854

TELEPHONE NUMBER: 848-445-6091
Fax: 732-445-3644

EMAIL ADDRESS: kipen@eohsi.rutgers.edu

CITIZENSHIP: (b) (6)

EDUCATION:

A. Undergraduate Graduate and Professional
University of California
Berkeley, CA
B.A. 1976

B. Graduate and Professional
University of California
San Francisco, CA
M.D. 1979

Columbia University
New York, NY
MPH 1983

POSTGRADUATE TRAINING:

A. Internship and Residencies
Intern, Presbyterian Hospital, New York
Medical Service
1979-1980

Junior and Senior Assistant Resident,
Presbyterian Hospital, New York
Medical Service
1980-1982

Resident, Environmental Sciences Laboratory,
Mount Sinai Medical Center, New York
Occupational and Community Medicine
1983-1984

ACADEMIC APPOINTMENTS:

College of Physicians and Surgeons
Columbia University, New York
Visiting Clinical Fellow
1979-1982

College of Physicians and Surgeons,
Columbia University, New York
Assistant in Medicine
1982-1983

Department of Environmental and Occupational Medicine
UMDNJ-Robert Wood Johnson Medical School
Assistant Professor
1984-1991

Occupational and Environmental Health, Graduate Program in Public Health
UMDNJ-Robert Wood Johnson Medical School/Rutgers University
Track Director
1985-1992

Department of Medicine
UMDNJ-Robert Wood Johnson Medical School
Assistant Professor (joint)
1985-1991

Environmental and Occupational Health Sciences Institute
Rutgers Robert Wood Johnson Medical School (formerly UMDNJ) /
Rutgers University
Member
1987-

Joint Graduate Program in Toxicology, Rutgers University/
Rutgers Robert Wood Johnson Medical School (formerly UMDNJ)
Member
1988-

Graduate Program in Environmental Science
Rutgers, The State University of New Jersey
Associate Member
1989-

Graduate Faculty, Rutgers, The State University of New Jersey
Associate Member
1985-

Department of Environmental and Occupational Medicine
UMDNJ-Robert Wood Johnson Medical School
Associate Professor,
1991-1999

Department of Medicine
UMDNJ-Robert Wood Johnson Medical School
Associate Professor (joint)
1991-2010

Clinical Research and Occupational Medicine Division
Department of Environmental and Occupational Medicine
UMDNJ-Robert Wood Johnson Medical School
Chief
1994-

Clinical Research and Occupational Medicine Division
Environmental and Occupational Health Sciences Institute
Director
1994-

Department of Family Medicine
Rutgers Robert Wood Johnson Medical School (formerly UMDNJ)
Associate Professor (joint)
1995-

The Cancer Institute of New Jersey
Rutgers Robert Wood Johnson Medical School (formerly UMDNJ)
Member,
1998-

Department of Environmental and Occupational Medicine
UMDNJ-Robert Wood Johnson Medical School
Professor (with tenure)
1999-

Department of Environmental and Occupational Medicine
UMDNJ-Robert Wood Johnson Medical School
Vice Chair
2000-2001

Rutgers School of Public Health (formerly UMDNJ)
Professor
2001-

Department of Environmental and Occupational Medicine
UMDNJ-Robert Wood Johnson Medical School
Acting Chair
2001-2003

Environmental and Occupational Health Sciences Institute
Acting Deputy Director
2001-2003

Integrated Health Sciences Facility Core
NIEHS Center for Environmental Exposures & Disease
Founder & Director
2007-

Department of Environmental and Occupational Medicine
Rutgers Robert Wood Johnson Medical School (formerly UMDNJ)
Interim Chair
2007-

Environmental and Occupational Health Sciences Institute
Acting Associate Director
2007-

Department of Medicine
Rutgers Robert Wood Johnson Medical School (formerly UMDNJ)
Professor (joint)
2010-

HOSPITAL APPOINTMENTS:

Department of Medicine (Employee Health Service)
Presbyterian Hospital, New York
Assistant Physician
1982-1983

Family Practice Center
UMDNJ-Robert Wood Johnson Medical School
Attending Clinic Physician
1985

Department of Medicine
Robert Wood Johnson University Hospital, New Brunswick, New Jersey
Attending Physician
1985-

Eric B. Chandler Health Center
UMDNJ- Robert Wood Johnson Medical School, New Brunswick, New Jersey
Attending Physician
1988-1990

Clinical Center
Environmental and Occupational
Health Sciences Institute, Piscataway, New Jersey
Director
1989-

VA New Jersey Healthcare System, East Orange, NJ
Attending Physician
2003-2005

LICENSURE:

New Jersey Medical License 25MA04519900 / Expires: 6/30/2017
New York Medical License No. 149889 (inactive)

DRUG LICENSURE:

CDS: New Jersey D04073600 / Expires: 10/31/2017
DEA: New Jersey AK9806831 / Expires: 12/31/2017

CERTIFICATION:

Diplomate, National Board of Medical Examiners/ 1980
Diplomate, American Board of Internal Medicine / 1982
Diplomate, American Board of Preventive Medicine (Occupational) / 1986
"B reader," National Institute for Occupational Safety and Health /1987

MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES:

American College of Physicians
Member

American Public Health Association
Member

American College of Occupational & Environmental Medicine (ACOEM)
Fellow

Occupational & Environmental Medicine Association of New Jersey (OEMANJ)
Program Chairman
1991

Environmental Medicine Committee, ACOEM
Vice Chair

OEMANJ
Secretary
1992

OEMANJ
President
1994

American College of Preventive Medicine
Fellow

International Society for Environmental Epidemiology
Charter Member

New Jersey Medical Society
Member

American College of Chest Physicians
Fellow

American Thoracic Society
Member

New Jersey Thoracic Society - Member, Research Grant Committee
Member
1988-1994

New Jersey Academy of Medicine
Fellow

HONORS AND AWARDS:

Student Research Fellowship,
California Heart Association
Institute of Environmental Stress, UC Santa Barbara
1974

Phi Beta Kappa
1974

Research Training Fellowship
Department of Physiology, UCSF
1976

Alpha Omega Alpha
1978

Teaching and Service Incentive Award
UMDNJ-Robert Wood Johnson Medical School
1989

Environmental and Occupational Medicine Academic Award (K07)
National Institute of Environmental Health Sciences
1992-1997

Adolph G. Kammer Merit in Authorship Award
American College of Occupational and Environmental Medicine
1992

Sixth Annual Alice Hamilton Lecturer
Department of Medicine, University of California, San Francisco
1998

Top Doctors in New Jersey
Occupational Medicine
2003

Top Doctors in America
2009-2010

SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS AND COMMITTEES:

SERVICE ON MAJOR COMMITTEES:

A. International

Member, Steering Committee for the International Congress on Hazardous Waste: Impact on Human and Ecological Health. Agency for Toxic Substances and Disease Registry, Atlanta, GA. June 5-8,
1995

Chair, Workshop on Multiple Chemical Sensitivities (MCS).
World Health Organization International Program on Chemical Safety, Berlin, Germany.
February 21-23, 1996

Member, International Advisory Committee, International Congress on Environmental Health, International Society of Environmental Medicine, Hanover Medical School, Germany,
Oct. 1-4, 2000

Invited Participant, 2nd Jack Pepys Occupational Asthma Workshop,
Toronto, Canada
May 21-22, 2004

Biomonitoring Track Chair, International Society for Environmental Epidemiology Annual Meeting, Seattle Washington
2014

Oral Contributed Papers Session Chair, Biomarkers of Air Pollution Exposure and Effects , International Society for Environmental Epidemiology,
Seattle, Washington
August 25, 2014

Delegate, Meeting of Consultation of Foreign Experts, State Administration of Foreign Experts Affairs and Research Office of the State Council, People's Republic of China.
Beijing, China
January 12, 2015

Speaker and Participant, U.S. State Department Workshops on Combating Air Pollution in Northern India. Northern India
May 29-June 3, 2016.

B. National

Member, Peer Review Panel, CDC Project on Adverse Reproductive Outcomes in New Jersey
1989-1993

Chairman, Case Evaluation Group, Workshop to Develop Research Protocols for Multiple Chemical Hypersensitivity Syndrome. National Research Council. Irvine, California, March 20-21, 1991

Accreditation Site Visitor, Council on Education for Public Health
1990

Member, Peer Review Panel for Case Studies in Environmental Medicine, ATSDR
1991-1993

Chairman, Workshop to Assist in Developing a Standardized Immune Test Battery for Use in Environmental Health Studies. ATSDR, Atlanta, GA. June 22-23,
1992

Member, Environmental Medicine Committee, American College of Occupational and Environmental Medicine
1992-

Member, Environmental and Occupational Medicine Academic Award Review Committee
1992, 1993

National Board of Directors, Association of Occupational and Environmental Clinics
1992-1995

Member, Persian Gulf Expert Scientific Committee. Department of Veterans Affairs, Washington, DC.
1993-1997

Member, Committee on Curriculum Development in Environmental Medicine. Institute of Medicine, Washington, DC.
1993-1995

Chairperson, Special Review Committee for Environmental/Occupational Medicine Academic Awards. NIEHS, Research Triangle Park, NC. November 16, 1994

Member, Panel on Evaluating Individuals Reporting Sensitivities to Multiple Chemicals. CA Department of Health Services, Berkeley, CA.
1994-1995

Member, Oversight Subcommittee on "A National Health Survey of Persian Gulf War Veterans." Department of Veterans Affairs, Washington, DC.
1994-1996

Member, Scientific Advisory Committee to Oversee Research on Chemically Related Illness. Department of Labor and Industries, State of Washington.
1995-1996

Member, Committee on the DoD Persian Gulf Syndrome Comprehensive Clinical Evaluation Program. Institute of Medicine, Washington, DC.
1995-1997

Chair, Committee on Increasing Health Professionals' Use of Toxicology and Environmental Health Databases. Institute of Medicine, Washington, DC.
1995-1997

Chairperson, Special Review Committee for Environmental/Occupational Medicine Academic Awards. NIEHS, Research Triangle Park, NC
November 12, 1997

Member, Gulf War Expert Scientific Advisory Committee. Department of Veterans' Affairs, Washington, DC.
1997-1998

Chair, Committee on Toxicology and Environmental Health Information Resources for Health Professionals, Institute of Medicine. Washington, DC.
1998-1999

Chair, Committee on Internet Access to the National Library of Medicine's Toxicology and Environmental Health Databases. Institute of Medicine. Washington, DC.
1998-1999

Group Chair, Susceptible Subpopulations Panel Committee, George Washington University, Washington, DC, April 19-20
1999

Panel Member on "Susceptibility in Microbial Risk Assessment," The George Washington University, Washington, DC.
1999-2003

Member, The National Academies of Science, Subcommittee on Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants (Primary author on CO2 and Benzene chapters)
2003 - 2007

Chair, Environmental Medicine Committee, American College of Occupational and Environmental Medicine
2003

NIOSH Grant Review Panel Member, "Disease, Disability and Injury Prevention and Control and Special Emphasis Panel", State-based Occupational Safety and Health Surveillance,
November 30 – December 3, 2004

Chairman, NIEHS K23 Mentored Patient-Oriented Research Career Development Award Review Committee
2004, 2006

Reviewer, Institute of Medicine, Gulf War and Health: Review of the Medical Literature Relative to Gulf War Veterans Health
2006

Peer Reviewer, American Institute of Biological Sciences/United States Army Medical Research Material Command, Gulf War Veteran's Illness Research Program
March 13-14, 2007

Member, National Institute of Health, National Institute of Environmental Health Sciences, Special Emphasis Panel, Patient-Oriented Career Development Award (K23)
April 12, 2007

Chairperson, Clinical Trials Award Committee, Gulf War Illness Research Program, Department of Defense,
Congressionally Directed Medical Research Programs,
Reston, VA
December 3-5, 2008

Chair, NASA Human Research Program's Advanced Environmental Health/ Advanced Food Technology Standing Review Panel
2009-

Member, External Advisory Panel, Center for Environmental Medicine and Lung Biology University of North Carolina
September 8-10, 2009

Member, Work-related asthma subcommittee, Occupational Medicine Practice Guidelines, American College of Occupational and Environmental Medicine,
2009-

Chair, Clinical Trials Award Committee, Gulf War Illness Research Program, Congressionally Directed Medical Research Programs
2011

Chair, Clinical Trials Award Committee, Gulf War Illness Research Program, Congressionally Directed Medical Research Programs
2012

Member, Scientific Advisory Committee, Pacific Northwest Agricultural Safety and Health Center, University of Washington School of Public Health
2012-

Expert, Global Burden of Disease, Institute for Health Metrics and Evaluation, University of Washington
2013

Adjunct Member, Lung and Airway Disease Affinity Group, Center of Excellence in Environmental Toxicology (CEET), University of Pennsylvania
2014-

Member, Planning Committee, Assembly on Occupational and Environmental Health,
American Thoracic Society
2011-2014

Member, Committee on Developing a Case Definition for Complex Multisystem Illness in Veterans of the 1990-1991 Gulf War,
Institute of Medicine
2013-2014

Co-Chair, American Thoracic Society Ad Hoc Committee on What Constitutes an Adverse Health Effect of Air Pollution: Update 3.
2015-

Member, Committee on Gulf War and Health, Volume 10: Update of Health Effects of Serving in the Gulf War. Institute of Medicine
National Academy of Sciences. Washington, DC.
December 2014-2016.

Member, Planning Committee, Workshop on the Health Risks of Indoor Exposure to Particulate Matter
National Academy of Sciences, Engineering, and Medicine, Washington, DC
2015-

Report Reviewer, Institute of Medicine (IOM), Draft on Assessing Health Outcomes Among Veterans of Project SHAD (Shipboard and Hazard Defense), 2015

Member, NASA Human Research Program's Dust Risk Standing Review Panel, 2015-

Member, Environmental Health Policy Committee, American Thoracic Society, 2016-

Member, National Academies Standing Committee on Medical and Epidemiological Aspects of Air Pollution on U.S. Government Employees and their Families, 2016-

Chair, Assembly on Environmental, Occupational, and Population Health, American Thoracic Society, May, 2017 - May, 2019

Member, Board of Directors, American Thoracic Society, May 2017 – May, 2019

C. Medical School / University

Curriculum Committee, Department of Environmental and Occupational Medicine, UDNJ-Robert Wood Johnson Medical School
1984

Grant Review Committee, UMDNJ-Robert Wood Johnson Medical School
1988-1994

Committee on Clinical Prevention, Rutgers Robert Wood Johnson Medical School (formerly UMDNJ)
1988-

Postdoctoral Curriculum Committee, UMDNJ-Robert Wood Johnson Medical School
1991-1993

Chair, Curriculum Committee, Department of Environmental and Occupational Medicine
1992-1998

Committee to Review the Chair of Pediatrics, UMDNJ-Robert Wood Johnson Medical School
1995-1996

Committee to Review Chairman of Radiology, UMDNJ-Robert Wood Johnson Medical School
1998-1999

Committee on Appointments and Promotions, UMDNJ-Robert Wood Johnson Medical School
2000-2001

Organizer and Conference Chair, Environmental Factors in Medically Unexplained Physical Symptoms and Related Syndromes, EOHSI, Piscataway, NJ
2001

Search Committee for Chair of Family Medicine, UMDNJ-Robert Wood Johnson Medical School
2005-2006

Member, Population Science Steering Committee, Rutgers Robert Wood Johnson Medical School (formerly UMDNJ)
2007

D. Hospital n/a

E. Department n/a

F. Editorial Boards:
Associate Editor, American Journal of Industrial Medicine,1984-
Reviewer, Annals of Occupational Hygiene, 1985-
Reviewer, Epidemiology
Reviewer, American Journal of Epidemiology
Reviewer, Environmental Health Perspectives
Reviewer, American Journal of Public Health
Reviewer, European Respiratory Journal
Reviewer, American Journal of Physiology: Lung Cellular & Molecular Physiology
Reviewer, Inhalation Toxicology
Reviewer, American Journal of Respiratory and Critical Care Medicine
Annals of Epidemiology
Reviewer, Particle and Fiber Toxicology
Reviewer, International Journal of Environmental Research and Public Health
Board member, Journal of Building Engineering, 2014
Reviewer, JAMA Cardiology, 2016

G. *AdHoc* Reviewer
Ad Hoc Reviewer, Environmental Sciences Review Committee, NIEHS
1989, 1993

Ad Hoc Reviewer, Toxicology Study Section, NIH
1989, 1990

Ad Hoc Peer Reviewer, Agency for Toxic Substances and Disease Registry
1991-

Member, Expert Panel on Multiple Chemical Sensitivities. ATSDR, Annapolis, MD. April 13-14
1993

Participant, National Center for Environmental Health Planning for Performance. Centers for Disease Control and Prevention, Atlanta, GA
1996

Co-chair, Planning Meeting on Personnel Needs and Scope of Practice Issues for Medical Toxicology.
Institute of Medicine, Washington, DC.
April 24-25, 1996

Report Reviewer, National Research Council, Board on Environmental Studies and Toxicology
1996

Member, Special Emphasis Panel to Review Grant Applications for Community-based Prevention/Intervention/Research in Environmental Health Sciences.
NIEHS, Research Triangle Park, NC
April 1-2, 1997

Chair, Postgraduate Course in Occupational and Environmental Medicine. Indoor Air: Symptoms, Evaluation, Diseases, and Management.
American Lung Association/American Thoracic Society. San Francisco, CA
May 16-21, 1997

Member, Clinicians' Panel on Management of Mold-Exposed Individuals, John Hopkins Bloomberg School of Public Health
Association of Occupational and Environmental Clinics/Society of Occupational and Environmental Health
December 11-12, 2003

Reviewer, "Validation and evaluation of biomarkers in workers exposed to benzene in China," Health Effects Institute, Boston, MA.
2003

Reviewer, "Characterizing Exposure of Veterans to Agent Orange and Other Herbicides Used in Vietnam: Final Report," Institute of Medicine, Washington, DC.
2003

Member, Ad Hoc Review Panel, Epidemiological and Medical Monitoring of Former DOD Contract Workers at the Iowa Army Ammunition Plant, American Institute of Biological Science, Sterling, VA,
January 15, 2004

Ad Hoc Reviewer, NIH Predoctoral Fellowship Awards for Minority, Disabled Students, Center for Scientific Review
March 16, 2004

Invited Participant, NIEHS/SOEH Roundtable on Mold-Related Health Effects: Remediation Worker Protection and Biomedical Research Issues, Washington, DC
June 28-29, 2004

Group Leader, Indoor Chemistry and Health Workshop, UC Santa Cruz, NIOSH
July 12-15, 2004

AdHoc Reviewer, NIH Predoctoral Fellowship Awards for Minority, Disabled Students, Center for Scientific Review
July 22, 2004

Reviewer, "Veterans and Agent Orange: Update 2004," Institute of Medicine of the National Academies
2004

Session Chair, "Diesel Update" at American Thoracic Society Annual Meeting, San Francisco, CA
May 22, 2007

Member, Technical Qualifications Board for promotion to GS-14
US Environmental Protection Agency
November 19, 2014

SERVICE ON STATE OF NEW JERSEY COMMITTEES AND REVIEW PANELS:

Member, Committee on Health Effects of the PJP Landfill.
New Jersey State Department of Health
1986-1987

Chairman, Pesticide Review Committee, Bureau of Pesticide Control, Division of Environmental Quality, New Jersey Department of Environmental Protection

Governor's Appointee, Public Employees' Occupational Health and Safety Review Board, New Jersey Department of Labor
1986

Member, Advisory Panel on Occupational Disease Surveillance, Occupational Health Service, New Jersey Department of Health
1988-

Member, Advisory Panel, Teratology Information Program, Division of Special Child Health Services, New Jersey Department of Health
1989

Member, Task Force on Cancer Clusters in New Jersey, New Jersey Department of Health and Senior Services
2003-2004

Member, Science Advisory Board-Public Health Standing Committee, New Jersey Department of Environmental Protection
2016-2019

Member, Biomonitoring Commission, NJ Department of Health. Trenton, NJ
2014

SERVICE ON UNIVERSITY COMMITTEES:

University Internal Review Committee, UMDNJ
1997

Task Force on Education/Curriculum, UMDNJ
1997

SERVICE ON GRADUATE SCHOOL COMMITTEES:
Executive Committee, New Jersey Graduate Program in Public Health
1984-1992

SERVICE ON HOSPITAL COMMITTEES:
None

SERVICE TO THE COMMUNITY:
Board of Directors, Center for Safety in the Arts, New York, NY
1988-1995

SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:
Joel Moorhead, MD, PhD. PhD UMDNJ-School of Public Health, Fall
2006

Arlean Medeiros, PhD candidate UMDNJ-School of Public Health (withdrew during dissertation)

Ashley Pettit, PhD, Rutgers/UMDNJ Joint Graduate Program in Toxicology
2008-2014

Sampada Ghandi, PhD (epidemiology), UMDNJ-School of Public Health
2012

Multiple MPH graduates

SPONSORSHIP OF POSTDOCTORAL FELLOWS:
Multiple Occupational/Environmental Medicine Residents

Lawrence Stein, PhD (Supported on NIOSH grant; Nancy Fiedler, PhD is primary supervisor)

Kendall Boyd, PhD (Supported on my CDC grant; William Hallman, PhD primary supervisor)

Noel Brewer, PhD (Support on my CDC grant; William Hallman, PhD primary supervisor)

Michelle Robertson, MD, MPH (first clinical EOHSI toxicology fellow)

TEACHING RESPONSIBILITIES:

A. Lectures or Course Directorships
   RWJMS, Course Director, Issues in Clinical Prevention (ECM2), 2002
   SPH, Course Co-Director, Occupational & Environmental Epidemiology, 2002
   SPH, Co-Director, Advanced Principles of Occupational & Environmental Health, 1986-2000
   RWJMS, Co-director, Environmental and Community Medicine I (ECM1), 2004

CLINICAL RESPONSIBILITIES:
Attending Physician, Department of Medicine, Robert Wood Johnson
University Hospital, 1987

Clinic Attending, Department of Medicine, Eric B. Chandler
Health Center, 1988-1989

Director, Clinical Center of the Environmental and Occupational
Health Sciences Institute (EOHSI), 1998-2014

Medical Director, Controlled Exposure Facility, EOHSI, 1996-present

GRANT SUPPORT:

A. Principal Investigator

1. Hunterdon Health Fund, Physician Education in Occupational Health: Interpersonal Skills for Effective Patient Care 1985-1986, $15,000.
2. UMDNJ-Robert Wood Johnson Medical School, General Research Support, Mortality Study of New Jersey Sewage Treatment Operators, 1985-1986. $17,500.
3. New Jersey Department of Environmental Protection, Office of Science and Research, Mortality Study of New Jersey Water Treatment Operators, 1987-1988, $46,478.
4. New Jersey Department of Health Extrinsic Allergic Alveolitis Surveillance, 1986-1988.
5. American Lung Association of New Jersey, Epidemiologic Surveillance of Hospitalized Cases of Hypersensitivity Pneumonitis in New Jersey: 1983-1985, 1988-1990, $10,000.
6. National Institute for Occupational Safety and Health, SENSOR: Cooperative Agreement To Support Sentinel Event Notification Systems for Occupational Risks, 1987-1988, $51,188 (subcontract from NJ Department of Health).
7. National Institute for Occupational Safety and Health, SENSOR: Cooperative Agreement to Support Sentinel Event Notification Systems for Occupational Risks, 1988-1989, $30,000 (subcontract from NJ Department of Health).
8. American Petroleum Institute, Pliofilm Hematology, 1989-1990, $14,250.
9. Environmental and Occupational Health Sciences Institute, Immune Biomarker Addendum to Health Effects of Chronic Exposure to Pesticides, 1991, $10,000.
10. Centers for Disease Control (CDC), Association of Occupational and Environmental Clinics, Immune Biomarker Standardization Project, 1990-1991, $19,422.
11. American Petroleum Institute Continuation of Pliofilm Hematology, 1990-1991, $5,000.
12. National Institute of Environmental Health Sciences, Environmental/Occupational Medicine Academic Award (K07), 1992-1997 $705,839.
13. National Institute for Occupational Safety and Health, Educating Physicians in Occupational Health and the Environment, 1992, $10,289.
14. US Environmental Protection Agency Time Dependence of Chemically Induced Leukemia 1992-1993, $20,061.
15. National Institute for Occupational Safety and Health, Educating Physicians in Occupational Health and the Environment, 1993, $9,748.
16. National Institute for Occupational Safety and Health, Educating Physicians in Occupational Health and the Environment, 1994, $11,193.45).
17. Centers for Disease Control and Prevention, Cooperative Agreement to Conduct Studies of Illnesses Among Persian Gulf Veterans, Defining Gulf War Illnesses (#U50/CCU214463-01), 1997-2000, $1,800,000.
18. New Jersey Department of Health, Hazardous Waste Fact Sheets (subcontract from Rutgers, The State University of New Jersey), 1998-2001, $570,570.
19. Environmental Protection Agency, Measurement of Pesticide Exposure Among Farmworkers in New Jersey, 1999-2000, $199,968.
20. NIEHS Center for Environmental Health Sciences, Human Genetic Susceptibility to Organophosphate Exposure Based on PON1 Polymorphism (P30 ES05022), 6/2000-3/2001, $10,839.
21. NIEHS Research Center in Environmental Health Sciences General Population Health and Psychological Symptoms following WTC Disaster: Examination of Relationship to Plume Exposure, World Trade Center (WTC) Supplement ES05022-15S1 4/19/2002-3/31/2003, $366,744.
22. CDC (subcontract Mount Sinai), World Trade Center Worker and Medical Screening Program, 10/2002 - 9/2003, $120,000.
23. NIEHS/EPA, Environmental Factors in Medically Unexplained Physical Symptoms and Related Syndromes, (conference funded by CDC/ATSDR #ATR218434; #R3ES10663A) 01/2001-12/2001, $30,511.

24. Veteran's Administration East Orange, Center to Study War Related Illness, 5/2002-4/2003, $37,500.
25. NIEHS Research Center in Environmental Health Sciences, (World Trade Center (WTC) Supplement P30 ES05022-16S) Symptoms, Psychology, Respiratory Disease and Disability in NYC Firefighters following the WTCD, 4/03-4/04, $194,652); no cost extension to 4/05. Carry over 4/15/05 – 3/31/06.
26. Cancer Institute of New Jersey, Oxidative Stress from Automobile Commuting Exposures: A Biomarker Study using the NJ Family Medicine Research Network. 5/1/08-4/30/09, $50,000.
27. U.S.EPA (R832144), Responses to Fresh Aerosols in Susceptible Subjects, 09/01/2004-08/31/2008, $1,521,398.
28. NIEHS Center for Environmental Health Sciences (P30 ES05022 Pilot Project), Exploration of Gene-Environment Interactions in Acute Exposures to Diesel Exhaust, 5/19/2005-3/31/2006, $18,000.
29. NIH/NIEHS (2P30ES005022-21), Research Center in Environmental Health Science, 4/01/2009-3/31/2014, $8,581,519, (IHSFC Project PI).
30. NIH/NIEHS (ES005022), Project 1: The WTC Follow-up Cohort, Dose Reconstruction, and Mechanistic Studies, 4/28/2011-3/31/2012, $29,066 (Pilot Project PI)
31. NIH/NIEHS (Supplemental Award, ES005022) Mechanisms of Response to Diesel Exhaust in Subjects with Asthma, 8/01/12 – 3/31/14 (no cost extension) $23,250, (Project PI)
32. NIH/NIEHS (5P30 ES005022), Rutgers Center for Environmental Exposures and Disease, 4/01/2014-3/31/2019, $6,250,000, (IHSFC-Project PI).
33. Rutgers The State University of NJ, China Office, Environmental Health in China, 4/1/2014 – 2/1/2016, $10,000.
34. The Institute of International Education (IIE),U.S. Department of State, The Impact of Ambient Air Pollution on Indoor Air Quality in China: Evaluation of a Practical Intervention, 4/1/2014-10/17/2016, $249,986.
35. U.S.EPA (RD-83575901), Climate Change, Indoor Ozone and Vascular Function 5/01/2015-4/30/2018, $999,975.

B. Co-Investigator

1. Environmental and Occupational Health Sciences Institute, Acute Myelogenous Leukemia and Low Dose Benzene Exposure: A Case Control Study Using Death Certificates, 1988, $15,000. (D. Wartenberg, PI)
2. Evaluation of the Quality and Quantity of Information Available for the Study of Cancer Among Blacks and Economically Disadvantaged Individuals in New Jersey (funded by NJ Commission on Cancer Research, $65,000), 1988-1989. (M. Greenberg – PI)
3. Toxicologically-related Research Training for Occupational Medicine Residents (funded by National Institute for Occupational Safety and Health, $29,677), 1987-1988. (M. Gochfeld, PI)
4. Research in Environmental Health Sciences (funded as National Institute of Environmental Health Sciences Center Grant), 1988-1992. HMK member of Core IV, Exposure Measurement and Assessment.
5. Health Effects of Chronic Exposure to Pesticides (funded by New Jersey Department of Environmental Protection, subcontract from Rutgers University, $189,996), 1989-1990. HMK co-principal investigator on subcontract. (N. Fiedler, PI)
6. Multiple Chemical Sensitivities: An Objective Evaluation (funded by Hazardous Substance Management Research Center, $241,000), 1989-1992. N. Fiedler, PI)
7. Biomarkers of Benzene Exposure (funded by the United States Environmental Protection Agency, $18,000), 1989-1992. (B. Goldstein, PI)
8. Toxicologically-related Research Training for Occupational Medicine Residents (funded by National Institute for Occupational Safety and Health, $481,090), 1992-1998.. (M. Gochfeld, PI)

9. Evaluation of Sensitivity to Low Level Chemicals (funded by National Institute of Environmental Health Sciences Superfund Research Program, $402,708), 1992-1995. (N. Fiedler, PI)
10. National Institute of Environmental Health Sciences, Research in Environmental Health Sciences, 1993-1998, $6,184,538 (M. Gallo, PI)
11. American Lung Association, Bronchial Hyperreactivity Following Acute Inhalation Injury 1994-1997, $50,000. (S. Mohr, PI)
12. Department of Veterans Affairs, New Jersey Center for Environmental Hazards Research, 1994-2000, $2,600,000 (B. Natelson, PI)
13. NIOSH (ERC T42 CCT210425) Toxicologically-related Research Training for Occupational Medicine Residents 7/2000-6/2005, $674,345. (M. Gochfeld, PI).
14. NIOSH, Health Effects to Exposures to VOCs, Ozone and Stress, 1999-2002, $1,311,430). (N. Fiedler, PI)
15. NIEHS (1K23 ES00385-01) Nasal Responses to Airborne Environmental Chemicals 3/9/2001 - 2/28/2006, $645,476. HMK principal mentor. (G. Greene, PI)
16. NIOSH B Education & Research Center, Region II, Development of a Nasal Respiratory System Blocking Apparatus for the Investigation of Non- Specific Building-Related Illness, 8/2000 - 7/2001, $9,800. (G. Greene, PI)
17. ESRI -Environmental Sensitivities Research Institute (RQ1676), Double-blind Placebo-controlled Study of Caffeine Sensitivity in MCS Patients, 11/00 - 6/02, $24,981. (R. Laumbach, PI)
18. CDC (E11/CCE219962-01), Improved Risk Communications to Prevent Unexplained Illnesses Related to Military Deployments), 9/01-8/04; $954,188 (no cost extension to 8/05). (W. Hallman, PI)
19. NIOSH Exploratory/Developmental Grant (R21) Program, Work Organizational Factors and Psychological Distress, 9/02-8/04; $234.375 (no cost extension to 8/05) (O. Osinubi, PI).
20. NCRR (R25 RR018490) Hope Partnership, 09/30/03 - 08/31/08, $1,619,760.00. (A. Gotsch, PI).
21. DOD DAMD, The Effects of Diesel Exhaust and Stress on the Acute Phase Response and Symptoms in the Chemically Intolerant. 1/1/03 – 12/31/05, $1,519,951 (N. Fiedler PI)
22. American Petroleum Institute (01-0000-4714), Controlled Human Exposure – Response Study to Environmental Levels of Hydrogen Sulfide in Normal Subjects: Pilot Investigations and Neurobehavioral Study. 8/2001-1/2006, $1,027,242 (N. Fiedler, PI).
23. NIOSH (1R01 0H8198), Solvent Exposure: Functional Imaging and Behavior. 09/01/04-08/31/07, $1,763,160 (N. Fiedler, PI).
24. CDC (U10 0H008239), Clinical Center for Monitoring Health in WTC Responders. , 07/04-06/09, $1,985,000 (I. Udasin, PI).
25. NJDHSS, Sentinel Event Notification System for Occupational Risks Partnership. 1/03-9/30/05, $52,000 (HMK consultant)
26. C. North, PI, Washington University, St. Louis, Symptomatic and Perceptual Responses to Anthrax Bioterorrism on Capitol Hill.$25,000 (HMK consultant)
27. Avenits Pharmaceuticals, Work Performance and Insulin Therapy in Diabetics: a Feasibility Study. 9/03-9/04, $15,000 (N. Fiedler, PI).
28. NIOSH (Pilot Project through Mount Sinai), Oxidative Stress Markers of Diesel Exhaust. 12/2004-6/2005, $9,257 (R. Laumbach, PI).
29. NIEHS Center for Environmental Sciences (P30 ES005022-18 Pilot Project), Effects of Inhaled, Fresh Diesel Exhaust on Airway Remodeling in an Asthmatic Mouse Model. 4/1/05 - 3/31/06, $18,000 (D. Gerecke, PI).
30. UMDNJ Foundation, Inflammatory Effects of Diesel Exhaust, 6/2005-5/2006$25,000 (R. Laumbach, PI).
31. Mentored Clinical Scientist Career Development Award (K08, NIEHS), Mechanisms of Responses to Diesel Exhaust and Stress. 9/1/2005-8/31/2010, $678,915 (Laumbach RJ, PI).

32. NIEHS Center for Environmental Sciences (Pilot Project), Effects of Diesel Exhaust Particles on Human Antimycobacterial Immunity. 4/1/06 – 3/31/07, $29,822 (Schwander, PI).
33. NIEHS (Pilot), Diabetic Susceptibility to the Procoagulant Effects of Traffic-Generated Particulate Air Pollution. 4/1/06 – 3/31/07, $29,617 (D. Rich, PI).
34. NIEHS (Pilot), Diesel Exposure in Mild and Moderate Asthmatics. 4/1/06 – 3/31/07, $30,394 (S. Hussain, PI).
35. NIEHS (1 R21 ESO15135), Lead Exposure, HPA Axis Dysfunction, and Blood Pressure: Hypertension Risk. 9/2006 – 8/2009, $717,914 (N. Fiedler, PI).
36. Health Effects Institute (4760-RPFA05-3), Molecular and physiological responses to drastic changes in PM concentration and composition. 7/1/07-12/31/09, $569,602 (J. Zhang, PI).
37. American Heart Association, Triggering of myocardial infarction by ambient fine particles and fine particle components. 7/1/07-6/30/10, $195,000 (D. Rich, PI; H Kipen mentor).
38. NIEHS (1 R01 ES015864), Response to Drastic Changes in Air Pollution: Reversibility and Susceptibility. 10/01/07- 9/30/10, $1,406,290 (J. Zhang, PI).
39. NIEHS (Center pilot), COPD Susceptibility to Procoagulant Effects of Traffic-Generated Particulate Air Pollution. 6/1/08-3/31/09, $20,000 (Hussain, PI).
40. NIEHS (1R211 ES016928-01), Diesel Exhaust Particle Effects on Human Immunity to Mycobacterium Tuberculosis. 9/01/08 – 8/31/2010, $429,000 (S. Schwander, PI).
41. NIH/NIEHS (ES005022), Oxidative Stress, Nitric Oxide Metabolism and Vascular Function in Type II Diabetes. 2009-3/31/2010 (A. Gow, PI).
42. The Boeing Corporation, Evaluation of VOCs that cause symptoms in air craft cabins. 1/1/2009 – 12/31/09, $201,000, HMK- Medical Consultant (C. Weisel, PI).
43. U.S.EPA (RD83469301), Risk Assessment for Manufactured Nanoparticles used in Consumer Products (RAMNUC). 7/01/10-6/30/14, $1,999,995 (J. Zhang, PI).
44. U.S.EPA Star, Effects of Stress and Traffic Pollution on Childhood Asthma in an Urban Community. 6/1/2010 – 5/31/2016, $1,249,960 (R. Laumbach, PI).
45. The V-Foundation, Chemoprevention of Breast and Prostate Cancer in the Shift Workers by Dietary Methylselenocysteine: Effects on circadian rhythm and estrogen receptor - β cycling. 11/1/08 – 10/31/15, $600,000 (H. Zarbl, PI).
46. NIOSH (1U01OH010415-01), Obstructive Sleep Apnea in WTC Responders: Role of Nasal Pathology. 09/01/12-08/31/16, $3,999,314 (J. Sunderram, PI).
47. CDC (200-2011-39385), World Trade Center Responders Health Program. 7/1/14 - 3/31/17, $2,049,044 (I. Udasin, PI).
48. New Jersey Health Foundation, Rutgers Commuter and Community Cohort (RC3) Study. 1/01/15 - 12/31/15, $50,000 (R. Laumbach, PI).
49. NIH/NIEHS (ES004738), Activated Macrophages and Ozone Toxicity. 3/15/2015-12/31/2020, $1,915,000 (D. Laskin (PI)

PUBLICATIONS:

A. Refereed Original Articles in Journals:

1. Simpson, J.B., Reid, I.A., Ramsay, D.J., and **Kipen, H.M.** Mechanism of the Dipsogenic Action of Tetradecapeptide Renin Substrate. Brain Research, 57:63-72, 1978.
2. **Kipen, H.M., &** Lerman, Y. Respiratory Abnormalities Among Photographic Developers. American Journal of Industrial Medicine, 9:341-347, 1986.
3. **Kipen, H.M.,** Lilis, R., Suzuki, Y., Valciukas, J.A., & Selikoff, I.J. Pulmonary fibrosis in asbestos insulation workers with lung cancer: a radiological and histopathological evaluation. British Journal of Industrial Medicine, 44:96-100, 1987.
4. **Kipen, H.M.** A perspective on asbestos-related disease in New Jersey. New Jersey Medicine, 85(11):915-920, 1988.
5. **Kipen, H.M.,** & Favata, E.A. Environmental aspects of reproductive toxicity. New Jersey Medicine, 85(11):937-945, 1988.

6. **Kipen, H.M.**, Cody, R.P., & Goldstein, B.D. Use of Longitudinal Analysis of Peripheral Blood Counts to Validate Historical Reconstruction of Benzene Exposure. Environmental Health Perspectives, 82:199-206, 1989.
7. Lerman, S., & **Kipen, H.M.** Material Safety Data Sheets: Caveat Emptor. Archives of Internal Medicine, 150:981-984, 1990.
8. **Kipen, H.M.,** Tepper, A., Rosenman, K., & Weinrib, D. Limitations of Hospital Discharge Diagnoses for Surveillance of Extrinsic Allergic Alveolitis. American Journal of Industrial Medicine, 17(6):701-709, 1990.
9. **Kipen, H.M.**, Wartenberg, D., Scully, P.F., & Greenberg, M. Are Non-Whites at Greater Risk for Occupational Cancer? American Journal of Industrial Medicine, 19(1):67-74, 1991.
10. **Kipen, H.M.**, Gelperin, K., Tepper, A., & Stanbury, M. Acute Occupational Respiratory Diseases in Hospital Discharge Data. American Journal of Industrial Medicine, 19(5):637-642, 1991.
11. Henneberger, P.K., Stanbury, M.J., Trimbath, L.S., & **Kipen, H.M.** The Use of Portable Peak Flow Meters in the Surveillance of Occupational Asthma. Chest, 100(6):1515-1521, 1991.
12. Schneider, D., Greenberg, M.R., Wartenberg, D., & **Kipen, H.M.** The Study of Cancer in Minorities. New Jersey Medicine, 88(10):713-719, 1991.
13. Fiedler, N., Maccia, C., & **Kipen, H.M.** Evaluation of Chemically Sensitive Patients. Journal of Occupational Medicine, 34:529-538, 1992.
14. **Kipen, H.M.**, Fiedler, N., Maccia, C., Yurkow, E., Todaro, J., & Laskin, D. Immunologic Evaluation of Chemically Sensitive Patients. Toxicology and Industrial Health, pp 125-135, 8/4 (July-August 1992).
15. **Kipen, H.M.,** & Craner, J.A. Sentinel Pathophysiologic Conditions: An Adjunct to Teaching Occupational and Environmental Disease Recognition and History Taking. Environmental Research, 59:93-100, 1992.
16. Cody, R.P., Stawderman, W.W., & **Kipen, H.M.** Hematologic Effects of Benzene: Job Specific Trends During the First Year of Employment Among a Cohort of Benzene-Exposed Rubber Workers. Journal of Occupational Medicine, 35(8):776-782, 1993.
17. Wartenberg, D., Laskin, D., & **Kipen, H.M.** Human Immunotoxicologic Markers of Chemical Exposures: Preliminary Validation Studies. Journal of Exposure Analysis and Environmental Epidemiology, 3(1):51-61, 1993.
18. Fiedler, N., **Kipen, H.M.**, DeLuca, J., Kelly-McNeil, K., & Natelson, B. Neuropsychology and Psychology of MCS. Toxicology and Industrial Health, 10:545-554, 1994.
19. **Kipen, H.M.** Neuroscience Research Agenda Options Panel for MCS. Toxicology and Industrial Health, 10:645-652, 1994.
20. Sparks, P.J., Daniell, W., Black, D.W., **Kipen, H.M.**, Altman, L.C., Simon, G.E., & Terr, A.I. Multiple Chemical Sensitivity Syndrome: A Clinical Perspective. I. Case Definition, Theories of Pathogenesis, and Research Needs. Journal of Occupational Medicine, 36(7):718-730, 1994.
21. Sparks, P.J., Daniell, W., Black, D.W., **Kipen, H.M.**, Altman, L.C., Simon, G.E., & Terr, A.I. Multiple Chemical Sensitivity Syndrome: A Clinical Perspective. II. Evaluation, Diagnostic Testing, Treatment, and Social Considerations. Journal of Occupational Medicine, 36(7):731-737, 1994.
22. **Kipen, H.M.**, Blume, R., & Hutt, D. Asthma Experience in an Occupational and Environmental Medicine Clinic: Low Dose RADS. Journal of Occupational Medicine, 36(10):1133-1137, 1994.
23. Fiedler, N., Mohr, S.N., Kelly-McNeil. K., & **Kipen, H.M.** Response of Sensitive Groups to MTBE. Inhalation Toxicology, 6(6):539-552, 1994.
24. Sikorski, E.E., **Kipen, H.M.,** Selner, J.C., Miller, C.M., & Rodgers, K.E. Roundtable Summary: The Question of Multiple Chemical Sensitivity. Fundamental and Applied Toxicology, 24:22-28, 1995.
25. **Kipen, H.M.**, Hallman, W. Kelly-McNeil, K., & Fiedler, N. Measuring Chemical Sensitivity Prevalence. American Journal of Public Health, 85(4):574-577, 1995.
26. Stanbury, M., Joyce, P., & **Kipen, H.M.** Silicosis and Workers' Compensation in New Jersey. Journal of Occupational and Environmental Medicine, 37(12); 1342-1347, 1995.

27. Fiedler, N., **Kipen, H.M.**, DeLuca, J., Kelly-McNeil, K., & Natelson, B. A Controlled Comparison of Multiple Chemical Sensitivity and Chronic Fatigue Syndrome. Psychosomatic Medicine, 58(1):38-49, 1996.
28. **Kipen, H.M.,** & Lien, T.M. Teaching Occupational History-taking: Problem-based Learning vs. Self-directed Practice. Academic Medicine, 71(5):541-542, 1996.
29. **Kipen, H.M.** Assessment of Reproductive Health Effects of Hazardous Waste. Toxicology and Industrial Health, 12(2):211-224, 1996.
30. Fiedler, N., **Kipen, H.M.**, Natelson, B., Ottenweller, J. Chemical Sensitivities and the Gulf War: Department of Veterans Affairs Research Center in Basic and Clinical Studies of Environmental Hazards. Regulatory Toxicology and Pharmacology, 24:S129-138, 1996.
31. Fiedler, N., & **Kipen, H.M.** (eds)**.** Experimental Approaches to Chemical Sensitivity. Environmental Health Perspectives, 105 Supplement 2:409-547, 1997.
32. Fiedler, N., & **Kipen, H.M.** Chemical Sensitivity: The Scientific Literature in: Experimental Approaches to Chemical Sensitivity. Environmental Health Perspectives, 105 Supplement 2:409-415, 1997.
33. **Kipen, H.M.,** & Fiedler, N. Introduction and Overview in: Experimental Approaches to Chemical Sensitivity. Environmental Health Perspectives, 105 Supplement 2:405-407, 1997.
34. Fiedler, N., **Kipen, H.M.**, Kelly-McNeil, K., & Fenske, R. Long-term Use of Organophosphates and Neuropsychological Performance. American Journal of Industrial Medicine, 32(5):487-496, 1997.
35. **Kipen, H.M.,** Fiedler, N., & Lehrer, P. Multiple Chemical Sensitivity: A Primer for Pulmonologists. Clinical Pulmonary Medicine, 4(2):76-84, 1997.
36. Lynch, R.M., & **Kipen, H.M.** Building Related Illness and Employee Lost Time Following Application of Hot Asphalt Roof: A Call for Prevention. Journal of Toxicology and Industrial Health, 14(6):857-868, 1998.
37. Pollet, C., Natelson, B.H., Lange, G., Tiersky, L., DeLuca, J., Policastro, T., Desai, P., Ottenweller, J.E., Korn, L. Fiedler, N., & **Kipen, H.M.** Medical Evaluation of Persian Gulf Veterans with Fatigue and/or Chemical Sensitivity. Journal of Medicine 29(3 & 4):101-113, 1998.
38. Hodgson, M.J., & **Kipen, H.M.** Gulf War Illnesses: Causation and Treatment. Journal of Occupational & Environmental Medicine 41(6):443-452, 1999.
39. **Kipen, H.M.**, Hallman, W., Kang, H., Fiedler, N., & Natelson, B.H. Prevalence of Chronic Fatigue and Chemical Sensitivities in Gulf Registry Veterans. Archives of Environmental Health 54(5):313-318, 1999.
40. **Kipen, H.M.**, & Fiedler, N. Sensitivities to Chemicals--Context and Implications. American Journal of Epidemiology 150(1):13-16, 1999.
41. Fiedler, N., Udasin, I., Gochfeld, M., Buckler, G., Kelly-McNeil, K., **Kipen, H.M.** Neuropsychological and Stress Evaluation of a Residential Mercury Exposure. Environmental Health Perspectives 107(5):343-347, 1999.
42. Peckerman, A., Natelson, B.H., **Kipen, H.M.,** Smith, S.L., Dahl, K., Pollet, C., & Ottenweller, J.E. Quantitative sensory testing in Gulf War Veterans with chronic fatigue syndrome. Journal of Environmental Medicine 1:235-240, 1999.
43. **Kipen, H.M.**, & Fiedler, N. A 37-Year-Old Mechanic with Multiple Chemical Sensitivities. Environmental Health Perspectives 108(4):377-381, 2000.
44. Osinubi, O. Y.O., Gochfeld, M., & **Kipen, H.M.** Health Effects of Asbestos and Non-Asbestos Fibers. Environmental Health Perspectives, 108(4):665-674, 2000.
45. Caccappolo, E., Fiedler, N., Kelly-McNeil, K., Knasko, S., Hamer, R., Natelson, B., **Kipen, H.M.** Odor Perception: Multiple Chemical Sensitivities, Chronic Fatigue and Asthma. Journal of Occupational & Environmental Medicine 42(6):629-638, 2000.
46. Caccappolo-van Vliet, C., Kelly-McNeil, K., Natelson, B., **Kipen, H.M.**, Fiedler, N. Anxiety Sensitivity and Depression in Multiple Chemical Sensitivities and Asthma. Journal of Occupational and Environmental Medicine, 44(10):890-901, 2002.
47. **Kipen, H.M.,** & Gochfeld, M. Mind and matter: OEM and the World Trade Center. Occup Environ Medicine 59:145-146, 2002.
48. **Kipen, H.M.,** & Fiedler, N. The Role of Medically Unexplained Symptoms and Related Syndromes: Conference Summary and Recommendations. Environmental Health Perspectives 110 Supplement 4:591-96, 2002.

49. **Kipen, H.M.,** & Fiedler, N. Environmental Factors in Medically Unexplained Symptoms and Related Syndromes: The Evidence and Challenge. Environmental Health Perspectives 110 Supplement 4:597-600, 2002.
50. Greene, G.G., & **Kipen, H.M.** The Vomeronasal Organ and Chemical Sensitivity: A Hypothesis. Environmental Health Perspectives 110 Supplement 4:655-62, 2002.
51. Hallman, W.K., **Kipen, H.M.**, Diefenbach, M., Boyd, K., Kang, H., Leventhal, H., & Wartenberg, D. Symptom Patterns Among Gulf War Registry Veterans. American Journal of Public Health, 93(4):624-630, 2003.
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76. **Kipen, H.M.**, Laumbach, R., Zhang, J., Fan, T., Lioy, P., Philipp, C., Schindler, D., Pham, P., Ohman-Strickland, P., Gandhi, S., Kelly-McNeil, K., & Laskin, D. Triggering Acute Myocardial Infarction: Acute Endothelial And Platelet Responses To Fresh Aerosols, EPA-NIEHS Meeting on the Role of Air Pollutants in Cardiovascular Disease, Research Triangle Park, North Carolina, October 12, 2006.
77. **Kipen, H.M.,** Laumbach, R.L., Zhang, J., Lioy, P., Philipp, C., Shindler, D., Gandhi, S., McNeil, K.K., Ohman-Strickland, P., & Laskin, D.L. Triggering Acute Vascular Responses to Air Pollution: Endothelial and Platelet Responses to Fresh Aerosol

Inhalation. American Thoracic Society International Conference, San Francisco, CA, May 21, 2007.

78. Sunderram, J., Udasin, I., Scardella, A.T., & **Kipen, H.M.** Obstructive Sleep Apnea: Unique Characteristics of World Trade Center Responders. American Thoracic Society International Conference, Toronto, Canada, May 18, 2008.
79. Laumbach, R.J., Lelyanov, O., Gong, J., Ohman-Strickland, P., Kelly-McNeil, K., Gandhi, S., Wang, Q., Zhang, J., Fiedler, N., & **Kipen, H.M.** Glutathione-S-Transferase M1 and Effects of Diesel Exhaust on Heart Rate Variability in Healthy Humans. American Thoracic Society International Conference, Toronto, Canada, May 19, 2008.
80. Zhang, J.J., Tong, J., Zhang, L., Ohman-Strickland, P., Laumbach, R., Stern, A., Fiedler, N., & **Kipen, H.M.** Urinary Biomarkers of Diesel Exhaust Exposure, International Society for Environmental Epidemiology / International Society for Exposure Science, Annual Meeting, Pasadena, CA, October 15, 2008.
81. Rich, D.Q., **Kipen, H.M.**, Zhang, J., Kamat, L., Turpin, B., Wilson, A., & Kostis, J. Triggering of myocardial infarction by ambient fine particles and fine particles species. Am J Resp Crit Care Med 179(1):A1176, April 2009.
82. Rich, D.Q., **Kipen, H.M.**, Zhang, J., Kamat, L., Wilson, A., & Kostis, J. Triggering of Myocardial Infarction by Ambient Fine Particle Concentration, Differences in Response by M I Type and Presence of Chronic Obstructive Pulmonary Disease. Circulation 119(10):e365, March 17, 2009.
83. Laumbach, R.J., Rich, D.Q., Gandhi, S., Amorosa, L., Schneider, S., Zhang, J., Ohman-Strickland, P., Lelynov, O., Gong, J., & **Kipen, H.M.** Acute Changes in Heart Rate Variability in Type II Diabetics after a Highway Traffic Exposure, American Thoracic Society Annual Conference, San Diego, CA, May 17, 2009. Am J Respir Crit Care Med 179;2009:A1179.
84. **Kipen, H.M.**, Wang, G., Gong, J., Rich, D., Huang, W., Zhu, P., Wang, Y., Shuo, X., Zhu, T., & Zhang, J. Changes in Pulmonary and Systemic Markers of Inflammation Following Drastic Reductions in Air Pollution during the Beijing Olympics, American Thoracic Society Annual Conference, San Diego, CA, May 17, 2009. Am J Respir Crit Care Med 179;2009:A1638.
85. Pettit, A.P., Allen, J., Gandhi, S., **Kipen, H**., Gow, A. Plasma Nitrites, Endothelial Function and The Effects of Diesel Inhalation. (Poster Abstract #907) Society of Toxicology 48th Annual Meeting and Tox Expo Program, p.177, March 2009.
86. Gandhi, S., Pettit, A.P., Ohman-Strickland, P., Gow, A., Zhang, J., Lauer, E., & **Kipen, H.M.** Two Methods for Measurement of Acute Changes in Endothelial Function Following Diesel Exhaust Inhalation. American Thoracic Society Annual Conference, San Diego, CA, May 18, 2009. Am J Respir Crit Care Med 179;2009:A3164.
86. **Kipen, H.M.**, Gandhi, S., Ohman-Strickland, P., Choi, H., Laskin, D.L., Rich, D., Lauer, E., Zhang, J., & Philipp, C.S. Increase in Platelet Count but Absence of Platelet Activation Following 2 Hours of Diesel Exhaust. American Thoracic Society Annual Conference, San Diego, CA, May 20, 2009. Am J Respir Crit Care Med 179;2009:A6104.
87. Rich, D.Q., **Kipen, H.M.,** Zhang, J., Kamat, L., Turpin, B., Wilson, A., & Kostis, J. Triggering of Myocardial Infarction by Ambient Fine Particles & Fine Particle Species. Am J Respir Crit Care Med 179; 2009:A1176.
88. Pettit, A.P., Brooks, A., Laumbach, R., Fiedler, N., Wang, Q., Ohman-Strickland, P., Zhang, J., and **Kipen, H**. Alteration of Peripheral Blood Monocyte Gene Expression in Humans Following Diesel Exhaust Inhalation (Poster Abstract #1857) Society of Toxicology 49th Annual Meeting and Tox Expo Program, March 2010.
89. Laumbach, R.J., Lelyanov, O., Gandhi, S., Kelly-McNeil, K., Veleeparambil, M., Ohman-Strickland, P., Gow, A.J., Zhang, J., & **Kipen, H.M.** Controlled Exposure to Diesel Exhaust is Associated with a Transient Increase in Nitrite in Exhaled Breath Condensate in Healthy Humans. Am J Respir Crit Care Med 181;2010:A1030
90. **Kipen, H.M.**, Gong, J., Rich, D., Tong, J., Lu, S-E., Ohman-Strickland, P., Diehl, S., Huang, W., Wang, Y., Shuo, X., Wang, G., Zhu, T., & Zhang, J. Changes in Pulmonary

Markers of Inflammation and Oxidative Stress during Drastic Changes in Air Pollution during the Beijing Olympic Games. Am J Respir Crit Care Med 181;2010:A1160

91. **Kipen, H.M.**, Rich, D., Tong, J., Lu, S-E., Ohman-Strickland, P., Diehl, S., Huang, W., Gong, J., Wang, Y., Wang, G., Zhu, T., & Zhang, J. Changes in Biomarkers of Systemic Inflammation following Drastic Changes in Air Pollution during the Beijing Olympics. Am J Respir Crit Care Med 181;2010:A1161
92. Wang, G., Liao, J., Hu, M., Huang, W., Zhu, T., Cheng, J., Que, C., Xing, S., Zhang, L., Cheng, H., Lu, S-E., Ohman-Strickland, P., Rich, D., **Kipen, H.M.**, Zhu, P., Zhang, J., Wang, Y., & Cheng, X. The Impact of PM2.5 on Airway Resistance in Healthy Young Adults. Am J Respir Crit Care Med 181;2010:A4628
93. Hussain, S. , Koganti, M., Coleman, J., **Kipen, H.M.**, Ayensu, T., Zhang, J., Li, S., Laumbach, R.J., & Youseff, H. Diesel Exposure in Mild and Moderate Asthmatics: Effects of Oxidative Stress. Am J Respir Crit Care Med 181;2010:A4678.
94. Laumbach, R.J., Rich, D.Q., Gong, J., Zhang, L., Zhang, J., Ko, S., Cepeda, C., Kelly-McNeil, K., Ohman-Strickland, P., Veleeparambil, M., Gow, A., & **Kipen, H.M.** In-vehicle Exposures to Traffic and Biomarkers of Airway Oxidative Stress Among Healthy Humans, International Society for Environmental Epidemiology, Seoul, S. Korea, Aug 30, 2010
95. **Kipen, H.M**., Gandhi, S., Rich, D.Q., Ohman-Strickland, P., Laumbach, R., Fan, Z., Chen, L., Laskin, D.L., Zhang, J., & Madura, K. Acute Genetic Susceptibility to Acutely Decreased Ubiquitin Proteasome Pathway (UPP) Activity Following Inhalation of Fresh Diesel Exhaust or Secondary Organic Aerosols, International Society for Environmental Epidemiology, Seoul, S. Korea, August 29, 2010.
96. **Kipen, H.M.,** Gandhi, S., Rich, D.Q., Ohman-Strickland, P., Laumbach, R., Fan, Z., Chen, L., Zhang, J., & Madura, K. GSTP1 Polymorphism Determines Susceptibility to Acutely Decreased Proteasome Activity Following Human Inhalation of Fresh Aerosols, Society of Toxicology Annual Meeting, Washington, DC, March 9, 2011.
97. Sarkar, S., Song, Y., Sarkar, S., **Kipen, H.M.**, Laumbach, R.J., Zhang, J., Ohman-Strickland, P., & Schwander, S. Diesel Exhaust Particle Exposure Impairs Human Immunity against Mycobacterium Tuberculosis, Health Effects Institute's Annual Conference, Boston, MA, May 1-3, 2011,
98. Laumbach, R.J., Hussain, S., Gong, J., Zhang, J., Kelly-McNeil, K., Ohman-Strickland, P., Gow, A., & **Kipen, H.M.** Validation of Exhaled Breath Condensate Measures of Oxidative and Nitrosative Stress as Markers of Acute Traffic Pollution Effects" May 16, 2011.
99. Laumbach, R.J., Rich, D.Q., Ko, S., Cepeda, C., Kelly-McNeil, K., Ohman-Strickland, P., Zhang, L., Zhang, J., & **Kipen, H.M.** Short-term Exposure to Traffic-related Particles is Associated with Acute Decrease in High Frequency Heart Rate Variability among Healthy Adults, American Thoracic Society, Denver, CO, May 18, 2011.
100. Rich, Q., **Kipen, H.M.,** Ozkaynak, H., Baxter, L., Burke, J., Crooks, J., Lunden, M., Kostis, J., Zhang, J., & Turpin, B. Triggering of Transmural Infarctions by Ambient Fine Particles, Role of Secondary versus Primary Particle Species Mass Fractions. International Society for Environmental Epidemiology, Barcelona, Spain, September 13 – 16, 2011.
101. Laumbach, R.J., Rich, D., Gong, J., Zhang, L., Zhang, J., Ko, S., Clarimel, C., Kelly-McNeil, K., Ohman-Strickland, P., Pettit, A., Gow, A., & **Kipen, H.M.** Traffic-pollution and Biomarkers of Pulmonary Oxidative Stress in Healthy Humans. International Society for Environmental Epidemiology, Barcelona, Spain, September 13 – 16, 2011.
102. Zhang, J., Zhu, T., **Kipen, H.M.**, Wang, G., Huang, W., Rich, D., Zhu, P., Wang, Y., Hu, M., & Diehl, S. Cardio-respiratory Biomarker Responses of Healthy Young Adults to Drastic Air Quality Changes. International Society for Environmental Epidemiology, Barcelona, Spain, September 13 – 16, 2011.
103. Laumbach, R.J., Rich, D.Q., Gong, J., Zhang, L., Zhang, J., Ko, S., Cepeda, C., Kelly-McNeil, K., Ohman-Strickland, P., Pettit, A.P., Gow, A., & **Kipen, H.M.** Traffic Pollution and Biomarkers of Pulmonary Oxidative Stress in Healthy Humans. American Thoracic Society International Conference, San Francisco, CA, May 21, 2012.

104. Pettit A.P., **Kipen H.M.**, Gow A.J. Alteration in Vascular Nitric Oxide Metabolism in Diabetic Subjects Following an Acute Exposure to Roadway Air Pollution. (Presentation Abstract - Poster presented) 7th International Conference on the Biology, Chemistry and Therapeutic Applications of Nitric Oxide, July 22nd – 26th, 2012.
105. Pettit A., **Kipen H.**, Laumbach R., Fan Z., Ohman-Strickland P., Cepeda C., Black K., Gow A. Vascular Nitric Oxide Production in Diabetics and Controls Following Acute Traffic Pollution Exposure.(Poster) International Society for Epidemiology Annual Meeting, Basel, Switzerland, August 20, 2013.
106. Pettit A., **Kipen H.**, Laumbach R., Fan Z., Ohman-Strickland P., Cepeda C., Black K., Gow,A. (Poster) Altered Vascular Nitric Oxide Production in Type II Diabetic and Control Subjects Following Acute Exposure to Traffic. (Poster) Mid Atlantic Society of Toxicology Fall 2013 Meeting, October 23, 2013.
107. Pettit A., **Kipen H.**, Laumbach R., Fan Z., Ohman-Strickland P., Cepeda C., Black K., Gow A. Altered Vascular Nitric Oxide Metabolism in Diabetic and Control Subjects Following Acute Exposure to Traffic.(Poster Abstract #858) Society of Toxicology 53rd Annual Meeting and Tox Expo Program, March 2014.
108. **Kipen H.**, Laskin J.D., Laskin D.L., Heck D.E., Lioy P.J. Astronaut Health Issues Arising from Indoor Air Contamination on the International Space Station at the American Astronautical Society (AAS). NASA Research and Development Conference in Chicago, IL, June 17–19, 2014.
109. **Kipen H.**, Laumbach, R. Mechanisms of Health Effects from Traffic-Related Air Pollution (TRAP): Real World Studies in Humans. Society of Toxicology Annual Meeting and ToxExpo, San Diego, CA, March 22-26, 2015
110. Chao L., Mukherjee, D., Weschler, C., **Kipen, H.**, Georgopoulos, P. A Computational Framework for Modeling Multisystem Biological Effects of Multiroute Human Exposures to Ozone and Associated Air Pollutants. Submitted. 2017 ISES Conference, Research Triangle Park, NC (Oct 15-17, 2017)
111. Mi Z., Laumbach R., **Kipen H.**, Georgopoulos P. Integrating Spatiotemporal Information System Approaches with Agent-Based Modeling for Studies of Human Exposures to Traffic Related Air Pollution (TRAP). Submitted. 2017 ISES Conference, Research Triangle Park, NC (Oct 15-17, 2017)

PRESENTATIONS (AFTER 2000):

A. Scientific (Basic Science)

1. "Medically Unexplained Symptoms: Field and Laboratory Investigations," Yale University of School of Medicine, Department of Medicine, Occupational Medicine Program, February 27, 2001.
2. Facilitator, Thematic Poster Session, Occupational Allergic and Non-Allergic Airways Disease at ATS San Francisco, CA, May 20, 2001.
3. Participant as a Panel Member at the ATSDR Expert Panel Meeting, Atlanta, GA, June 18-19, 2001.
4. Invited Expert on "Air Pollutants and Related Health Effects from the World Trade Center Fire and Collapse" on Radio Station 101.5 on September 13, 2001 (aired on 9/14/01).
5. Invited Expert on "Expected Health Impacts of the World Trade Center Disaster" on Television NJ News 12 on September 15 - 16, &19, 2001.
6. Invited Panel Member at NIEHS meeting, John Hopkins University, Bloomberg School of Public Health, on Planning and Organizing a Response to the World Trade Center Tragedy, September 21, 2001.
7. Invited Speaker on "Odors; Chemical Sensitivities, and Stress Factors in Exposed Individuals,"
8. Environmental Health Issues Related to the World Trade Center Disaster, New York University, New York, NY, October 18, 2001.
9. Invited Plenary Speaker at the Military and Veterans Health Coordinating Board

Session on “Longitudinal Examination of Symptom Patterns Among Gulf War Registry Veterans, Rockville, MD, December 10, 2001.

10. Invited Speaker on “Potential Bioterrorism Agents” at the Bioterrorism and Chemical Hazards Collaboration—Inaugural Meeting, Woodbridge Hilton, Woodbridge, NJ, December 11, 2001.
11. Facilitator, “Indoor Exposure: Cigarette Smoke, Endotoxin, Irritants and Allergens. Poster Discussion Session. American Thoracic Society International Conference, Atlanta, GA, May 17-22, 2002.
12. Invited Speaker on “Multiple Chemical Sensitivity” at SOEH International Conference on Pesticide Exposure and Health, Bethesda, MD, July 11, 2002.
13. Invited Speaker on “Controlled Exposure Challenges to Elucidate Building Related Illness and Other Medically Unexplained Symptoms” at the 22nd International Symposium of UOEH, Japan, Conference I: Xenobiotics and Host Responses, Japan, Sept 24-25, 2002.

14. Invited Plenary Speaker on "Advances in Understanding Symptom-based Health Effects: Indoor Air Pollution and Gulf War Syndrome" at the Asian Conference for Occupational Health (ACOH) Symposium in Taipei, Taiwan on November 3, 2002.
15. Speaker on "Current Health Problems and Future Concerns from the World Trade Center Fallout and Experience" in the Support for the World Trade Center Disaster Session at the 2002 Eastern Analytical Symposium (EAS) at the Garden State Exhibit Center, Somerset, NJ on November 18, 2002.
16. Olfaction, Odors and Perception in E/O Syndromes, American Occupational Health Conference Research Session, Atlanta, GA , May 6, 2003.
17. Investigating Medically Unexplained Symptoms: From Field Studies to Controlled Exposures, American Occupational Health Conference Research Session, Atlanta, GA , May 6, 2003.
18. Presider on “Occupational Airway Disease/Asthma and Allergy.” ATS 2003-99th International Conference, Seattle, WA, May 19, 2003.
19. Chairman, “Occupational Asthma” Poster Session. ATS Conference, Seattle, WA, May 20, 2003.
20. Chairman, “Occupational Asthma” Poster Session. ATS Conference, Orlando, FL, May 25, 2004.
21. “Neurotoxic and Neurobehavioral Effects of Mold Exposure” (with N. Fiedler). NIEHS/SOEH Conference on Mold-Related Health Effects: Clinical Remediation Worker Protection and Biomedical Research Issues,” Washington, DC, June 28-29, 2004.
22. “Responses to Fresh Aerosol in Susceptible Subjects”. NIEHS/EPA Research Program, The Role of Air Pollutants in Cardiovascular Disease, Washington, DC, September 28, 2004.
23. Chair, Plenary Session VII: Closing Talk, “Recent Advances in Benzene Toxicity,” Munich, Germany, October 10-12, 2004.
24. “Human Neurobehavioral Effects of Controlled Exposure to Hydrogen Sulfide” poster session at the International Society of Exposure Analysis (ISEA), Philadelphia, PA on October 19, 2004.
25. “Defining Gulf War Illness: Factors, Clusters and Diagnoses” Institute of Medicine, Committee on Gulf War and Health, Washington, DC, April 20, 2005.
26. “Air Pollution Health Effects, Mechanisms and Susceptibility: Observations from Piscataway to Peking” at the UMEA University, Department of Public Health and Clinical Medicine, Sweden on October 6, 2011.
27. Keynote Speaker, “Gene-Environment-Stress Interactions: Diesel Exposures and Cardiopulmonary Disease” at the New Jersey Thoracic Society 33rd Annual Scientific Session, New Brunswick, NJ, June 3, 2005.
28. “Health Impact of Nanoparticles” Emerging Environmental Issues and Policies at the Mid-Atlantic States Section of the Air and Waste Management Association Spring Technical Conference, Hyatt Regency, New Brunswick, NJ, April 6, 2006.

29. Co-Chair and Speaker, “Combustion Nanoparticles and Cardiovascular Disease” at the Nanoparticles: Health, Science and Technology, ERC Annual Scientific Meeting, Mount Sinai Medical Center, April 7, 2006.
30. Session Organizer and Moderator, “What's New in Air Pollution: Investigations from Piscataway to Peking”. American College of Occupational & Environmental Medicine Annual Meeting, New York, NY April 14, 2008.
31. The Beijing HEART Study: Review of Biological Endpoints. International Society for Environmental Epidemiology / International Society for Exposure Science, Annual Meeting, Pasadena, CA, October 15, 2008.
32. The Integrated Health Sciences Facility Core (IHSFC) of the NIEHS Center at UMDNJ-Robert Wood Johnson Medical School. NIEHS Center Director’s Meeting. Philadelphia, PA, October 21, 2008.
33. “What the Beijing Olympics is Teaching us About Acute Air Pollution Health Effects,” American Thoracic Society Annual Conference, San Diego, CA, May 20, 2009.
34. “A look at Air Pollution and Health: Emphasis Asia.” International Workshop on Causes and Prevention of Agricultural and Environmental Diseases, Bangkok, Thailand, October 13, 2009.
35. “When the Dose is Low and the Response is Not: Multiple Chemical Sensitivities and Other Biomedically Unexplained Syndromes.” International Workshop on Causes and Prevention of Agricultural and Environmental Diseases, Bangkok, Thailand, October 13, 2009.
36. “Changes in Indicators of Pulmonary Oxidative and Nitrosative Stress Following Drastic Changes in Air Pollution during the Beijing HEART Study”, 4th International Conference on Oxidative/Nitrosative Stress and Disease sponsored by UMDNJ, New York Academy of Sciences, Rutgers, and NIOSH. New York, NY, October 28-30, 2009.
37. “The Beijing HEART Study: Study Hypotheses and Preliminary Results,” HEI 2010 Annual Conference, Alexandria, VA, April 25-27, 2010.
38. Session Chair, Human Studies on Air Pollution and Cardiovascular Phenomena, 2010 NIEHS-EPA Symposium on Air Pollution and Cardiovascular Disease Cardiovascular Effects of Air Pollution—Focusing on Mechanisms, Seattle, WA, June 21, 2010.
39. “Alteration of Peripheral Blood Monocyte Gene Expression in Humans Following Diesel Exhaust Inhalation,” 2010 NIEHS-EPA Symposium on Air Pollution and Cardiovascular Disease Cardiovascular Effects of Air Pollution—Focusing on Mechanisms, Seattle, WA, June 21, 2010.
40. “Genetic Susceptibility to Acutely Decreased Ubiquitin Proteasome Pathway (UPP) Activity Following Inhalation of Fresh Diesel Exhaust or Secondary Organic Aerosols” at the Annual meeting of International Society for Environmental Epidemiology, Seoul, S. Korea, Aug 29, 2010.
41. “Human Biomarkers of Air Pollution Effects: Observations from Piscataway to Peking” at Dept of Chemistry and Biochemistry, Queens College of CUNY, Queens, NY, November 8, 2010.
42. “Traffic-pollution and Biomarkers of Pulmonary Oxidative Stress in Healthy Humans” at International Society for Environmental Epidemiology, Barcelona, Spain, September 16, 2011.
43. “Air Pollution Health Effects, Mechanisms and Susceptibility: Observations from Piscataway to Peking” at the UMEA University, Department of Public Health and Clinical Medicine, Sweden on October 6, 2011.
44. Faculty Opponent for a PhD Defense: Respiratory and Cardiovascular Effects of exposure to oxidative air pollutants at Umea University, Department of Public Health and Clinical Medicine, Sweden on October 6, 2011.
45. Co-chaired symposium session entitled “From Inhaled Particles to Cardiovascular Disease and Toxicity: Evidence from Studies in Volunteers, Experimental Animals, and Cell-Based Systems”, 2013 Annual Meeting of Society of Toxicology, San Antonio, TX on March 12, 2013.

46. "Acute Increases in Exhaled Breath Condensate NO Metabolites Suggests Oxidative Stress as a Mechanism for the Health Effects of Traffic-Related Pollutants" (co-authors: R. J. Laumbach and A. J. Gow), 2013 Annual Meeting of Society of Toxicology, San Antonio, TX on March 12, 2013
47. "Vascular Nitric Oxide Production in Diabetics and Controls Following Acute Traffic Pollution Exposure" (co-authors: Ashley Pettit, Robert Laumbach, Zhi-Hua (Tina) Fan, Pamela Ohman-Strickland, Clarimel Cepeda, Kathleen Black, Andrew Gow), Joint Conference of International Society of Environmental Epidemiology (ISEE), International Society of Exposure Science (ISES), (ISIAQ), Basel, Switzerland on August 19-23, 2013.
48. "Health Effects and Biomarkers of Acute Exposure to Indoor and Outdoor Air Pollutants: From Peking to Piscataway," invited speaker at 6th International Conference on Sustainable Development in Building and Environment at Chongqing University, Chongqing, China on October 25, 2013
49. "Air Pollution in China: Mechanistic Observations from the 2008 Olympics and Comparison with the 2013 Disasters," invited speaker at Ponce School of Medicine, Ponce, Puerto Rico on February 6, 2014.
50. "Natural Experiments, Controlled Exposures, and Vascular Endpoints for Studies of Acute Effects of TRAPs". International Society for Environmental Epidemiology, Seattle, Washington, Wednesday, August 27, 2014.
51. "Indoor Air Quality and Health" at Chongqing University, School of Urban Construction and Environmental Engineering, Chongqing University, Chongqing, China on November 6, 2014.
52. "What Can Individuals do to Reduce Personal Risks from Air Pollution?" at Guangzhou Respiratory Institute, Guangzhou, China on November 8, 2014.
53. "Indoor Air Quality and Health" at School of Construction Management and Engineering, Reading University, United Kingdom on November 12, 2014.
54. "Air Pollution and Health" at Tsinghua University School of Architecture, Beijing, China, January 14, 2015.
55. "Acute Cardiac Events from Air Pollution: Searching for Mechanisms from Piscataway to Peking." Wood's Hole Saturday Morning Sessions. Wood's Hole, Massachusetts. August 4, 2007.
56. "Update on Cardiopulmonary Diseases Caused by Air Pollution: Deep Vein Thrombosis, Coronary Ischemia, & the Olympics," Division of Pulmonary and Critical Care Medicine, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, NJ, January 23, 2009.
57. "Understanding Environmental Health Effects: Epidemiological, Experimental, Clinical, and Translational Approaches. Mount Sinai School of Medicine, New York, June 29, 2010.
58. "Adverse Health Effects of Fungal Exposure: An Evidence-Based Assessment," invited presentation at the Rotary Club, Tom's River, NJ. February 7, 2013.
59. "Identifying Mechanisms of Air Pollution Toxicity: Peking Predicts Piscataway?" invited speaker at Yale University School of Public Health, Department of Environmental Health in Connecticut on October 17, 2013.
60. "Air Pollution in China: Recent Observations, Comparison to the US, and New Research Plans" invited lecturer for Pediatric Grand Rounds, Rutgers, Robert Wood Johnson Medical School, Piscataway, NJ on May 1, 2014.
61. "Cardiopulmonary Effects of Air Pollution: Human Experimental Studies from Peking to Piscataway," invited speaker at Sapienza University of Rome, Italy on May 28, 2014.
62. "Indoor Air Quality and Health" at Chongqing University, School of Urban Construction and Environmental Engineering, Chongqing University, Chongqing, China on November 6, 2014.
63. "What Can Individuals do to Reduce Personal Risks from Air Pollution?" at Guangzhou Respiratory Institute, Guangzhou, China on November 8, 2014.
64. "Indoor Air Quality and Health" at School of Construction Management and

Engineering, Reading University, United Kingdom on November 12, 2014.

65. "Air Pollution and Health" at Tsinghua University School of Architecture, Beijing, China, January 14, 2015.
66. "When Outdoor Air Goes Indoors: Do Health Effects Follow?" Keynote address at 7th International Conference on Sustainable Development in Building and Environment, University of Reading, United Kingdom on July 28, 2015.

B. Professional (Clinical)

1. "Medically Unexplained Symptoms in the Workplace." Millennium Series at the American Occupational Health Conference (AOHC) in San Francisco, CA, April 24, 2001.
2. Panel Member and Speaker on "Clinical Medical Testimony" at the ALI-ABA Seminar on "New Directions in Expert Testimony" in San Francisco, CA, April 27, 2001.
3. "Toxicity and Disability", The Prudential Insurance Company of America, Parsippany, NJ, June 5, 2001.
4. Participant, Defining Susceptibility for Microbial Risk Assessment: A Dialogue, George Washington University, June 26-27, 2001.
5. Panel Member at the New Jersey Institute for Continuing Legal Education on "Admitting Scientific & Expert Testimony: Getting Past the Gatekeeper," January 26, 2002.
6. Participant, Tremolite Asbestos Registry (TAR) Expert Work Group, ATSDR, Atlanta, Georgia, February 13-14, 2002.
7. "Medically Unexplained Symptoms and Syndromes in the Workplace" at the American Occupational Health Conference (AOHC) in Chicago, IL, April 17, 2002.
8. Invited Speaker on "Indoor Air Quality and Multiple Chemical Sensitivity" at Association of Trial Lawyers of America (ATLA) Boardwalk Seminar 2002, Workers' Compensation Seminar, Atlantic City, NJ, April 26, 2002.
9. Grand Rounds speaker on "Research update on Medically Unexplained Symptoms and the Environment", Yale Occupational Medicine, New Haven, CT, November 26, 2002.
10. Grand Rounds Speaker on "Medically Unexplained Symptoms in Primary Care" at the War-Related Illness and Injury Study Center, DVA NJ Health Care System, East Orange, NJ on December 11, 2002.
11. Consultant on Multiple Chemical Sensitivities for US Department of Justice, Civil Rights Division, Disability Right Section, December 16, 2002.
12. Invited Speaker on "Current Health Problems and Future Concerns from the WTC Fallout and Experience" at the Pulmonary Care Symposium, sponsored by Pinnacle Health Systems, Harrisburg, PA, February 28, 2003.
13. "Cancer Clusters and Work" Rutgers Preparatory Academy, March 3, 2003.
14. "Bell's Palsy and Work" Johnson and Johnson, Raritan, NJ, March 12, 2003.
15. Invited Speaker on "Need for Environmentally Oriented Health Research and Services in Lower Manhattan." American Red Cross. September 11 Recovery Program. New York Community Trust, March 11, 2003.
16. Medically Unexplained Symptoms and the Environment: the World Trade Center Disaster, New York University, Graduate Seminar, New York, NY, April 7, 2003.
17. Grand Rounds Speaker on "Update on Common Occupational Illnesses." Janssen Pharmaceutica, Titusville, NJ, April 10, 2003.
18. Invited Speaker on "Medically Unexplained Symptoms and Syndromes in the Workplace" at the Puget Sound Occupational and Environmental Medicine Grand Rounds. University of Washington, Seattle, WA, May 21, 2003.
19. On-air Discussion on "What do you need to know about mold" at WCTC Radio Station on May 25, 2003.
20. Television Interviews by NBC-4 New York and CN-8 (Comcast Cable Network) on 9-11 anniversary, Sept 11, 2003.
21. "The Biology, Psychology and Sociology of Non-Specific Syndromes, ACOEM State of the Art Conference, Toronto, Canada, October 15, 2003.
22. Grand Rounds speaker on "Occupational Asthma", UMDNJ-NJMS, Division of

Allergy, Newark, NJ, March 18, 2004.

23. “When the Dose is Low and the Response is Not - Multiple Chemical Sensitivity, Chronic Fatigue Syndrome and Similar Disorders” at IMX Symposium, Philadelphia, PA, May 19, 2004.
24. Invited Participant, 2nd Jack Pepys Occupational Asthma Workshop, Toronto, Canada, May 21-22, 2004.
25. “Medically Unexplained Symptoms and the Environment,” Psychiatry Grand Rounds, State University of New York, Stony Brook, NY, October 26, 2004.
26. “Health Effects of Diesel Exhaust,” Sixth Annual Women In Science Symposium, Environmental and Occupational Health Sciences Institute (EOHSI), Piscataway, NJ, November 12, 2004.
27. “Particulate Air Pollution and Myocardial Infarction: Explaining the Connection,” New Jersey Clean Air Council, Trenton, NJ, April 13, 2005.
28. "Overview of Human Exposure Experimentation", Ethics of Human Experiments Session, American Occupational Health Conference (AOHC), Washington, DC, May 2, 2005.
29. “Particle Exposures and Cardiopulmonary Disease Gene-Environment Interactions” ACOEM, SOTAC, Chicago, IL, October 29, 2005.
30. “Diesel Exposures and Cardiopulmonary Disease Gene-Environment-Stress Interactions” International Symposium Toxicology of Nanomaterials: Biomedical Aspects, Miami, FL, January 30, 2006.
31. “Does Air Pollution Cause MI’s,” Medical Ground Rounds, Department of Medicine, Mountainside Hospital, Montclair, NJ, February 23, 2006.
32. “Does Air Pollution Cause MI's,” 4th Annual NJSRC Spring Lecture Series, New Jersey Hospital Association, Princeton, NJ, April 5, 2006.
33. “Air Pollution and Myocardial Infarction: Causal Association and Mechanisms,” Medical Grand Rounds, Yale Occupational and Environmental Medicine Program, New Haven, CT, June 6, 2006.
34. “How Does Indoor Air Pollution Kill Us: Looking for Clues,” Philadelphia Occupational and Environmental Medicine Society (POEMS), Bala Cynwyd, PA, December 13, 2006.
35. “Air Pollution and Health,” Dartmouth Medical School, Public Health Program, Lebanon, NH, March 1, 2007
36. “Medically Unexplained Systems and the Environment,” Grand Rounds, Dartmouth Medical School, Lebanon, NH, March 2, 2007.
37. Expert Panel Member, “A Toxic Tort Hypothetical,” Sciences for Judges IX, Brooklyn Law School, Center for Health, Science and Public Policy, Subotnick Center, 11th Floor, Brooklyn, NY, April 13, 2007.
38. “Acute Cardiac Events from Air Pollution,” Occupational and Environmental Medicine Association of New Jersey, Princeton, NJ. November 13, 2007.
39. “Acute Health Effects from Air Pollution: Searching for Mechanisms from Piscataway to Peking” Clinical Research and Occupational Medicine Grand Rounds, EOHSI, Piscataway, NJ, February 5, 2008.
40. “Health Effects of Indoor Fungal Exposure: An Evidence-Based Assessment” at Piscataway Health Advisory Commission, Piscataway, NJ, October 12, 2011.
41. “Asthma: Environmental & Occupational Contributions to Etiology” at Allergy and Immunology Grand Rounds, UMDNJ-New Jersey Medical School, Newark, NJ on April 26, 2012.
42. “9/11 and 8/08: Providing Insights on Respiratory and Inflammatory Effects of Air Pollution,” at the Department of Medicine Grand Rounds at the University of Hawaii on October 30, 2012.
43. “Autonomic Nervous system as a Target Organ,” invited course lecturer, Occupational and Environmental Factors and Neurologic Disease and Occupational and Environmental Medicine, at the University of California San Francisco, California on November 1, 2012.
44. “Update on the Cardiac Effects of Particle Air Pollution in China: Recent Observations,

Comparisons to the US, and Research Plans" at the Regional Occupational Medicine Conference: New Jersey, New York, and Pennsylvania, in New Brunswick, NJ on October 18, 2014.

45. "Urban Air Pollution in China: What can be done to Reduce the Health Impact? U.S. State Department Workshops: Combating Air Pollution in Northern India. Jaipur, India, May 30, 2016.
46. "Urban Air Pollution in China: What can be done to Reduce the Health Impact? U.S. State Department Workshops: Combating Air Pollution in Northern India. Lucknow, India, June 1, 2016.
47. "Cardiovascular Disease and Air Pollution", United Nations Academic Impact Meeting: Our Environment & Our Health: Science and Solutions. New York, NY, June 6, 2016.
48. "Research in Chonging, China and Reading, UK", Rutgers University 2016 International Research Conference, New Brunswick, NJ, July 20, 2016.
49. "Who is Vunerable to the Deadly Effects of Air Pollution? Observations from Peking to Piscataway" Society of Toxicology MASOT Fall Scientific Meeting, Edison, NJ, October 27, 2016.

Sabine Lange, Ph.D., DABT

Curriculum vitae
Toxicology Section Manager
Toxicology Division
Texas Commission on Environmental Quality
Austin, Texas
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Sabine.Lange@tceq.texas.gov

EDUCATION

Aug. 2003 – Oct. 2008	**Doctor of Philosophy, Biochemistry and Molecular Carcinogenesis; GPA 4.0** University of Texas M.D. Anderson Cancer Center, Science Park, Smithville, TX; Department of Carcinogenesis Topic: Involvement of high mobility group 1 protein in the DNA damage response and in the repair of carcinogenic adducts in mammalian cells Mentor: Dr. Karen Vasquez
Sept. – Dec. 2007	**Design and Management of Clinical Trials Certification Program** University of Texas, M.D. Anderson Cancer Center Houston, TX
Sept. 1999 – June 2003	**B.Sc. Honors Biochemistry GPA: 3.8** University of Western Ontario, London, ON Canada

PROFESSIONAL EXPERIENCE

2015 – Present	**Toxicology Section Manager** Texas Commission on Environmental Quality, Toxicology Division Austin, TX
2014 – 2015	**Toxicologist** Texas Commission on Environmental Quality, Toxicology Division Austin, TX
2009 - 2014	**Postdoctoral Fellow** University of Texas M.D. Anderson Cancer Center, Dept. of Molecular Carcinogenesis, Smithville, TX Topic: Action of DNA polymerase zeta on cell survival and genome stability Mentor: Dr. Richard Wood
Summer 2003	**Undergraduate Summer Student** London Regional Cancer Center, London, ON Canada Assisted a graduate student with her research on DNA methylation in the BRCA1 promoter. Mentor: Darci Butcher, Rodenhiser laboratory
2002-2003	**Undergraduate Research Project** University of Western Ontario, London, ON Canada Topic: Mapping DNA methylation in the NF1 promoter

Mentor: Dr. David Rodenhiser

Summer 2001, 2002 **Undergraduate Summer Student**
London Health Sciences Center, London, ON Canada
I analyzed thyroid cancer patient information from 650 patient charts and compiled information for the planning stages of prostate cancer and lymphoma research.
Mentor: Dr. Al Driedger

PUBLICATIONS

Research Articles

Julie E. Goodman, Ke Zu, Christine T. Loftus, Ge Tao, Xiaobin Liu, Sabine Lange. **Ambient Ozone and Asthma Hospital Admissions in Texas: A Time-series Analysis.** 2017. *Asthm Res Pract*. In Press.

Ke Zu, Xiaobin Liu, Liuhua Shi, Ge Tao, Christine T. Loftus, Sabine Lange, Julie E. Goodman. **Concentration-Response of Short-term Ozone Exposure and Hospital Admissions for Asthma in Texas.** 2017. *Environ Int*. 104, pp. 139-45.

Ying-Chih Lin, Nichole Owen, Irina G. Minko, Sabine S. Lange, Junya Tomida, Liang Li, Michael P. Stone, Richard D. Wood, Amanda K. McCullough, and R. Stephen Lloyd. **DNA polymerase ζ limits chromosomal damage and promotes cell survival following aflatoxin exposure**. 2016. *Proc Natl Acad Sci U S A*. 113 (48), pp. 13774-9.

Robert W. Maul, Thomas MacCarthy, Ekaterina G. Frank, Katherine A. Donigan, Mary P. McLenigan, William Yang, Huseyin Saribasak, Donald E. Huston, Sabine S. Lange, Roger Woodgate, Patricia J. Gearhart. **DNA polymerase ι functions in the generation of tandem mutations during somatic hypermutation of antibody genes**. 2016. *J Exp Med.* 213 (9), pp. 1675-83.

Sabine S. Lange, Junya Tomida, Karen Boulware, Sarita Bhetawal, Richard D. Wood, **The polymerase activity of DNA pol ζ is specifically required for cell and embryonic viability**. 2016. *PLoS Genet*. 12 (1): e1005759.

Junya Tomida, Keichi Takata, Sabine S. Lange, Andria Schibler, Matthew Yousefzadeh, Sarita Bhetawal, Sharon Dent, Richard D. Wood, **REV7 is essential for DNA damage tolerance via two REV3L binding sites in mammalian DNA polymerase ζ**. 2015. *Nucl Acids Res*. 43 (2), pp. 1000-11

Sabine S. Lange, Ella Bedford, Shelley Reh, John P. Wittschieben, Steve Carbajal, Donna F. Kusewitt, John DiGiovanni, Richard D. Wood, **Dual role for mammalian DNA polymerase zeta in maintaining genome stability and proliferative responses**. 2013. *Proc Natl Acad Sci U S A*. doi/10.1073/pnas.1217425110

Sabine S. Lange, John P. Wittschieben, Richard D. Wood, **DNA polymerase zeta is required for proliferation of normal mammalian cells**. 2012. *Nucl Acids Res*, 40 (10), pp. 4473-82

Sabine S. Lange, Madhava C. Reddy, Karen M. Vasquez, **Human HMGB1 directly facilitates interactions between nucleotide excision repair proteins on triplex-directed psoralen interstrand crosslinks.** 2009. *DNA Repair*, 8 (7), pp. 865-872

Sabine S. Lange, David L. Mitchell, Karen M. Vasquez, **High mobility group protein B1 enhances DNA repair and chromatin modification following DNA damage.** 2008. *Proc Natl Acad Sci U S A*, 105 (30), pp. 10320-10325

Review & Commentary Articles

Darrell McCant, Sabine Lange, Joseph Haney, Michael Honeycutt. **The perpetuation of the misconception that rats receive a 3-5 times lower lung tissue dose than humans at the same ozone concentration**. 2017. *Inhal Toxicol*. 12, pp. 1-10.

Julie Goodman, Sonja Sax, Sabine S. Lange, Lorenz Rhomberg, **Are the elements of the proposed ozone National Ambient Air Quality Standards informed by the best available science?** 2015. *Regul Toxicol Pharmacol*. 72 (1), pp. 134-40

Bryan Shaw, Sabine S. Lange, Michael Honeycutt, **Lowering the ozone standard will not measurably improve public health**. 2015, *Environmental Management*, May, pp. 26-31

Richard D. Wood & Sabine S. Lange, **Breakthrough for a DNA break-preventer**. 2014. *Proc Natl Acad Sci U S A*. 111 (8), pp. 2864-2865

Sabine S. Lange, Kei-ichi Takata, Richard D. Wood, **DNA polymerases and cancer**. 2011. *Nat Rev Cancer*, 11(2), pp.96-110

Sabine S. Lange & Karen M. Vasquez, **HMGB1: The Jack-of-all-trades Protein is a Master DNA Repair Mechanic.** 2009. *Mol Carcinog*, 48 (7), pp. 571-580

HONORS, AWARDS, AND CERTIFICATIONS

2016	**Diplomate of the American Board of Toxicology**
2012	**The Susan Papizan Dolan Fellowship in Breast Cancer Research** This award recognizes the awardee's potential for excellence in and unique contribution to breast cancer research.
2012	**The Shannon Timmins Fellowship in Leukemia Research** This award recognizes the awardee's potential for excellence in and unique contribution to leukemia research.
2010	**Environmental Mutagen Society Post-Doctoral Travel Award** A merit-based award in recognition of the excellence of research progress and promise as a long-term contributor toward research in environmental mutagenesis.
2009-2010	**Ruth L. Kirschstein National Research Service Award, T-32**
2007	**Environmental Mutagen Society Student Travel Award** A merit-based award in recognition of the excellence of my research progress and my promise as a long-term contributor toward research in environmental mutagenesis.

2005, 2006, 2007	**Three-Time Awardee for the American Legion Auxiliary Fellowship in Cancer Research** University of Texas, Graduate School of Biomedical Sciences A competitive fellowship given to the top 7% of applicants, based on excellence of research proposal, transcript and references.
2004-2007	**Faculty and Alumni Merit Fellowship** University of Texas, Graduate School of Biomedical Sciences Given in recognition of outstanding academic achievements and scholarly potential.

ORAL PRESENTATIONS

June 2016	"**Dose-response curves derived from clinical ozone exposures can inform public policy**" International Conference on Environmental Science and Technology, Houston, TX
April 2016	"**Regulatory impact analyses: A state perspective**" Association of Air Pollution Control Agencies 2016 Spring Meeting, Columbi, SC (invited)
Feb. 2016	"**TCEQ perspectives on the health effects review of ambient ozone**" Hot Air Topics, Air and Waste Management Association, Houston, TX (invited)
Dec. 2015	"**Biological outcomes and significance of controlled human inhalation studies**" Society for Risk Analysis Annual Meeting, Arlington, VA (invited)
July 2015	"**The ozone science interpreted through the lens of dose and exposure**" Meeting with Environmental Protection Agency Administrator, Gina McCarthy
May 2015	"**Health effects of ambient concentrations of ozone**" Environmental Trade Fair, Austin, TX (invited)
April 2015	"**Ozone Mode of Action**" and "**Controlled Exposure Studies**" Independent Workshop on Ozone: NAAQS Science and Policy, Austin, TX
Feb. 2015	"**Investigation of the science behind the ozone NAAQS**" Chemical Risk Workshop, Society for Petroleum Engineers, San Antonio, TX (invited)
Feb. 2015	"**Investigation of the science behind the ozone NAAQS**" Hot Air Topics, Air and Waste Management Association, Houston, TX (invited)
Mar. 2014	**"Aberrant wound healing and pigmentation in pol zeta-deficient mouse skin"** Gordon Research Conference on DNA Damage, Mutation & Cancer, Ventura, CA (invited)
Nov. 2013	**"Dual role for mammalian DNA polymerase zeta in supporting proliferative responses and maintaining genome stability"** Lost Pines Conference, Smithville, TX

March 2013 **"Dual role for mammalian DNA polymerase zeta in supporting proliferative responses and maintaining genome stability"**
Keystone Symposia on DNA Replication and Recombination, Banff, Alberta, CAN

Nov. 2012 **"Dual role for mammalian DNA polymerase zeta in supporting proliferative responses and maintaining genome stability"**
Lost Pines Conference, Smithville, TX

Oct. 2008 "**High mobility group protein B1 enhances DNA repair and chromatin modification following DNA damage"**
39th Annual Environmental Mutagen Society Meeting, Rio Grande, Puerto Rico

May 2008 "**High mobility group protein B1 enhances DNA repair and chromatin modification following DNA damage"**
10th Annual Midwest DNA Repair Symposium, Pittsburgh, PA

Nov. 2007 **"High Mobility Group B1 affects mutagenesis and cell death caused by UVC and psoralen-induced DNA damage"**
Lost Pines Conference, Smithville, TX

Oct. 2007 **"High Mobility Group B1 affects mutagenesis and cell death caused by UVC and psoralen-induced DNA damage"**
38th Annual Environmental Mutagen Society Meeting, Atlanta, GA

April 2006 **"Involvement of the High Mobility Group 1 protein in response to DNA damage and repair of DNA adducts in mammalian cells"**
Texas Genetics Society Meeting, Galveston, TX

Oct. 2005 **"Involvement of the High Mobility Group 1 protein in response to DNA damage and repair of DNA adducts in mammalian cells"**
Lost Pines Conference, Smithville, TX

POSTER PRESENTATIONS

Mar. 2017 "**The relationship between ozone concentration, ozone dose, and the ozone design value**"
Society of Toxicology Annual Meeting, Baltimore, MA

Dec. 2016 "**Analysis of the Corpus Christi Refinery Row public health assessment**"
Society for Risk Analysis Annual Meeting, San Diego, CA

Mar. 2016 "**Dose response curves derived from clinical ozone exposures can inform public policy**"
Society of Toxicology Annual Meeting, New Orleans, LA

Dec. 2015 "**Dose response curves derived from clinical ozone exposures can inform public policy**"
Society for Risk Analysis Annual Meeting, Arlington, VA

Dec. 2014	"**How dose-response curves derived from clinical ozone exposures can inform public policy"** Society for Risk Analysis Annual Meeting, Denver, CO
July 2013	"**Mammalian DNA polymerase zeta is involved in tolerating DNA damage stress"** Stress Proteins in Growth, Development and Disease, Mount Snow, VT
March 2013	**"Dual role for mammalian DNA polymerase zeta in supporting proliferative responses and maintaining genome stability"** Keystone Symposia on DNA Replication and Recombination, Banff, Alberta, CAN
March 2012	"**DNA polymerase zeta is required for proliferation of normal mammalian cells**" Gordon Research Conference on DNA Damage, Mutation & Cancer, Ventura, CA
April 2011	"**Growth arrest and genomic instability after disruption of DNA polymerase ζ (REV3L) in primary mouse cells**" Conference on Responses to DNA Damage: from molecular mechanisms to human disease, Egmond aan Zee, The Netherlands
Oct. 2010	"**Growth arrest and genomic instability after disruption of DNA polymerase ζ (REV3L) in primary mouse cells**" 41st Annual Environmental Mutagen Society Meeting, Fort Worth, Texas
Sept. 2009	**"Loss of DNA polymerase zeta accelerates tumorigenesis"** Meeting on Eukaryotic DNA Replication and Genomic Maintenance, Cold Spring Harbor Laboratories, New York
Oct. 2008	"**High mobility group protein B1 enhances DNA repair and chromatin modification following DNA damage"** 39th Annual Environmental Mutagen Society Meeting, Rio Grande, Puerto Rico
Sept. 2008	"**High mobility group protein B1 enhances DNA repair and chromatin modification following DNA damage"** 3rd Annual National Graduate Student Research Festival, National Institutes of Health, Bethesda, MD
Oct. 2007	**"High Mobility Group B1 affects mutagenesis and cell death caused by UVC and psoralen-induced DNA damage"** 38th Annual Environmental Mutagen Society Meeting, Atlanta, GA
May 2007	**"High Mobility Group Protein B1 is involved in cell survival and mutagenesis in response to psoralen or UVC damage in mouse fibroblasts"** 9th Annual Midwest DNA Repair Symposium, Columbus, OH

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Full member, Society of Toxicology

Member, Society of Risk Analysis

SERVICE

June 2014 – Present **Community Representative on UT Austin Institutional Biosafety Committee**
University of Texas at Austin
Read and assess laboratory experimental protocols for biosafety concerns for the community; includes biosafety training and ongoing biosafety education.

Jan. 2011–Dec. 2012 **Post-Doctoral Association President**
U.T. M.D. Anderson Science Park
Elected by the post-doctoral fellows to organize post-doctoral meetings and events, act as a liason between fellows and faculty/staff and between the Science Park and main MD Anderson campus, and organize a monthly post-doctoral seminar series

June-Aug. 2011, 2012 **Organizer and Mentor, Summer Undergraduate Research Program**
U.T. M.D. Anderson Science Park
Acted as a mentor for an undergraduate student for 10 weeks.

2007 - 2014 **Primary Reviewer for manuscripts submitted to DNA Repair, Molecular Carcinogenesis, Environmental & Molecular Mutagenesis, Human Mutation**
Acted as a primary reviewer for manuscripts submitted to these journals

Aug. 2008 **Reviewer for American Legion Auxiliary Fellowship**
University of Texas, Graduate School of Biomedical Sciences
Reviewed 19 fellowship applications based on the applicants CV, scientific proposal, lay summary and reference letters.

Sept. 2007 **Graduate Student Retreat Coordinator**
U.T. M.D. Anderson Science Park Research Division
Spear-headed the planning and execution of a retreat for all graduate students in the Molecular Carcinogenesis program from the Graduate School of Biomedical Sciences.

Aug. 2006-Aug. 2007 **Graduate Student Association President**
U.T. M.D. Anderson Science Park Research Division
Elected by the graduate students to organize graduate student meetings and events, act as a liason between students and faculty/staff, and organize and carryout recruitment of new students

ROBERT JEFFREY LEWIS
CURRICULUM VITAE
August 2017

PERSONAL

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(b) (6) (personal)

EDUCATION

1997	**Master of Business Administration** **(Honors-Beta Gamma Sigma)** Rutgers University, Executive MBA Program
1990	**Doctor of Philosophy** Epidemiology University of Texas Health Science Center School of Public Health, Houston, Texas
1987	**Master of Science** Epidemiology University of Texas Health Science Center School of Public Health, Houston, Texas
1985	**Bachelor of Science** Biology (Systematics and Ecology) University of Kansas, Lawrence, Kansas

PROFESSIONAL EXPERIENCE

2016-Present	**Distinguished Scientific Associate**
2011-2016	**Section Head**
2009-2011	**Senior Scientific Associate**
2006-2009	**Advanced Scientific Associate**
2000-2006	**Scientific Associate**
1995-2000	**Senior Epidemiologist**
1992-1995	**Staff Epidemiologist**
1990-1992	**Epidemiologist**

ExxonMobil Biomedical Sciences, Inc. (EMBSI)
Occupational and Public Health Division,
Annandale, NJ

Major responsibilities include: a) advising the Corporation on epidemiologic research involving ExxonMobil employees, products and operations; b) providing technical leadership to chemical human health risk assessment programs and research; and c) providing technical leadership to benefit-cost analysis related to human health-based regulations. Currently leading scientific programs on naphthalene, 1,3-butadiene, and asphalt human health and regulatory issues.

Representative for ExxonMobil on multiple industry scientific trade association committees (e.g., American Chemistry Council, American Petroleum Institute), and served as Principal Investigator for multiple epidemiological studies (see publication list).

1997-Present **Adjunct Assistant Professor**
Division of Epidemiology, Human Genetics & Environmental Sciences
University of Texas Health Science Center School of Public Health.

1988-1990 **Research Assistant**
Department of Pediatrics, The Rett Center
Baylor College of Medicine, Houston, Texas

Responsibilities included assisting in the design and conduct of a case-control study of Rett Syndrome. Other responsibilities included assisting in the development of a population-based registry for Rett Syndrome, and development of database management and analytical methods for other studies being conducted at the Rett Center.

1987-1988 **Graduate Research Assistant III**
The Southwest Center for Prevention Research
University of Texas Health Science Center School of Public Health, Houston, Texas

Responsibilities included the development of database structures, data management procedures, and analytical methods for a large-scale epidemiologic study of childhood cardiovascular health.

1986-1987 **Graduate Research Assistant I**
Epidemiology Research Unit
University of Texas Health Science Center School of Public Health, Houston, Texas

Responsibilities included various field office activities (data entry and coding, etc.) related to current research being conducted at the Epidemiology Research Unit.

COMMITTEE MEMBERSHIPS

2011-Present **Threshold Limit Value (TLV) Committee,** Member**,** American Conference of Governmental Industrial Hygienists.

2013-2016 **Evidence-based Toxicology Collaboration**, Methods Work Group, Member

2010-2016 **Expert Science Panel Member**, Alliance for Risk Assessment

2011-2016 **Co-Chair,** Science Team, Naphthalene Research Coalition

2009-2016	**Chair,** Environmental Health Committee, International Institute of Synthetic Rubber Producers
2009-2012	**Treasurer,** Society for Risk Analysis
2009-2012	**Member**, Science Team, Naphthalene Research Coalition
2009-2011	**Member,** Environmental Socioeconomic Analysis Task Force, European Center for Ecotoxicology and Toxicology of Chemicals
2009	**Industry Observer,** International Agency for Research on Cancer
2007	**Industry Observer,** International Agency for Research on Cancer
2006-2010	**Member,** Society for Risk Analysis Membership Committee
2004	**Organizational & Editorial / Publication Committee Member**, International Symposium on 1,3-butadiene & Chloroprene Health Effects
2003	**Peer Review Panel**, Acrylonitrile Health Science Review, Toxicology Excellence for Risk Assessment (TERA)
2002-2004	**Peer Consultation Panel, Core Member,** Voluntary Children's Chemical Evaluation Program (VCCEP), Toxicology Excellence for Risk Assessment (TERA)
2001-2006	**Chair,** Children's Health Coordinating Subgroup, Public Health Forum
2000	**Organizational & Editorial / Publication Committee Member**, International Symposium on 1,3-butadiene, Isoprene, & Chloroprene Health Effects
1999-2003 & 2006-Present	**Chair,** Epidemiology Work Group**,** Olefins Panel, American Chemistry Council
1998	**U. S. Environmental Protection Agency, Scientific Advisory Board Consultant,** 1-3 Butadiene risk assessment
1997-2003 & 2006-Present	**Chair,** Epidemiology Steering Committee, International Synthetic Rubber Producers
1991-1993	**Member,** Polypropylene Task Force, European Center for Ecotoxicology and Toxicology of Chemicals

CONSULTING EXPERIENCE

1990-1995	**Peer Reviewer,** Agency for Toxic Substances and Disease Registry (ATSDR)
1990	**Epidemiology Consultant,** Electric Power Research Institute (EPRI)

1989-1990 **Epidemiology / Biostatistics Consultant,** Harris County, Texas Health Department

ACADEMIC HONORS AND AWARDS

1997 **Beta Gamma Sigma, Business School Honor Society**
Rutgers University, Executive MBA Program

1985-1990 **Health Stipend**
University of Texas School of Public Health

PROFESSIONAL MEMBERSHIPS

2000-Present **Society for Risk Analysis**
1989-Present **Society for Epidemiologic Research**
1987-Present **American Association for the Advancement of Science**

PUBLICATIONS - PEER-REVIEWED JOURNAL ARTICLES

Adenuga D, Goyak KO, Lewis RJ. Evaluating the MoA/human relevance framework for F-344 rat liver epithelioid ganulomas with mineral oil hydrocarbons. Crit Rev Toxicol (*in press*).

Beck NB, Becker RA, Erraguntla N, Farland WH, Grant RL, Gray G, Kirman C, LaKind JS, Lewis RJ, Nance P, Pottenger LH, Santo SL, Shirley S, Simon T, Dourson ML. (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. Environ Int 89-90:110-128.

Samuel GO, Hoffmann S, Wright RA, Lalu MM, Patlewicz G, Becker RA, DeGeorge GL, Fergusson D, Hartung T, Lewis RJ, Stephens ML. (2016). Guidance on assessing the methodological and reporting quality of toxicologically relevant studies: a scoping review. Environ Int 92-93:630-646.

Lewis RJ, Copley GB. (2015). Chronic low-level hydrogen sulfide exposure and potential human health effects: A review of the epidemiological evidence. Crit Rev Toxicol 45(2):93-123.

Meek ME, Palermo CM, Bachman AN, North CM, Lewis RJ. (2014). Mode of action human relevance (species concordance) framework: Evolution of the Bradford Hill considerations and comparative analysis of weight of evidence. J Appl Toxicol 34: 595-606.

Money CD, Tomenson JA, Penman MG, Boogaard PJ, Lewis RJ. (2013). A systematic approach for evaluating and scoring human data. Regul Toxicol Pharmacol 66:241-247.

Meek ME, Bolger M, Bus JS, Christopher J, Conolly RB, Lewis RJ, Paoli G, Schoeny R, Haber LT, Rosenstein AB, Dourson ML. (2013). A framework for “fit for purpose” dose-response assessment. Regul Toxicol Pharmacol 66:234-240.

Bukowski JA, Nicolich MJ, Lewis RJ. (2013). Extreme sensitivity and the practical implications of risk assessment thresholds. Dose-Response 11:130-53.

Lewis RJ. (2012). Naphthalene animal carcinogenicity and human relevancy: Overview of industries with naphthalene-containing streams. Regul Toxicol Pharmacol 62:131-137.

Piccirillo VJ, Bird MG, Lewis RJ, Bover WJ. (2012). Preliminary evaluation of the human relevance of respiratory tumors observed in rodents exposed to naphthalene. Regul Toxicol Pharmacol 62:433-440.

Schnatter AR, Nicolich MJ, Lewis RJ. (2012). An analysis of lung cancer incidence in Canadian petroleum workers. Occup Environ Med 69:877-882.

Zelenka MP, Barr DB, Nicolich MJ, Lewis RJ, Bird MG, Letinski DJ, Metcalf SW, O'Lone RB. (2011) A weight of evidence approach for selecting exposure biomarkers for biomonitoring. Biomarkers 16:65-73.

Himmelstein MW, Baan RA, Albertini RJ, Bird MG, Lewis RJ. (2007). International symposium on the evaluation of butadiene and chloroprene health risks. Chemo Biol Interact 166:1-9.

Swenberg JA, Boysen G, Georgieva N, Bird MG, Lewis RJ. (2007). Future directions in butadiene risk assessment. Chemo Biol Interact 166:78-83.

Drummond I, Murray N, Armstrong T, Schnatter AR, Lewis RJ. (2006). Exposure assessment methods for a study of mortality and cancer morbidity in relation to specific petroleum industry exposures. J Occup Environ Hygiene 3: 513-520.

Bukowski JA, Lewis RJ. (2004). Practical implications of non-linear effects in risk assessment harmonization. Nonlinear Biol Toxicol Med 2:3-10.

Bukowski JA, Lewis RJ. (2003). Is the hygiene hypothesis an example of hormesis? Nonlinear Biol Toxicol Med 1:155-166.

Lewis RJ, Schnatter AR, Drummond I, Murray N, Thompson FS, Katz AM, Jorgensen G, Nicolich MJ, Dahlman D, Theriault G. (2003). Mortality and cancer morbidity in a cohort of Canadian petroleum workers. Occup Environ Med 60:918-928.

Bukowski JA, Lewis RJ, Gamble JF, Wojcik NC, Laumbach RJ. (2002). Risk factors for childhood asthma development and their potential impact on national asthma prevalence. Human Ecol Risk Assess 8:735-765.

Fogleman M, Lewis RJ. (2002). Factors associated with self-reported musculoskeletal discomfort in video display terminal (VDT) users. Int J Ind Ergonomics 29:311-318.

Lewis RJ, Gamble, JF. (2002). Mortality among three refinery/petrochemical plant cohorts: reply (letter). J Occup Environ Med 44:396-397.

Lewis RJ, Krawiec M, Confer E, Agopsowicz D, Crandall E. (2002). Musculoskeletal disorder worker compensation costs and injuries before and after an office ergonomics program. Int J Ind Ergonomics 29:95-99.

Lewis RJ, Friedlander BR, Bhojani FA, Schorr WP, Salatich PG, Lawhorn EG. (2002). Reliability and validity of an occupational health questionnaire. J. Occup Environ Med 44:39-47.

Bird MG, Lewis DFV, Whitman FT, Lewis RJ, Pryzgoda RT, Witz G. (2001). Application of process chemistry and SAR modeling to the evaluation of health findings of lower olefins. Chem Biol Interact 135-136:571-584.

Lewis RJ, Fogelman M, Deeb J, Crandall E, Agopsowicz D. (2001). Effectiveness of a VDT ergonomics training program. Int J Ind Ergonomics 27:119-131.

Bukowski JA, Lewis RJ. (2000). Hormesis and health: a little of what you fancy may be good for you. South Med J 93:371-374.

Gamble JF, Lewis RJ, Jorgensen G. (2000). Mortality among three refinery/petrochemical plant cohorts. II. Retirees. J Occup Environ Med 42:730-736.

Lewis RJ, Gamble JF, Jorgensen G. (2000). Mortality among three refinery/petrochemical plant cohorts. I. 1970-1982 active/terminated workers. J Occup Environ Med 42:721-729.

Lewis RJ, Schnatter AR, Katz AM, Thompson FS, Murray N, Jorgensen G, Theriault G. (2000). Updated mortality among diverse operating segments of a petroleum company. Occup Environ Med 57:595-604.

Lewis RJ, Yarborough CM, Nicolich MJ, Friedlander BR. (1999). Lymphopoietic cancer and other major causes of death among petrochemical researchers: an update. Occup Med 49:71-77.

Gamble JF, Lewis RJ. (1996). Health and respirable particulate (PM_{10}) air pollution: a causal or statistical association? Environ Health Perspect 104:838-850.

Lewis RJ, Huebner WW, Yarborough CM. (1996). Characteristics of participants and non-participants in worksite health promotion. Am J Health Promot 11:99-106.

Lewis RJ, Lerman SE, Schnatter AR, Hughes JI, Vernon SW. (1994). Colorectal polyp incidence among polypropylene manufacturing workers. J Occup Med 36:174-181.

Lewis RJ, Schnatter AR, Lerman SE. (1994). Colorectal cancer incidence among polypropylene manufacturing workers: An update. J Occup Med 36:652-659.

Lewis RJ, Buffler P. (1991). Central nervous system tumors and occupational exposure to electric and magnetic fields. Am J Epidemiol 134:755.

Lewis RJ, Cooper SP. (1989). Alcohol, other drugs, and fatal work-related injuries. J Occup Med 31:23-28.

PUBLICATIONS - PEER-REVIEWED MANUSCRIPTS SUBMITTED OR IN PREPARATION

Belzer RB, Lewis RJ. The practical significance of measurement error in pulmonary function testing. (*submitted to Risk Analysis).*

Magee B, Forsberg N, Lewis RJ. Retrospective population risk assessment to validate dose-response values for human health risk assessment. Human Ecological Risk Assessment (*manuscript in revision).*

Schnatter AR, DeVilbiss EA, Chen M, Lewis RJ, Gallagher EM. Systematic review and meta-analysis of selected cancers in petroleum refinery workers. (*submitted to Scandinavian Journal of Work Environment & Health)*

SELECTED PRESENTATIONS & POSTERS

Lewis RJ, Belzer RB. Risks and benefits of reducing ozone exposure after re-evaluating a recent chamber study. Society for Benefit-Cost Analysis Annual Meeting, March 17-18, 2017 (presentation).

Lewis RJ. The pursuit of quality and objectivity in risk assessment. Toxicology Forum Summer Meeting, July 25-27, 2016 (presentation)

Belzer RB, Lewis RJ. Are Measured Differences in Pulmonary Function "Different"? Society for Risk Analysis Annual Meeting, December 12-14, 2016 (presentation).

Belzer RB, Lewis RJ, Bachman AM. Implications for benefits estimation of uncontrolled variance in spirometric studies of air pollution. Society for Benefit-Cost Analysis Annual Meeting, March 16-17, 2015 (presentation).

Foreman J, Lewis RJ. Communication of uncertainty in human health risk assessments. Society of Toxicology Annual Meeting, March 22-26, 2015 (poster).

Adenuga D, Goyak KM, Lewis RJ. Evaluating the MoA/Human Relevance Framework for F-344 rat liver epithelioid ganulomas with mineral oil hydrocarbons. Society of Toxicology Annual Meeting, March 22-26, 2014 (poster).

LeHurray A, Sun TJ, Beatty P, Reitman F, Lewis RJ. Naphthalene research program: working hypotheses and research results. Society for Risk Analysis Annual Meeting, December 7-10, 2014 (poster).

Lewis RJ, Beck N. EPA's framework for human health risk assessment to inform decision making: an industry perspective. Society for Risk Analysis Annual Meeting, December 7-10, 2014 (presentation).

Lewis RJ, Grant R, Santos S, Dourson M, Shirley S, Erraguntla N. Unpacking toxicity assessments to understand and improve confidence. Society for Risk Analysis Annual Meeting, December 7-10, 2014 (presentation).

Lewis RJ, Beck N. EPA's framework for human health risk assessment to inform decision making: an industry perspective. Society for Risk Analysis Annual Meeting, December 7-10, 2014 (presentation).

Piccirillo VJ, Bird MG, Lewis RJ, Bover WJ. (2011). Preliminary evaluation of the human relevance of respiratory tumors observed in rodents exposed to naphthalene. The Toxicologist 120 (suppl 2):52.

Lewis RJ. (2011). Overview of existing epidemiology data for industries with naphthalene-containing streams. The Toxicologist 120 (supple 2):418-419.

Lewis RJ. (2010). Overview of existing epidemiology data for industries with naphthalene-containing streams. Navy & Marine Corp Public Health Center's 49th Annual Public Health Conference, March 22-25, 2010 (invited presentation).

Bird MG, Lewis RJ, Piccirillo VJ. (2009). Using the human relevance framework as a guide to naphthalene research. Society for Risk Analysis Annual Meeting, December 7-9, 2009 (poster).

LeHurray AP, Bird MG, Hammon TL, Juba MH, Lewis RJ, Reitman F, Sun T-J, White RD, Wise K. (2009). Naphthalene research: the relevance of tumors in rodents to human risk assessment. Society for Risk Analysis Annual Meeting, December 7-9, 2009 (poster).

LeHurray AP, Bird MG, Hammon TL, Juba MH, Lewis RJ, Reitman F, Sun T-J, White RD, Wise K. (2009). Naphthalene research: the relevance of tumors in rodents to human risk assessment. Toxicology and Risk Assessment Conference, April 27-30, 2009 (poster).

Mannix MK, Bachman AN, Low LK, Lewis RJ, Bird MG. (2008). Rat strain differences in nasal tissue response and metabolism. Society of Toxicology Annual Meeting, March 16-20, 2008 (poster).

Lewis RJ, Bukowski JA. (2007). Hygiene hypothesis: A review of chronic diseases beyond allergies and asthma. Second American Congress of Epidemiology meeting, June 21-24, 2007 (poster).

Zelenka M, Bird M, Nicolich M, Lewis RJ, Minsavage G, Barr D, Doerrer N. (2007). Development of a prototype framework for determining the appropriateness of a biomarker of exposure. Society of Toxicology Annual Meeting, March 25-29, 2007 (poster).

Hammitt JK, Lewis RJ, Bukowski JA. Radon in drinking water: A case-study economic analysis with nonlinear exposure-response. (2006). Society for Risk Analysis Annual Meeting, December 3-6, 2006 (presentation).

Lewis RJ, Nicolich MJ, Thompson KM. Value of information analysis in research priority setting. (2003). 23rd International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 24-29, 2003 (invited presentation).

Armstrong TW, Drummond I, Murray N, Lewis RJ. Use of a semi-quantitative exposure database for a cohort exposure assessment. (1999). International Symposium on Occupational Exposure Databases and Their Application for the Next Millennium, November 1-3, 1999 (presentation).

Drummond I, Murray N, Armstrong T, Lewis R, Schnatter A. (1999). Use of exposure assessment data to develop retrospective exposure estimates for an epidemiology study. American Industrial Hygiene Conference and Exposition, June 5-11, 1999 (presentation).

SELECTED REPORTS & REVIEWS

Gephart L, Lewis RJ, Roberts P, Salter E, White L, Post L. (2006). Analysis of the CAFE cost benefit analysis. Report prepared by the CONCAWE Air Quality Management Group's Special Task Force on cost benefit analysis (STF-66). The Oil Companies' European Association for Environment, Health and Safety in Refining and Distribution (CONCAWE), Report No. 4/06, June 2006.

European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC) Task Force. (2000). Comments on recommendation from Scientific Committee on Occupational Exposure Limits for 1,3-butadiene. Document no. 40. Brussels; Belgium.

Lewis RJ, Caldwell DJ. (1999). Scientific basis for an air quality standard for nickel. Report no. 99/53. Prepared for the Oil Companies' European Organization for Environment, Health and Safety (CONCAWE). Brussels, Belgium.European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC) Polypropylene Task Force. (1994). Polypropylene production and colorectal cancer. Technical Report No. 57. Brussels, Belgium.

Kilborn LJ, Canfield MA, Lewis RJ, Pusok G. (1992). Health services area data notebook: Selected demographic and health status measures by health service area and census tract, 1980-1990. Harris County Health Department, Houston, Texas.

Canfield MA, Moffitt KB, Kilborn LJ, Hyslop T, Lewis RJ. (1990). The health status of Harris county residents: Natality, mortality and populations 1980-86. Harris County Health Department, Houston, Texas.

Lewis RJ. (1990). Day-night patterns in workplace accidental deaths: role of alcohol abuse as a contributing factor. In: Hayes DK, Pauly JE, Reiter RJ (Eds). Chronobiology: its role in clinical medicine, general biology, and agriculture, part b. Proceedings of the XIX International Conference of the International Society for Chronobiology, June 20-24, 1989, Bethesda. New York; Wiley-Liss Co., pgs 327-335.

Maureen Y. Lichtveld, MD, MPH

Professor and Chair
Freeport McMoRan Chair of Environmental Policy
Associate Director Population Sciences, Louisiana Cancer Research Consortium
Director, GROWH Research Consortium
Director, Center For Gulf Coast Environmental Health Research, Leadership and Strategic Initiatives
Tulane University School of Public Health and Tropical Medicine
Department of Global Environmental Health Sciences
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Education:

Master of Public Health - Environmental Health Sciences, Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD, May 1986

Doctor of Medicine, Anton de Kom University of Suriname (formerly Dutch Guyana), Faculty of Medicine, Paramaribo, Suriname; University of Leyden, the Netherlands, August 1981

Undergraduate Degree: Dr. J. C. De Miranda College, Suriname, August 1973

Citizenship: (b) (6)

Exemplary national environmental health and public health research roles:

Maureen Lichtveld, MD, MPH has over 35 year experience in environmental public health and currently is Professor and Chair, Department of Global Environmental Health Sciences, Tulane University, School of Public Health and Tropical Medicine. Beginning in 1987, she served as one of the highest ranking Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry (CDC/ATSDR) environmental health scientists engaged in designing research tools and protocols guiding national environmental health studies in communities living near hazardous waste sites nationwide and science-driven policies, often accompanied by congressional testimonies. The research tools and protocols were adopted by all states for their respective state-based environmental health programs.

Dr. Lichtveld's research focuses on environmentally-induced disease including asthma and cancer, health disparities, environmental health policy, disaster preparedness, public health systems, and community resilience. Her research examines the impact of chemical and non-chemical stressors on communities facing environmental health threats, disasters and health disparities. Dr. Lichtveld expertise includes community-based participatory research, engaging community-academic partnerships globally. Her health systems research interests embeds workforce development. She holds an endowed chair in environmental policy and is Associate Director, Population Sciences, Louisiana Cancer Research Consortium. Dr. Lichtveld has a track record in community-based participatory research with a special emphasis on persistent environmental health threats affecting health disparate communities living in disaster prone areas. Her $29M research portfolio encompasses both national and global environmental health research. As Director of the Center for Gulf Coast Environmental Health Research, Leadership, and Strategic Initiatives, Dr. Lichtveld serves as Principal Investigator of several Gulf Coast-associated environmental health research and capacity building projects ascertaining the potential impact of the Gulf of Mexico Oil spill: the NIH-funded Transdisciplinary Research Consortium for Gulf Resilience On Women's Health, addressing potential post- oil spill effects on vulnerable pregnant- and non-pregnant women; "Risk and Resilience in Environmental Health", a project designed to implement rapidly deployable community-based research, outreach and education; and the Gulf Region Health Outreach Program's *Environmental Health Capacity and Literacy Project*, aimed at strengthening individual and community resilience

through an environmental health clinical referral network, emerging scholars, and trained community health workers navigating frontline health services. She was awarded the Caribbean Consortium for Research in Environmental and Occupational Health, a NIH- Fogarty International Center research grant with the research center at the Academic Hospital in Suriname and the University of Suriname, a first time NIH award in that Caribbean country. Dr. Lichtveld's committment to advancing diversity and inclusive excellence in academia targets demonstrating the benefits of a culturally competent cadre of scholars in public health and medicine.

Similarly, since 1988, she has served as a consultant to the Institute of Medicine (IOM) on complex research issues ranging from environmental health, technological disasters to public health systems research and cancer policy. Of special note is her contribution as environmental health expert in the aftermath of Hurricane Katrina and since 2010 following the Gulf of Mexico oil spill. She has served as a member of the planning committees for special expert workshops, as a presenter during those workshops and contributed to the subsequently published workshop reports. Dr. Lichtveld is a member of the National Advisory Environmental Health Sciences Council (NAEHS) of the Institutes of Health's National Institute of Environmental Health Sciences (NIH/NIEHS), the US. EPA Scientific Advisory Board, the National Academy of Sciences-Institute of Medicine Roundtable on Environmental Health Sciences, Research, and Medicine, and a member of the Health Disparities Subcommittee of the Advisory Committee to the Director of the CDC. She was elected as Chair of the Editorial Board of the American Journal of Public Health and serves as the current President of the Hispanic Serving Health Professions Schools (HSHPS). Dr. Lichtveld was honored as CDC's Environmental Health Scientist of the Year and twice named Woman of the Year by the City of New Orleans. In 2016, she was elected as a member of the National Academy of Medicine.

Work Experience:

August 2005 - present:	***Professor and Chair, Freeport McMoRan Chair of Environmental Policy Tulane University School of Public Health and Tropical Medicine, Department of Global Environmental Health Sciences***

As Professor and Chair I am responsible for all aspects of the academic mission in research, teaching and service in global environmental health sciences.

Research: Under my leadership, the Department focuses on the following research priority areas:

- Population-based environmental health disparities research: prevention and intervention research in high-risk populations, environmental epidemiology
- Global environmental health research: water and air quality, nutriceuticals, sustainable hazardous waste management
- Health effects research: pulmonary, endocrine, molecular toxicology and biomarkers
- Cancer research: carcinogenesis, mutagenesis, health disparities
- Environmental policy research: health and public policy, risk assessment
- Public health systems research: Disaster preparedness and management

Active research grants: Approximately $29 M portfolio consisting of the following active grants:

1U01TW010087-01; 1U2RTW010104-01 NIH/Fogarty International Center
Approved for funding 2015-2020
Neurotoxicant exposures: impact on maternal and child health in Suriname: $ 3,000,000.
The overall goals of the joint research and research training projects are 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.

Gulf Region Health Outreach Program
05/10/2012 – 05/09/2018

Environmental Health Capacity and Literacy Project: $15,000,000
Integrated, transdisciplinary approach to preventing, addressing, and solving social health problems targeting family wellness and individual/community resilience. Efforts specifically target establishing a cadre of trained community health workers, specialty community outreach ambassadors, and environmental health navigators linking vulnerable communities in the designated affected Gulf- Coast communities with frontline health services.

Baton Rouge Area Foundation
01/01/2012 – 06/30/2017
Risk and Resilience in Environmental Health: $3,712,756
The overall goal of the project is to implement a rapidly deployable community-based research, outreach and education program addressing risk and resilience in the context of environmental disasters.

2000005989 National Academies of Science Gulf Research Program
9/1-2015-8/31-16
Linking Energy Production Technologies to Human Health Protection: A "To and Through" Approach to the Interdisciplinary Training of Middle-Skilled Workforce: $125.000. The goal of 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 in SE Louisiana.

U54MD008602-P03UAB NIMHD/NIH 2015-2017
Making environmental policy work for communities: A culturally competent CBPR approach to advancing the health of Gulf Coast Vietnamese-Americans. $25.000.
The purpose of this project is to assess the impact of critical environmental policy gaps on maternal and child health (MCH) in Vietnamese-American communities living in coastal La and Ms using a culturally competent CBPR approach.

3U19ES020677-S1 NIEHS/SAMHSA Admin. Supplement
05/01/2013 – 04/30/2016
Gulf Coast Cultural Influences on Maternal and Child Health: Influence of Prenatal Stress, Culture, and Attachment on Epigenetic Factors: $482,835
The overarching goal is to more precisely define the biological and psychosocial pathways linking maternal prenatal and postnatal health with child developmental trajectories across the lifespan. The investigative team proposes to deploy innovative strategies to more distinctly explore maternity experiences and practices associated with both alterations in epigenetic factors in the infant, critical infant outcomes, security of attachment, infant competence, and cultural consonance.

NIH/NIEHS R5U19ES020677
06/27/2011 – 04/30/2016
Transdisciplinary Research Consortium for Gulf Resilience on Women's Health: $6,526,810
The major goals of this project are to build on strong partnerships among communities with health disparities in the Gulf Coast Region, frontline health practitioners and scientists engaged in transdisciplinary community-based participatory research. The consortium deploys innovative strategies to fulfill its hallmark to strengthen the health security and resilience of vulnerable pregnant women and women of reproductive age potentially affected by the DWH disaster and at risk of future disasters

Education and Teaching:

Throughout my career since 1987, I have fulfilled leadership roles in and provided national contributions to medical and public health education. Illustrative examples are presented below:

- The *CDC/ATSDR national environmental public health assessment* program-training physicians and other health professionals in all 50 states and territories to evaluate the implications associated with abandoned Superfund hazardous waste sites.
- *Member of the Association of American Medical Colleges (AAMC) Advisory Panel on Medical Education*.

The panel meets to examine emerging strategies in medical education providing national advice and guidance to assure schools of medicine stay abreast contemporary developments in content as well as pedagogy. I served as either chair or senior advisor in the development of core competencies in disaster response and preparedness and most recently in cultural competence. Both sets of competencies promote inter-professional learning involving schools of public health and other health professional disciplines. I also designed and led the CDC/AAMC *regional medical education centers,* promoting practice-based research and learning among collaboratives of schools of medicine and high functioning local health department.

- *Association of Occupational and Environmental Clinics (AOEC)*. My involvement exists since the organization's inception in the late 1980s. Both at CDC and at Tulane we jointly developed Case Studies in Environmental Medicine, providing CMEs and CEUs to physicians and other health professionals nationally and globally. Of note are three new case studies currently under development to boost the knowledge of primary care physicians on the Gulf Coast in the aftermath of the oil spill addressing reproductive health, seafood consumption, and air pollution- topics representing the three main community concerns.
- *Association of Schools and Programs of Public Health (ASPPH).* In addition to serving as Past Chair and currently *Member Environment and Occupational Health Council,* I have been involved in the development of competencies guiding public health education in a significant way. Examples include the core discipline-specific competencies; development of the study guide for the Certified Public health professional certification; several disaster preparedness and response competency sets targeting MPH students and practicing public health leaders respectively.
- *Discipline-specific competencies for practicing physicians and public health professionals*: In addition to the examples mentioned above, I played a senior expert role in the development of more than a dozen competency sets including epidemiology and laboratory science (in collaboration with the Council of State and Territorial Epidemiologists), maternal and child health, injury prevention and control (CDC); cancer core competencies for the non-oncology medical workforce (C-Change).
- *Public Health workforce development:* As CDC's Associate Director for Workforce Development I provided leadership in the development of the national *Public Health workforce development* strategic plan. I was invited to present the plan and its framework to the IOM during the expert consultations leading up to the development of its report "Who will Keep the Public Healthy" which addresses the critical shortages in the public health workforce.

Tulane University responsibilities and contributions in education and teaching:

The Department of Global Environmental Health Sciences offers both on-site and via distance learning masters, doctoral and joined graduate degrees (MPH, MSPH, PhD, MD/MPH, JD/MPH, MSW/MPH) in the following areas of specialization:

- Toxicology and risk assessment
- Air pollution
- Water quality
- Hazardous waste management
- Industrial hygiene
- Environmental policy
- Global environmental health
- Disaster management

In addition, the department is responsible for the environmental health course work and I teach the required senior health policy course in the undergraduate BSPH program. I also serve as the lead responsible faculty member for several honors theses.

Teaching responsibilities:

Lead responsibility: Disaster Preparedness and Management Program

Building on 20 years of experience in disaster management at the national level (see CDC tenure), I served as Tulane University's leading scientist in environmental disaster management aftermath of Hurricane Katrina, subsequent natural disasters and the Gulf of Mexico Oil spill. Tulane University's disaster management program integrates research, teaching, and expert guidance to achieve following:

- Bolster the environmental public health science, policy and practice of disaster preparedness and management
- Strengthen the disaster management workforce locally, in the Gulf States region, nationally and globally
- Minimize the impact of natural and intentional disasters by promoting the integration of public health and disaster management systems

Specialty curriculum includes coursework in: Emergency Management and Disaster Response Planning and implementation; Disaster and Crisis Communication; Population Issues in Disaster Management: Shelter, Acute Care, Immunizations, Forensics; Psychosocial Aspects of Environmental Health Disasters; Environmental Preparedness and Response; and Environmental Sampling, Monitoring and Data Analysis.

Lead responsibility for the Environmental Policy specialty track within the department I developed and have lead teaching responsibility for the following courses:

- Environmental Policy - core requirement for toxicology, policy, and disaster management tracks
- Formulation of Public Health Policy - core requirement for all BSPH students

I previously developed and had lead teaching responsibility for the following courses:

- Biological Basis of Disease (infectious diseases) - core requirement for all graduate students
- Cancer: Causes, Treatment, and Disparities (disparities and cultural competence in cancer care) - requirement for environmental oncology track and elective for students at Tulane University, School of Medicine; and Xavier University, School of Pharmacy

BSPH program: member of the executive committee establishing the BSPH program in 2006, the fastest growing Tulane undergraduate program (from 50- almost 500 majors and combined BSPH/MPH degrees).

Tulane University/ University of Suriname MSPH program: Since 2012, I serve as the program Director for this special MSPH program delivered synchronously via distance learning to physicians and other health professionals practicing in developing countries such as Suriname. The program is scheduled to be offered throughout the Caribbean region starting in 2015.

Advising academic year 2016:

- PhD students: 7
- MPH students: 14

August 2005 - present ***Associate Director for Population Sciences, Tulane University Cancer Center (TCC); Louisiana Cancer Research Consortium (LCRC)***

In addition to Dept. Chair, I also serve as the Associate Director, Cancer Population Sciences. In this role, I provide oversight and coordinate all cancer population research at Tulane University and serve as a member of the LCRC Scientific Executive Committee, charged with decision-making regarding all areas of cancer research under the auspices of the TCC and the LCRC.

2011 - present ***Director, GROWH Research Consortium***

The transdisciplinary Research Consortium for Gulf Resilience on Women's Health (GROWH) builds on strong

partnerships among communities with health disparities in the Gulf Coast Region, frontline health practitioners and scientists engaged in transdisciplinary community-based participatory research. The NIH/NIEHS-funded consortium focuses on examining the impact on reproductive health and birth outcomes in women in the aftermath of the Gulf of Mexico oil spill.

2012 - present ***Director, Center for Gulf Coast Environmental Health Research, Leadership and Strategic Initiatives***

The center's mission is to serve Gulf Coast communities prone to disasters. Our research and training portfolio is enabled by strong community-academic partnerships to ensure that we address the health priorities and disparities most critical to our regional area and sustain involvement from key stakeholders through building community capital, outreach, research recruitment and retention, and the communication of research findings in a manner that can best inform public health policy and practice.

April 2004 - July 2005 ***Adjunct Associate Professor, Georgia State University***
Senior Health Scientist, Centers for Disease Control and Prevention, Office of the Director

I joined GSU's new MPH program in April 2004, when the program was just approved with limited structure in place. As one of the first core faculty, I provided leadership in all three core academic priorities: research, teaching, and service.

My accomplishments include:

- Co-authored the first of its kind urban health research proposal at GSU. The proposal was the only one approved and funded following a very competitive process to be funded. The multi-year, multimillion dollar research project will be led by the Institute of Public Health (IPH), and also augmented the public health academic workforce with 16 tenure track faculty positions and 30 graduate research assistance-ships. The interdisciplinary research project addresses four health problems in urban, underserved populations: 1) chronic disease and aging; 2) HIV/AIDS and other infectious diseases; 3) injury and violence; 4) substance abuse and mental health. In addition, science gaps in important crosscutting research capacity building public health areas were explored - including public health law, GIS, and evaluation methods.
- Developed a proposal to build the first state of the art environmental health teaching and research laboratory, not previously planned by GSU. While all other academic departments saw a decrease in their projected lab space, this multi-million dollar facility was approved by the Provost of the University as GSU's and the MPH program's only new laboratory space.
- At CDC, I also served as a member of the CDC Futures Initiative Public Health Research Working Group. In this role, I provided leadership in developing a "fast track" set of public health research priorities. This set formed the basis for three prominent RFPs, allocating approximately $30 M to public health research modeled after the NIH R01 program.
- Developed and implemented the required core MPH course in environmental health at GSU. The syllabus features basic environmental health sciences, methods; international, national, state and local case-based problems; toxicology, environmental. Medicine, epidemiology and law. This course has also been designated as a writing- intensive course university-wide, requiring a fully developed research paper. Student evaluations affirmed the quality of the course and my expertise as faculty.
- As Associate professor in environmental health, I have provided expert advice beyond the MPH program. In addition to securing the new environmental health laboratory, I collaborated in the design of the first GSU international study abroad program focused on environmental pollution, policy and law, in collaboration with the College of Law and Armstrong University conducted in Rio de Janeiro, Brazil. At the request of GSU's Public Administration Program, I presented an on-line guest lecture on environmental policy to students in Germany and the US.

March 2000 – April 2004 ***Associate Director for Workforce Development; Director, Office of Workforce Planning and Policy; Public Health Practice Program Office, CDC***

As the Associate Director for Workforce Development and Director, Office of Workforce Planning and Policy, I provided leadership in implementing the *CDC/ATSDR National Public Health Workforce Development Strategic Plan.* I combined biomedical, social, epidemiological, behavioral, and policy data expertise to address issues of science, policy and public health practice.

I directed the following programs:

1. The National Implementation Plan for Public Health Workforce Development

The plan outlines an array of actions to be undertaken by CDC and numerous partners in Federal, State, and local health agencies, in academic institutions, and in communities. These actions are designed to support the following six strategies of the national academic framework: monitor workforce composition; identify competencies/design curriculum; design an integrated learning system; use incentives to assure competencies; conduct research and evaluation; and assure financial support.

Significant accomplishments:

- The CDC/ATSDR National Strategic Plan for Public Health Workforce Development in collaboration with 45 different partner organizations representing practice, academic, private industry and communities.
- The building of core competencies in the following areas: public health, development and national adoption of competency sets on Bioterrorism preparedness and response; emergency preparedness and response; informatics; public health law; and genomics.
- A three-tier system of credentialing in the public health system.
- An evaluation and research framework including workforce competency, organizational effectiveness, and health outcomes.
- The development and support of workforce development programs at the State and local level through the Association of State and Territorial Health Officials (ASTHO) and the National Association of City and County Health Officials (NACCHO) representing the first time public health workforce development was recognized as a national priority by the two largest practice professional organizations.
- A presenter and consultant to the Institute of Medicine's (IOM) subcommittee charged with developing a special report devoted to the state of the nation's public health workforce in the 21st century.

2. The National System of Centers for Public Health Preparedness (CPHP)

In Fiscal Year 2001, CDC established a national network of centers to strengthen Bioterrorism and emergency preparedness at the front lines by linking academic expertise and assets to State and local health agency needs. The centers are part of CDC's strategy to close the nation's gap in public health capacity and frontline preparedness. Their goal is to assure a well-trained and prepared national public health workforce, well-informed health care providers, and an educated and alert citizenry to protect the public and to provide homeland security against terrorist threats. The centers enhance preparedness and response capacities for Bioterrorism and other current and emerging health threats through competency-based training, certifications, research and service. They are the key operational component of a national training plan for Bioterrorism and public health emergency preparedness and a larger national initiative for public health workforce development.

Three types of centers existed:

Academic Centers form an integral component of the national system to enhance Bioterrorism preparedness and strengthen the nation's public health infrastructure.

Specialty Centers focus on a topic, professional discipline, core public health competency, practice setting or application of learning technology.

Advance Practice Centers were created to develop advanced applications at the community level in three areas of key importance to preparedness for Bioterrorism and other urgent health threats: integrated communications and information systems across multiple sectors; advanced operational readiness assessment; and comprehensive training and evaluation.

Significant accomplishments:

- The CPHPs trained more than 200,000 public health and health care professionals; prepared over 180 different educational products focused on Bioterrorism preparedness and response; have formed formal partnerships with State and local agencies to carry out terrorism and workforce development education and training.
- The expansion of national system of CPHPs from 13 to 32 centers representing an FY03 budget of approximately $35M.

3. The National Public Health Training Program for Bioterrorism (BT) Preparedness and Response

This program outlines activities related to national training strategies to enhance preparedness at the frontline of public health, and preparing health care professionals to respond to Bioterrorism and other current and emerging health threats. The program addresses preparation in core competencies of Bioterrorism and emergency preparedness, the response capacity of agencies, communities, and partnership among Federal, State and local agencies, educational institutions and professional organizations to assure a systematic approach to training which will achieve an effective and sustained public health response capacity.

Significant accomplishments:

- Developed a national Bioterrorism training plan that articulates technical content areas, target audiences and performance measures.
- Participated in Project Public Health Ready, the first national program aimed at voluntary certification of local health agencies that have in place trained staff and an “exercised and practice” emergency response plan.
- Developed and accomplished grant implementation of a new focus area in education and training in Bioterrorism Preparedness and response including program guidance, review at the CDC and at the DHHS levels of 62 grant applications and technical assistance.
- Participated in the *CDC Responds* satellite broadcast series that reached 1.4 million viewers; a series encompassing a broad range of topics including medical management of anthrax, smallpox, infection control and laboratory issues and health/risk communication. Over 44,000 videos were disseminated free through the Public Health Foundation to health care professionals.
- Promoted the collaboration between the Association of American Medical Colleges (AAMC) and CDC to implement the national program, *First Contact, First Response,* designed to address Bioterrorism preparedness needs for medical students, residents and practicing physicians, and to convene an expert panel to define key domains of a curriculum in Bioterrorism preparedness for first year medical students.
- Fostered the collaboration between the National Association of City and County Health Officials (NACCHO), ASTHO, and CDC to implement a *BT 101* training course for local public health workers.
- Disseminated critical smallpox related education materials to 3.5M clinicians nationwide.

4. CDC’s National Academic Partners Program

As Director for the Office of Workforce Policy and Planning, I directed this twenty-year-old CDC-wide program armed at carrying out the agency’s national public health research agenda and furthering the education of the future public health and medical workforce through internships/fellowships. The partnership includes the Association of Schools of Public Health (ASPH), the Association of Teachers of Preventive Medicine (ATPM), the Minority Health Professions Foundation (MHPF), the Association of American Medical Colleges (AAMC), Hispanic Serving Health Professions Schools (HSHPS) and the American Indian Higher Education Consortium (AIHEC).

Significant accomplishments:

- A 300% increase in research projects and funding support; representing $82.8M in FY 2002 and 2003.
- An increase in the number of Letter of Intent (to nearly 700) from researchers in academic institutions represented by ASPH, ATPM and AAMC. Areas of funded research include environmental health, chronic disease, infectious disease and public health practice research.
- The Trans-Association Partnership, a new initiative that expanded the Academic Partners Program to:
    - Produce high quality, prevention-oriented research through multi-institutional collaboration to reduce health disparities
    - Build partnering relationships across institutions
    - Build research infrastructure at member institutions
- A national tracking system for CDC-sponsored fellowships and internships at the masters and doctoral levels that supported nearly 3,000 graduates of schools of public health and preventive medicine through fellowship/internship programs
- A new medical student rotation program that provides an opportunity for selected medical students to:
    - Participate actively in the work of CDC
    - Acquire additional knowledge and skills in the areas of public health and prevention
    - Interact with role models in public health at a formative stage in the career decision process
- Since 2000, served as Chair, Annual Academic Partnership Meetings. Approximately 350 scientists participated in the 2003 meeting, Preparedness for Prevention: Partners, Policy and Practice. Several cutting-edge science topics were presented as part of the 2003 meeting agenda, such as:
    - Community-Based Participatory Research
    - Research Opportunities for Preventing Illness and Injury in the Workplace
    - Emerging Issues in Infectious Diseases
    - Priorities for Occupational Research Agenda (NORA)
    - Emerging Issues in Birth Defects

January - April 1999 ***Acting Deputy Assistant Administrator, Agency for Toxic Substances and Disease Registry (ATSDR); budget $ 100M/yr; 400 scientists***

During this 3.5-month timeframe, I participated fully with the Acting Assistant Administrator in the day-to-day leadership of the agency, focusing primarily on issues of science and public health policy.
Significant accomplishments:

- Developed and presented, in collaboration with the Assistant Administrator and ATSDR staff, ATSDR's 1999 Program Briefing for the Administrator of ATSDR and other CDC executive management.
- Provided leadership, working with other ATSDR managers, in addressing key issues of science and policy facing ATSDR in 1999 in the absence of a permanent Assistant Administrator. Chaired a group of senior managers tasked to address the strategic issues necessary to ensure ATSDR authorities and resources in a climate of change facing the agency in the next five years.
- Addressed key issues of science and policy associated with the toxicological profiles for mercury and dioxin, the Hanford Medical Monitoring Program, and the WHO Persistent Organic Pollutant treaty regarding the use of DDT in malaria-endemic countries.
- Was responsible for, in collaboration with EPA, creating the opportunity to provide, for the first time since ATSDR was formed, public-health-related Technical Assistance Grants (TAGs) to communities affected by exposures to hazardous substances associated with hazardous waste sites.
- Conducted congressional briefings for lead staffers on committees critical to ATSDR.
- Provided briefing to the Acting Assistant Administrator, Office of Solid Waste and Emergency Response (OSWER), EPA, and other senior staff of the EPA OSWER on the state of environmental health science and ATSDR's public health findings to date related to the Superfund program.
- Developed briefing packages for the Administrator, ATSDR, in preparation of congressional briefings.
- Played a key role in the development of public health action strategies in response to complex and high visibility environmental health issues including those of Grand Bois, Louisiana; Woonasquatucket, Rhode Island; and Calcasieu, Louisiana.

Nov. 1995 – Feb. 2000 ***Director, Division of Health Education and Promotion (DHEP), ATSDR***

Provided leadership for a Division of 50 multi-disciplinary, culturally, and ethnically diverse staff and a FY 1999 budget of $18M. Planned, directed, coordinated, evaluated, and managed the operation of the Division. DHEP's hallmark is the use of community-driven approaches to promote education and training for health care providers and other health professionals, to facilitate access to environmental medical services, and to establish the connection between environment and public health practice. Developed programs that focus on supporting ATSDR's goal of preventing or reducing the harmful effects of exposure to hazardous substances. DHEP's health promotion program integrates health education, risk communication, environmental medicine, and health promotion to assist communities affected by exposure to hazardous substances in the environment.

The program supports three key goals:

- *Prevention* - proactive actions to prevent the adverse impact of hazardous substances
- *Intervention* - actions to diminish or eliminate adverse consequences of exposure to hazardous substances
- *Capacity Building* - actions to strengthen existing public health infrastructures to enhance environmental health services for affected communities

Key Program Areas:

1. Site-Specific Health Education, Health Promotion and Risk Communication Program

During my tenure as the Director, Division of Health Education and Promotion (DHEP), the research conducted in the areas of health education and risk communication significantly contributed to the science base of health promotion and disease prevention. The Site-Specific Health Education, Health Promotion and Risk Communication Program was designed to assist communities and health professionals nationwide in understanding, preventing, or reducing adverse health effects resulting from exposure to hazardous substances. These activities promoted awareness, increased knowledge, promoted behavioral change, provided clinical intervention services, and communicated potential health risks. Approximately 40,000 people living near federal facilities and other hazardous waste sites nationwide benefited from the services provided through these programs in FY 1999. In the context of environmental health, I led the development of national models to ascertain knowledge gain and behavioral change. The research conducted has led to intervention and prevention-based programs implemented nation-wide by partners in Federal, State, and local health agencies.

Specifically, leadership was provided in implementing comprehensive site-specific risk communication and health education programs at DOE and DOD facilities. The past and current exposures to a multitude of contaminants and the vast array of diverse constituents at these sites, posed unique risk communication challenges. Often, the successful risk communication efforts served as the foundation for numerous public health actions in communities living near these facilities. As a member of the CDC/ATSDR Energy Oversight Committee, I took a lead in providing overall policy and programmatic direction for public health programs at DOE facilities. In addition, ATSDR's Risk Communication Program housed in DHEP was designated the lead for the U.S. Department of Health and Human Health Services on issues of science and policy in risk communication. The program's work was published widely, nationally and internationally.

2. ATSDR's Medical Monitoring Program

The purposes of this medical surveillance program were to screen target populations at significantly increased risk of a specific adverse health effect or outcome resulting from exposure to hazardous substances; identify individuals in need of further diagnosis and treatment; and arrange for appropriate clinical referrals. Medical monitoring, as implemented by ATSDR, were intended to achieve early detection of key adverse health outcomes; reduce new cases of disease in the community; and prevent progression or improve the outcome of identified health effects. The first project of this kind in the nation was being implemented to address the highest

human exposure to lead documented in the United States experienced in the population affected by the Bunker Hill hazardous waste site in Kellogg, Idaho. Using econometric decision modeling, I led the research that evaluated intervention options in this innovative medical monitoring program associated with past, current and potential future exposure to lead.

3. The National Professional Organizations Program

These National Professional Organization partnerships augmented ATSDR's environmental health scientist team with 80,000 health professionals who specialized in occupational and environmental medicine, medical toxicology, preventive medicine, pediatrics, and nursing. The program significantly enhanced ATSDR's capacity and public health infrastructure to support environmental medicine, health education, and health promotion.

4. Pediatric Environmental Health Specialty Units (PEHSU) Program

This provided direction for ATSDR to establish PEHSUs across the country. This newly instituted national resource focused greater attention on the public health implications of childhood exposures to hazardous substances. The unit provided expertise in medical education and training, consultation, and clinical specialty referrals. Staff served as pediatric environmental medicine clinical consultants for health care providers nationwide. In FY 2000, the program expanded to include clinical fellowships and specialty focus areas such as asthma within individual centers. The significance of this program was realized not only by the commitment of communities and academic and national professional organizations, but also by the U.S. Environmental Protection Agency (EPA) who was co-funding several units. Activities at the PEHSUs had a positive health impact for more than 75,000 children, concerned parents, and health care providers. In addition to clinical and health education services, several units were engaged in disease-specific research such as pediatric asthma. I played a leadership role in the formulation, implementation, translation and dissemination of the research.

5. The Distance Learning Program

The Distance Learning Program enabled ATSDR to reach the widest possible audience with environmental health training. ATSDR's educational outreach strategy included satellite broadcast adaptation, case studies in environmental medicine (CSEMs), and web-based training modules. In FY 1999, 30,000 physicians and other health care providers utilized the CSEMs to increase their knowledge in the diagnosis, treatment, and surveillance of persons exposed to hazardous substances. Full implementation of the satellite broadcast and web-based components of the CSEM program were intended to result in a 100% increase in reaching the intended target audiences.

6. The National Environmental Health Nursing Initiative

Provided leadership to implement this initiative by developing critical expertise in environmental health for nurse professionals, the largest single group of health care providers. A component of this initiative is a national strategic plan focused on the areas of practice, applied research, and education. ATSDR was selected by the national partners to serve as the programs lead federal agency.

7. The Environmental Health Prevention Effectiveness Program

Consistent with the practice of prevention effectiveness (PE) in public health, this program applied a variety of quantitative methodologies to assess the impact of ATSDR's environmental health policies, programs, and practices on health outcomes. The program emphasized applied research to enhance the scientific basis for applying PE tools in environmental health practices, and strengthening PE expertise at the state and local levels. Applied research included collaborative efforts with centers within CDC (e.g., NCCDPHP and NCEH) and focused on the influence of individual and neighborhood socio-economic and demographic characteristics on the effectiveness of intervention strategies related to exposure to lead, as well as the factors affecting environmental health education strategies (e.g., outreach penetration, knowledge gained, and behavioral change).

8. Global Environmental Health Education and Training

Under this initiative, physicians practicing in several countries in Europe and in the North and Latin Americas participated in training programs focused on a variety of public health areas. These areas included environmental medicine, medical management of acute chemical exposures, toxicology, and epidemiology. The U.S. Environmental Protection Agency, the Health Resources and Services Administration's Health Education Centers, and ATSDR are now collaborating in a joint effort to educate physicians practicing in medically underserved communities on both sides of the U.S./Mexico border.

9. Psychological Responses to Hazardous Waste

Provided leadership to DHEP in continuing to build the knowledge and science base to broaden the understanding of the biomedical and behavioral consequences in communities affected by hazardous substances. In addition to applied research, the program also included the development and implementation of national intervention strategies in communities affected by hazardous substances. Through a series of expert panels that I convened, significant research was conducted in the area of psychological sequelae associated with hazardous waste exposure.

March 1993 – Nov. 1995 ***Chief Biomedical Officer for Public Health Practice, Public Health Practice Coordination Group (PHPCG), Office of the Assistant Administrator, ATSDR***

As Chief Biomedical Officer, I managed a budget of approximately $8M (FY 1995) and providing oversight, management, and supervision of employees; including environmental health scientists, a medical officer, and a toxicologist.

Responsibilities included the following key agency program areas:

1. Health Activities Recommendation Panel (HARP)

This intra-agency, multi-disciplinary panel evaluated information and data developed in agency documents to make recommendations and ensure conduct of for follow-up health activities for communities.

2. ATSDR's Minority Health (MHP) and Environmental Justice Programs

The CDC/ATSDR's MHP primary goal was to prevent adverse health effects and environmental injustice in disadvantaged communities and people of color exposed to hazardous substances. This commitment was prompted, in part, by Presidential Executive Order No. 12898. ATSDR's Mississippi Delta health and environment project was chosen as a national model to address health disparities in one of the poorest regions of the county.

3. Public Health Actions

This responsibility included coordination of public health actions to provide public health leadership to intervene and where possible eliminate the adverse health effects of hazardous waste sites/releases.

4. Agency Community Involvement Program

This program involved the development of an agency-wide framework to ensure incorporation of community involvement across all agency program areas.

5. Special Projects

This responsibility included providing oversight and inter-/intra-agency coordination of agency special projects

including the Bloomington PCB Project, the Medical Assistance Project and the Psychological Effects of Toxic Exposure Project.

March 1991 - March 1993 ***Assistant Director for Public Health Practice, Division of Health Assessment and Consultation (DHAC), ATSDR***

- Evaluated DHAC programs to ensure adherence to public health practice and science policy procedures. These programs included:
  - The public health assessment (PHA) process
  - The conduct of public health investigations
  - The determination of appropriate public health actions, risk communication, and community involvement
- Provided leadership and guidance in enhancing the PHA program, which included development of the process to include health outcome data and information on community health concerns in the process.
- Provided oversight in the conduct of community health investigations.
- Developed the framework for a database project to develop a system to better assess the public health impact of human exposure to hazardous substances associated with sites or releases.
- Participated in the development of the federal facilities information management system (FFIMS) aimed at integrating public-health-related data of federal facilities nationwide.

August 1989 - March 1993 ***Senior Medical Officer*, *Division of Health Assessment and Consultation (DHAC), ATSDR***

- Provided guidance on environmental health issues.
- Reviewed division documents for compliance to Agency requirements and adherence to appropriate scientific judgment.
- Provided oversight to DHAC health outcome initiatives.
- Developed the process to evaluate data for appropriate follow-up health activities.
- Served as Mentor for ASPH students and new physicians.

Nov. 1988 - August 1989 ***Chairperson, National Medical Waste Group*, *Office of the Associate Administrator, ATSDR***

Principal author: The Public Health Implications of Medical Waste: A Report to Congress that was the scientific basis of national legislation, The Medical Waste tracking Act of 1988. This act led to state-based promulgation of laws and policies in nearly all 50 states and many local ordinances. Issues of science addressed by the report included:

- Denaturation rates, characteristics of infectious agents, and probability of transmission of infectious agents in health care settings
- Probability of transmission of infectious agents in the healthcare setting
- Generation and disposal of a vast array of medical waste including gloves, IV bags, etc.

August 1987 – Nov. 1988 ***Medical Officer/Toxicologist*, *Office of Health Assessment, Health Sciences Branch, ATSDR***

- Provided medical toxicology expertise to evaluate the adverse health effects of exposure to hazardous waste
- Developed PHAs to include the evaluation and analysis of environmental data and recommending public health actions
- Provided emergency consultation to interagency staff, U.S. Department of Health and Human Services (DHHS) and other federal, state, and local health, environmental, and natural resource agencies

1981 – 1985 ***Manager, Regional Health Care Center, Moengo, Suriname***

- Responsible for management of a regional primary care center with five satellite clinics, providing health care and public health services to 26,000 persons
- Planned, managed, and evaluated all health care services provided
- Developed and implemented several public health programs on childhood immunization, adolescent health education, and prenatal care

Job-Related Honors:

2016 Member, National Academy of Medicine
2016 Member of the National Advisory Environmental Health Sciences Council (NAEHS) of the Institutes of Health's National Institute of Environmental Health Sciences (NIH/NIEHS)
2016 Johns Hopkins University Society of Scholars
2016 Member, Executive Committee Health Disparities Education, Awareness, Research & Training HDEART) Consortium
2016 Member, Governing Board Inter Cultural Cancer Council
2015 Member, Health Disparities Subcommittee, Advisory Committee to the CDC Director
2015 Chair, Editorial Board, American Journal of Public Health (November)
2015 National Academy of Sciences-Institute of Medicine Roundtable on Environmental Health Sciences, Research, and Medicine
2015 Session chair; human health research session, GOMRI scientific conference
2014 Member Region VI, Regional Health Equity Council
2014 President, Hispanic Serving Health Professions Schools
2014 Presenter NAS Gulf Research Program health and workforce expert workshops
2013 Woman of the Year, City Of New Orleans
2013 Member, US Environmental Protection Agency (EPA) Scientific Advisory Board
2013 Invited presenter NAS Gulf Research Program
2013 Invited Keynote speaker 2013 Gulf Of Mexico Research Initiative conference
2013 Member 2014 planning Committee APHA 2014 Annual Conference
2012 Member, Coordinating Committee, Gulf Region Health Outreach Program
2012 Member, C-Change Board of Directors
2011 Member, Advisory Panel on Medical Education, Association of Medical Colleges (AAMC)
2011 Member, Executive Board Hispanic Serving Higher Professional Schools
2011 Chair, Environmental and Occupational Health Council, Association of Schools of Public Health
2011 Member, Executive Committee, American Public Health Association
2010 Chair, Diversity and Inclusive Excellence Committee, Tulane University
2010 Chair, Special Advisory Committee to the Dean on Diversity, Tulane University, School of Public Health and Tropical Medicine
2010 Chair of the Board National Public Health Leadership Society
2010 IOM expert and presenter: workshop: *Review of the Proposal for the Gulf Long-Term Follow-Up Study* workshop
2010 IOM expert, Planning Committee member and presenter: workshop: *Assessing the Effects of the Gulf of Mexico Oil Spill on Human Health*
2010 Chair, Diversity Committee, Tulane University, School of Public Health and Tropical Medicine
2010 Reviewer, College of Scientific Review, National Institutes of Health (NIH)
2010 Chair, Science Board; American Public Health Association
2009 Chair, Environmental and Occupational Health Council, Association of Schools of Public Health
2009 Commencement address University of Suriname: *"Public Health in Suriname - Tracing the Past, Living the Present, painting the Future"*
2009 Association of American Medical Colleges/Association of Schools of Public Health senior expert on establishing national competencies on cultural competence
2008 Herbert Nickens Award: for promoting research in cancer prevention benefiting minorities and the medically underserved
2007 Woman of the Year, City of New Orleans

2007 Certificate of Appreciation, National Partnership for Comprehensive Cancer Control in recognition of valuable contributions as faculty for the Comprehensive Cancer Control Leadership Institutes

2006 Affiliate faculty, Emory University, Rollins School of Public Health

2006 Chair, C-Change expert panel for the development of national core competencies in cancer care

2005 Member, expert panel for the development of national competencies of the epidemiology workforce

2005 Visiting Professor, Emory University, Rollins School of Public Health

2005 CDC Special Act award for accomplishments related to the development of the new MPH program at Georgia State University

2004 Adjunct Associate Professor – Georgia State University, Institute of Public Health

2004 Honorary member, Delta Omicron Chapter of the National Delta Omega Society, in recognition of career efforts in Public Health and exemplary model in public health leadership

2004 Recognized by the Regional Administrator, Center for Medicare and Medicaid Services with a Certificate of Excellence for outstanding contributions to the CMS Second Annual 3E Summit

2003 Recognized by the Director of the Office of State and Local Preparedness, Office of the Assistant Secretary for Public Health Emergency Preparedness, Office of the Secretary, DHHS, for serving as a Department-Level Reviewer of the State Bioterrorism Preparedness Plans

2001-2003 Officially delegated as Acting Director of the Public Health Practice Program Office during periodic absences of the Director

1986-2006 Adjunct Assistant Professor - Tulane University School of Public Health and Tropical Medicine

1987-2004 Consistent Outstanding Performance Ratings

2003 CDC Special Act/Service Award for providing national leadership in the cause of strengthening the public health workforce by creating a national network of academic Centers for Public Health Preparedness and improving the training and education of the public health workforce to increase their preparedness for terrorism

2003 Special recognition from the Vice Commander of Keesler Air Force Base, 81st Training Wing, Colonel Julia Murray, for introducing her keynote address as part of the 2003 Women's History Month Program, and arranging her visit to key CDC managers and scientists

2003 Certificate of Appreciation for support and contribution to the "2003 Women's History Month Program" at CDC presented by the Association of Professional Women and Chapter 322 of the Federal Managers Association.

2002 CDC Group Honor Award and PHPPO Group Award Certificate of Appreciation - Information Services - CDC Responds Series, "For continually providing the public health and medical communities with critical information about diagnosis, management, and infection control issues following the events of September 11th"

2002 CDC Group Honor Award – Service to the Public – Health Alert Network EOC Staff, "For immediate and dedicated response to the events of September 11th to ensure that vital public health information was accessible and available to key public health officials across the nation."

2002 PHPPO Group Award Certificate of Appreciation – Service to the Public – "For responding quickly to the events of September 11th to ensure that vital public health information was accessible and available to key public health officials across the Nation and for exemplary commitment to sustain operations on a 24/7 basis during a time of crisis for our Nation."

2002 Certificate of Recognition from the CDC Director, Dr. Jeffrey Koplan, "For your extraordinary efforts on behalf of the American people in response to the public health emergencies after September 11th.

2002 U.S. Public Health Service Eighth Annual Engineering Literary Award in recognition of co-authorship of the award winning paper, "Communities at the Center: in Response to Community Concerns at Hazardous Waste Sites."

2002 Group Award Certificate of Appreciation presented to Partners in Public Health Workforce Development, "In recognition of leadership, commitment and support to CDC in achieving our vision of life-long learning in public health."

2001 Certificate of Appreciation, AIn recognition of leadership, commitment and support to CDC in

	achieving our vision of life-long learning in public health
2001	Special Service Award for activities associated with the CDC Health Alert Network and the Emergency Operations Center in the aftermath of September 11th.
2000	Certificate of Appreciation for a "long and distinguished service to the growth of the Agency for Toxic Substances and Disease Registry, and tireless and enthusiastic development of the Division of Health Education and Promotion"
1999	Graduate CDC, University of California Public Health Leadership Institute (PHLI) Scholars Program (PHLI leadership story was selected for national publication)
1997	CDC and ATSDR Honor Award - Service to the Public
1996	Outstanding ATSDR Science Award
1994	Letter of Appreciation from Congressman Donald Payne for testimony related to public health effects associated with incinerators
1993	Letter of Appreciation from Connecticut Department of Health - providing public health leadership in coordinating public health actions at Stratford site where there was a public health threat
1993	Letter of Appreciation from Congressman Newt Gingrich
1993-94	Letters of Appreciation from Tulane University for participating in the Tulane/Xavier Hazardous Materials in Aquatic Environments of the Mississippi River Basin Project
1992	ATSDR Health Assessment Group Honor Award
1990	ATSDR Environmental Health Scientist of the Year
1990	Public Health Service Special Recognition Award for Efforts on Medical Waste Report to Congress
1989	Honor Graduate of the U.S. Office of Personnel Management Executive Development Seminar
1989	ATSDR/CDC Advancement of Women Award - in honor of active recruitment of women and minorities for ATSDR
1988	ATSDR Health Assessment Group Honor Award

EDITORIAL BOARDS AND REVIEWER:

American Journal of Public Health, Chair, Editorial Board
International Journal of Human and Ecological Risk Assessment, Associate Editor
Journal of Public Health Management and Practice, Editorial Board
Louisiana Medical Society Journal, Editorial Board
Academic Journal of Suriname, Editorial Board
Environmental Health Perspectives
Disaster Medicine and Public Health
Emerging Infectious Diseases
Health Affairs
Health Education and Behavior
Global Health Promotion
Public Health Reports
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Journal of Environmental Health
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Abraham J, **Lichtveld MY**. (1988). Effective Health Communication in the Health Assessment Process. Proceedings of the Ninth National Conference, HMCRI, 1988: 524-527.

Book chapters and other publications

Lichtveld M., Dao V. (2013). The Versailles Social Movement and Implications for Asian American Environmental Health in Post- Katrina New Orleans. *Handbook of Asian American Health.* (pp. 411-419). Springer New York

Lichtveld M., Rosheim C. (2012). Educating the environmental health workforce. In: Friis RH, ed. *The Praeger Handbook of Environmental Health*. Westport, CT: Praeger Publishers.

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Lichtveld M., Lybarger J. (2010). Environmental Health. Chapter in the Association of Schools of Public Health Study Guide: Certified in Public Health.

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Email Address	rmcconne@usc.edu
Home Address	(b) (6)
Home Phone	(b) (6)
Place of Birth	(b) (6)
Citizenship	(b) (6)

B. Education:

High School	South Denver High School, Denver, Colorado 1968-71
College or University	Stanford University, Palo Alto, California, 1971-76
Medical School	University of California School of Medicine, San Francisco, California, M.D., 1976-80
Residencies	Residency Program in Internal Medicine, Montefiore Hospital, Bronx, New York, 1980-83
	Centers for Disease Control, Epidemic Intelligence Service, 1983-1985
	Residency Program in Occupational Health, National Institute for Occupational Safety and Health, 1984-85
Research Fellowships	University of Colorado, OB/GYN Endocrinology Laboratories, Summer 1973
	Ford Foundation/Stanford Center for Latin American Studies, Lima, Peru, 1976
	University of Colorado Medical Center, Department of Preventive Medicine, Summer, 1977
	Charles A. Dana Foundation environmental medicine fellowship, 1989-90
	U.S. Agency for Toxic Substances Disease Registry fellowship in clinical environmental medicine, 1990-92

Awards	Phi Beta Kappa, Stanford University, 1975 Center for Community Action and Environmental Justice Community Health Advocate Award, 2007 South Coast Air Quality Management District Robert M. Zweig, M.D. Memorial Award for outstanding contributions in the field of air pollution health research and effort to improve children's health Publication #98 (below under peer-reviewed) recognized as among 30 most important NIEHS-supported manuscripts in 2012 Fellow, American Association for the Advancement of Science , 2013
Licensure	New York medical license (#150716)
Specialty Certification	Diplomate, American Board of Internal Medicine, 1983

C. **Professional Background:**

Academic Appointments

Adjunct Professor, Center for Health Studies and Research (School of Public Health), Ministry of Health, Managua, Nicaragua, 1988
Instructor in Community Medicine, Mount Sinai School of Medicine, 1989- 91
Assistant Professor of Community Medicine, Mount Sinai School of Medicine, 1991-93
Adjunct Assistant Professor of Community Medicine, Mount Sinai School of Medicine, 1998 -
Associate Professor of Preventive Medicine, University of Southern California School of Medicine, 1997-2005
Affiliated Member, Center for Occupational and Environmental Health, UCLA School of Public Health, 1999-
Professor of Preventive Medicine, University of Southern California School of Medicine, 2005-
Deputy Director, Southern California Children's Environmental Health Center, 2009-2012
Deputy Director, Southern California Environmental Health Sciences Center, 2009-

Specific Administrative Responsibilities

Member, UCSF Medical School Admissions Committee, 1977-80
Deputy Director, World Health Organization Collaborating Center in Environmental Epidemiology, Mount Sinai School of Medicine, 1993

Director, Pan American Center for Human Ecology and Health, Pan American Health Organization-Included program development and management of one of two WHO centers in environmental health in the American Region, supervising staff of 40 responsible for technical assistance in occupational health, environmental epidemiology, and toxicology to Latin America and the Caribbean. This involved numerous administrative responsibilities as member of advisory committees to Ministries of Health in the Americas, and as project officer for cooperative agreements of WHO with the U.S. Centers for Disease Control, Environmental Protection Agency, Danish International Development Agency, and German Technical Assistance Agency, 1994-97
Member, Executive Board, Commission for Pollution Prevention in the Valley of Mexico, 1994-96
Institutional Review Board, University of Southern California, 1998-2008
Department of Preventive Medicine Human Subjects Working Group, University of Southern California, 2000
Department of Preventive Medicine Chairs Advisory Committee, 2011-
Acting Director, Division of Environmental Health, 2012

Military Service

Medical Officer, United States Public Health Service, 1983-86

Other Employment or Activity

Medical Officer, National Institute for Occupational Safety and Health, Hazard Evaluations and Technical Assistance Branch, 1983-86
Epidemiologist, CARE International and American Friends Service Committee (with the Ministry of Health and National Autonomous University of Nicaragua), Leon, Nicaragua, 1986-1989
Director, Pan American Center for Human Ecology and Health, Pan American Health Organization, 1994-1997

D. Society Memberships:

National and International

New York Committee on Occupational Safety and Health, 1981-1994
American Public Health Association, 1981-98
US-Mexico Border Health Association, 1994-98
International Society for Environmental Epidemiology 1995-
Collegium Ramazzini (Fellow), 1996-98
American Thoracic Society 2001-
American Association for the Advancement of Science 2006-
International Society of Environmental Epidemiology 2007-

E. Service:

State, National and International Committees

Chairman, Working Group on Pesticides, US Environmental Protection Agency, World Health Organization, and U.N. Environment Program, 1990-94
Member, New York State Department of Health Pesticide Task Force, 1990-94
Member, Board of Directors, Pesticide Action Network, 1998-2004 (Board President, 2003)

F. Consultantships:

Editorial Reviews

Environmental Research, 1990-1995
American Journal of Industrial Medicine, North American Contributing Editor, 1991-2004
Salud de los Trabajadores (Venezuela), International Advisory Committee, 1992-
International Journal of Occupational and Environmental Health, 1997-
Epidemiology 2002-
The Lancet 2002-
European Respiratory Journal 2004-
American Journal of Respiratory and Critical Care Medicine 2004-

State and Local

Consulting physician, Greater Cincinnati Occupational Health Center, 1984
Advisor to California Department of Health Services Occupational Health Branch Advisory Committee on Pesticides, 1998-1999

National

Member, External Advisory Committee, University of Washington EPA/NIEHS Children's Environmental Health Center, 1999-2003
Member, Safety and Occupational Health study section (grant reviews), NIOSH/CDC, 1998-2002

International

Advisor to Karolinska Institute on pesticide and mining health and safety research programs in Central America, 1987-88

G. Research Activities:

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PEER REVIEW

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Int J Occup Environ Health 8(1):27-34, 2002

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Int J Occup Environ Health 8(1):19-26, 2002.

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Am J Epidemiol 158: 576-84, 2003.

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Central nervous system effects of acute organophosphate poisoning in a two-year follow-up.
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The Effect of Air Pollution on Lung Function Development in Children Aged 10 to 18 Years.
New Eng J Med 351:1057-67, 2004.

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Rappaport EB, Peters JM.
Effects of ambient air pollutants on asthma medication use and wheezing among fourth-grade school children from 12 Southern California communities enrolled in The Children's Health Study.
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Neurobehavioral evaluation of workers exposed to the topical insect repellant, N,N-deithl-m-toluamide (DEET).

National Institute for Occupational Safety and Health
Health Hazard Evaluation Report
HETA 83-085

SELECTED PRESENTATIONS

1. **McConnell R**
Hazardous waste and soil contamination (plenary address, in Spanish)
Fiftieth anniversary commemoration of the Mexican Society of Public Health.
National Autonomous University of Mexico, Mexico City, July 5-8, 1994.

2. **McConnell R**
Environmental health in the Americas (keynote address, in Spanish).
Fiftieth anniversary celebration of the Cuban National Institute of Hygiene and Epidemiology, Havana, Cuba, July, 1995.

3. **McConnell R**
Pesticide research for change in Latin America (keynote address).
International Conference on pesticide use in developing countries: Impact on health and environment, San Jose, Costa Rica, February 23-28, 1998.

4. **McConnell R**
Asthma and the environment (plenary address)
Royal Society of Medicine conference series on medicine and the public
London, UK, April 28, 2004.

5. **McConnell R**.
Health effect of ozone exposure in the children health study.
19th Conference of the International Society for Environmental Epidemiology, Mexico City, September 5-9, 2007.

7. **McConnell R.**
Opportunities and challenges for EE applications to exposure assessment in large cohort studies of chronic disease in children (keynote).
Circuits and Systems for Medical and Environmental Applications (CASME) Second Workshop, Merida, Yucatan, Mexico, December 13-15, 2010.

CURRICULUM VITAE

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Bibliography (publications appear under surname Fencil or Niklason):

Peer-Reviewed Publications:

1. Fujita H, Doi K, **Fencil L**, Chua K. Image feature analysis and computer-aided diagnosis in digital radiography. 2. Computerized determination of vessel sizes in digital subtraction angiography. Medical physics. 1987;14(4):549-56. PubMed PMID: 3626994.

2. **Fencil L**, Doi K, Hoffman K. Accurate analysis of blood vessel sizes and stenotic lesions using stereoscopic DSA system. Investigative radiology. 1988;23(1):33-41. PubMed PMID: 3276645.

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4. Metz C, **Fencil L**. Determination of three-dimensional structure in biplane radiography without prior knowledge of the relationship between the two views: theory. Medical physics. 1989;16(1):45-51. PubMed PMID: 2921979.

5. **Fencil L**, Metz C. Propagation and reduction of error in three-dimensional structure determined from biplane views of unknown orientation. Medical physics. 1990;17(6):951-61. PubMed PMID: 2280738.

6. Hoffmann K, Doi K, **Fencil L**. Determination of instantaneous and average blood flow rates from digital angiograms of vessel phantoms using distance-density curves. Investigative radiology. 1991;26(3):207-12. PubMed PMID: 2055725.

7. Marcovitz P, Aisen A, **Fencil L**, Swanson S, Buda A. Metabolic effects of adenosine on regional myocardial ischemia by phosphorus 31 nuclear magnetic resonance spectroscopy. American heart journal. 1992;124(5):1205-12. PubMed PMID: 1442487.

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10. Scott-Carnell, L.A., Stephens, R.M., Holloway, N.M., Rhim, C., **Niklason, L**., Clark, R.L., Siochi, E.J., "Method and system for aligning fibers during electrospinning", application #20090108503

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20. **Niklason, L.E.,** "Decellularized Tissue Engineered Constructs and Tissues", application #20120135049

21. **Niklason, L.E.,** "Tissue Engineering of Lung", application #20120064050

22. **Niklason, L.E.,** "Tissue and Organ Graft Bioreactor and Methods of Operation", application #20120028234

23. **Niklason, L.E.,** "Elastin for Soft Tissue Augmentation", application #20110020271

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25. **Niklason, L.E.,** "Method and System for Aligning Fibers During Electrospinning", application #20090108503

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29. **Niklason, L.E.,** "Tissue Engineering", application #20030235562

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National Service/Organizational Committees (partial listing):

Member of Executive Committee, Tissue Engineering Society of North America 2001.
Organizing Committee, Biomedical Engineering Society Meeting, Raleigh NC, October 2001.
Organizing Committee, Engineering Tissue Growth Meeting, Pittsburgh PA, March 2002.
Cornell IGERT External Advisory Board 2006
TERMIS North American National Committee, 2008-2010
External Advisory Board, South Carolina Project for Organ Fabrication, 2010- present.
External Advisory Board, Clemson COBRE Biomaterials Program, 2009 – 2013.
Organizing Committee, TERMIS National Meeting, Washington DC, 2014
Organizing Committee, National Institutes of Health Regenerative Medicine Symposium 2015
Solving Organ Shortage, International Meeting for Lung Regeneration 2015
Industrial Advisory Board, NC State University 2015

National Scientific Review Committees/Study Sections (non-NIH):

NSF Site Reviewer for GTEC Center for Tissue Engineering 1999-2000.
Foundation for Anesthesia Education and Research (FAER) grant reviewer 2002- 2005.
California Institute for Regenerative Medicine (CIRM) 2008

Peer Review Committees, National Institutes of Health (partial listing):

Ad Hoc Reviewer, NIH, Surgery & Bioengineering Section B, 2003- 2004
Reviewer, NIBIB, for RFA in Tissue Engineering 2002, 2003.
Reviewer, NIBIB, for K- and T-series Awards 2003-2005
Reviewer, Bioengineering Research Project, NIBIB, 2004

Reviewer, Biotechnology and Surgical Sciences (BTSS) Study Section, 2004-2008
Reviewer, NIH Director's Opportunity for Research in Thematic Areas (RC4 Awards) 2010
Reviewer, Anesthesia Post-doctoral T32 Awards NIGMS, 2010
Reviewer, NIH Director's Pioneer Awards, 2011
Reviewer, NIH Innovators Awards, 2012
Ad Hoc Reviewer, Lung Injury, Repair and Remodeling Study Section February 2014
Ad Hoc Reviewer, Molecular and Cellular Hematology, February 2013, February 2012
Chair, Special Emphasis Panel, ZRG1-SBIB-X02 October 2012
Reviewer, PAR Panel Improvement of Animal Models for Stem Cell Based Regenerative Medicine June 2014
Chair, P41 Review Committee for Regenerative Medicine, March 2015
Chair, PAR Panel: Improvement of Animal Models for Stem Cell Based Regenerative Medicine, November 2014

Yale Committees:

Yale Scholar Awards Committee 2007-2010
Search Committee, Chair of Obstetrics/Gynecology 2012
Search Committee, Chair of Medicine, 2014 -
Medical Scientist Training Program Admissions Committee, 2007- present
Medical School Promotions & Tenure Committee, 2011-2013
Physical Sciences Promotions & Tenure Committee, 2013-2014
Chair, Committee on Cooperative Research, 2013 - present

Editorial Boards:

Associate Editor, *Cells, Tissues & Organs*
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Journals Reviewed:

Nature
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Nature Biotechnology
Nature Medicine
Nature Methods
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Received B.S. and BA. Magna Cum Laude, 1983

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Medical Scientist Training Program Scholarship, National Institutes of Health, 1983-1987

Foundation for Anesthesia Education and Research (FAER) Research Fellow, 1996-1997

"Eminent Scientist of the Year", International Research Promotion Council, 1999.

2000 DISCOVER Magazine Award for Technological Innovation, Finalist in Health category, 2000.

Selected by National Academy of Engineering for Symposium on Frontiers of Engineering, 2000.

One of twenty-one US News &World Report Innovators for 2001.

Hunt Scholar, Pratt School of Engineering, Duke University, 2001.

Beeson Physician Scholars Award, American Federation for Aging Research, 2002.

Appointed to NIH Study Section on Bioengineering Technology and Surgical Sciences, 2004-2008.

College of Fellows, American Institute for Medical and Biological Engineering (AIMBE) 2008.

Lecturer for the Armstrong Endowment for Young Engineers – Gilbreth Lecture Series, National Academy of Engineering (NAE) 2010.

Time Magazine 50 Best Inventions of 2010 for Engineered Lung, 2010.

Elected to College of CSR Reviewers, 2010-2012.

Winner of Popular Mechanics Breakthrough Innovators Award for 2011, for development of "off-the-self" tissue engineered vascular graft to treat patients with vascular disease. Award went to Humacyte, Inc, of which Niklason is the Founder.

Winner of Frost & Sullivan Growth, Innovation & Leadership Award 2011, for development of engineered vascular graft. Award went to Humacyte Inc, of which Niklason is Founder.

National Academy of Inventors 2014.

National Academy of Medicine 2015.

Named Nicholas Greene Professor of Anesthesiology and Biomedical Engineering, Yale University, 2016

CNBC's "2016 Disruptor 50 List", 2016

Chair of Keystone Symposium on Engineered Cells and Tissues, Boston MA, March 2017

Cited as one of 34 leaders who are changing healthcare by Fortune Magazine 2017

Elected to WITI Women in Technology Hall of Fame 2017

Cotlove Award in Laboratory Medicine 2017

Invited Lectures:

Transplant Vascular Sclerosis Symposium, Bermuda, March 1997.
North Carolina Tissue Engineering Group Meeting, Durham, NC, December 1998.
Workshop on Cardiovascular Tissue Engineering, Medical University of South Carolina, Charleston, SC, April 1999.
Becton-Dickenson, Research & Development, Raleigh, NC, May 1999.
Cambridge-Healthtech meeting on Tissue Engineering/Regenerative Healing/Stem Cell Biology, Pittsburgh PA, October 1999.
Center for Emerging Cardiovascular Technologies, Duke University, October 1999.
North Carolina Statue University, Department of Textile Engineering, Chemistry and Science, November 1999.
Johnson & Johnson, Corporate Biomaterials Center, Somerville, NJ, January 2000.
DARPA Meeting on Cell Preservation and Stasis, Washington DC, February 2000.
NIH TEBMIS Meeting on Tissue Engineering, Bethesda MD, March 2000.
Vascular Biology Seminar Series, Boston Children's Hospital, Boston, Massachusetts, March 2000.
FASEB Meeting, Experimental Biology 2000, Presidential Symposium, San Diego, CA, April 2000.
FASEB Meeting, Experimental Biology 2000, Symposium on Vascular Tissue Engineering, San Diego, CA, April 2000.
Northeast Ohio University College of Medicine, May 2000.
XIIth International Symposium on Atherosclerosis, "Vascular Reconstruction", June 2000.
International Congress of the Transplantation Society, Symposium on Cell Transplantation and Gene Therapy, Rome, Italy, August 2000.
Biomedical Engineering Society Meeting, "Cardiovascular Tissue Engineering", Seattle, Washington, October 2000.
American College of Surgeons, "Tissue Engineering: Organ Replacement in the 21st Century", Chicago, Illinois, October 2000.
IMECE Meeting, Tissue Engineering Symposium, Orlando, Florida, November 2000.
The Art of Substitution Medicine 2000, "Art of Tissue Engineering" Symposium, Utrecht, The Netherlands, November 2000.
Society for Physical Regulation in Biology and Medicine, 20th Annual Meeting, Charleston, South Carolina, January 2001.
Society of University Surgeons Meeting, Chicago Illinois, February 2001.
Fourth Annual Hilton Head Workshop on Tissue Engineering, Gene Delivery, and Regenerative Healing, Hilton Head Island, South Carolina, February 2001.
BioX Tissue Engineering Symposium, Stanford University, Palo Alto California, March 2001.
University of North Carolina, Department of Pathology Invited Speaker, Chapel Hill North Carolina, May 2001.
BECON 2001 Symposium, National Institutes of Health, Bethesda Maryland, June 2001.
American Society of Artificial Organs Plenary Session, New York, New York, June 2001.
University of California at San Diego, Department of Anesthesiology Visiting

Professorship, San Diego California, November 2001.
University of Connecticut Department of Biomedical Engineering Visiting Professorship, November 2001.
Society of Critical Care Medicine, San Diego California, January 2002.
Society for Cardiovascular Pathology, Chicago, Illinois February 2002.
Engineering Tissue Growth International Conference & Exposition, Pittsburgh Pennsylvania, March 2002.
Lymphatic Continuum, Bethesda, MD, May 2002.
Congress on in Vitro Biology, Orlando Fl, June 2002.
World Congress in Biomechanics, Calgary, Canada, August 2002.
Southern Biomedical Engineering Conference, Bethesda MD, September 2002.
American College of Rheumatology, New Orleans LA, October 2002.
Tufts University, Department of Chemical Engineering, Boston MA, October 2002.
Progress in Tissue Engineering Meeting, Hilton Head, South Carolina, February 2003.
Engineering Tissue Growth Meeting, Pittsburgh, PA, March 2003.
American Society of Neuroradiology, Washington D.C. April 2003.
Biomaterials and Tissue Engineering Gordon Conference, Session Chair, Plymouth New Hampshire, July 2003.
Angiogenesis Gordon Conference, Invited Speaker, Rhode Island, August 2003.
Biology of Aging Symposium, Duke University Medical School, Durham, NC September, 2003.
NC State College of Textiles, "Biology of Vascular Grafts", October 2003.
Johns Hopkins Department of Anesthesia Grand Rounds Presentation, December 2003
University of Washington Department of Pathology Guest Lecturer, January 2004
Yale University Department of Biomedical Engineering Guest Lecturer April 2004
University of North Carolina Department of Biomedical Engineering. April 2004
Duke Bioengineering Initiative, presentation to donors to Duke University, May 2004
World Congress on In Vitro Biology, San Francisco California, May 2004.
Northwestern University, Dept of Biomedical Engineering, June 2004.
Beeson Physician Scholars Meeting, Park City Utah, June 2004.
Gordon Conference on Engineered Extracellular Matrix, Lewiston VT, June 2004.
Triangle Stem Cell Symposium, Duke University, Durham NC, July 2004.
Visiting Professor, Massachusetts General Hospital, Boston, MA September 2004.
Controversies in Anesthesia Conference, Dingle, Ireland, October 2004.
Visiting Professor, Johns Hopkins Dept. of Bioengineering, November 2004.
Visiting Professor, Yale Department of Anesthesiology, December 2004.
Grand Rounds Speaker in Cardiology, Cornell University, New York NY, January 2005.
Keynote Speaker, International Conference on Tissue Engineered Blood Vessels, Goteborg, Sweden, April 2005.
Keynote Speaker, ARVO Meeting, Ft. Lauderdale FL, April 2005.
NIH Conference on Future Directions in Tissue Engineering, Boston MA, May 2005.
Regenerate 2005 Meeting, Atlanta GA, June 2005.
Gordon Conference on Biomaterials and Tissue Engineering, August 2005.
McGowan Institute for Regenerative Medicine, Pittsburgh, PA, October 2005.
Nature Biotechnology Meeting on Angiogenesis, Miami, FL, February 2006.
University of Minnesota Biomedical Engineering Department, Minneapolis MN, March 2006.
International Society for Applied Cardiovascular Biology (ISACB), La Jolla CA, March 2006.
NIH Conference on Research Initiatives in Vascular Disease, Bethesda MD, March 2006.
Yale Biology of Aging Seminar series, May 2006.
Massachusetts Institute of Technology, Robert Langer event, speaker, July 2006.
Georgia Tech University, Biomedical Engineering Seminar, September 2006.
Yale Development Campaign Seminar, September 2006.
Radcliffe Science Symposium, Frontier in Tissue Engineering, Boston MA, November 2006.
Yale Aging Interest Group Seminar, November 2006.

Medical College of Georgia Seminar, January 2007.
Duke University Medical Center, Signal Transduction Colloquium, February 2007.
NAVBO, Vascular Matrix Biology and Bioengineering Workshop, March 2007.
Keystone Symposium on Tissue Engineering and Development Biology, April 2007.
AUA 54th Annual Meeting, April 2007.
FASEB Meeting, Experimental Biology 2007 Annual Meeting: Today's Research: Tomorrow's Health, April 2007.
ASAIO's 53rd Annual Conference, June 2007.
National Academy of Sciences, 13th Annual German-American Kavli Frontiers of Science Symposium, June 2007.
Gordon Research Conference, Elastin & Elastic Fibers, July 2007.
Albert Einstein College of Medicine Seminar, September 2007.
AHA Scientific Sessions 2007, November 2007.
National Academy of Sciences, 2007 Japan-America Frontiers of Engineering Symposium, November 2007.
Cell Therapy for Cardiovascular Disease, Columbia University, January 2008.
University of Texas Seminar, February 2008.
The Annual Hilton Head Workshop, Regenerative Medicine – Advancing to Next Generation Therapies, March 2008.
Lindsay Lecture Series, Texas A&M University, March 2008.
Experimental Biology 2008, April 2008.
Medical College of Georgia Seminar, April 2008.
MEDi 2008, September 2008.
First Yale Stem Cell Center Annual Retreat, October 2008.
Eighth Annual Retreat of Vascular Biology and Therapeutics, Yale University, November 2008.
AHA Scientific Sessions 2008, November 2008.
Fifth Annual International Conference on Cell Therapy of Cardiovascular Diseases, Columbia University, January 2009.
Angiomyogenesis and Cell Therapy Symposium, Washington, DC March 2009.
Stem Cell Therapy & Tissue Engineering Seminar Series, Center for Vascular and Inflammatory Diseases at the University of Maryland at Baltimore, March 2009.
Brown University, Department of Biomedical Engineering, May 2009.
Joint ESAO-ASIAO Bioartificial Organs & Cell Therapy, Vienna Austria January 2010.
Keynote speaker National Academy of Engineering, Washington DC, February 2010.
FASEB Meeting, Anaheim California, April 2010.
International Vascular Biology Meeting, Los Angeles CA, May 2010.
Harbin Institute of Technology, Harbin China, September 2010.
Suten Symposium on Tissue Engineering & Regenerative Medicine, Sydney Australia November 2010.
MSTP Program Retreat, Yale University, New Haven CT, January 2011.
Food & Drug Administration, Engineered Visceral Organs, February 2011.
Harvard School of Engineering & Applied Sciences, Cambridge MA, February 2011.
Clemsen University Department of Biomedical Engineering, South Carolina, March 2011.
StemConn Stem Cell Meeting, Hartford, CT, March 2011.
John Vane Meeting on Pulmonary Hypertension, London England, March 2011.
Medical Devices Meeting, University of Minnesota, Minneapolis MN, April 2011.
Vanderbilt University Department of Pharmacology, Nashville TN, April 2011.
Stem Cell Salon Meeting, Harvard University, Boston MA, April 2011.
University of Rochester Department of Biomedical Engineering, Rochester NY, May 2011.
American Thoracic Society, Denver CO, May 2011.
University of Maryland, Department of Surgery, Baltimore MD, May 2011.
University of Connecticut, Department of Biomedical Engineering, Hartford CT, June 2011.
International Society for Stem Cell Research, Toronto Canada, June 2011.
Bi-Annual Meeting on Cell Therapy for Lung Disease, Burlington VT, July 2011.

Gordon Conference on Elastin, Biddeford ME, July 2011.
SENS5 Meeting on Aging, London England, September 2011.
5th Annual NESA Fall Conference, Woodstock VT, September 2011.
Washington University, Department of Anesthesia, St. Louis MO, October 2011.
North American Vascular Biology Organization (NAVBO) Meeting, Cape Cod MA, October 2011.
Meeting on Regenerative Medicine, Leipzig Germany, November 2011.
Annual Meeting on Stem Cell Therapies, CA, November 2011.
10th Annual Gene Therapy Symposium for Heart, Lung and Blood Disease, CA, November 2011.
UNC- McAllister Heart Institute and Integrative Vascular Biology Training Program, November 2011.
American Association of Tissue Banks Annual Meeting, Keystone CO, September 2012.
55th Annual New England Society of Anesthesiologists Meeting, Newport RI, September 2012.
Lung Repair and Regeneration Consortium 2012 Annual Meeting, Potomac MD, September 2012.
2012 IEEE Life Sciences Grand Challenges Conference, Washington DC, October 2012.
Stem Cell Seminar series of Columbia Stem Cell Initiative (CSCI) at CUMC, New York NY, October 2012
Osler Club, New Haven CT, October 2012
TERMIS Talk, San Diego CA, November 2012
Yale University, Cardio Vascular Medicine Grand Rounds, Yale University, New Haven CT, December 2012
SCBioMat 4th Annual Review Meeting, Greenville NC, March 2013
City College of New York, Department of Biomedical Engineering, New York NY, May 2013
South Carolina EARB Meeting, Columbia SC, May 2013
Pediatric Grand Rounds, Hackensack Hospital, Hackensack NJ, June 2013
NHLBI Symposium on Cardiovascular Regenerative Medicine, Bethesda MD, September 2013
Yale Stem Cell Retreat, New Haven CT, October 2013
Vanderbilt University, Visiting Professor Seminar and Anesthesia Grand Rounds, Nashville TN, November 2013
Rice University, Department of Biomedical Engineering, Houston TX, December 2013
8th Symposium of Biologic Scaffolds for Regenerative Medicine, Napa Valley CA, April 2014
2014 ASIP Annual Meeting at Experimental Biology 2014, San Diego CA, April 2014
Temple University Symposium on Regenerative Medicine and Engineering, Philadelphia PA, April 2014
Sheldon Weinbaum '59 Distinguished Lecture in Biomedical Engineering, Rensselaer Polytechnic Institute, Troy NY, May 2014
NIBIB Talk, Bethesda, MD, May 2014
Keynote Speaker, BMM, Biomedical Materials and Regenerative Medicine, EYE Amsterdam, June 2014
Eindhoven University of Technology, Department of Biomedical Engineering, Eindhoven Netherlands, June 2014
Progenitor Cell Biology Consortium Lung Focused Workshop, Boston MA, June 2014
7th World congress of Biomechanics, Respiratory Biomechanics: Transport & Disease, Boston MA, July 2014
7th World congress of Biomechanics, Tissue Engineering, Boston MA, July 2014
Yale University, Plastic Surgery Grand Rounds, Yale University, New Haven CT, September 2014
NHLBI Workshop Extracellular Matrix in Lung Health and Disease, Bethesda MD, September 2014

12th New Jersey Symposium on Biomaterials Science, New Brunswick NJ October 2014
Stem Cell Meeting on the Mesa, San Diego CA, October 2014
Oklahoma State University, Joint seminar series of Interdisciplinary Program in Regenerative Medicine at OSU and Oklahoma Center for Respiratory and Infectious Diseases, Stillwater OK, October 2014
Yale University, 14th Annual VBT Retreat, New Haven CT October 2014
University of California, San Diego, Department of Biomedical Sciences, San Diego CA, November 2014
North Caroline State University, Translational Regenerative Medicine Seminar Series, Raleigh NC, November 2014
Lung Engineering Meeting, Solving Organ Shortage Foundation, La Jolla CA, January 2015
Stem Cells on the Mesa Meeting, San Diego CA, January 2015
Winthrop University Hospital, Grand Rounds, Vascular Surgery, March 2015
Distinguished Lecture in Biomedicine, Yale University, April 2015
"Inspiring Yale" lecture for Graduate School of Arts & Sciences, Yale University, April 2015
Society for Cardiovascular Anesthesia, Washington DC, April 2015
StemConn meeting, Harford Connecticut, April 2015
Keynote Speaker, Hilton Head meeting for Tissue Engineering, May 2015
Cardiovascular Progenitor Cell Meeting, Stanford University, May 2015
Keynote speaker, Vasculature Engineered Vasculature meeting, Shanghai China, May 2015
Stem Cells in Lung Biology, Burlington VT, July 2015
Gordon Conference on Lung Injury & Repair – Proctor, NH, August 2015
TERMIS meeting, Vascular Engineering, Boston MA, September 2015
TERMIS meeting, Keynote Speaker, Boston MA, September 2015
Lung Regeneration Consortium Meeting, Washington DC, September 2015
Translation Lung Regeneration Workshop, Washington DC, September 2015
Cardiovascular Regenerative Medicine Symposium, NHLBI, Bethesda, MD, September 2015
Cambridge-VBT Annual meeting, Yale University, October 2015
Frontiers in Science: Vascular Disease, AHA Scientific Session, Orlando FL, November 2015
Selma and Karl Folkers Lecture in Biomedical Research at Yale's MD/PhD Program Retreat, Middletown CT, February 2016
Harvard Vascular Biology Seminar, Folkman Lecture, Boston MA, March 2016
Keynote Speaker, 9th Symposium on Biological Scaffolds for Regenerative Medicine, Napa CA, April 2016
University of Minnesota MD/PhD Student Invited Speaker, Minneapolis, MN, June 2016
Gordon Research Conference, Endothelial Cell Phenotypes in Health & Disease, Girona, Spain, July 2016
LRRC 2016 Annual Meeting, Bethesda, MD, September 2016
Duke BME Entrepreneur Lecture "Conversations with Alumni", Durham, NC, September 2016
CIRM Workshop on Lung Stem Cell Therapies UCLA, Los Angeles, CA, September 2016
Yale Stem Cell Center Chalk Talk, New Haven, CT, October 2016
Yale Stem Cell Center 10th Anniversary Celebration, New Haven, CT, November 2016
CUMC Department of Anesthesiology Endowed E.M. Papper Lecture, Columbia University, November 2016.
Keystone Symposium on Engineered Cells and Tissues, Boston MA, March 2017
SNEAALAS Meeting Keynote Speaker, New Haven CT, March 2017
UT Southwestern Dept of Pulmonary Medicine, Visiting Professor, Dallas TX, April 2017
International Society of Vascular Tissue Engineering, Columbus OH, June 2017

Nagasaki University Graduate School in Biomedical Sciences, Visiting Professor, June 2017
Cotlove Award and Lectureship, Department of Laboratory Medicine, Yale University, New Haven CT, June 2017

Current Laboratory Fellows/Trainees:

Trainee	Program	Funding Support
Liqiong Gui PhD	Assoc Research Scientist	NIH R01 (Gui PI)
Hong Qian PhD	Assoc Research Scientist	Gift Account
Mahboobe Ghaedi PhD	Assoc Research Scientist	CT Stem Cell (Ghaedi PI)
Andrew Le PhD	Assoc Research Scientist	NIH U01 (Niklason PI)
Mehmet Kural PhD	Postdoctoral Assoc	NIH R01 (Gui PI)
Juan Wang PhD	Postdoctoral Assoc	NIH R01 (Niklason PI)
Yifan Yuan MS	Postgraduate Assoc	Gift Account
Ashley Gard MS	Graduate Student	Gift Account
Alexander Engler BSE	Graduate Student	NIH U01 (Niklason PI)
Alison Greaney BS	Graduate Student	CT Stem Cell (Niklason PI)
Edward Han BS	Graduate Student	NIH R01 (Niklason PI)
Samuel Raredon MSE	MSTP Student	Yale MSTP award (Kazmarek PI)
Katherine Leiby BSE	MSTP Student	Yale MSTP award (Kazmarek PI)

Previous Laboratory Fellows/Trainees:

Traineee	Current Location
Jinming Gao PhD	Professor, University Texas Southwestern
Tracey duLaney PhD	Partner, Bioscience Information Partners
Vikas Prabhakar PhD	Investment Manager, MVM Life Science Partners
Kezban Ulubayram PhD	Professor, Hacettepe University, Turkey
Ryan Melgiri MD	Duke University, Medical Scientist Training Program
Mitchel Seruya MD, PhD	Assistant Professor, Baylor College of Medicine
Matthew Boyer MD, PhD	Resident, Radiation Oncology, Duke University
Andrew McKee MD	Senior Manager, Genentech
Melissa Poh MD	Plastic Surgeon, Los Angeles CA
Dawn Pedrotty MD, PhD	Cardiology Fellowship, University of Pennsylvania
Willem Lombard MD	Associate Professor of Anesthesiology, Duke University
Cheryl Miller PhD	Assistant Professor, St. Louis University
Zhengyu Pang PhD	Research Scientist, General Electric Corporation
Juliana Blum PhD	Vice-President, Humacyte Corporation
Amy Solan PhD	Senior Manager, Edwards Lifesciences
Shannon Dahl PhD	Vice-President, Humacyte Corporation
Caroline Rhim PhD	US Food & Drug Administration
Rebecca Klinger MD	Assistant Professor, Duke University
Michael Malinzak MD, PhD	Resident, Duke University
Thomas Hitchcock PhD	CEO, startup in San Diego CA
Peter Kraus PhD	Field Application Scientist, Illumina
Zhaodi Gong MD, PhD	Fellowship, Stanford University
Geoffrey Calkins BS	Director, Product, Flatiron Health
Jessica Feinleib MD, PhD	Assistant Professor, Yale University
Thomas Petersen MD, PhD	Director of Cell Therapies, United Therapeutics
Clay Quint MD, PhD	Assistant Professor, University of Kansas
Eun Jung Lee PhD	Assistant Professor, New Jersey Institute of Technology

Julio Mendez PhD	Patent Agent, Proskauer Rose LLP
Elizabeth Calle PhD	Medical School, Yale University
Jenna Balestrini PhD	Biomedical Microsystems Investigator at Draper Laboratory
Sumati Sundaram PhD	U.S. Naval Research Lab
Amogh Sivarapatna PhD	Life Sciences Specialist at L.E.K. Consulting
Sashka Dimitrievska PhD	Senior Manager Strategy & Competitive Insights, Alexion Pharmaceuticals
Xiangru Xu PhD	Research Group Leader, Max Planck Institute for Biology of Ageing

Grant Support:

Past Support (completed past 3 years):

Sponsor United Therapeutics Inc. (Niklason) 08/25/11 – 03/31/14
Title: "Proposal for Engineering Human Lung Tissue"
The aims of this grant are to determine the permeability barrier and diffusional surface area of human lung extracellular matrix, and to determine the factors involved in differentiation of human iPS cells into both vascular endothelium and pulmonary epithelial subtypes.
Role: PI

1P01HL107205-01A1 (Simons) 02/01/12-01/31/14
NHLBI/NIH
Title: "Molecular Mechanisms of Arterigenesis"
By providing 3-D bioreactors that are tunable, are fitted to impart mechanical stimuli, and can be used to non-invasively assess cell migration, tube formation, and branching, the resources in the Bioreactor Core are an innovative and essential aspect to this Program. The relevance to human health is that this Core will advance our understanding of vessel formation and repair in a range of cardiovascular disease processes.
Role: Core PI

5 R21 HL107768-02(Humphrey) 01/01/11– 12/31/13
NHLBI/NIH
Title: "Gender Specific Evolution of Abdominal Aortic Aneurysm Composition and Properties"
Quantify evolving regional differences in wall composition, cell phenotype, and turnover in aneurysms from the most widely used model (ANG-II infusion in ApoE-/- mice) over 4 wks of lesion development. Quantify evolving regional mechanical properties within lesions from the ANG-II infusion ApoE-/- model over 4 wks using our novel panoramic digital image correlation system and inverse finite elements. Formulate and validate constitutive relations for the evolution of regionally varying wall composition and mechanical properties in both dilating ascending and dissecting abdominal aortic aneurysms.
Role: Co-I

R01HL098220-01 (Niklason) 01/15/10 – 12/31/13
NIH/NHLBI
Title: "Lung Tissue Engineering"
In this proposal, we will define the conditions under which acellular lung scaffolds can be generated by the decellularization of native rodent lungs. We will evaluate scaffold mechanics, protein composition, and the impact of matrix proteins on the adhesion, survival, and

differentiation of pulmonary endothelial and epithelial cells. In addition, we will evaluate the efficiency of gas exchange and maintenance of barrier function in re-populated lung matrix scaffolds.
Role: P.I.

Current Support:

R01 HL083895 (Niklason) 09/01/06 - 11/30/16 (NCE)
NHBLI/NIH
Title: "Biological Vascular Grafts"
The goal of this project is to determine the immunogenicity of acellular matrices that are used as arterial grafts, and to determine the functional impact of marrow-derived endothelium on arterial grafts.
Role: PI

1U01HL111016 (Niklason) 01/01/12 – 12/31/16
NHLBI/NIH
Title: "Matrix and Bioreactors for Human Lung Regeneration"
The relevance of this research is to begin studying the feasibility of regenerating a functional human lung in the laboratory. Studies proposed will comprehensively define the protein makeup of the normal human lung, will devise novel methods of imaging the cellular repopulation of human lung tissues, and will develop a novel bioreactor in which human lungs can be regenerated.
Role: PI

Research Gift, Humacyte Inc. (Niklason) 11/01/15 – 10/31/19
This is an unrestricted research gift to Dr. Niklason from Humacyte Inc, to support work in regenerative medicine, cell therapies, vascular engineering, and other topics.
Role: PI

1T32GM086287 (Niklason) 07/01/09 – 06/30/19
NIH/NIGMS
Title: "Research Training in Anesthesia"
The goals of this post-doctoral training program are to provide young scientists with outstanding experiences in basic and translational research arenas. The primary focus of the program will be to train the next generation of physician scholars (those having MD or MD/PhD degrees).
Role: Program Director

R01 HL127386 (Niklason) 02/01/16 – 01/31/20
NHLBI/NIH
Title: "Hyaluronan coatings for engineered vessels"
The goal of this project is to determine the functionality, in vitro and in vivo in a porcine arteriovenous shunt model, of novel graft coatings based upon hyaluronic acid for the inhibition of platelet activation and graft thrombosis. Covalently bound coatings will be tuned for stiffness and degradation properties in order to optimize functionality in vivo, and pave the way for small-caliber, acellular arterial grafts.

Role: PI

15-RMB-YALE-07 (Niklason) 02/01/16 – 01/31/20
Connecticut Stem Cell Program
Title: "Engineered arteries and iPS-derived endothelium"
The aims of this project are to determine the key regulators of differentiation of human induced pluripotent stem cells into either venous or arterial endothelium. Focusing on Notch signaling pathways and the impact of mechanical forces such as shear stress, we will characterize the anti-thrombotic function of endothelium derived from iPS under various paradigms. Functionality will also be assessed in vivo in nude rat models of vascular surgery.
Role: PI

1R01 HL128406 (Dardik) 04/01/16-03/31/20
NHLBI/NIH
Title: "Enhancing Venous Adaptation to the Arterial Environment"
Arteriovenous fistula (AVF), for hemodialysis fail to mature in ~20-50% of cases. The work to be accomplished within this proposal addresses the knowledge gap in the biology of venous remodeling that has created a serious unmet medical need for novel approaches to enhance venous adaptation to the arterial environment.
Role: Co-Investigator

Steven C. Packham

(b) (6) [redacted]

CERTIFICATIONS EDUCATION DEGREES:

- Diplomate American Board of Toxicology (D.A.B.T.)
- Ph. D. Medical Psychology (University of Oregon Medical School,1973)
- M. S. Medical Psychology (University of Oregon Medical School,1972)
- B. S. Psychology (Brigham Young University, 1968)

HONORS:

- Utah Health Hero Award (2005); Utah Public Health Association
- Utah Department of Environmental Quality Award (1994)
- Utah Department of Environmental Quality Award (1993)
- Certificate of Recognition, (1989); ASTM Committee E-5, Fire Standards
- National Institute of Mental Health Fellowship (1968 – 1973)

CURRENT POSITIONS:

- *Toxicologist*, Division of Air Quality, Utah Department of Environmental Quality
- *Adjunct Associate Professor*, Division of Public Health, Department of Family and Preventative Medicine, University of Utah
- *Adjunct Faculty* University of Utah Hospital and Clinics Graduate Medical Education. Preceptor Residency Training Occupational Medicine Utah Department of Environmental Quality
- *President*, BETR Sciences, Inc.
- *Principal Founder* MyAir, LLC

FORMER POSITIONS:

- *Faculty* University of Utah Department of Neurology. (1973-1976).
- *Director of Behavioral Research* University of Utah Flammability Research Center. (1974-1976)

STATE OF UTAH ACTIVITIES:

- *Program Toxicologist*, Utah Division of Air Quality (1998 – Present)
- *Member*, Coordinating Committer for Risk Assessment (1991 – Present)
- *Chairman*, Risk Factors Action Group Utah Asthma Program (2002 – 2009)
- *Manager*, Comparative Risk Program (1993-1994).
- *Team Leader*, State Implementation Program for Ozone (1993-1994).
- *Program Leader*, Hazardous Air Pollutants Program (1990-1993).

NATIONAL ACTIVITIES:

- *Editorial Board,* Journal of Fire Sciences. (1985-2002)
- *Chairman,* American Society for Testing and Materials (ASTM) Task Group E5.21.05: (1985-1995).
- *Member,* Toxicity Advisory Committee National Fire Protection Association (1988 – 1998)
- *Member,* Committee on Toxic Hazard Assessment of Material used in Transportation Vehicles. (1990-1991)
- *Member,* National Bureau of Standards Committee for Development of a Toxicity Screening Test Protocol for Combustion Products. (1976-1982)

INTERNATIONAL ACTIVITIES

- *United States of America Member*, Technical Advisory Committee, ISO/TC 92/SC 3. (1981-1998)
- *International Organization for Standardization (ISO) Convenor*: Technical Committee (TC) 92, Subcommittee (SC) 3, Working Group 1 on Fire Model. (1981-1987).
- *United States of America Assigned Expert*: ISO/TC 92/SC 3/Working Group on Bio-assays. (1981-1987)

APPENDIX A
PUBLICATIONS:

Anderson, D. C., & Packham, S. C. (1967). Preshock, scopolamine, and genetic strain as determinants of effects of punishments. *Psychonomic Science, 9,* 49-50.

O'Brien, J. H., & Packham, S. C. (1973). Conditioned leg movement in the cat with massed trials, trace conditioning, and weak US intensity. *Conditioned Reflex, 8,* 2, 116-124.

O'Brien, J. H., & Packham, S. C. (1974). Habitation of cell activity in cat postcruciate cortex. *Journal of Comparative and Physiological Psychology, 87*, 781-786.

Packham, S. C., Frens, D. B., McCandless, J. B., Petajan, J. H., & Birky, M. M. (1976). A chronic intra-arterial cannula and rapid micro-technique for carboxyhemoglobin determination. *The Journal of Combustion Toxicology, 3,* 471-478.

Petajan, J. H., Voorhees, K. J., Packham, S. C., Baldwin, R. C., Einhorn, I. N., Grunnet, M. L., Dinger, B. G., & Birky, M.M. (1975). Extreme toxicity from combustion products of afFire-retarded polyurethane foam. *Science, 187,* 742-744.

Petajan, J. H., Packham, S. C., et al. (1976). Sequelae of carbon monoxide induced hypoxia in the rat. *Archives of Neurology, 33*, 152.

Hilado, C. J., Cumming, H. J., & Packham, S. C. (1977). The use of a behavioral response system in the USF/NASA toxicity screening test method. *Journal of Combustion Toxicology, 4*, 283-292.

Packham, S. C., Jeppsen, R. B., McCandless, J. B., Blank, T. L., & Petajan, J. H. (1978). The toxicological contribution of carbon monoxide as a component of wood smoke." *Journal of Combustion Toxicology, 5*, 11-24.

Packham, S. C., & Hartzell, G. E. (1981). Fundamentals of combustion toxicology in fire hazard assessment. *ASTM Journal of Testing and Evaluation., 9*, 341-347.

Hartzell, G. E., Packham, S. C., & Switzer, W. G. (1983). Assessment of toxic hazards of smoke: Toxicological potency and intoxication rate thresholds." *Fire and Materials, 7*, 128-131.

Packham, S. C., & Crawford, M. B. (1984). An evaluation of smoke toxicity and toxic hazard of electrical nonmetalic tubing combustion products. *Journal of Fire Sciences, 2*, 37-59.

Alexeeff, G. V., & Packham, S. C. (1984). Use of a radiant furnace fire model to evaluate acute toxicity of smoke. *Journal of Fire Sciences, 2*, 306-320.

Alexeeff, G. V., & Packham, S. C. (1984). Evaluation of smoke toxicity using concentration-time products. *Journal of Fire Sciences, 2*, 362-379.

Hartzell, G. E., Packham, S. C., Grand, A. F., & Switzer, W. G. (1985). Modeling of toxicological effects of fire gases: III. Quantification of post-exposure lethality of rats from exposure to HCL atmospheres. *Journal of Fire Sciences, 3,* 196-207.

Hartzell, G. E., Stacy, H. W., Switzer, W. G., Priest, D. N., & Packham, S. C. (1985). Modeling of the toxicological effects of fire gases: IV. Intoxication of rats by carbon monoxide in the presence of an irritant." *Journal of Fire Sciences, 3*, 263-279.

Alexeeff, G. V., & Packham, S. C. (1986). A suggested role of combustion toxicity in fire risk assessment." *ASTM Journal Testing and Evaluation, 14*, 321-325.

APPENDIX A: Publications (cont.)

Klimisch, H. J., Doe, J. E., Hartzell, G. E., Packham, S. C., Pauluhn, J., & Purser. D. A. (1987). Bioassay procedures for fire effluents: Basic principles, criteria and methodology. *Journal of Fire Sciences, 5*, 73-104.

Standard test method for measuring smoke toxicity for use in fire hazard analysis. (1995). *Annual Book of ASTM Standards.* American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA.

Packham, S. C. (1996). Health risk from air pollution in Utah. *Utah's Health an Annual Review, 4*, (Universtiy of Utah. The Governor Scott M. Matherson Center for Health Care Studies, 21-24).

APPENDIX B
TECHNICAL AND RESEARCH REPORTS

Birky, M. M., Einhorn, I. N., Grunnet, M. L., Packham, S. C., Petajan, J. H., & Seader, J. D. (1974). *Physiological and toxicological effects of the products of thermal decomposition form polymeric materials.* (National Bureau of Standards Special Publication 411, Fire Safety Research, Proceedings of a Symposium held at NBS, Gaithersburg, Maryland, August 22, 1973, issued November, 1974).

Packham, S. C. (1974). *Physiological response to smoke.* (Polymer conference series on flammability characteristics of materials, University of Utah, Salt Lake City, Utah).

Packham, S. C., Petajan, J. H., & Einhorn, I. N. (1974). *The physiological response to smoke and combustion products.* (The 106th Meeting of the Rubber Division of the American Chemical Society, Philadelphia, Pennsylvania, October 14-17).

Packham, S. C. (1974). *Physiological and toxicological aspects of combustion.* (Decomposition Products of Urethanes Seminar, Technomic Publishings Co. sponsor, Chicago, Illinois, December 3).

Einhorn, I. N., Packham, S. C., Grunnet, M. L., & Petajan, J. H. (1975). *The physiological and toxicological consequences of smoke produced during the decomposition of polymeric materials.* (The 33rd Annual Technical Conference of the Society of the Plastics Industries, Atlanta, Georgia, May 5-8).

Packham, S. C. (1975). *Flammability and toxicological aspects pertaining to the combustion of Douglas fir.* (The Polymer Conferences Series on Flammability Characteristics of Materials. University of Utah, Salt Lake City, Utah).

Packham, S. C., Hartzell, G. E., Israel, S. C., Michelson, R. W., Dickman, M. L., Hileman, F. D., & Baldwin, R. C. (1976). *Behavioral assessment: Carbon monoxide intoxication in the evaluation of behavioral endpoints.* (The International Symposium on the Toxicity and Physiology of Combustion Products, Salt Lake City, Utah, March 22-26).

Fitzgerald, W. E., Mitchell, D. S., & Packham, S. C. (1978). *Influence of blood alcohol on behavioral dysfunction from carbon monoxide intoxication.* (Third International Conference on Fire Safety, University of San Fransisco, January 16-20).

Hartzell, G. E, Packham, S. C., & Switzer, W. G. (1982). *Assessment of toxic hazards of smoke toxicological potency and intoxication rate thresholds.* (INTERFLAM '82, International Conference on Flammability, University of Surrey, Guildford, England March 31).
"Outdoor (Ambient) Air Pollution." Steven C. Pakcham, Rodirck McKinlay and Lyn Darrington. Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

"Hazardous Air Pollution." Steven C. Pakcham, Rodirck McKinlay and Lyn Darrington. Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

"Indoor Radon." Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

"Radioactive Waste Disposal." Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

APPENDIX B: Technical and Research Reports (cont.)

"Indoor Air Quality." Steven C. Pakcham, Rodirck McKinlay and Lyn Darrington. Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

"Uncontroled Waste and Super Fund Sites." Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

"Hazardous Waste Generation and Disposal." Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

"Spills and Releases of hazardous Materials and Waste." Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

"Releases from Unique Chemical and Biological Storage Facilities." Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

"Leaking Under/Above Ground Storage Tanks." Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

"Medical Waste." Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

"Surface Water and Ground Water Quality." Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

"Non-Ionizing and Ionizing Radiation." Steven C. Packham, Technical Editor. Comparative Risk White Paper. Utah Department of Environmental Quality, 1994.

APPENDIX C
Depositions and Trial Appearances

Superior Court of the State of California in and for the County of Shasta (1982)

Patricia Louis Ingle, et al (Plaintiffs)*
vs
Holiday Harbor Shasta Lake, Inc., et al (Defendants)
Deposition, 4 June 1982.
Trial appearance: July, 1982.

United States District Court, Southern District of New York (1984)

Indian Head, Inc. (Plaintiff)*
vs
Allied Tube and Conduit Corporation / National Fire Protection Association (Defendants)
Affidavit: August 1984.

United States District Court, Southern District of New York (1984)

Jules Edlin, Inc. (Plaintiff)
vs
Joel Berman Associates Inc. (Defendant)*
Telephonic deposition: 25 October 1984.

Superior Court of New Jersey Law Division - Criminal Ocean County (1985)

Indictment No. 650-9-84
The State of New Jersey (Complainant)
vs
Six Flags Corporation, Great Adventure (Defendants)*
Trial appearance: 10 July 1985.

Texas 17Th Judicial District in the District Court of Terrant Texas (1985)

Pauline Young, et al (Plaintiffs)
vs
Ramada Inns, Inc. et al (Defendants)*
Deposition: 20 September 1985.

Superior Court of the State of California for the County of Los Angeles.(1988)

Leslie Walpole Proctor, Lloyds of London, Saudi Arabian Airlines (Plaintiffs)*
vs
Lockheed Corporation (Defendants)
Deposition, 4 August, 1987.
Trial appearance: 22 February 1988.

United States Circuit Court for Montgomery County, Maryland (1988)

Samuel Leventhal, et al., (Plaintiff)*
vs
The Artery Organization, Inc., et al., (Defendants)
Deposition: 6 December 1988

Superior Court of the State of California in and for the City and County of San Francisco (1988)

Cathedral Hill Hotel, et al. (Plaintiff)*
vs
Shelby-Williams, et al. (Defendant)
Deposition: 21 October 1988.

APPENDIX C: Depositions and Trial Appearances (cont.)

Superior Court of the State of California in and for the City and County of San Francisco (1990)

Cornelius Wise, et al (Plaintiff)
vs
Fieldcrest Mills, Inc., et al. (Defendant)*
Deposition: 2 October, 1990

United States District Court for the Southern District of California (1991)

Collin A. Reid, Deborah J. Reid, et al.,
vs
United States of America (Defendant)*
Deposition, 6 October 1989.
Trial appearance: 6 March 1991.

United States District Court for the Western District of Oklahoma (1991)

Sandra Kay Zeller, et al. (Plaintiff)
vs
Survivair, et al. (Defendants)*
Deposition: 18 October 1991.

United States District Court for the District of New Jersey (1992)

Civil No. 90-1880
Linda M. Mc Coy (Plaintiff)
vs
Rosco Laboratories, Inc., et al. (Defendants)*
Trial appearance: 14 July 1992.

Commonwealth of Puerto Rico General Court of Justice: Court of First Instance, Mayaguez (1995)

Maria Rosario Cruz, et al. (Plaintiffs)
vs
Texaco Puerto Rico (Defendant)*
Deposition: 27 April 1995

Third Judicial District Court for Tooele County, State of Utah (1996)

Dale Stewart and Sheila Stewart (Plaintiffs)*
vs
Roy C. Erickson, Dovie Erickson and Nancy Green, d/b/a Propane of Wendover, and Propane of Wendover (Defendants)
Deposition: 12 September 1996.

Superior Court of New Jersey: Monmouth County Docket No. L-367-94

Jean-Paul Kyrillos and Marguerite Kyrillos (Plaintiffs)*
vs
F. Hoffman-LaRouch & Co., Ltd., et al (Defendants)
Deposition: 22 January 1998

Iowa District Court for Scott County (1998)

Mercer, et al (Plaintiffs)*
vs
Pittway Corp., and BRK Brands, Inc. (Defendants)
Trial appearance: 30 January 1998

APPENDIX C: Depositions and Trial Appearances (cont.)

Estado Libre Asociado de Puerto Rico, Tribunal de Primera Instancia, Sala de Utuado (1998)

William Morales Martinez, et al. (Plaintiffs)
vs
Caribbean Petroleum Corporation, et al, (Defendants)*
Deposition, 8 January 1998
Trial testimony: August 17 - 18, 1998.

Circuit Court of the City of Richmond, Virginia (1998)

Patti Hatfield (Plaintiff)*
vs
BRK Brands, Inc., et al., (Defendants)
Deposition: 18 November 1998

Superior Court of New Jersey, Law Division, Ocean County

Aileen Barow (Plaintiff)*
vs
Van Dorpe, et al. (Defendant)
Deposition: 29 January 1999

State Court for the County of Fulton State of Georgia

Nicholas Edward Salvatore, Jr., as Administrator of the Estate of Pamela Jean Gabr, deceased (Plaintiff)
vs
Value Jet Airlines, Inc., et al. (Defendant)*
Deposition: 15 June 1999

State Court for the State of California in and for the county of Alameda. Cocket # V-017137-7

Lee (Plaintiff)*
vs
U-Haul (Defendant)
Deposition: 26 October 2001

State Court for the State of California in and for the county of Alameda. Cocket # V-017137-7

Lee (Plaintiff)*
vs
U-Haul (Defendant)
Trial testimony: 28, 29 November and 3 December 2001

State Court of Clayton County State of Georgia

Deborah Rogers et. al., (Plaintiff)
vs
Worthrington Cylinder Corporation, et al (Defendant)*
Deposition: 12 August 2004

United States District Court for the District of South Carolina Florence Division

Tony A. Homes, (Plaintiff) *
vs
Clayton Homes, Inc., et al., (Defendant)
Deposition testimony: 29 July 2004

APPENDIX C: Depositions and Trial Appearances (cont.)

United State District Court for the Northern District of New York

Sheila Hackert, et al., (Plaintiff)
vs
First Alert, Inc. and BRK, Inc., (Defendant)*
Deposition testimony: 20 October 2004

District Court 96th Judicial District Tarrent County, Texas

Vincente Ocampo, et al., (Plaintiff)*
vs
Maple Chase Company, et al., .(Defendant)
Deposition testimony: 2 March 2005

United State District Court for the District of Maryland

Bay County Consumer Finance, Inc. (Plaintiff)
vs
Fidelity Security Life Insurance Co. (Defendant)*
Deposition testimony: 10 June 2005

United States District Court District of New Mexico Albuquerque Division

Estate of Gladys Londono (Plaintiff)*
vs
Leviton Manufacturing Company, Inc. et. al., (Defendants)
Deposition testimony: 19 December 2005

United States District Court for the District of Puerto Rico

Marrero, et al. (Plaintiff)*
vs
ESSO Standard Oil Company (Puerto Rico), a Puerto Rico Company. (Defendants)
Deposition testimony: 28 February 2006

Missouri Circuit Court Twenty-Second Judicial Circuit(St. Louis City)

Laura Morrison, et al (Plaintiff)*
vs
Survivair, Inc, et al. (Defendants)
Deposition testimony: 5 June 2006

In the Superior Court of the State of California in and for the County of Mendacino CV PO 0391686

Patricia Osborn (Plaintiff)
vs
Franklin Street Stove Co., et al. (Defendants)*
Deposition testimony: 8 June 2006

In the Superior Court of the State of California in and for the County of Mendacino CV PO 0391686

Patricia Osborn (Plaintiff)
vs
Franklin Street Stove Co., et al. (Defendants)*
Trial testimony: 30 June 2006

In The Circuit Court For The County Of Oakland, MI Case Mo. 06-073944-NO

Rivest. et al;. (Plaintiff)
vs
Northwest Propane, et al. (Defendant)*
Deposition testimony: 14 March 2007

APPENDIX C: Depositions and Trial Appearances (cont.)

United States District Court for the District of Puerto Rico

Marrero, et al. (Plaintiff)*
vs
ESSO Standard Oil Company (Puerto Rico), a Puerto Rico Company. (Defendants)
Deposition testimony: 8 September 2008

In the Third District Court, Summit County State of Utah

Scott Henry Ferguson, et al. (Plaintiff)*
vs
Carolyn Lamb, Cheryl Bliss, Davis Bliss and Identity Properties, Inc. (Defendants)
Deposition testimony: 9 October 2012

In the Superior Court of the State of California for the County of Los Angeles West District (Santa Monica)

Alan Rader, et al. (Plaintiff)*
vs
Trane U. S., Inc., et al (Defendants)
Deposition testimony: 23 May 2014

In the Superior Court of the State of California for the County of Los Angeles West District (Santa Monica)

Alan Rader, et al. (Plaintiff)*
vs
Trane U. S., Inc., et al (Defendants)
Trial testimony: 24 June 2014

In the Superior Court of the State of California County of San Mateo

Karlo Moya; Sonia Fojas; and Carlito Fojas, (Plaintiff)*
vs
Accubuilt, Inc.; Ford Motor Company; et al.,(Defendants)
Deposition testimony: 7 May 2016

APPENDIX D
Former Client List: BETR Sciences, Inc.

Government, Universities, Institutions:

National Bureau of Standards - USDC
Southwest Research Institute
University of Utah
National Forestry Services - USDA
University of San Fransisco / NASA Ames

Trade Associations:

Carpet and Rug Institute
National Forest Products Association
National Paint and Coatings Association
Society of Plastics Industries and the Vinyl Institute

Companies:

B.F. Goodrich
Borg-Warner Chemical
Delaval, a TransAmerica Company
E.I. duPont de Nemours
Monsanto Company
Weyerhaeuser
Boeing Commercial Airplane Company
Carlon, an Indian Head Company
Dow Chemical Company
Imperial Chemicals Industry
Olin Corporation

Litigation

Fetterly and Gordon, P.A.
808 Nicollet Mall, Suite 800
Minneapolis, Minnesota 55402
(612) 333-3002

Carlon
Att: Mr. Charles Forsberg
25701 Science Park Drive
Cleveland, Ohio 44122
(216) 831-4000

Wilbert & Montenegro
Att: Michael Wilbert, Esq.
Tavern Road Brick Town, N.J. 08724
(201) 295-4500

PSC (Plaintiff's Steering Committee - DuPont Plaza)
Att: Will Kemp, Esq.
252 Ponce de Leon City Bank Tower, 7th Floor
Hato Rey, Puerto Rico 00918
(809) 250-7272

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1201 Third Avenue, 40 Floor
Seattle, Washington 98101-3099
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Michael Quinton, Esq.
Assistant United States Attorney
U. S. Courthouse, Room 5-N-19
940 Front Street San Diego, California 92189
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Robie & Matthai
Att: Edith R. Matthai, Esq.
Biltmore Tower
500 South Grand Avenue, Suite 1500
Los Angeles, California 90071
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Sedgwick, Detert, Moran & Arnold
Att: Kenneth F. Strong, Esq.
One Embarcadero Center, 16th Floor
San Francisco, California 94111-3765
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Touchstone, et al.
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4700 Renaissance Tower
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P.O. Box 2419 Pittsfield, MA 01202
(413) 448-6886

APPENDIX D: Former Client List: BETR Sciences, Inc. (cont.)

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United Kingdom
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44 Montgomery Street, Suite 4185
San Francisco, CA 94104
(415) 421-7995

Cozen and O'Conner
Att: Ricahrd C. Glazer, Esq.
The Atrium Third Floor
1900 Market Street
Philadelphia, PA 19103
215-665-2026

Cozen and O'Connor
Att. Michael Minsker, Esq.
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Charlotte, NC 28202
(800) 762-3575

Ciba Geigy, Corporation
Att: Jean Warshaw, Esq.
Legal Department
444 Saw Mill River Road
Ardsley, New York 10502
(914) 479-2186

Will Kemp, Esq.
Jones, Jones, Close & Brown
300 South 4th Street, Suite 700
Las Vegas, NV 89101
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McKee and Butler, Attorneys at Law
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11 South Camron Street
P.O. Drawer 2097
Winchester, Virginia 22604-1297
703-662-3486

Kitchen, Deery & Barnhouse, Attorneys at Law
Att: Charlie Kitchen, Esq.
1100 Illuminating Building
55 Public Square Cleveland, Ohio 44113
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Att: Eric G. Wallis, Esq.
1990 Harrison Street
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Columbus, OH 43215
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Schopf & Weiss
Att: Arthur Howe, Esq.
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Chicago, Illinois 60606-1764
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Audubon, New Jersey 08106
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680 Wilshire Place, Suite 200
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Commercial Union - Mr. Sal Ybarra / Murchison and Cumming
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680 Wilshire Place, Suite 200
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Lamson and Sessions
Carlon Electrical Products
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Jaime E Morales, Esq.
Cordero, Miranda and Pinto
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San Juan, Puerto Rico 00907
(809) 724-8103

APPENDIX D: Former Client List: BETR Sciences, Inc. (cont.)

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CHUBB Group of Insurance Companies
Att: William Radtke
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215-981-8340

J. Wayne Gillman, Esq.
56 East 300 South, Suite 600
Salt Lake City, Utah 84111
801-363-3334

Vinson and Elkins
Att: Will S. Snyder, Esq.
3700 Trammell Crow Center
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214-220-7700

R. Scott Williams, Esq.
Strong and Hanni
9 Exchange Place, Suite 600
Salt Lake City, Utah 84111
801-532-7078

Adams & Graham, L.L.P.
Mr. Jim Dennison
222 E. Van Buren, West Tower
Harlington, Texas 78551

Knightlinger & Gray
Mr. Nick Levi
One Indiana Square, Suite300
Indianapolis, IN
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Integrated Fire and Failure Technologies, Inc.
Att: Joseph Zicherman, Ph.D.
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Moore, Moore, Malone and Burlew
Att: Charles E. Moore, Esq.
104 East Fourth Street
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The Zoological Society of Philadelphia
Att: Mr. Karl R. Kranz
Vice President for Animal Management
3400 West Girard Avenue
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215-243-5215

Goldman, Antonetti & Cordova
Att: Edgardo Colon-Arraras. Esq.
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Margulies, Wind, Herrington and Knopf
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15 Exchange Place, Suite 510
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Bishop. Barry, Drath
Mr. John Drath
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JENNIFER L. PEEL

Professor
Department of Environmental and Radiological Health Sciences
Colorado State University
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I. EDUCATION

PhD in **EPIDEMIOLOGY**, May 2003
Emory University, Graduate School of Arts and Sciences, Atlanta, GA
Dissertation: Acute Cardiorespiratory Health Effects of Ambient Air Pollution in Atlanta
Advisor: Paige E. Tolbert, PhD

MPH in **EPIDEMIOLOGY**, May 1998
Emory University, Rollins School of Public Health, Atlanta, GA
Thesis: Race and Hormonal Treatment of Prostate Cancer in the NCI/SEER Prostate Cancer Outcomes Study (PCOS)
Advisor: J. William Eley, MD, MPH
Awards/Scholarships: Dean's Scholarship, 1996 - 1998
1998 Charles C. Shepard Award (most scholarly research paper in the Rollins School of Public as deemed by the faculty)

BS in **MOLECULAR AND CELL BIOLOGY**, May 1996
With an **Honors Degree** in **BIOCHEMISTRY AND MOLECULAR BIOLOGY**
The Pennsylvania State University, University Park, PA
Honors Thesis: Identification of SER-9 as the Catalytically Essential Residue in *Drosophila* Glutathione S-Transferase D1
Advisor: C-P David Tu, PhD
Awards/Scholarships: University Scholars Program
Academic Excellence Scholarship
Freshman Alumni Award

Dallastown Area High School **Salutatorian**, June 1991

II. PROFESSIONAL EXPERIENCE

PROFESSOR (with tenure), EPIDEMIOLOGY 7/16 – present
Department of Environmental and Radiological Health Sciences
Colorado State University, Fort Collins, CO

Epidemiology Section Head 7/10 – present
Department of Environmental and Radiological Health Sciences
Colorado State University, Fort Collins, CO

II. PROFESSIONAL EXPERIENCE (continued)

ADJUNCT PROFESSOR 10/16 – present
Departments of Epidemiology, Department of Environmental and Occupational Health
Colorado School of Public Health, Denver, CO

CSU EPIDEMIOLOGY MPH CONCENTRATION DIRECTOR 8/12 – 4/16
Colorado School of Public Health, Denver, CO

ASSOCIATE PROFESSOR (with tenure), EPIDEMIOLOGY 7/10 – 6/16
Department of Environmental and Radiological Health Sciences
Colorado State University, Fort Collins, CO

ADJUNCT ASSOCIATE PROFESSOR 11/13 – 10/16
Departments of Epidemiology, Department of Environmental and Occupational Health
Colorado School of Public Health, Denver, CO

ADJUNCT ASSISTANT PROFESSOR 10/08 – 11/13
Departments of Epidemiology, Department of Environmental and Occupational Health
CSU Epidemiology Concentration Director, 8/2012 - present
Colorado School of Public Health, Denver, CO

ASSISTANT PROFESSOR, EPIDEMIOLOGY 8/04 – 6/10
Department of Environmental and Radiological Health Sciences
Colorado State University, Fort Collins, CO

DIRECTOR 2/03 – 8/04
Air Pollution and Neonatal Episodes of Apnea (APNEA) Study
Emory University, Rollins School of Public Health, Atlanta, GA

DIRECTOR 6/03 – 8/04
Study of Particles and Health in Atlanta (SOPHIA)
Emory University, Rollins School of Public Health, Atlanta, GA

ASSOCIATE DIRECTOR 4/02 – 2/03
Air Pollution and Neonatal Episodes of Apnea (APNEA) Study
Emory University, Rollins School of Public Health, Atlanta, GA

ASSOCIATE DIRECTOR 4/02 – 6/03
Study of Particles and Health in Atlanta (SOPHIA)
Emory University, Rollins School of Public Health, Atlanta, GA

PROJECT COORDINATOR 1/00 – 4/02
Infant Apnea Study, Emory University, Rollins School of Public Health

DATA ANALYST 7/98 – 1/00
Georgia Center for Cancer Statistics, SEER Program, Atlanta, GA

III. TEACHING EXPERIENCE

In-class Instruction:

COORDINATOR 01/17 – present
ERHS 640 Advanced Epidemiology, Colorado State University, Fort Collins, CO
Spring 2017

COORDINATOR 08/15 – present
ERHS 505 Epidemiologic Research, Colorado State University, Fort Collins, CO
Fall 2015

COORDINATOR 01/07 – present
ERHS 658 Environmental and Occupational Epidemiology, Colorado State University, Fort Collins, CO
Spring 2007, Spring 2009, Spring 2011, Spring 2012

COORDINATOR 01/05 – 2013
ERHS 332 Principles of Epidemiology, Colorado State University, Fort Collins, CO
Spring 2005 – 2013
Honors Option: 1 student, 2010; 1 student, 2011; 1 student, 2012; 2 students, 2013

COORDINATOR 08/05 – present
ERHS 693A Epidemiology Colloquium, Colorado State University, Fort Collins, CO
Spring 2007, Fall 2007, Spring 2008, Fall 2008, Fall 2009, Fall 2010, Fall 2012, Fall 2013, Fall 2014, Spring 2015, Fall 2015, Fall 2016, Fall 2017

COORDINATOR 08/05 – present
Epidemiology Independent Study for graduate students, Colorado State University, Fort Collins, CO
Fall 2011, Spring 2012, Summer 2016, Summer 2017

COORDINATOR 08/10 – 12/10
ERHS 494 Undergraduate Independent Study (SAS training), Colorado State University, Fort Collins, CO
Fall 2010

GUEST LECTURER 9/04 – present
Colorado State University, Fort Collins, CO

ERHS 430 Human Disease and the Environment; 1 lecture (Spring 2005 – 2012)
ERHS 648 Environmental Health Risk Assessment; 1 lecture (Spring 2008)
ERHS 658 Environmental and Occupational Epidemiology; 1 lecture (Spring 2005)
ERHS 561 Radiation Public Health; 1 lecture (Spring 2006 - 2013)
ERHS 640 Advanced Epidemiologic Methods; 1 lecture (Spring 2007)
ERHS 502 Fundamentals of Toxicology; 1 lecture (Fall 2005)
ERHS 174 Freshman Scholar's Seminar; 1 lecture (Fall 2005, 2006, 2007, 2008, 2009)
ERHS 726 Aerosols and Occupational Health; 1 lecture (Fall 2008 - 2013)
ATS 555 Air Pollution; 1 lecture (Spring 2006, Fall 2010, Fall 2014, Fall 2016)
FSHN Foodborne Illness Seminar; 1 lecture (Fall 2006)
HES 345 Population Health and Disease Prevention; 1 lecture (Fall 2008)
HES 645 Chronic Disease Epidemiology; 1 lecture (2007 - 2015)

In-class Instruction (Continued):

VMS796 Fundamentals of Epidemiology; 1 lecture (Fall 2009, Fall 2010)
PBHL 692 Epidemiology of Chronic Disease; 2 lectures (Fall 2013)
PBHL 692 Engaging in Environmental Health in Fort Collins; 1 lecture (Fall 2016)

GUEST LECTURER 1/08 – present
University of Colorado, Denver, CO
Environmental and Occupational Health; 1 lecture (Spring 2008, 2009, 2010; Fall 2010 - 2016)
Cardiovascular Disease Epidemiology; 1 lecture (Fall 2008)
Public Health in Latin America and the Caribbean; 1 lecture (2011 - 2014)

INSTRUCTOR 01/04 – 5/04
Directed Study Project, Epidemiology, Emory University, Atlanta, GA
Developed and taught an introductory epidemiology 15-week tutorial for a first-year epidemiology doctoral student.

INSTRUCTOR 09/03 – 12/03
Analytic Maternal and Child Health Epidemiology, Emory University, Atlanta, GA
Taught a twelve-week course in analytic epidemiology to career Masters of Public Health students using an innovative online classroom design, with an emphasis on study design, control of confounding, detection of interaction, and critical reading of epidemiologic literature.

GUEST LECTURER 03/03 – 02/04
Occupational and Environmental Epidemiology, Emory University, Atlanta, GA

Post-Doctoral Fellows Supervised:

Maggie Clark, PhD 1/08 – 12/12
Recipient of an American Heart Association Post Doctoral Fellowship, 7/09-6/11

Nicholas Good, PhD (co-supervised) 9/2012 – present

Anna Molter, PhD 10/2013 – 8/2016
Recipient of an American Heart Association Post Doctoral Fellowship, 7/14-6/16

Sarah Rajkumar, PhD (co-supervised) 5/2014 – present

Bonnie Young, PhD 10/2014 – present

Thomas Cole-Hunter 7/2016 – present

Doctoral Students Supervised:

Maggie Clark, “Indoor Air Pollution and Respiratory Health Among Honduran Women.” Department of Environmental and Radiological Health Sciences, 12/2007.

Doctoral Students Supervised (Continued):

Kiersten Kugeler, "Spatiotemporal risk factors for human Lyme Disease in Howard County", Maryland. Department of Environmental and Radiological Health Sciences, 5/2014.

Lorena Canales, "Estrogen-related risk factors and hormone-related cancers among post-menopausal women." Department of Environmental and Radiological Health Sciences", 5/2015.

Brianna Moore, "Associations of Self-Reported and Biologic Markers of Secondhand Smoke Exposure with Metabolic Disorders." Department of Environmental and Radiological Health Sciences, 8/2015.

Judy Heiderschedit, "The Impact of a Cookstove Intervention on Measures of Cardiovascular Health," Department of Environmental and Radiological Health Sciences, 5/2017, expected.

Kristen Fedak, Cookstove emissions and acute subclinical health effects: a controlled human exposure study. Department of Environmental and Radiological Health Sciences, 5/2018, expected.

Megan Graham (co-advisor), Impact of an improved cookstove interevention in Honduras, 12/2017, expected.

Sarah Hook, Lyme Disease Prevention, 12/2018, expected.

Ethan Walker, "The Impact of a Cookstove Intervention on Measures of Cardiovascular Health," Department of Environmental and Radiological Health Sciences, 5/2019, expected.

Doctoral Student Committees:

Cheryl Beseler, "Evidence of a link between acute organophosphate pesticide poisoning and depression in the Agricultural Health Study." Department of Environmental and Radiological Health Sciences, 5/2005.

Indira Gujral, "Assessment of the Abbreviated Injury Scale for the Head in Predicting Long-term Outcomes from Traumatic Brain Injury, Colorado 1998-2000." Department of Environmental and Radiological Health Sciences, 12/2007.

Ashley Busacker, "Epidemiologic Evaluation of Risk Factors, Phenotypes, and Genetics Associated with Severe Asthma." Department of Environmental and Radiological Health Sciences, 12/2008.

Rendi Bacon, "Lyme Disease in the United States." Department of Environmental and Radiological Health Sciences, 5/2009.

Kelley Wells, "Combined MODIS-lidar Aerosol Retrieval Over Desert Surfaces: Application of a Critical Reflectance Approach." Department of Atmospheric Science, 12/2010.

Colby Adams, "Temporal-Spatial Profiles of Personal $PM_{2.5}$ Effects in Urban Childhood Asthma." Department of Environmental and Radiological Health Sciences, 5/2013.

Jason Prapas, "Toward the Understanding and Optimization of Chimneys for Buoyantly Driven Biomass Stoves Department of Mechanical Engineering," 8/2013.

Rebecca Evans, "Zoonotic Disease Surveillance in the U.S. Military." Department of Clinical Sciences, 5/2014.

Doctoral Student Committees (Continued):

Brandy Burgess, "Epidemiology of *Salmonella enterica* in a veterinary teaching hospital." Department of Clinical Sciences, 5/2014.

Bonne Ford, Satellite Constraints on Surface Concentrations of Particulate Matter. Department of Atmospheric Science, 12/2014.

David Cate, Paper-based analytic devices for the detection of heavy metal aerosols. Department of Biomedical Engineering, 8/2015.

Karin Adams, Indoor Hockey Officials Noise Exposure, Temporary Hearing Loss, and Effect of Helmet Visor Length on Exposure to Whistle Noise. Department of Environmental and Radiological Health Sciences, 5/2016.

Joseph Fauver, TBD. Department of Microbiology, Immunology, Pathology. 12/2106, expected.

Meilin Yan, TBD. Department of Environmental and Radiological Health Sciences, 5/2018, expected.

Masters Theses Supervised:

Jessica Fluck (co-advisor), "Respiratory Symptoms Among Wildland Firefighters in Colorado." Department of Health and Exercise Science, 5/2008.

Zachary Huescher, "Backpack Use and Prevalence of Back Pain among College Students." Department of Environmental and Radiological Health Sciences, 8/2009.

Heather Davis Bazemore (co-advisor), "Baseline Exposures Assessment among Nicaraguan Women." Department of Environmental and Radiological Health Sciences, 5/2010.

Phoenix Mourning-Star, "Fine Particle Sources and Adverse Events in Infants Using Home Cardiorespiratory Monitors." Department of Environmental and Radiological Health Sciences, 5/2011.

Margie Walling, "Cadmium, Selenium, and Breast Cancer." Department of Environmental and Radiological Health Sciences, 5/2013.

Sarah Yoder, "Impact of an Improved Cookstove Intervention on Markers of Cardiovascular Health". Department of Environmental and Radiological Health Sciences, 5/2014.

Masters Student Committees:

Jennifer Chase, "Identifying potential risk factors for bacterial vaginosis and intermediate vaginal flora in Wyoming women." Department of Environmental and Radiological Health Sciences, 5/2006.

Ryan Donavan, "Cardiorespiratory Fitness, C-Reactive Protein, and the Metabolic Syndrome in Firefighters." Department of Health and Exercise Science, 5/2007.

Janine Bennett, "Environmental Factors and West Nile Virus Activity in Boulder County, CO." Department of Environmental and Radiological Health Sciences, 5/2008.

Masters Student Committees (Continued):

Kelly Fitzgerald, "Cardiovascular disease risk factors in fire fighters." Department of Health and Exercise Science, 12/2008.

Katie McCabe, "Ethnic Differences in TNF-α in Response to Diet and Exercise." Department of Health and Exercise Science, 12/2008.

Molly Diekmann, "Building a Logistic Regression Model to Predict Preterm Birth in Wyoming." Department of Environmental and Radiological Health Sciences, 5/2009.

Michael Callahan, "Raising Seed Startup Capital for Student Social Ventures." Global Social and Sustainable Enterprise graduate program, 5/2009.

Rebecca Snider, "Barriers to Folic Acid Awareness and Use in Wyoming Women." Department of Environmental and Radiological Health Sciences, 12/2010.

Bonne Ford, "Export and long range transport of pollution and aerosols using satellite data and model output. Department of Atmospheric Sciences, 12/2010.

Richard Sayer, "Diabetes in the San Luis Valley Study." Department of Health and Exercise Science, 5/2011.

Audrey Ruple, "Estimating nosocomial infection rates at veterinary teaching hospitals." Department of Clinical Sciences, 8/2011.

Chrissy Schaeffer, "Interventions to increase physical activity among elementary school children." Department of Health and Exercise Science, 8/2011.

Lorin O'Toole, "BMI, diet, and health risk factors related to cardiovascular disease among Colorado firefighters". Department of Health and Exercise Science, 12/2011.

Sam Atwood, "Source Apportionment of Aerosol Measured in the Northern South China Sea During Springtime." Department of Atmospheric Sciences, 12/2011.

Jeff Shaprio, "Evaluating the effectiveness of a microfluidic particle sampling device for measuring PM oxidative potential." Department of Environmental and Radiological Health Sciences, 8/2012.

Yadi Sutanto, "Highly Pathogenic Avian Influenza Knowledge, Attitudes, and Practices Study among Live Bird Market Workers in Jakarta – Indonesia." Department of Clinical Sciences, 5/2013.

Andrea Booth-Kalajian, "Multilocus Genetic Associations with Obesity Outcomes in Hispanic and Non-Hispanci Whites Using a Principal Components Regression Approach: The San Luis Valley Diabetes Study." Department of Health and Exercise Science, 5/2013.

Rachel Severson, TBD. Department of Environmental and Radiological Health Sciences, 12/2017, expected.

Ryan Hicks, TBD. Department of Statistics, 5/2017, expected.

MPH Capstone Projects Supervised:

Ethan Walker, "Household Air Pollution and Symptoms: A Cross-Sectional Study", expected 5/2017.

Undergraduate Research:

Sarah Yoder, Freshman Scholars Program, "Lyme Disease in the United States, 1995 - 2000: Examining the Associations of Age at Diagnosis and State of Residence." (8/2005 – 5/2006)

Alainna McPhaul, Freshman Scholars Program (co-advisor), "Low back pain college students." (8/2007 – 5/2008)

Leslie Marchand. "Lung function among Nicaraguan women using traditional biomass indoor cook stoves." (5/2008 – 5/2009)

Six undergraduate students participating in the Nicaragua cook stove project (1/2008 – 8/2008)

Eight undergraduate students participating in the Nicaragua cook stove project (1/2009 – 12/2009)

Madeline Anna (Honors Thesis committee) (5/2009 – 12/2010)

Ryan Autenrieth (Honors Thesis Advisor) (5/2010 – 5/2011)

Lindsay Davis (Honors Thesis Advisor) (7/2010 – 5/2011)

Five undergraduate students participating in the Nicaragua cook stove project (10/2010 – 5/2011)

Deanna Chavez (Honors Thesis committee member) (1/2011 – 5/2011)

Veronica Fialkowski (Honors Thesis committee member) (1/2012 – 5/2012)

Stacy Marshall (Honors Thesis committee member) (1/2012 – 5/2012)

Caitlin Condon (Honors Thesis Advisor) (5/2012 – 5/2013)

Brooke Reynolds (Honors Thesis Advisor) (5/2013 – 8/2014)

Mackenzie Whitesell, HURS undergraduate research experience, 1/2012 – present; Honors thesis advisor, 5/2014 – present, EH internship supervisor, 8/2014 – 5/2015

Joshua Ferreri (Honors Thesis committee member), 4/2015 - 12/2015

Student Awards:

Rebecca James Baker Award, the International Society for Environmental Epidemiology (Best abstract by a new investigator), awarded to: Maggie L Clark for the abstract, Clark ML, Peel JL, Burch JB, Nelson TL, Robinson MM, Conway S, Bachand AM, Reynolds SJ. Impact of Improved Cookstoves on Indoor Air Pollution and Adverse Health Outcomes Among Honduran Women. Annual Meeting of the International Society for

Student Awards (Continued):

Environmental Epidemiology. Pasadena, October 2008. Epidemiology 2008;19(6): S190.

US EPA STAR Graduate Fellowship, awarded to Phoenix Mourning-Star (2008-2010)

Leslie Marchand, College Honors, Celebrate Undergraduate Research & Creativity Fair, 2009. "Lung function among Nicaraguan women using traditional biomass indoor cook stoves."

American Heart Association Post Doctoral Fellowship, awarded to Maggie Clark (2009-2011)

Ryan Autenrieth, College Honors, Celebrate Undergraduate Research & Creativity Fair, 2010. "Reported Health Symptoms and Socioeconomic Status among Nicaraguan Women using Traditional Biomass Indoor Cook Stoves Compared to Ventilated Improved Stoves."

Hannah Reed, College Honors, Celebrate Undergraduate Research & Creativity Fair, 2010. "Spatial and Non-Spatial Analyses to Describe Predictors of Stove Adoption."

Douglas Robinson, College Honors, Celebrate Undergraduate Research & Creativity Fair, 2010. "Assessing the Effectiveness of a Cook Stove Intervention by Evaluating Changes in Heart Rate and Oxygen Saturation among Nicaraguan Women."

Mackenzie Whitesell, High Honors, Celebrate Undergraduate Research & Creativity Fair, 2012. "Risk Factors for Substance Abuse Among Adolescents."

American Heart Association Predoctoral Fellowship, awarded to Judy Heiderscheidt (2012-2014)

Environmental Health Sciences Outstanding Graduate Student, awarded to Judy Heiderscheidt, 2013

American Heart Association Predoctoral Fellowship, awarded to Brianna Moore (2014-2016)

American Heart Association Post Doctoral Fellowship, awarded to Anna Molter (2014-2016)

Environmental Health Sciences Outstanding Graduate Student, awarded to Megan Graham, 2015

Environmental Health Sciences Outstanding Graduate Student Researcher, awarded to Brianna Moore, 2015

IV. RESEARCH ACTIVITIES

Current and Completed Grant Support

UM1HL134590 (Multiple PIs: Checkley, Clasen, Peel)
National Institutes of Health 9/16 – 5/21
Household Air Pollution and Health: A Multi-Country LPG Intervention Trial $30,473,666
Role: PI
Primary award to Emory University

Current and Completed Grant Support (Continued):

Colorado State University (Ravishankara, Kreidenweis, Long, Peel, Volckens) 1/15 – 12/17
OVPR Catalyst for Innovative Partnership award $200,000
Partnership for Air Quality, Climate and Health
Role: PI

R21 ES025140 (Adgate)
National Institutes of Health / NIEHS R21 9/14 – 8/17
Quality of Life and Stress Effects in Communities with Oil and Gas Development $350,000
Role: Co-Investigator

R01ES023688 (Peel, Volckens) 8/14 – 5/19
National Institutes of Health / NIEHS R01 $2,800,124
Cookstove air pollution: Emission profiles and subclinical effects of exposure
Role: PI

RD83543801 (Volckens) 09/13 - 08/17
Environmental Protection Agency $1,187,932
Quantifying the climate and health benefits of improved cookstoves: an integrated laboratory, field and modeling study
Role: Co-Investigator

R01 ES020017-01A1 (Peel, Stuart, Volckens) 01/12 - 10/17
NIH/NIEHS $2,575,557
The Commuter Exposure Study: Linking Exposure, Source-Receptor, Models, and Health
Role: PI

Colorado School of Public Health Pilot Research Program (Peel) 05/14 – 06/15
The Effect of a Cleaner-Burning Stove Intervention on Telomere Length Among Honduran Women $20,000
Role: PI

Colorado Clinical and Translational Institute (Litt, Peel) 5/14 – 10/15
CSU/CU Pilot Collaboration Award $60,000
Changing industries, landscapes, and environments: Implications for the public's health in Colorado
Role: Co-PI

Heinz Foundation / Carnegie Mellon University (Magzamen, Robinson) 9/14 – 3/15
Health Impact Assessment of Air Pollutants in Allegheny County $33,841
Role: Co-Investigator

R21 ES022810 (Peel) 9/13 – 8/16
National Institutes of Health / NIEHS $399,185
Woodsmoke exposure and novel health indicators: a feasibility field study
Role: PI

Current and Completed Grant Support (Continued):

US EPA STAR Research Program RD-83489901 (Peel) 3/11 – 8/14
Exploring new Questions of Multiple Air Pollution, Sources and Health in Denver $298,362
Role: PI

R03 ES019696 (Peel) 1/11 – 12/13
National Institutes of Health $138,342
Impact of an Indoor Stove Intervention on Indicators of Cardiorespiratory Health
Role: PI

US EPA R833744 (Hannigan) 1/08-12/13
Health Effects and Characterization of Urban and Rural Coarse Particulate Matter $1,200,000
in Northeastern Colorado (Hannigan, PI)
Role: PI of subaward to University of Colorado at Boulder

College Research Council, Colorado State University (Peel) 7/10 – 6/11
Identifying Predictors and Barriers of Improved Cook Stove Use among Families $15,000
Participating in an Intervention in Nicaragua
Role: PI

College Research Council, Colorado State University (Peel) 7/09 – 6/10
Evaluation of an Improved Cook Stove Intervention Among $18,500
Nicaraguan Families
Role: PI

National Institutes of Health / NIEHS R01 ESO12197 (Vedal) 4/08 – 3/10
Supplement to a Source-Oriented Air Pollution Health Study (Vedal, PI) $350,041
Role: PI of subaward to University of Washington

College Research Council, Colorado State University (Peel) 7/08-6/09
Baseline Assessment of Woodsmoke Exposures and Health Status Among $20,000
Nicaraguan Women
Role: PI

NIOSH MAP Educational and Research Center Pilot Research Program (Peel) 6/08 – 5/09
Improved Cookstove Intervention to Assess Changes in Woodsmoke Exposures and $9,973
Health Status among Nicaraguan Families
Role: PI

NIOSH MAP Educational and Research Center Pilot Research Program (Clark) 6/08 – 5/09
Baseline Health Assessment of a Primarily Latino and Underserved Population in $9,989
Colorado
Role: Co-Investigator

Colorado State University Clean Energy SuperCluster Pilot Research Project (Peel) 5/08-4/09
Baseline Assessment of Woodsmoke Exposures and Health Status Among $15,000
Nicaraguan Women
Role: PI

Current and Completed Grant Support (Continued):

Colorado State University Office of International Programs Research Grant (Peel) 4/08 – 6/08
Improved Cookstove Intervention to Assess Changes in Woodsmoke Exposures and $2,000
Health Status among Nicaraguan Families
Role: PI

Colorado State University Office of International Programs 2/08 – 6/08
International Field Experience Grant (Peel) $2,000
Improved Cookstove Intervention to Assess Changes in Woodsmoke Exposures and Health Status among Nicaraguan Families
Role: PI

College Research Council, Colorado State University (Peel) 7/07-6/08
Assessment of Pulmonary Function and C-Reactive Protein Levels $17,500
in Wildland Firefighters
Role: PI

4740-RFA04-4/06-1 (Peel) 3/06 – 11/07
Health Effects Institute $62,015
Impact of Improved Air Quality During the 1996 Atlanta Olympic Games
Role: PI

Peer-Reviewed Articles

Kugeler KJ. Biggerstaff BJ, Mead PS, Feldman KA, Peel JL. A multilevel approach to understanding Lyme Disease risk. Submitted, Internat J Epidemiol.

Malin SA. Myer A. Crooks J. McKenzie L. Peel JL. Adgate JL. Putting on Partisan Glasses: Political Identity, Quality of Life, and Oil and Gas Production in Colorado. Submitted, Energy Policy.

Clark ML; Megan L. Benka-Coker; Corey D. Broeckling; Jay S. Kirkwood; Sarah Rajkumar; Bonnie N. Young; Sebastian Africano; Anibal B. Osorto Pinel; Matthew J. Campen; Jennifer L. Peel; Jessica E. Prenni. Non-targeted Metabolite Profiling of Dried Blood Spots in a Field-Based Epidemiologic Study of Household Air Pollution. Submitted, Metabolomics.

Moore BF, Clark ML, Annette A, Reynolds SJ, Nelson TL, Peel JL. Interactions between Diet and Exposure to Secondhand Smoke on Glycated Hemoglobin (HbA1c) Levels among U.S. Children: Results from NHANES 2007-2012. Nicotine & Tobacco Research, 2017. doi: 10.1093/ntr/ntw261. PMID:27679605

Good N, Molter A, Peel JL, Volckens J. An accurate filter loading correction is essential for measuring personal exposure to black carbon using an Aethalometer. J Expo Sci Environ Epidemiol, 2017. doi: 10.1038/jes.2016.71.

Moore BF, Clark ML, Bachand A, Reynold SJ, Nelson TL, Peel JL. Interactions between Diet and Exposure to Second Hand Smoke on the Prevalence of Childhood Obesity – Results from NHANES 2007 – 2010. Environ Health Perspect. 2016 Aug;124(8):1316-22. doi: 10.1289/ehp.1510138.

Peer-Reviewed Articles (Continued):

Good N, Molter A, Ackerson C, Bachand A, Carpenter T, Clark ML, Fedak KM, Kayne A, Koehler K, Moore B, L'Orange C, Quinn C, Ugave V, Stuart AL, Peel JL, Volckens J. The Fort Collins Commuter Study: Impact of route type and transport mode on personal exposure to multiple air pollutants. J Expo Sci Environ Epidemiol, 2015 doi: 10.1038/jes.2015.68. [Epub ahead of print] PubMed PMID: 26507004

Moore BF, Clark ML, Annette A, Reynolds SJ, Nelson TL, Peel JL. Interactions between Diet and Exposure to Secondhand Smoke on Metabolic Syndrome among Children - NHANES 2007-2010. The Journal of clinical endocrinology and metabolism 2015; doi: 10.1210/jc.2015. PMID: 26495750

Kim, S-Y, Dutton SJ, Sheppard L, Hannigan MP, Miller SL, Milford JB, Peel JL, Vedal S. The short-term association of selected components of fine particulate matter and mortality in the Denver Aerosol Sources and Health (DASH) Study. Environmental Health, 2016. DOI: 10.1186/s12940-015-0037-4.

Peel JL, Baumgartner J, Wellenius GA, Clark ML, Smith KR. Are randomized trials necessary to advance research on household air pollution? Current Epidemiol Reports, 2016.

Clements N, Milford JB, Miller SL, Peel JL, Hannigan MP. Comparisons of urban and rural $PM_{10-2.5}$ and $PM_{2.5}$ mass concentrations and semi-volatile fractions in northeastern Colorado, Atmospheric Chemistry and Physics, 2016.

Clark ML, Heiderscheidt JM, Peel JL. Integrating behavior change theory and measures into health-based cookstove interventions: a proposed epidemiologic research agenda. Journal of Health Communication: International Perspectives, 20:sup1, 94-97, DOI: 10.1080/10810730.2014.989346

Pride K, Peel JL, Robinson BF, Busacker A, Grandpre J, Bisgard KM, Yip FY, Murphy TD. Association of short-term exposure to ground-level ozone and respiratory outpatient clinic visits in a rural location — Sublette County, Wyoming, 2008-2011. Environmental Research, 2015.

Oakes MM, Baxter LK, Duvall RM, Madden M, Xie M, Hannigan MP, Peel JL, Pachon JE, Balachandran S, Russell A, Long TC. Int J Environ Res Public Health, 2014; 11: 11727-52. doi: 10.3390/ijerph111111727

Clark ML, Peel JL. Perspectives in Household Air Pollution Research: Who Will Benefit from Interventions? Current Environmental Health Reports. 2014; 1: 250-257. DOI 10.1007/s40572-014-0021-0

Adar SD, Filigrana PA, Clements N, Peel JL. Ambient coarse particulate matter and human health: a systematic review and meta-analysis. Current Environmental Health Reports. 2014; 3:258-274.

Clark ML, Reynolds SJ, Hendrikson E, Peel JL. Asthma prevalence and risk factor assessment of an underserved and primarily Latino child population in Colorado. Journal of Environmental Health 2014; 76:8-16.

Clements N, Jana B. Milford JB , Miller SL, Navidi W, Peel JL, Hannigan MP. Errors in coarse particulate matter mass concentrations and spatiotemporal characteristics when using subtraction estimation methods, Journal of the Air & Waste Management Association, 2013; 63:12, 1386-1398, DOI:10.1080/10962247.2013.816643

Whitesell M, Bachand A, Peel J, Brown M. "Familial, Social, and Individual Factors Contributing to Risk for Adolescent Substance Use." Journal of Addiction 2013, http://dx.doi.org/10.1155/2013/579310.

Peer-Reviewed Articles (Continued):

Clements N, Eav J, Xie M, Hannigan MP, Miller SP, Navid W, Peel JL, Schauer J, Shafer M, Milford JB. Concentrations and Source Insights for Trace Elements in Fine and Coarse Particulate Matter in Northeastern Colorado. In press, Atmospheric Environ, 2013.

Clark ML, Peel JL, Balakrishnan K, Balbus J, Breysse P, Chillrud S, Naeher L, Rodes C, Vette A. Household Air Pollution Related to Solid Fuel Use and Health: The Need for Improved Exposure Assessment. Environmental Health Perspectives, 2013 DOI:10.1289/ehp.1206429.

Kim S-Y, Vedal S, Peel JL, Hannigan MP, Dutton SJ, Sheppard L. The impact of the frequency of particulate matter species monitoring on mortality and hospitalization effect estimates in time series studies. J Exposure Science Environ Epidemiol doi:10.1038/jes.2013.28. 2013.

Clark ML, Bachand AM, Heiderscheidt JM, Yoder SA, Luna B, Volckens J, Koehler KA, Conway S, Reynolds SJ, Peel JL. Impact of a cleaner-burning cookstove intervention on blood pressure in Nicaraguan women. Indoor Air 2013; 23: 105-114.

Xie, M, Piedrahita, R, Dutton, SJ, Milford, JB, Hemann, JG, Miller, SL, Peel, JL, Kim, SY, Vedal, S, Sheppard, L, Hannigan, MP. Positive matrix factorization of a 32-month series of daily PM2.5 speciation data with incorporation of temperature stratification. *Atmospheric Environment*, 2013; 65: 11-20.

Xie, M, Coons, TL, Hemann, JG, Dutton, SJ, Milford, JB, Miller, SL, Peel, JL, Kim, SY, Vedal, S, Sheppard, L, Hannigan, MP. Intra-urban spatial variability and uncertainty assessment of PM2.5 sources based on carbonaceous species. *Atmospheric Environment*, 2012; 60:305-315.

Xie, M, Hannigan, MP, Dutton, SJ, Milford, JB, Hemann, JG, Miller, SL, Schauer, JJ, Peel, JL, Vedal, S. Positive matrix factorization of PM2.5 – comparison and implications of using different speciation data sets. *Environmental Science& Technology*, 2012; 46: 11962-11970.

Xie, M, Coons, TL, Dutton, SJ, Milford, JB, Miller, SL, Peel, JL, Vedal, S, Hannigan, MP. Intra-urban spatial variability of PM2.5-bound carbonaceous components. *Atmospheric Environment*, 2012; 60: 486-494.

Davidson EA, David MB, Galloway JN, Goodale CL, Haeuber R, Harrison J, Howarth RW, Jaynes DB, Lowrance RR, Nolan BT, Peel JL, Pinder RW, Porter E, Snyder CS, Townsend AR, Ward MH. Excess Nitrogen in the U.S. Environment: Trends, Risks, and Solutions, Issues in Ecology, 2012: Report Number 15.

Peel JL, Haueber R, Garcia V, Russell AG, Neas LM. Impact of nitrogen and climate change interactions on ambient air pollution and human health. Biogeochemistry, 2012 DOI 10.1007/s10533-012-9782-4

Kim S-Y, Vedal S, Peel JL, Hannigan MP, Dutton SJ, Sheppard L. Lag structure of the associations between PM2.5 components and hospitalization in Denver. Environmental Health Perspectives, 2012: doi:10.1289/ehp.1104721.

Clements N, Piedrahita R, Ortega J, Peel JL, Hannigan M, Miller SL, Milford JB. Characterization and Nonparametric Regression of Rural and Urban Coarse Particulate Matter Mass Concentrations in Northeastern Colorado. Aerosol, Science, and Technology 46:108–123, 2012

Peer-Reviewed Articles (Continued):

*Peel JL, Tolbert PE., Klein M, Metzger KB, Flanders WD, Mulholland JA, Freed G. Ambient air pollution and cardiorespiratory events in high-risk infants on home monitors. Environmental Health Perspectives 2011; 119:1321–1327.

* Selected by editors to be highlighted in EHP's Science Selections

Clark ML, Bazemore H, Reynolds SJ, Volckens J, Heiderscheidt J, Conway S, Peel JL. Baseline assessment of indoor air pollution and health status among Nicaragua women using indoor biomass stoves. International Journal of Occupational & Environmental Health, 2011; 17:113-121

*Smith KR, Peel JL. Mind the Gap. Environmental Health Perspectives 2010 doi: 10.1289/ehp.1002517.

* Selected by editors to be highlighted in EHP's Science Selections

Heuscher, Z., Gilkey, D., Peel, J., Kennedy, C. The Association of self-reported backpack use and backpack weight with low back pain among college students. Journal of Manipulative and Physiological Therapeutics 2010; 33:432-437.

Gilkey DP, Keefe TJ, Peel JL, Kassab, OM, Kennedy CA. Risk factors associated with back pain: a cross-sectional study of 963 college students.J Manipulative Physiol Ther 2010; 33: 88-95.

Peel JL, Klein M, Flanders WD, Mulholland JA, Tolbert PE. 2010. Impact of Improved Air Quality During the 1996 Summer Olympic Games in Atlanta on Multiple Cardiovascular and Respiratory Outcomes. HEI Research Report 148. Health Effects Institute, Boston, MA.

Clark ML, Reynolds SJ, Burch JB, Conway S, Bachand AM, Peel JL. Indoor air pollution, cookstove quality, and housing characteristics in two Honduran communities. Environmental Research 2010; 110:12-18.

Clark ML, Peel JL, Burch JB, Nelson TL, Robinson MM, Conway S, Bachand AM, Reynolds SJ. Impact of improved cookstoves on indoor air pollution and adverse health effects among Honduran women. International Journal of Environmental Health Research, Advance Access, August 2009; DOI: 10.1080/09603120902842705.

Donovan, RM, Nelson TL, Peel JL, Lipsey TL, Voyles W, Israel RG. C-reactive protein and the metabolic syndrome are inversely associated with cardiorespiratory fitness in firefighters. Journal of Occupational Medicine, Advance Access, July 2009; doi:10.1093/occmed/kqp095.

Tolbert PE, Klein M, Peel JL, Sarnat, SE, Sarnat JA. Multipollutant modeling issues in a study of ambient air quality and emergency department visits in Atlanta. J Exp Sci Environ Epidemiol 2007;17:S29-S35.

Metzger KB, Klein M, Flanders WD, Peel JL, Mulholland. JA, Langberg JJ, Tolbert PE. Ambient air pollution and tachyarrhythmic events in patients with implantable cardioverter defibrillators. Epidemiology 2007;18(5):585-92.

Peel JL, Metzger KB, Klein M, Flanders WD, Mulholland JA, Tolbert PE. Ambient air pollution and cardiovascular emergency department visits in potentially sensitive populations. American Journal of Epidemiology, 2007;165:625-633.

Peer-Reviewed Articles (Continued):

Wade KS, Mulholland JA, Marmur A, Russell AG, Hartsell B, Edgerton E, Klein M, Waller L, Peel JL, Tolbert PE. Effects of Instrument Precision and Spatial Variability on the Assessment of the Temporal Variation of Ambient Air Pollution in Atlanta, Georgia. J Air Waste Management Assoc. 2006;56:876-888.

Peel JL, Tolbert PE, Klein M, Metzger K, Flanders WD, Todd K, Mulholland J, Ryan PB, Frumkin H. Ambient air pollution and respiratory emergency department visits. Epidemiology 2005;16: 164-174.

Metzger KB, Tolbert PE, Klein M, Peel JL, Flanders WD, Todd K, Mulholland JA, Ryan PB, Frumkin, H Ambient air pollution and cardiovascular emergency department visits. Epidemiology 2004;15: 46-56.

Baker DW, Gazmararian JA, Williams MV, Scott T, Parker RM, Green D, Ren J, Peel J. Health literacy and use of outpatient physician services by Medicare managed care enrollees. J Gen Intern Med 2004;19:215-20.

Gazmararian JA, Williams MW, Baker DW, Peel J. Health literacy and patient knowledge of chronic diseases. Patient Education and counseling. 2003;51: 267-75.

Baker DW, Gazmararian JA, Williams MV, Scott T, Parker RM, Green D, Ren J, Peel J. Functional health literacy and the risk of hospital admission among Medicare managed care enrollees. American Journal of Public Health 2002;92: 1278-1283.

Waller EK, Rosenthal H, Jones TW, Peel J, Lonial S, Langston A, Redel I, Jurickova I, Boyer MW. Larger numbers of $CD4^{bright}$ dendritic cells in donor bone marrow are associated with increased relapse after allogeneic bone marrow transplantation. Blood 2001;97:2948-2956.

Tolbert PE, Klein M, Metzger KB, Peel J, Flanders WD, Todd K, Mulholland JA, Ryan PB, Frumkin H. Interim results of the Study of Particulates and Health in Atlanta (SOPHIA). Journal of Exposure Analysis and Environmental Epidemiology 2000; 20:446-460.

Other Publications

Health Effects Institute, 2010. Proceedings of an HEI Workshop on Further Research to Assess the Health Impacts of Actions Taken to Improve Air Quality. Communication 15. Health Effects Institute, Boston, MA (contributor)

V. SERVICE ACTIVITIES AND PROFESSIONAL AWARDS

PROFESSIONAL AWARDS:

Delta Omega National Honorary Society in Public Health (Alpha Upsilon Chapter)	5/2010 - present
Environmental Health Student Association Outstanding Professor Award	5/2009
Environmental Health Student Association Outstanding Internship Site Award	5/2009
Nominated, CSU, Popular Science Brilliant 10	6/2008

SERVICE ACTIVITIES:

Department, College, and University Service:

Faculty Search Committee Chair, Epidemiology (2 positions) 5/2015 – present
Department of Environmental and Radiological Health Sciences, Colorado State University

CSU IRB ad hoc member 8/2015 – present

Department, College, and University Service (continued):

CSU IRB Coordinator Search Committee 5/2014 – 7/2014

ERHS Promotion and Tenure Committee 8/2013 – present

CSU Conflict of Interest Committee 8/2012 – present

College Research Council committee member 8/2011 – 8/2015
College of Veterinary Medicine and Biomedical Sciences, Colorado State University

Faculty Search Committee Chair, Epidemiology (2 positions) 8/2011 – 8/2013
Department of Environmental and Radiological Health Sciences, Colorado State University

Colorado School of Public Health admissions committee 1/2011 – 12/2015

Epidemiology Section Head 7/2010 – present
Department of Environmental and Radiological Health Sciences, Colorado State University

Invited speaker, The International Cookstove Program. Colorado State University 9/2009
International Colloquium on Global Challenges for Sustainability. Fort Collins, CO

Colorado School of Public Health Faculty Senate 6/2009 – 8/2012

Colorado School of Public Health CEPH Self Study Committee (Faculty Affairs) 6/2009 – 5/2010

ACCESS Faculty Development Project 3/2009 – 5/2009
College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO

Faculty Search Committee, Health Physicist 4/2009 – 3/2010
Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO

Undergraduate Education Committee 8/2004 – 12/2015
Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO

Graduate Education Committee 1/2009 – 7/2009
Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO

Celebrate Undergraduate Research Conference Judge 04/2008 –4/ 2011
Colorado State University

Department, College, and University Service (continued):

Faculty Search Committee Chair, Cancer Epidemiologist 9/2007 – 7/2008
Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO

Faculty Search Committee Member, Department Head 9/2007 – 7/2008
Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO

Academic Programs Committee Representative 2/2005 – 12/2006
College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO
Web Design Committee 1/2005 – present
Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO

Faculty Search Committee, Industrial Hygiene 1/2005 – 6/2005
Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO

Women's Studies Project on Teaching, Curriculum and Scholarship 11/2005 – 5/2006
Colorado State University, Fort Collins, CO

Faculty Advisory Committee 8/2004 – present
Food Science and Safety Interdisciplinary Studies Minor, Colorado State University, Fort Collins, CO

Local and State Service:

Invited speaker, Natural Gas Symposium, Colorado School of Public Health, Denver 6/2014

Expert testimony, Health Effects of Carbon Monoxide, Colorado Ethanol 7/2009
Group for the Colorado Air Quality Control Commission Hearing on
Oxygenated Fuels

Invited speaker, City of Fort Collins “Air Quality Report the Community” 7/2007

Abstract Reviewer 7/2006 – present
Colorado Public Health Association Conference

State Health Department Lecture Series 5/2003
Epidemiology Branch, Division of Public Health, Georgia Department of Human Resources, Atlanta, GA

National and International Service:

Invited co-chair, Health Effects Institute Annual Meeting, Arlington, VA 4/2017

Health Effects Institute Review Committee 8/2016 – present

Invited external reviewer, University of Rochester proposed MS program 5/2015
in Epidemiology

Session chair, Society for Epidemiologic Research Annual Meeting, Denver, CO 6/2015

National and International Service (continued):

Invited external examiner, Doctor of Philosophy in Occupational and Environmental Hygiene, University of British Columbia, Vancouver, British Columbia	5/2015
Invited speaker, Health Effects Insitute Annual Meeting, Philadelphia, PA	5/2015
Invited speaker, University of British Columbia Institute for Heart+Lung Health Research FEST 2015	3/2015
Invited speaker, British Columbia Lung Association	3/2015
Invited session chair, Health Effects Insitute Annual Meeting, San Francisco, CA	4/2013
Invited panelist, US Environmental Protection Agency PM Policy Workshop	1/2013
Invited keynote speaker, National Air Quality Conference, US EPA, Denver, CO	5/2012
Member, Scientific Planning Committee, International Society for Environmental Epidemiology Annual Meeting	2012, 2013
National Institutes of Health Indoor Air Pollution Exposure and Biomarker Working Group	5/2011 – 8/2013
Reviewer, National Particle and Component Toxicity projects, Health Effects Institute	5/2011 – 8/2013
Steering Committee, NSF Research Coordination Network on Reactive Nitrogen in the Biosphere	6/2010 – 2015
Invited panelist, US Environmental Protection Agency Multipollutant Workshop	2010
Invited speaker, Health Effects Insitute Grant Review Meeting, Washington, DC	1/2010
Invited speaker, Health Effects Insitute Accountability Workshop. Boston, MA	10/2009
Invited speaker, The Health Effects of Ambient Air Pollution. Health and Community Impacts of Intermodal Railyards and Distribution Centers Community Meeting. Gardener, Kansas	8/2009
Invited speaker, British Columbia Environmental and Occupational Health Research Network Spring Workshop: Developing Research Opportunities Around the 2010 Games: Focus on Public Health and Environmental Sustainability, Vancouver, British Columbia	5/2009
Invited speaker, Impact of Improved Air Quality During the 1996 Atlanta Olympic Games on Multiple Cardiorespiratory Outcomes. Health Effects Institute Annual Meeting, Portland, OR	4/2009

National and International Service (continued):

Associate Editor, *Environmental Health Perspectives*	5/2009 – present
Invited Speaker, 24th Annual Clean Air Conference Boulder, Colorado	9/2008
Editorial Board, *Environmental Health Perspectives*	2/2008 – 5/2009
Expert writer, US EPA CO Integrated Science Assessment	6/2008 – 2013
Expert writer, US EPA Ozone Integrated Science Assessment	5/2009 – 2013
Invited panel member, US EPA PM Health Effects Workshop, Durham, NC	6/2008
Invited panel member, US EPA NO_x / SO_x Health Effects Workshop, Durham, NC	2/2007
Invited panel member, US EPA CO Health Effects Workshop, Durham, NC,	1/2008
Invited reviewer, National Research Council report, *Estimating Ozone Mortality Risk Reduction Benefits of Air Pollution Regulations*	1/2008
Abstract Reviewer Society for Epidemiologic Research Annual Conference	2/2007 – present
Mentoring Committee (Liaison to Communications Committee) American College of Epidemiology Developed proposal for mentoring award; organized session for 2007 annual meeting	10/2006 – 8/2013

Journal reviewer
Journal of the American Medical Association, The Lancet, Epidemiology, American Journal of Epidemiology, Environmental Health Perspectives, ES&T, Environment International, Indoor Air, Environmental Research, American Journal of Respiratory and Critical Care Medicine, Chest, Australian and New Zealand Journal of Public Health, BMC Public Health, International Journal of Biometeorology, Atmosphere, Atmosphere and Environment, Science of the Total Environment, International Journal of Environmental Research in Public Health, PLOS One

Grant Review Service:

NIEHS ONES review	7/2015, 7/2016
Health Effects Institute, Enhancing near-road exposure assessment through Characterization of non-tailpipe and tailpipe emissions near urban roads and in tunnels	6/2014
NIEHS Environmental Health Sciences Center Grant review committee (T32, P30), standing member	2013 – present
US EPA Tribal Health STAR review committee	2013

Grant Review Service (Continued):

US EPA STAR graduate fellowship review committee	2013
NIEHS P30 reviewer, Ad Hoc	2013
NIH Study Section Ad Hoc Member, Infectious Disease, Respiratory, and Pregnancy (IRAP)	2012 – present
External Reviewer, Internal Projects, NIEHS	2012
External Reviewer, Pilot Projects, Harvard School of Public Health	2011, 2016
National Institutes of Health (NIEHS) Children's Environmental Health Center Review Committee (P01 and P20 reviews)	7/2009

VI. PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

American Association of Aerosol Research
- Conference Platform Session Co-Chair, 2010 Health Effects meeting

American College of Epidemiology (Mentoring Committee; Liaison to the Communications Committee)

International Society for Environmental Epidemiology
- Scientific Planning Committee, 2012, 2013
- Symposium Organizer, 2012 Annual Meeting
- Conference Oral Symposium Co-Chair, 2009, 2012, 2013
- Invited Speaker, New Researchers Network Workshop, 2009 Annual Meeting

Society for Epidemiologic Research

Gregory C. Peters

(b) (6)

Current Employment

March 2017-present	Tallahassee Memorial Hospital, Tallahassee, FL **Emergency Medicine Services Assistant Medical Director**
July 2014-present	Tallahassee Memorial Hospital, Tallahassee, FL **Emergency Medicine Physician**
July 2014-present	Florida State University College of Medicine, Tallahassee, FL **Teaching Faculty (Emergency Medicine), Department of Clinical Sciences**

Education

2011-2014	Wake Forest Baptist Medical Center, Winston-Salem, NC **Emergency Medicine Resident** **Chief Resident, 2013-2014**
2007-2011	Florida State University College of Medicine, Tallahassee, FL **Doctor of Medicine, May 2011**
2003-2007	University of Notre Dame, South Bend, IN **Bachelor of Science-Biology and Political Science (Double Major)** Member of University of Notre Dame Honors Program

Liscensure

June 2009	USMLE Step 1
June 2010	USMLE Step 2 Clinical Skills
July 2010	USMLE Step 2 Clinical Knowledge
March 2012	USMLE Step 3
January 2014	State of Florida, Licensed physician
October 2015	**Board Certified Emergency Medicine Physician (ACEP)**

Volunteer Activities

2015-present	Bradfordville First Baptist Church Manna Ministries, Tallahassee, FL • Deliver food to many of the hungry and starving in the Tallahassee area
2008-2009	Neighborhood Health Services Clinic, Tallahassee, FL • Served with FSU faculty providing ambulatory care at clinic for uninsured
July 2008	Camp Boggy Creek, Eustis, Fl • Counselor to a group of adolescent boys with HIV/AIDS at a camp designed for children with chronic and life-threatening illnesses

2006-2007 Indiana Health Center, South Bend, IN
- Volunteered in waiting room, served as a medical assistant, and shadowed physicians at a clinic for the uninsured

Previous Employment

2006-2007 Resident Assistant of St. Edward's Hall, South Bend, IN
- Served as role-model, counselor, advisor, and event organizer to other students in dorm; responsible for nurturing a safe, fun environment for everyone who lived in the dorm

June-August 2006 Head Camp Counselor of Serendipity Racquet Club Tennis and Sports Camp
- Oversaw all camp counselors and ensured the other counselors had the correct campers and were taking part in the correct activities; also worked as a camp counselor of children (ages 6-12); this included playing various sports with the campers

Research Experience

May-July 2005 University of Notre Dame Research Center
Dr. Karen Francl, PhD, Land O'Lakes, WI
- Researched aquatic ecology, forest ecology, invertebrate ecology, and vertebrate ecology, with a focus on various small mammal densities as they relate to different tree species compositions.

Organizations and Activities

2015-present	Bradfordville First Baptist Church Finance Committee
2015	Bradfordville First Baptist Church Newborn Nursery Committee
2011-2014	Emergency Medicine Residents' Association
2011-2014	American College of Emergency Physicians
2009-2011	Escambia County Medical Society
2008-2009	FSU College of Medicine Intramural Sports Commissioner
2007-2009	Wilderness Medical Society, treasurer
2007-2009	Emergency Medicine Interest Group
2007-2009	Surgery Interest Group
2007-2009	Christian Medical Association
2005-2007	St. Edward's Hall Athletic Commissioner

Awards

2011 Excellence in Emergency Medicine Award, FSU College of Medicine
- "To the student who has demonstrated excellence in the specialty of Emergency Medicine"

2007 Hall Spirit Award, University of Notre Dame

- Peer-voted award given to senior in dorm who best exemplifies the "Notre Dame Spirit"

Personal Interests

My faith, wife and children, tennis, golf, running, hiking, kayaking, camping, traveling, FSU athletics, and attending sporting events

CURRICULUM VITAE (August, 2017)
Robert F. Phalen, Ph.D.

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University of California, Irvine, CA 92697-1825
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Email: rfphalen@uci.edu

(b) (6)
[redacted]

EDUCATION:

1959-1964: San Diego State College. Bachelor's degree in Physics with Mathematics minor. Senior project: Digital Autocorrelation (Signal and Noise Separation). Recipient of American Legion Scholarship.
1964-1966: San Diego State University, Master's Degree in Physics with nuclear emphasis. Thesis: Removal of Silver 110-m from the Lungs. Recipient of Teaching Assistantship.
1966-1972: University of Rochester, Rochester, NY, Ph.D. in Radiation Biology and Biophysics, with research in aerosol physics and inhalation toxicology. Thesis: Aerosol and Inhalation Studies with Sub-micron Silver Agglomerates. Recipient of National Defense Education Act and U.S. Atomic Energy Commission Fellowships.
1972-1974: Aerosol Physics Department, The Lovelace Foundation for Medical Education and Research, (re-named, Lovelace Respiratory Research Institute) Albuquerque, NM. Research Associate (NIEHS, postdoctoral training in lung modeling).

PROFESSIONAL EXPERIENCE:

July 2008 - Present: Professor, Department of Medicine/Ctr. for Occup. & Envir. Health; Co-Director Air Pollution Health Effects Laboratory, University of California, Irvine.
July 1985-June 2008: Director, Air Pollution Health Effects Laboratory; Professor of Occupational and Environmental Health, Centers for Occupational and Environmental Health, University of California, Irvine, and University of California, Los Angeles.
November 1974-June 1985: Adjunct Assistant Professor, Assistant Professor in Residence (July 1977), Associate Professor in Residence (July 1978), Professor in Residence (July 1984), Department of Community and Environmental Medicine, University of California, Irvine - Director, Air Pollution Health Effects Laboratory.
1970-1972: Summer Faculty, Biology Department, Rochester Institute of Technology, Rochester, NY - Taught Radiation Biology (lecture and lab).
1966: Instructor, Physics Department, San Diego State University, San Diego, CA - Taught Radiological Physics (graduate) and Basic Physics (nursing students) - Supervised student research on aerosols.
1964-1966: Assistant to Radiation Safety Officer, and Laboratory Teaching Assistant, Physics Department, San Diego State University.
1962-1963: Engineering Aide, Advanced Space Systems Engineering Department, General Dynamics/Astronautics, San Diego, CA - Digital and Analog computer programmer, missile and spacecraft applications.

RESEARCH:

Application of quantitative tools to biomedical problems:
1. Lung injury from inhaled aerosol/gas combinations
2. Highly concentrated aerosols: properties and deposition in the respiratory tract
3. Respiratory tract aerosol dosimetry models
4. Comparative respiratory tract anatomy in young and adult humans and laboratory animals
5. Laboratory generation and characterization of aerosols.
6. Health effects of air pollutant particles

TEACHING AND TRAINING (Examples Only):

Developed and co-taught a 4-unit upper division/graduate level course, Air Pollution Aerosol Technology (ME264), UCI School of Engineering.
Developed, and co-taught a 3-unit course, Environmental Toxicology, C&E Medicine 492.41, UCI Extension.
Developed and taught a 4-unit graduate course, Inhalation Toxicology, TOX 212, UCI.
Developed and taught Environmental Toxicology, Didactics to Occupational Medicine Residents, UCI.
Contributed sections or lectures to the following courses:
"The Lung," for Target Organ Toxicology, TOX 206.
"Experimental Design," for TOX 207, Statistical Design and Interpretation of Toxicology Studies.
"Animal Research Ethics" for Biological Sciences Bio-Sci 30, Biomedical Ethics.
"Air Pollution," for Social Ecology 5X, Introduction to Environmental Quality and Health.
"Toxicity of Gases," for segment on environmental toxicology, Medical Pharmacology 241A, B, Graduate Program in Pharmacology and Toxicology.
Community and Environmental Medicine, core medical school course, lectures (2 hours) in segment on occupational medicine.
"Deposition and Clearance of Inhaled Particles," for Introduction to Occupational Disease course (CEM X491.02), Occupational Medicine Residency Program, Department of Community and Environmental Medicine.
"Air Sampling," for Industrial Hygiene course (CEM X491.03), Occupational Medicine Residency Program, Department of Community and Environmental Medicine; Occupational Health Nursing Certificate Program, UCI Extension.
“Particulate Air Pollution” for Envir. Epidemiology course, E249, UCI.
Participation in supervising graduate student research projects performed in fulfillment of M.S. and Ph.D. requirements, UCI College of Medicine, Schools of Engineering and Physical Sciences (Chemistry), UCI and Department of Pharmacology and Toxicology, UCSF Medical School and MD/Ph.D. program, UCI Department of Physiology, UCI Environmental Toxicology, San Diego State University, and UCLA School of Public Health.
Graduate Advisor: R. Dendo (M.S. 1995), E. Moline (M.S. 1998), M. Oldham (Ph.D. 2001), Dr. T. Lam (M.S. 2005), Dr. J.Y. Chuang (M.S. 2011), Dr. Michael Sracic (M.S. 2013).

PROFESSIONAL MEMBERSHIPS:

Academy of Toxicological Sciences (Fellow, 1999 to present)
American Association for the Advancement of Science (1969 to 2006 & 2009-present) (Fellow, 2012)
American Association for Aerosol Research (charter member, 1982 to present), elected to Board of Directors (1999)
American Conference of Governmental Industrial Hygienists (1982 to present)
American Industrial Hygiene Association (1977 to present)
American Industrial Hygiene Association, Yuma-Pacific Southwest Section (2000-present)
British Occupational Hygiene Society (1991 to 2007)
California Society for Biomedical Research (Board of Directors, 2008-present, Board Chair, 2012-present)
Fine Particle Society (1983 to 1993)
Gesellschaft fur Aerosolforschung (Society for Aerosol Research) (1973 to present)
Health Physics Society (1973 to 2013)

International Society for Aerosols in Medicine (1994-2012)
Society of Toxicology (1981 to present) (Career Achievement Award recipient, 2000)
Southern CA Institutional Review Board Chairmen's Association (1980 to 1986)
Southern CA Academy of Sciences (1994-present); elected to Executive Cte. (1996-2001) (elected Fellow, 2008-present)
The Aerosol Society (2008-2012)
The Hormesis Society (Charter member, 2005-2007)

SERVICE TO SCHOLARLY JOURNALS AND PROFESSIONAL SOCIETIES
Reviewer (* = Editorial Service):

Aerosol and Air Quality Research
*Aerosol Science and Technology (Health Editor 2003-2005)
American Association for Aerosol Research, (Elected to Board of Directors 1999-2003)
American Review of Respiratory Disease
American Industrial Hygiene Association Journal
American Conference of Governmental Hygienists (Chair of Air Sampling Committee, 1982-1989)
*Applied Occupational and Environmental Hygiene (Guest Editor for 1998 special edition)
Bulletin of Mathematical Biology
Critical Reviews in Toxicology
Environmental Health Perspectives
Environmental Toxicology
*Experimental Lung Research (Editorial Board Member 1980-1983)
*Fundamental and Applied Toxicology (Editorial Board Member 1986-1992)
*Inhalation Toxicology (Editorial Board Member 1989-2001; Associate Editor 2001-2004)
*Inhalation Toxicology (Guest Editor, 1995, 2000, 2004, 2006, accepted for 2015)
International Commission on Radiological Protection (advisor)
Journal of the American College of Toxicology
Journal of Toxicology and Environmental Health
*Journal of Aerosol Medicine (Editorial Board Member 1988-1998)
Journal of Toxicology and Applied Pharmacology
*Journal of Aerosol Science
Nanomedicine
National Geographic Society (reviewer)
National Council on Radiation Protection and Measurements (Committee on Respiratory Tract Dosimetry Modeling)
Proc. of the National Academy of Sciences
Science
Toxicological Sciences
Society of Toxicology, National Media Resource Specialist, 1998-2012

Session Chairman or Co-Chairman: (Examples Only)

American Industrial Hygiene Association Annual Conference, 1981, 1985, 1986
Society of Toxicology 20th Annual Meeting, San Diego, 1981
American Chemical Society Congress, Hawaii, 1979
Aerosol Technology Meeting, Albuquerque, 1983, Pacific Grove, 1986
American Association for Aerosol Research Ann. Mtg, 1985, 1995, 1996, 1997, 1998-2002
American Conference of Governmental Hygienists, Air Sampling Symposium, 1987
International Inhaled Particles Symposium, 1991, 1996
Colloquium on Particulate Material and Human Health, Colloquium Director/Program Chair, 1994, 1996, 1999, 2003
Fourth International Aerosol Conference, Los Angeles, 1994
Susceptibility Factors for Respiratory Diseases, Session Chair, 2000
Frontiers in Aerosol Dosimetry Research, Program Chair, Session Chair, Irvine, CA 2005
Air Pollution and Health (AAAR/EPA), Planning Cte., San Diego, CA, 2010
Aerosol Dosimetry Conference, Chair of Program Committee, Irvine, CA 2014

California Biomedical Research Assn., Session Chair, San Diego CA, 2016

SERVICE TO EDUCATIONAL/GOVERNMENTAL AGENCIES:

NIH Safety and Occupational Health Study Section, 1988 to 1990 (Chairman)
NIH Special Study Sections, 1980, 1981 (Chairman), 1982 (Chairman), 1983, 1984, 1987, 1988 (Chairman), 1992, 1994
NIH and NIEHS Site Visit Teams, 1980-1984, 1988, 1992, 1994-1996, 2000, 2001
National Academy of Sciences/NRC, Report Reviewer/Commentator,1998, 1999, 2000, 2002, 2003
National Academy of Sciences/NRC, Member, Committee on Animal Models for Testing Interventions Against Aerosolized Bioterrorism Agents, 2005-2006
FDA, Symposium on Juvenile Animal Models, 1998
National Council on Radiation Protection - Task Group on Respiratory Tract Model, 1978 to 1998
American Public Health Association - Advisory Panel on Asbestos, 1978
American Conference of Governmental Industrial Hygienists, Committee on Atmospheric Sampling, (Chairman 1982-1987, Member 1987-1992, Consultant 1996-present).
NIOSH Special Study Section on Respiratory Protective Devices (Chairman), 1983
NIOSH Site Visits to Educational Resource Centers, 1994, 1995
NIOSH Planning Group on Mixed Exposures, 2005
Panelist, National Heart, Lung and Blood Institute Workshop on "Comparative Biology of the Lung," June 1982, Bethesda, MD
EPA Inhalation Toxicology Division Peer Review Panel, 1982
EPA, Session Chair, Workshop on Pulmonary Dosimetry Models, July, 1983
EPA Invited Participant, Workshop on Non-Oncogenic Lung Disease, March, 1984
EPA, Grants Research Science Review Panel on Health Research, 1985 to 1988
EPA Ozone Criteria Document Reviewer, 1993
EPA PM10 Criteria Document Reviewer, 1995, 1996; Advisor on Research Priorities, 1997
EPA PM Criteria Document, Section Author, 2003
EPA, Clean Air Scientific Advisory Committee-PM, 2007-2013
EPA, Technical Steering Committee for 2010 Conference on air pollution
EPA, Science and Technological Achievement Award (Honorable Mention), 2015.
South Coast Air Quality Management District (AQMD), Testimony on Abatement Plan, December 2012.
California Biomedical Research Association 1994 Distinguished Service Award for Public Education
Health Effects Institute; site visit teams 1998, 1999
Institute of Medicine, Tutorial on Inhaled Tobacco Smoke, 2000
Southern California Academy of Sciences; Elected to Board of Directors 1994-2001
Science Advisor for Prentice Day School (for dyslexic children), 1986 to 2005
California Society for Biomedical Research, Public Outreach & Education Award, May 2013.

UNIVERSITY SERVICE: (UCI = University of California, Irvine)

UCI, Speaker's Bureau, 1974-present.
UCI, Human Subjects Policy Committee, 1978-1986.
UCI, Human Subjects Review Committee-Medical (Chairman), 1978-1986.
UCI, BioSciences Honors Committee, 1979-1985.
UCI, Animal Research Committee, 1985-1994, Vice Chair: 1999-2004.
UCI, Co-Chair Cardiopulmonary Task Force, 1988-1990.
UCI, Safety & Security Advisory Committee, 1989-present.
University of California, Office of the President, Health Sciences Committee, 1991-1997.
Special Assistant to Vice Chancellor for Animal Research Services, 1992-1993.
UCI Center for Occupational and Environmental Health Advisory Committee, 1994-1998.
UC, Toxic Substances Research and Teaching Program Executive Committee, 1994-1999.

University of California, Los Angeles, COEH Executive Committee, 1999-2004.
University of Rochester, Rochester, NY, PM Center Science Advisory Committee, 1999-2005.
UCI, Organized Research Unit "Air UCI", 2009-present.
UCI, Continuing Medical Education Committee, 2011-present; Elected as Chair, 2015.
UCI, School of Medicine Executive Committee, 2015-present.

PUBLICATIONS (BOOKS AND PROCEEDINGS) (* = Sole authored or sole edited):

* 1. Phalen, R.F. Inhalation Studies: Foundations and Techniques, C.R.C. Press, Boca Raton, FL, 1984, 277 pp.
2. Phalen, R.F. (ed.), Hinds, W.C., John, W., Lioy, P.J., Lippmann, M. McCawley, M.A., Raabe, O.G., Soderholm, S.C. and Stuart, B.O. Particle Size-Selective Sampling in the Workplace, Report of the Air Sampling Procedures Committee, American Conference of Governmental Industrial Hygienists, Cincinnati, OH, 1985, 80 pp.
3. John, W., Phalen, R.F., Bowman, J.D., Lewis, R.G., Lioy, P.J., Raabe, D.G., Ratney, R.S., and Stuart, B.O., Advances in Air Sampling (Proceedings of a Conference) Lewis Publishers, Chelsea, 1988, 409 pp.
4. Phalen, R.F., Mannix, R.C. Kleinman, M.T. and Tonini, M.C. (eds.), Proceedings of the Colloquium on Particulate Air Pollution and Human Mortality and Morbidity, Air Pollution and Human Mortality and Morbidity, Air Pollution Health Effects Laboratory, University of California, Irvine, CA, 1995, 725 pp.
5. Lee, J.S. and Phalen, R.F. (eds.), Proceedings of the Second Colloquium on Particulate Air Pollution and Human Health, Rocky Mountain Center for Occupational and Environmental Health, University of Utah, Salt Lake City, UT, 1996, 800 pp.
* 6. Phalen, R.F. (ed.). Methods in Inhalation Toxicology, CRC Press, Boca Raton, FL, 1997, 156 pp.
7. Cuddihy, R.G., Fisher, G.L., Kanapilly, G.M., Moss, O.R., Phalen, R.F., Schlesinger, R.B. and Swift, D.L. Deposition, Retention and Dosimetry of Inhaled Radioactive Substances, National Council on Radiation Protection and Measurements, Bethesda, MD, 1997, 253 pp.
8. Phalen, R.F. and Bell, Y.M. (eds.), Proceedings of the Third Colloquium on Particulate Air Pollution and Human Health, Air Pollution Health Effects Laboratory (APHEL Report No. 99-01), University of California, Irvine, CA, October, 1999, 545 pp.
* 9. Phalen, R.F., The Particulate Air Pollution Controversy, Kluwer Academic Publishers, Boston/Dordrecht/London, 2002, 128 pp. (2013 released as paperback)
10. Phalen, R., Oldham, M., Akhavan, S., Hoover, M., and Asotra, K. (eds.), Frontiers in Aerosol Dosimetry Research: Proceedings of the Conference, Air Pollution Health Effects Laboratory (APHEL Report No. 06-01), University of California, Irvine, CA, June 2006, 223 pp.
11. Hobbs, C.H., Dorman, D.C., Griffin, D.E., Harkema, J.R., Laube, B.L., Lenz, D.E., Morse, S.S. and Phalen, R.F., Overcoming Challenges to Develop Countermeasures Against Aerosolized Bioterrorism Agents, National Research Council, Washington DC, 2006, 71 pp.
*12. Phalen, R.F., Inhalation Studies: Foundations and Techniques, 2nd Edn, Informa, New York, NY, 2009, 264 pp.
13. Phalen, R.F. and Phalen, R.N., Introduction to Air Pollution Science: A Public Health Perspective, Jones and Bartlett, Burlington, MA, 2011, 331 pp.
*14. Core Ethics for Health Professionals: Principles, Issues, and Compliance, Springer Publishing Company, New York, NY, 2017, 160pp.
15. Hiatt, R.A., Bailer, J., Bascom, R., Churchill, L., Crump. K., Foster-Riley, M., Friedman, D.B., Gold, D., Goldfrank, L., Lane, N., Lippmann, M., Mittleman, M., Needleman, P., Phalen, R., and Shin, Hu., Controlled Human Inhalation – Expose studies at EPA, National Academies Press, Washington, DC, 2017, 141 pp.
16. Phalen, R.F., Owens Kimura, L., Herman, D.A., and MacMillan, A.C. (eds.) Advances in Inhaled Aerosol Dosimetry Research, Proceedings of a Conference, Air Pollution Health Effects Laboratory (APHEL Report No. 2016-01), University of California Irvine, 2017, 139 pp.

PUBLICATIONS (*= Peer reviewed):

1. Phalen, R.F. Aerosol and inhalation studies with sub-micron silver agglomerates. Ph.D. Thesis, University of Rochester, School of Medicine and Dentistry, Rochester, NY,1972, U.R. 3490.
*2. Phalen, R.F. Evaluation of an exploded-wire aerosol generator for use in inhalation studies. J. Aerosol Sci., 3:395-406, 1972.

*3. Phalen, R.F. and Morrow, P.E. Experimental inhalation of metallic silver. Health Physics, 24:509-518, 1973.
*4. Phalen, R.F., Yeh, H.C., Raabe, O.G. and Velasquez, D.J. Casting the lungs *in-situ*; Anat. Rec., 177:255-263, 1973.
*5. Phalen, R.F. Respiratory tract morphology: Summary of a conference, Bio. Sci., 24:612-614, 1974.
6. Phalen, R.F., Yeh, H.C., Raabe, O.G. and Velasquez, D.J. Selected References on Lung Airway Structure and the Deposition of Inhaled Particles (A Bibliography) LF-48, Lovelace Foundation, Albuquerque, New Mexico, 1974.
*7. Yeh, H.C., Hulbert, A., Phalen, R.F., Velasquez, D.J., Harris, T.D. A stereoradiographic technique and its application to evaluation of lung casts. Investig. Radiol., 10:351-357, 1975.
*8. Dungworth, D.L., Phalen, R.F., Schwartz, L. and Tyler, W. Morphological methods for evaluation to pulmonary toxicity in animals. Ann. Reviews of Pharm. and Toxicol., 16:381-401, 1976.
*9. Phalen, R.F. Inhalation exposure of animals, Envir. Health Perspect., 16:17-24, 1976.
*10. Yeh, H.C., Phalen, R.F. and Raabe, O.G. Factors influencing the deposition on inhaled particles. Envir. Health Perspect., 15:147-156, 1976.
11. Phalen, R.F., Cannon, W.C. and Esparza, D. Comparison of impaction centrifugal separation and electron microscopy for sizing cigarette smoke. Fine Particles (edited by B.Y.H. Liu), Academic Press, pp. 731-737, 1976.
*12. Raabe, O.G., Yeh, H.C., Newton, G.J., Phalen, R.F., Velasquez, D.J. Deposition of inhaled monodisperse aerosols in small rodents. Inhaled Particles IV, Pergamon Press, Oxford, (edited by W.H. Walton), pp. 3-21, 1977.
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*94. Phalen, R.F., What To Do When Your Research is Under Attack, Society of Toxicology 46th Annual Meeting, Charlotte, NC, March 2007.

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*97. Phalen, R.F., Species Differences in Respiratory Toxicity, S. Calif. Soc. Toxicol. Ann. Meeting, Thousand Oaks, CA, October, 2007.

*98. Phalen, R.F., Particulate Air Pollutants, Am. Coll. Allergy, Asthma & Immunol. Conference, Dallas, TX, November, 2007.

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*104. Phalen, R.F., Acceptance speech for Public Outreach & Education Award, Joint Annual Meeting of the California Biomedical Research Assoc., and the California Society for Biomedical Research, May 2013, San Francisco, CA.

105. Phalen, R.F., The deposition and fates of inhaled transport-related particulate material, Sustainable Goods Movement Symposium, Palm Springs, CA, November 21-22, 2013.

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107. Phalen, R.F., and Raabe, O.G., The evolution of inhaled particle deposition modeling, Conference: Advancing Aerosol Dosimetry Research, Irvine, CA, October 4-25, 2014.

*108. Phalen, R.F., Biomedical Research: Role, Current Issues, and Funding, CA Biomedical Research Assoc. 32nd Ann. Mtg., La Jolla, CA, May 4-5, 2016.

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Committees, **Workgroups, Advisory Boards**

- National Atmospheric Deposition Program (NADP) Technical Committee, 1981 – present.
- Northeast States for Coordinated Air Use Management (NESCAUM), Acid Deposition Committee, 1985-90, Chair, (and NESCAUM Regional Particle Network, Manager, 1989-93).
- US EPA Residential Woodstove NSPS Regulatory Negotiating Committee, 1986-87.
- Interagency Monitoring of Protected Visual Environments (IMPROVE) Steering Committee, Northeast States Representative, 1990 – present.
- Vermont Monitoring Cooperative (VMC) Advisory Committee, 1990 – present.
- US EPA, Acid Rain Advisory Committee and CEMS Workgroup, 1990-91.
- NESCAUM Ambient Monitoring and Assessment Committee, 1991-present, Co-Chair 92-95.
- Northeast Regional Air Quality Committee (NERAQC), 1995 - present
- Ozone Transport Assessment Group (OTAG), Air Quality Analysis Workgroup, 1995-98
- US EPA, Federal Advisory Committee on Ozone, Fine Particles and Regional Haze, Science and Technical Support Workgroup, 1996-99.
- US/Canada Air Quality Agreement, Subcommittee on Scientific Cooperation, 1998 – present.
- US EPA Fine Particle Data Analysis Workgroup, 1998 - 1999, Website co-manager.
- New England Governors/Eastern Canadian Premiers, Acid Rain Data Exchange Committee, 1998 - 2004, US Co-Chair.
- Hubbard Brook Research Foundation, Science Links Project, Advisory Committee, 1999.
- US/Canada Workgroup on Transboundary Fine Particle Modeling and Data Analysis, 2002-04.
- Mid Atlantic North East Visibility Union (MANE-VU) Regional Planning Organization (RPO), Monitoring and Data Analysis Workgroup, 2002-2008, Co-Chair.
- National Inter-RPO Monitoring and Data Analysis Workgroup, 2003-2008, Co-Chair.
- Visibility Information Exchange Web System (VIEWS) Steering Committee, 2003 – 2009.
- US Environmental Protection Agency, Science Advisory Board (SAB), Clean Air Scientific Advisory Committee (CASAC), 2001-2007.
- US EPA CASAC Subcommittees on: Ambient Air Monitoring and Methods (2001-2010), 2001-2006 Particulate Matter NAAQS Review, 2005-2008 Ozone NAAQS Review, 2006-2008 Lead NAAQS Review, 2008-2011 SO_2 and NO_2 Secondary NAAQS Review, 2008-2012 Particulate Matter NAAQS review, and (2008-2013) Lead NAAQS Review.
- NARSTO External Review Panel, “Rethinking NARSTO”, 2008-2009.
- US EPA Advisory Council on Clean Air Compliance Analysis, and Council Atmospheric Modeling Subcommittee, 2009-present.
- National Academy of Sciences, National Research Council, Board on Environmental Sciences and Toxicology, 2010-present.

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54. Poirot, R. (2005) The Fast Cat, the Slow Mouse, and the Evolution of Air Pollution Knowledge, International Symposium on Relating Atmospheric Source Apportionment to Vegetation Effects: Establishing Cause Effect Relationships, A. H. Legge, Ed., Banff, Canada.
55. Pitchford, M. and R. Poirot (2005) Introduction to A Special Issue on "Regional and Global Perspectives on Haze: Causes, Consequences, and Controversies", *JAWMA*, 55:1584.
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60. Crimmins, B. S., P. K. Hopke and R. L. Poirot (2008) Azelaic Acid: An Organic Marker for Tire-Derived Fuel (TDF) Combustion, submitted to *Environ. Sci. Technol*. January, 2008.
61. Hopke, P. K., P. Venkatachari, P. Jaques, B. Crimmins, R.L. Poirot and E. Miller (2008) Impacts of an Isolated Single Source in Rural Vermont, Paper #104, A&WMA International Spec. Conf. on Aerosol and Atmospheric Optics: Visual Air Quality and Radiation, Moab UT.
62. Poirot, R. L. Use of Trace Metals as Source Fingerprints (2009) in: *Air Quality and Ecological Impacts: Relating Sources to Effects*, A. H. Legge, Editor, Elsevier Ltd., Oxford, UK.
63. Henry, C., J. Barton, A. García-Reynoso, J. Kinsman, E. Piché and R. Poirot (2009) Rethinking NARSTO: conclusions and recommendations of an external review panel, *Rev. Int. Contam. Ambient*. 25 (4) 271-272.
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65. White, W., B. Perley, R. Poirot, T. Dann, and E. Dabek-Zlotorzynska (2010) Continental-scale transport of sea salt aerosol, International Aerosol Conference 2010, Helsinki, Finland.
66. Poirot, R. (2011) Will the Cycle Be Unbroken or Will We See a Secondary PM NAAQS Someday?, *EM*, Air and Waste Manage. Assn., September, 2011.

Curriculum Vitae

Date Prepared: May 15, 2017

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Work FAX: 617-667-0495

Education

1983	A.B.	Mathematics	Princeton University
1988	M.D.		New York University School of Medicine

Postdoctoral Training

1988-89	Intern	Internal Medicine	Columbia-Presbyterian Medical Center New York
1989-91	Resident	Internal Medicine	Columbia-Presbyterian Medical Center New York
1991-92	Fellow	Nephrology	Brigham and Women's Hospital
1991-94	Research Fellow	Medicine	Harvard Medical School
1992-96	Postdoctoral Fellow	Genetics	Harvard Medical School

Faculty Academic Appointments

1994-1998	Instructor	Medicine	Harvard Medical School
1998-2005	Assistant Professor	Medicine	Harvard Medical School
2000-	Member	Program in Biomedical & Biological Sciences (Genetics)	Harvard Medical School
2005-2011	Associate Professor	Medicine	Harvard Medical School
2009-	Associate Member		Broad Institute of Harvard and MIT
2011-	Professor	Medicine	Harvard Medical School

Appointments at Hospitals/Affiliated Institutions

1995-2005	Associate Physician	Medicine/Renal Division	Brigham and Women's Hospital
2005-	Physician	Medicine/ Renal Division	Brigham and Women's Hospital
2010-	Division Chief	Medicine/ Division of Nephrology	Beth Israel Deaconess Med. Center

Major Administrative Leadership Positions

Local

2010	Chief, Division of Nephrology	Beth Israel Deaconess Medical Center Department of Medicine

Committee Service

Local

2008	BRI Research Project Review Committee	Brigham and Women's Hospital
2012-13	MD/PhD Subcommittee on Admissions	HMS

Regional

2000-	Scientific Advisory Board	NephCure Foundation Scientific Advisor

National and International

2000	FSGS Task Force	NIH (NIDDK) Advisor
2002	Genetic subcommittee	American Society of Nephrology Co-chairman
2005	Program Committee	American Society of Nephrology Member
2006-2008	Basic Science Committee	American Society of Nephrology Member
2006-2008	CRISP II External Advisory Committee	NIH (NIDDK) Member
2011	NEPTUNE	Investigators meeting
2014	CRISP III External Advisory Committee	NIH (NIDDK) Member

Professional Societies

1997 -	American Society of Nephrology	Member
2004 -	National Kidney Foundation	Member

Grant Review Activities

1998	Study Section General Medicine B	NIH Ad-hoc reviewer
2002	Study Section Program Project Grants	NIH Ad-hoc reviewer
2004, 2006	Study Section (CKMB)	NIH Ad-hoc reviewer
2006-2007	Cardiorenal Study Section	American Heart Association Reviewer
2007, 2008 2010	Special Emphasis Panel	NIH (NIDDK) Ad-hoc reviewer
2008	Study Section (PBKD)	NIH (NIDDK) Ad-hoc reviewer
2008, 2009	Study Section	NephCure Foundation Reviewer
2012	Study Section (PBKD)	Ad-hoc reviewer
2013	Study Section	NIH (NHGRI)

Editorial Activities

Ad hoc reviewer

1998, 2003, 2004	Science
1998,2000, 2004-2006, 2009-2013	Nature Genetics
1999, 2002-2013	Kidney International
1999, 2000	Journal of Biological Chemistry
1999–2013	Journal of the American Society of Nephrology
2000	American Journal of Pathology
2000, 2003-2006	American Journal of Human Genetics
2001	Human Mutation
2001, 2003, 2007, 2011, 2013	American Journal of Kidney Disease
2002, 2003, 2009, 2015	Human Molecular Genetics
2002, 2003	Experimental Nephrology
2002	European Journal of Human Genetics
2003	Pediatric Nephrology
2003	FASEB Journal
2003, 2007-2009, 2012	Proceedings of the National Academy of Science
2004	Molecular Cell Biology
2005, 2008	Journal of Clinical Endocrinology and Metabolism
2005, 2009	American Journal of Physiology
2005	Pediatric Research
2005	Genetics in Medicine
2005	American Journal of Medical Genetics
2006-2007	Nature Medicine
2006	J Experimental Medicine
2006, 2008, 2010-2011, 2015	New England Journal of Medicine
2007, 2010, 2012, 2014, 2015	Clinical Journal of the American Society of Nephrology
2007	J. Cell Biology
2007	Cell Proliferation
2009	Genes and Cells
2009	Circulation
2009	American Journal of Nephrology

2009, 2011, 2013	Nephrology, Dialysis, and Transplantation
2012, 2013, 2015	Journal of Clinical Investigation
2015	FEBS Letters

Other Editorial Roles

2002-2007	Consulting Editor	Journal of Clinical Investigation
2007-	Editorial board member	J. American Society Nephrology
2016-	Editorial board member	Kidney International

Honors and Prizes

1992-1993	American Heart Association	Bugher Foundation Fellow
1992-1997	NIH	Physician Scientist Award
1997-2002	Burroughs-Wellcome	Career Award
2005-	American Society for Clinical Investigation	Member
2008	NephCure Foundation	Achievement Award
2011	NephCure Foundation	Marilyn Farquhar Award for Podocyte Biology
2011	American Association of Physicians	Member
2014	National Academy of Sciences, USA	Elected member
2012, 2013	Boston Magazine	Boston's Top Doctors

Report of Funded and Unfunded Projects

Funding Information

Past

1992	Bugher Foundation Fellow of the American Heart Association
1992-1997	NIH K11 Physician Scientist Award Role: PI Homologous recombination to inactivate mouse ANP
1997-1998	National Kidney Foundation Role: PI Genetics of focal glomerulosclerosis
1997-2002	NIH R01 DK Role: PI Mouse genetic studies of the calcium sensing receptor
1997-2006	Burroughs-Wellcome Fund Role: PI Career Award in the Biomedical Sciences
2004-2008	NIH R01 DK066017 Role: PI Characterization of alpha-actinin-4 deficient mice
2005-2009	American Heart Association Role: PI Established Investigator Award
2007-2013	NIH P01 DK0707056 Role: Project PI Pathobiology of Kidney Stone Disease

Current

1999-2018	NIH R01 DK54931 Role: PI Genetics of inherited focal glomerulosclerosis

	The goal of this project is to identify genes underlying the development of focal segmental glomerulosclerosis in humans
2001-2016	NIH R37 DK59588 Role: PI Biological mechanism of FSGS-1 The goal of this project is to understand the mechanism by which ACTN4 mutations lead to human disease.
2010-2018	NIH R01 DK088826 Role: PI Biological Mechanism of INF2-mediated FSGS The goal of this project is to understand the mechanism by which INF2 mutations cause human kidney disease.
2011-2015	NIH RO1 DK083592 Role: Co-PI Biophysical properties of normal and diseased glomeruli. The goal of this project is to characterize the biophysical properties of renal glomeruli
2012-2017	NIH RO1 MD007092 Role: PI APOL1 variants: Understanding the basis of disparities in rates of kidney disease The goal of this project is to understand the basis of the variability in phenotype associated with APOL1-associated kidney disease in African Americans.
2013-2018	NIH RO1 MD007898 Role: PI Molecular Mechanism of APOL1 Associated Kidney Disease The goal of this project is to use biochemical, cell culture, and zebrafish studies to help understand the basic molecular mechanisms of APOL1-associated kidney disease.

Report of Local Teaching and Training

Teaching of Students in Courses

1997	Physiology course (First Year) Preceptor for renal physiology discussions Medical students	HMS 40 hours/year
1997	Introduction to Clinical Medicine course Preceptor in physical examination and clinical history Medical students	HMS 30 hours/year
2000-2008	Genetics, Reproduction, and Endocrinology course Preceptor, first year medical students	HMS 50 hours/year
2001-2008	Supervisor for third year clinical genetics rotations Preceptor for rotating HMS 3 students 3rd year medical students	HMS 15 hours/year
2002	Second year Human Systems Genetics of FSGS Medical Students	HMS 5 hours/year
2006-2007	BBS Leder Program (DMS 220) Glomerular Disease section Leader	HMS 3 hours
2008-2013	Human Genetics course Preceptor, first year medical students	HMS 30 hours/year
2010-	MDI Biological Laboratory Origins of Renal Physiology: Renal Fellows	1 week course, 50 hours
2014	HST Renal Pathophysiology Genetics of Kidney Disease	1 lecture

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

2002	Genetic Dissection of Proteinuria	Cardiovascular Research Center

	Fellows, faculty	Massachusetts General Hospital
2002-2010,	Lecturer: Inherited Kidney Disease	HMS Clinical and Molecular Genetics
2014	Advanced Human Genetics Course	Training Course
	Clinical and research fellows	5 hours/year
2004	Preceptor: HMS Genetics 330	HMS
	graduate students	15 hours year
2006	House Staff Lecture	Brigham and Women's Hospital
	Overview of Glomerular Disease	2 hours

Clinical Supervisory and Training Responsibilities

1989-1991	Clinical Clerkship Leader in Medicine Columbia College of Physicians and Surgeons	60 hours/year
1991-1992	Nephrology training of medical students and Brigham and Women's Hospital house staff (as clinical Fellow)	120 hours/year
1995-	Nephrology training of medical students and Brigham and Women's Hospital house staff and fellows (as Attending Physician)	60 hours/year
1999-2010	Supervise Internal Medicine residents in outpatient renal clinic	20 hours/year
2010-	Director of Nephrology Division, Beth Israel Deaconess Medical Center	1000 hours/year

Laboratory and Other Research Supervisory and Training Responsibilities

1997-	Supervision of 6-12 post-doctoral research fellows	Daily mentorship
1997-	Supervision of 2 technicians	Daily supervision
1999-	Supervision of 1 genetic counselor	Daily supervision
2002-2008	Supervision of 2 graduate students (BBS; HMS, MD/PhD Program	Daily mentorship
2003	Supervision of 1 Master's Degree Student	Daily mentorship
2005, 2006	Supervision of 2 summer students (Dartmouth U; SUNY Stonybrook)	Daily mentorship
2009-2010	Co-supervision of 1 PhD student in Mathematics (Dartmouth College)	Daily mentorship

Formally Supervised Trainees

1998-2003	Claudine Kos, Ph.D. Scientist, Tufts University Nutrition Center First author of two papers in J. Clinical Investigation
1998-2001	Joshua Kaplan, M.D. Assistant Professor of Medicine, UMDNJ First author of Nature Genetics paper.
1998-2001	Sung Han Kim, A.B., Resident in Radiology, Mt Auburn Hospital Co-author on several papers before entering medical school
1999-2002	Hiroyasu Tsukaguchi, M.D., Associate Professor, Tokushima University First author of two papers before returning to accept a faculty position in Japan
2001-2004	June Yao, M.D./Ph.D., Attending Physician, Baylor College of Med First author paper in PLoS Biology
2002-2004	Steven Wu, M.D., Instructor in Medicine, HMS/MGH Role: ACTIN-4 nuclear functions.
2003-2007	Savita Dandapani, B.S., Resident, University of Southern California First author paper in JBC based on MD/PhD work; co-author on others
2004-2008	Astrid Weins, M.D., Pathology Resident, Brigham and Women's Hospital First author paper in PNAS

2004-2005	Krishna Polu, M.D., Amgen Characterized mutations in TRPC6
2004-2009	Joel Henderson, M.D., Ph.D. Instructor in Pathology, Boston University First author of two papers and co-author of several more; obtained K08 award.
2005-2007	Kirtida Mistry, M.D., Assistant Professor, UCSD 1 paper on genetics of FSGS
2005-2010	Johannes Schlondorff M.D., Ph.D, Assistant Professor of Medicine, HMS/BIDMC First and co-author of several papers. Awarded KO8 grant.
2006-2009	Stephen Tonna, Ph.D., Baker Diabetes Institute, Australia Two first author papers
2006-2007	Salah Al-Waheeb, M.D., Renal Pathologist, Kuwait Role: mouse model of human kidney disease
2006-2012	Elizabeth Brown, M.D., Assistant Professor of Medicine, University of Texas Southwestern First author of manuscript in Nature Genetics.
2006-2007	Aylit Schultz, M.D., Instructor in Medicine, Boston Medical Center Role: gene expression informatics project.
2007-2008	Robert Carrasquillo, B.S., Resident in Urology, Boston University Role: TRPC6 biology as graduate student before entering HMS
2007-2009	Daniel Becker, M.D., Ph.D., Boston Consulting Group Role: ACTIN-4 phosphorylation
2007-2012	Michael Ross, M.D., Ph.D., Nephrologist, Colorado Springs, Co. Role: human genetics of FSGS and biology of HIV nephropathy
2008-2014	Hakan Toka, M.D., Assistant Professor of Medicine, University of lab Role: genetics of kidney stones and kidney abnormalities
2009-2014	Hua Sun, M.D., Resident in Pediatrics, University of Iowa. Role: INF2 interacting proteins
2009-2013	Moumita Barua, M.D., Instructor in Medicine, University of Toronto Role: exome sequencing projects
2009-2012	Giulio Genovese, Ph.D. Computational Biologist, Broad Institute. Role: Computation genetic studies; three first author papers published
2009-2014	Khaldoun Al-Romaih, Ph.D., Professor, King Faisal Specialist Hospital & Research Centre Role: genetic basis of kidney disease in Saudi Arabia
2010-2012	Wen Shen, M.D., Ph.D. Assistant Professor of Medicine, Georgetown University Role: effect of phosphorylation on actinin-4 function
2012-2014	Rupam Ruchi M.D., Assistant Professor of Medicine, University of Florida Role: Genetics of APOL1 mediated kidney disease
2012-	Jiayue Zhang, Ph.D., Current post-doc fellow, Pollak lab Role: APOL1 interactions
2013-	Jung Hee Suh, Ph.D., Current post-doc fellow, Pollak lab Role: Mouse models of APOL1 kidney disease
2013-	Di Feng, Ph.D., Current post-doc fellow, Pollak lab Role: Regulation of alpha-actinin-4
2013-	Opeyemi Olabisi, M.D., Ph.D. Role: Zebrafish models of APOL1 mediated disease

My laboratory has hosted 3 local high school students in the Student Success Jobs Program at since 2006. My laboratory has hosted 1 summer undergraduate student for two years through the NIH STEP-UP program for underrepresented persons.

Formal Teaching of Peers (e.g., CME and other continuing education courses)

1997	Molecular biology of calcium homeostasis	Lecture

	Course: Contemporary Issues in Nephrology HMS/BWH	Boston
1998-2005	BWH Renal Division Grand Rounds 1-2 times per year Fellows, faculty, students (25-40)	Lecture Boston
2002-2010	Inherited Kidney Disease Course: Advanced Human Genetics HMS Clinical and Molecular Genetics Course	Lecture Boston
1999, 2001- 2003, 2005-2011	Inherited Kidney Disease HMS/BWH Course: Contemporary Issues in Nephrology	Lecture Boston
2005	Podocytopathies BWH Course: Contemporary Issues in Nephrology	Lecture Boston
2005-2009	Inherited forms of kidney disease Course: Contemporary Issues in Nephrology BWH/HMS	Lecture Boston
2008-2011	Genetics of Kidney Disease MGH Update in Nephrology	Lecture Cambridge,
2011, 2012	BIDMC Internal Medicine Course Genetics of Kidney Disease	MA Lecture
2014-	BIDMC Update in Nephrology	Director, Lecturer

Local Invited Presentations

2001	Familial FSGS Invited Speaker, Renal Grand Rounds Boston University School of Medicine
2002	Genetic Dissection of Proteinuria, Invited Speaker Cardiovascular Research Center, Massachusetts General Hospital
2005	Genetics of FSGS, Renal Grand Rounds Massachusetts General Hospital
2008	FSGS: Genetics and Biology Invited Speaker, Renal Grand Rounds Beth Israel Deaconess Medical Center
2010	FSGS mediated by mutations in a formin family member Invited Speaker, Renal Grand Rounds Boston Medical Center
2010	Trypanosomes, kidney disease, and evolution Medical Grand Rounds Beth Israel Deaconess Medical Center
2012	Why do African Americans get so much kidney disease? Molecular Medicine lecture series, Brigham and Women's Hospital

Report of Regional, National and International Invited Teaching and Presentations

Invited Presentations and Courses

Regional

1996	Inherited Disorders of Calcium Sensing Invited Speaker, Endocrine Rounds Columbia-Presbyterian Medical Center
1999	ACTN4 mutations cause focal segmental glomerulosclerosis Invited speaker, Renal Grand Rounds Columbia-Presbyterian Medical Center

2000 Familial FSGS
Invited Speaker, North American Pediatric Nephrology Group
Boston, MA

2001 Familial FSGS
Invited speaker, Brown University, Renal Grand Rounds
Providence, RI

2002 Familial FSGS
Invited Speaker, Polycystic Kidney Disease Center
Yale University School of Medicine

2004 Genetics of FSGS
Invited Speaker, Renal Grand Rounds
Albert Einstein School of Medicine, New York

2005 Genetics of FSGS
Invited Speaker, Renal Grand Rounds
University of Massachusetts, Medical School

2011 Why African Americans get so much kidney disease
Medical Grand Rounds
Newton-Wellesley Hospital

2011 Invited Speaker, Renal Grand Rounds
APOL1 and Renal Disease
Renal Grand Rounds
BWH/MGH

National

1998 Focal glomerulosclerosis
Invited speaker, NIH symposium
Identification of Genes for Nephropathy Susceptibility
Bethesda, MD

1999 Familial focal segmental glomerulosclerosis
Invited speaker, Renal Grand Rounds
University of Michigan

2000 α-actinin-4 mutations in focal segmental glomerulosclerosis
Invited speaker, American Society of Nephrology Basic Science Symposium, Toronto, Canada

2000 Genetics of familial FSGS
Invited speaker, American Society of Nephrology, Toronto, Canada

2000 α-actinin-4 mutations cause familial FSGS
Invited speaker, Duke University, Division of Nephrology
Durham, MC

2001 Genetics of Focal Segmental Glomerulosclerosis
Invited Speaker, American Society of Nephrology
Symposium on Renal Failure genetics
San Francisco, CA

2003 Genetics of FSGS
Invited Speaker and Visiting Professor
Medical College of Wisconsin

2004 Genetics of FSGS
Invited Speaker, Renal Research Conference
Mount Sinai School of Medicine, New York

2004 Inherited Podocytopathies
Invited Speaker, National Kidney Foundation annual meeting
Chicago, IL

2004 ACTN4 and the mechanism of FSGS
Invited Speaker, 5th International Podocyte Symposium

Seattle, Washington

2004 Familial FSGS
Invited Speaker and Visiting Professor, Renal Grand Rounds
Mayo Clinic, Rochester, MN

2004 ACTN4 and the kidney
Invited Speaker and Visiting Professor, Renal Grand Rounds
Mayo Clinic, Rochester, MN

2006 Familial FSGS
Invited Speaker, Renal Grand Rounds
University of Texas Southwestern Medical Center
Dallas, TX

2006 Biology of alpha-actinin-4 mediated FSGS
Invited Speaker, Nephrology Seminar Series
New York University School of Medicine
New York, NY

2007 Role of alpha-actinin-4 in glomerular function and disease
Invited Speaker
Nature Genetics/International Society of Nephrology meeting
Nephrogenetics
Danvers, MA

2007 Genetics of FSGS
Guest Speaker
Glomerular Disease Collaborative Network annual meeting
Chapel Hill, NC

2008 Alpha-actinin-4: understanding a disease gene can inform basic biology (and vice-versa)
Invited Speaker
Miami Institute of Human Genetics
Miami, FL

2010 FSGS mediated by mutations in a formin family member
Podocyte P8 Meeting
Miami, FL

2010 Genetics of FSGS
Invited Speaker, Renal Grand Rounds
Case Western Reserve University, Cleveland, OH

2010 FSGS: From human phenotype to biology
Eckel Memorial Lecture
Dept. of Physiology, Case Western Reserve University

2010 Trypanosomes, Evolution, and Kidney Disease
New York University School of Medicine
Dept. of Medicine Grand Rounds

2010 Conrad Pirani Lecture: Genetic basis of FSGS
Renal Biopsy in Medical Diseases of the Kidney
Columbia-Presbyterian Medical Center
New York, NY

2010 Mutations in ACTN4 and INF2 causing FSGS
American Society of Nephrology, Basic Science Conference on Cytoskeleton and Cell Motility
Denver, CO

2010 Monogenic causes of focal segmental glomerulosclerosis
New Insights into Glomerular Disease: work supported by NIDDK
American Society of Nephrology
Denver, CO

2011 Spring Retreat

The genetic basis of FSGS: Rare and common forms
Vanderbilt University Medical Center
Pediatric Nephrology Center of Excellence

2011 Renal Grand Rounds
Why Do People of Recent African Ancestry Get So Much Kidney Disease?
University of Pennsylvania, Perelman School of Medicine

2011 APOL1 and kidney disease in African Americans
Invited Lecture
New York Society of Nephrology
New York, NY

2012 Why do African Americans get so much kidney disease?
Keynote Lecture, Dept of Pediatrics Research Day, Stony Brook University

2012 Kidney Disease in African Americans
Dept of Medicine Research Day Keynote Speaker
University of Michigan, Ann Arbor, MO

2012 National Institutes of Health
Advances in Acute and Chronic Pancreatitis
Novel Strategies to Identify Candidate Genes Using Exomic Sequencing

2012 Ramelkamp Endowed Lecture
Case Western Reserve University, Cleveland, OH

2013 APOL1 and MYH9 Associated End-Stage Renal Disease in African Americans
American Transplant Congress
Sunrise Symposium

2013 Why do African Americans Get So Much Kidney Disease
John Punnett Peters Lecture and Visiting Professor
Yale University School of Medicine, New Haven, CT

2013 Mendelian Forms of Focal Segmental Glomerulosclerosis
Renal Grand Rounds
Yale University School of Medicine

2014 Why do African Americans get so much kidney disease?
Department of Biology symposium
University of Houston

International

2011 Spring Retreat
The genetic basis of FSGS: Rare and common forms
Vanderbilt University Medical Center
Pediatric Nephrology Center of Excellence

2011 Renal Grand Rounds
Why Do People of Recent African Ancestry Get So Much Kidney Disease?
University of Pennsylvania, Perelman School of Medicine

2011 APOL1 and kidney disease in African Americans
Invited Lecture
New York Society of Nephrology
New York, NY

2012 Why do African Americans get so much kidney disease?
Keynote Lecture, Dept of Pediatrics Research Day, Stony Brook University

2012 Kidney Disease in African Americans
Dept of Medicine Research Day Keynote Speaker
University of Michigan
Ann Arbor, MO

2012 National Institutes of Health
Advances in Acute and Chronic Pancreatitis
Novel Strategies to Identify Candidate Genes Using Exomic Sequencing

2012 Ramelkamp Endowed Lecture
Case Western Reserve University
Cleveland, OH

2013 American Transplant Congress
Sunrise Symposium
APOL1 and MYH9 Associated End-Stage Renal Disease in African Americans

2013 Why do African Americans Get So Much Kidney Disease
John Punnett Peters Lecture and Visiting Professor
Yale University School of Medicine
New Haven, CT

2013 Mendelian Forms of Focal Segmental Glomerulosclerosis
Renal Rounds
Yale University School of Medicine

2014 Why do African Americans get so much kidney disease?
Department of Biology symposium
University of Houston

International

1995 The calcium-sensing receptor
Invited speaker, International Congress of Nephrology, Madrid, Spain

1995 Familial hypocalciuric hypocalcemia
Invited speaker, Royal College of Physicians, Montreal, Canada

1995 Inherited disorders of calcium sensing
Invited speaker, International Society of Pediatric Nephrology, Santiago, Chile

1997 Mapping a locus for focal segmental glomerulosclerosis
Invited Speaker
Ernst Klenk Conference (Molecular Genetics of Hypetension), Cologne, Germany

2000 α-actinin-4 mutations in focal segmental glomerulosclerosis
Invited speaker, International Symposium for Podocyte Biology
Ann Arbor, MI

2001 Alpha-actinin-4 and FSGS
Invited Speaker, International Symposium on Podocyte Biology
Heidelberg, Germany

2002 Biology of alpha-actinin-4
Invited Speaker, 4th International Podocyte Symposium
Niigata, Japan

2005 Inherited Podocytopathies
Invited Lecture, World Congress of Nephrology
Singapore

2006 Hot topics in podocyte biology
Invited Speaker, 5th International Podocyte Symposium
Helsinki, Finland

2007 Role of alpha-actinin-4 in glomerular function and disease
Invited Speaker, Renal Grand Rounds
University of Toronto
Toronto, Canada

2007 Alpha-actinin-4 and the kidney
Invited Speaker, Renal Grand Rounds
McGill University Health Centre
Montreal, Canada

2008 Mechanism of α-Actinin-4 Mediated Glomerulopathy
Invited Speaker, International Podocyte Meeting
Toronto, Canada

2010 Rare renal diseases

	XLVII ERA-EDTA Congress
	Munich, Germany
2010	Genetics of FSGS
	ISN COMGAN conference
	Shanghai, China
2011	Nephrology Training Program lecture
	University of Toronto, Division of Nephrology
	Kidney Disease and African Ancestry
2014	Molecular Mechanisms of Diabetes and its Complications:
	Symposium
	Kidney Disease in Africans and African Americans
	Dasman Diabetes Institute
	Kuwait City, Kuwait
2014	International Podocyte Symposium
	Genetics of Late Onset FSGS
	Frankfurt, Germany

Report of Clinical Activities and Innovations

Current Licensure and Certification

1989-1991	Medical Licensure, New York
1991-	Medical Licensure, Massachusetts
1991-2001	Board Certified, American Board of Internal Medicine
1994-	Board Certified (Nephrology), American Board of Internal Medicine

Practice Activities

1997-2010	Nephrology Clinic	BWH	4 sessions per month
1997-2010	Inpatient nephrology attending	BWH	4 weeks per year
2010-	Nephrology Clinic	BIDMC	2 sessions per month
2010-	Inpatient nephrology attending	BIDMC	4 weeks per year
2011-2012	Internal medicine attending	BIDMC	4 weeks per year

Clinical Roles

Prior to 2010 I served as an attending nephrologist at the Brigham and Women's Hospital. In this capacity, I supervised fellows, residents, and medical students on the Nephrology Consult Service. I also directed an outpatient clinic as part of the Brigham Medical Specialties with a special focus on inherited kidney disease, including FSGS, as well as other genetic nephropathies. In this clinic, I supervised HMS students and medical residents during outpatient rotations in genetic medicine and nephrology as well as two BWH Renal Fellows. During some years, I also served as an attending physician on the General Medical Service at the Brigham and Women's Hospital for 2 weeks per year, supervising residents and medical students. Effective February 2010, I have assumed the role of Chief of the Division of Nephrology at BIDMC. I attend on the Nephrology Consult service and see outpatients with inherited kidney disease.

Report of Education of Patients and Service to the Community

Activities

2005-2006, 2012 NephCure Foundation sponsored talks to patients and families with nephrotic syndrome

Report of Scholarship

Peer reviewed publications

1. **Pollak MR**, Schuler RH. Numerical treatment of the kinetics of track processes in radiation chemistry. Radiation Physics and Chemistry 1984; 23:285-91.

2. Blank RD, Campbell GR, **Pollak M**, d'Eustachio P. Bayesian multilocus linkage mapping. Current Topics in Microbiology and Immunology 1988; 137:25-32.

3. **Pollak MR**, Chou Y-HW, Cerda JJ, Steinmann B, LaDu BN, Seidman JG, Seidman CE. Homozygosity mapping of the gene for alkaptonuria to chromosome 3q2. Nature Genetics 1993; 5:201-4.

4. **Pollak MR**, Brown EM, Chou Y-HW, Hebert SC, Marx SJ, Steinmann B, Levi T, Seidman CE, Seidman JG. Mutations in the human Ca2+-sensing receptor gene cause familial hypocalciuric hypercalcemia and neonatal severe hyperparathyroidism. Cell 1993; 75:1297-1303.

5. **Pollak MR**, Chou Y-HW, Marx SJ, Steinmann B, Cole DED, M.L.Brandi ML, Papapoulos SE, Menko FH, Hendy GH, Brown EM, Seidman CE, Seidman JG. Familial hypocalciuric hypercalcemia and neonatal severe hyperparathyroidism: effects of mutant gene dosage on phenotype. J Clin Invest 1994; 93:1108-12.

6. **Pollak MR,** Brown EM, Estep HL, McLaine PN, Kifor O, Park J, Hebert SC, Seidman CE, Seidman JG. Autosomal dominant hypocalcemia caused by a Ca2+-sensing receptor gene mutation. Nature Genetics 1994; 8:303-7.

7. Chou Y-HW, **Pollak MR**, Brandi ML,Toss G, Arnqvist H, Atkinson AB, Papapoulos SE, Marx S, Brown EM, Seidman JG, Seidman CE. Mutations in the human Ca2+-sensing-receptor gene that cause familial hypocalciuric hypercalcemia. Am J of Human Genetics 1995; 56:1075-9.

8. Ho C, Conner DA, **Pollak MR**, Ladd DJ, Kifor O, Warren HB, Brown EM, Seidman JG, Seidman CE. A mouse model of familial hypocalciuric hypercalcemia and neonatal severe hyperparathyroidism. Nature Genetics, 1995; 11:389-94.

9. Hosokawa Y, **Pollak MR**, Moore F, Brown EM, Arnold A. Mutational analysis of the extracellular Ca2+-sensing receptor gene in human parathyroid tumors. J Clin Endocrinol and Metab 1995; 80:3107-10.

10. **Pollak MR**, Delaney V, Graham R, Hebert SC. Gitelman's syndrome (Bartter's variant) maps to the thiazide-sensitive cotransporter gene locus on chromosome 16q13 in a large kindred. J. Amer. Soc. Nephrol 1996; 7:2244-8.

11. Karolyi L, Ziegler A, **Pollak MR**, Fischbach M, van Acker KJ, Grzeschik K-H, Koch MC, Seyberth HW. Gitelman's syndrome is genetically distinct from Bartter's syndrome and hyperprostagland in E syndrome. Ped Nephrol 1996; 10:551-4.

12. Bai M, Quinn S, Trivedi S, Kifor O, Pearce SHS, **Pollak MR**, Krapcho K, Hebert SC, Brown EM. Expression and characterization of inactivating and activating mutations in the human Ca2+o-sensing receptor. J of Biol Chem 1996; 271:19537-45.

13. Mathis B, Kim SH, Calabrese K, Haas M, Seidman JG, Seidman CE, **Pollak MR**. Rapid Communication: A locus for inherited focal segmental glomerulosclerosis. Kidney International, 1998; 53:282-6.

14. Gherman RB, Bowen E, Eggleston MK, Teague KE, Sayles T, Brown EM, **Pollak MR**. Successful pregnancy outcome in a woman with a gain-of-function mutation of the calcium-sensing receptor. A case report. J Reprod Med. 1999; 44(8):745-7.

15. Kaplan JM, Kim S, North KN, Rennke H, Correia L, Tong HQ, Mathis BJ, Rodriguez-Perez JC, Allen PG, Beggs AH, **Pollak MR**. Mutations in ACTN4, encoding α-actinin-4, cause familial focal segmental glomerulosclerosis. Nature Genet. 2000; Mar;24(3):251-6.

16. Olszak IT, Poznansky MC, Evans RH, Kos C, **Pollak MR**, Brown EM, Scadden DT. Extracellular calcium elicits a chemokinetic response from monocytes in vitro and in vivo. J. Clinical Investigation, 2000, 105(9):1299-1305.

17. Tsukaguchi H, Yager H, Dawborn J, Jost L, Cohlmia J, Abreu P, Pereira A, **Pollak MR**. A locus for adolescent and adult onset focal segmental glomerulosclerosis on chromsome 1q25-31. J. Amer. Soc. Nephrol. 2000, 11:1674-80.

18. Tsukaguchi H, Sudhakar A, Le TC, Nguyen T, Yao, J, Schwimmer J, Schachter A, Poch E, Abreu PF, Appel G, Pereira AB, Kalluri R**, Pollak MR**. NPHS2 Mutations in Late-onset Focal Segmental Glomerulosclerosis: R229Q is a Common Disease-Associated Allele. J Clinical Investigation, 2002, 110:1659-66.

19. Kos C, Karaplis A, Peng J-B, Hediger, Goltzman D, Mohammad K, Guise T, **Pollak MR**. The calcium-sensing receptor is required for normal calcium homeostasis independent of parathyroid hormone, J of Clinical Investigation, 2003, 111(7):1021-8.

20. Kos CK, Le TC, Sinha S, Henderson J, Kim SH, Sugimoto H, Kalluri, R., Gerszten RE, **Pollak MR**, Mice deficient in α-actinin-4 have severe glomerular disease. J. Clinical Investigation, 2003, 111(11):1683-90

21. Pereira AC, Pereira AB, Mota GF, Cunha RS, Herkenhoff FL, **Pollak MR**, Mill JG, Krieger JE. NPHS2 R229Q functional variant is associated with microalbuminuria in the general population, Kidney Int. 2004 Mar;65(3):1026-30

22. Yao J, Le TC, Kos CH, Henderson, JM, Allen PG, Denker BM, **Pollak MR**. α-actinin-4 mediated FSGS: an inherited kidney disease caused by an aggregated and rapidly degraded cytoskeletal protein. Public Library of Science Biology, 2004, 2(6): 787-94.

23. Ellinor PT, Moore RK, Patton KK, Ruskin JN, **Pollak MR**, MacRae CA. Mutations in the long QT Gene KCNQ1 are an uncommon cause of atrial fibrillation. Heart. 2004, 90(12): 1487-8.

24. Leykin I, Hao K, Cheng J, Meyer N, **Pollak MR**, Smith RJ, Wong WH, Rosenow C, Li C. Comparative linkage analysis and visualization of high-density oligonucleotide SNP array data. BMC Genet. 2005, 6(1):7.

25. Hunt JL, **Pollak MR**, Denker BM. Cultured Podocytes Establish a Size-Selective Barrier Regulated by Specific Signaling Pathways and Demonstrate Synchronized Barrier Assembly in a Calcium Switch Model of Junction Formation. J Am Soc Nephrol. 2005, 16(6):1593-1602.

26. Reiser J, Polu KR, Moller CC, Kenlan P, Altintas MM, Wei C, Faul C, Herbert S, Villegas I, Avila-Casado C, McGee M, Sugimoto H, Brown D, Kalluri R, Mundel P, Smith PL, Clapham DE, **Pollak MR**. TRPC6 is a glomerular slit diaphragm-associated channel required for normal renal function. Nat Genet. 2005, 37(7):739-44.

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28. Adams GB, Chabner KT, Alley IR, Olson DP, Szczepiorkowski ZM, Poznansky MC, Kos CH, **Pollak MR**, Brown EM, Scadden DT. Stem cell engraftment at the endosteal niche is specified by the calcium-sensing receptor. Nature. 2006, 439(7076):599-60.

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34. Henderson JH, al-Waheeb S, Weins A, Dandapani, SV, **Pollak MR**. Mice with altered expression of α-actinin-4 exhibit distinct morphologic patterns of glomerular disease, Kidney International, 2008 Mar;73(6):741-50.

35. Lee SH, Weins A, Hayes DB, **Pollak MR**, Dominguez R. Crystal structure of the actin-binding domain of α-actinin-4 Lys255Glu mutant implicated in focal segmental glomerulosclerosis. J. Molecular Biology, 2008 Feb 15; 376(2):317-2

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39. Forman JP, Fisher ND, **Pollak MR**, Cox DG, Tonna S, Curhan GC. Renin-Angiotensin System Polymorphisms and Risk of Hypertension: Influence of Environmental Factors. J Clin Hypertens (Greenwich). 2008 Jun;10(6):459-466.

40. Ward SM, Weins A, **Pollak MR**, Weitz DA. Dynamic viscoelasticity of actin cross-linked with wild-type and disease-causing mutant α-actinin-4. Biophys J. 2008. Nov 15;95(10):4915-23.

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42. Schlöndorff J., del Camino D, Carrasquillo R, Lacey V, **Pollak MR**. TRPC6 mutations associated with focal segmental glomerulosclerosis cause constitutive activation of NFAT-dependent transcription. American Journal of Physiology. 2009 Mar;296(3):C558-69.

43. Henderson JM, Alexander MP, **Pollak MR**. Distinctive features of glomerular injury in patients with *ACTN4* mutations. J. Am. Soc. Nephrol. 2009 May;20(5):961-8.

44. Egbuna OI, Quinn SJ, Kantham L, Butters R, Pang JL, **Pollak MR**, Goltzman D, Brown EM. The Full Length Calcium-Sensing Receptor Dampens the Calcemic Response to 1α25(OH)2 Vitamin D3 In vivo Independent of Parathyroid Hormone. Am J Physiol Renal Physiol. 2009 May 27.

45. Brown EJ, Schlöndorff JS, Becker DJ, Tsukaguchi H, Uscinski AL, Higgs HN, Henderson JM, **Pollak MR**. Mutations in the formin gene INF2 cause focal segmental glomerulosclerosis. Nat Genet. 2010 Jan;42(1):72-6.

46. Rhee EP, Souza A, Farrell L, **Pollak MR**, Lewis GD, Steele DJ, Thadhani R, Clish CB, Greka A, Gerszten RE. Metabolite profiling identifies markers of uremia. J.Am Soc Nephrol. 2010 Jun;21(6):1041-1051.

47. Sun W, Sun W, Liu J, Zhou X, Xiao Y, Karaplis A, **Pollak MR**, Brown E, Goltzman D, Miao D. Alterations in phosphorus, calcium and PTHrP contribute to defects in dental and dental alveolar bone formation in calcium-sensing receptor-deficient mice. Development. 2010 Mar;137(6):985-92.

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53. Shao H, Wang JH, **Pollak MR**, Wells A. α-Actinin-4 Is Essential for Maintaining the Spreading, Motility and Contractility of Fibroblasts. PLoS One. 2010 Nov 11;5(11):e13921.

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Invited Articles, Reviews, Chapters:

1. Brown EM, **Pollak MR**, Chou Y-HW, Seidman CE. Calcium Sensing Receptor: A Molecular Mechanism for Extracellular Ca2+ Sensing by Parathyroid and Kidney Cells. N Engl J Med 1995; 333(4):234-40.
2. Hebert SC, **Pollak MR**, Riccardi D, Brown EM. Un Receptor du Ca2+: De la Physiologie aux Anomalies Genetiques de l'Homeostasie du Calcium. Flammarion Medical Sciences - Actualites Nephrologiques 1995; 183-193.
3. Brown EM, **Pollak MR**, Hebert SC. Sensing of Extracellular Calcium by Parathyroid and Kidney Cells: Cloning and Characteristics of an Extracellular Ca2+-Sensing Receptor. Am J Kid Dis 1995; 25(3):506-10.
4. Brown EM, **Pollak MR**, Chou Y-H, Seidman CE, Seidman JG, Hebert SC. Cloning and Functional Characterization of Extracellular Ca2+-Sensing Receptors from Parathyroid and Kidney. Bone 1995; 17(2):7S-11S.
5. Brown EM, **Pollak MR,** Chou Y-H, Seidman CE, Seidman JG, Hebert SC. The Cloning of Extracellular Ca2+-Sensing Receptors from Parathyroid and Kidney: Molecular Mechanisms of Extracellular Ca2+ Sensing. J Nutrition 1995; 125(7S):1965S-1970S.
6. **Pollak MR,** Seidman CE, Brown EM. Three Inherited Disorders of Calcium Sensing. Medicine 1996; 75:115-123.
7. Hebert SC, **Pollak MR**, Riccardi D, Brown EM. A Ca2+-sensing receptor: from physiology to inherited disorders of calcium homeostasis. In Maxwell MH, Advances in Nephrology, Vol 25, Mosby, 1996: 245-6.
8. **Pollak MR**, Brown EM. Molecular Aspects of Familial Hypocalciuric Hypercalcemia. In: LeRoith D, ed. Advances in Molecular and Cellular Endocrinology. Greenwich: JAI press, 1997:229-39.
9. **Pollak MR** Disturbances of Calcium Metabolism. In Brenner B ed, The Kidney, WB.Saunders. 1999:1037-54
10. Kaplan J, **Pollak MR**. Familial focal segmental glomerulosclerosis. Current Opinion in Nephrology and Hypertension. 2001; 10:183-7
11. **Pollak, MR**. Inherited Podocytopathies. Journal of the American Society of Nephrology. November 2002; 13: 3016-23.
12. **Pollak MR**, Yu A. Disturbances of Calcium, Phosphate, and Magnesium Homeostasis. In Brenner B ed, The Kidney, WB.Saunders. 2003: 1041-76
13. **Pollak MR**. The genetic basis of FSGS and steroid-resistant nephrosis. Seminars in Nephrology, 2003; 23:141-6.
14. **Pollak MR**. Genetic Aspects of Glomerulonephritis and Nephrosis. In Lichtenstein LM ed, Current Therapy in Allergy, Immunology, and Rheumatology, Mosby. 2004:141-2.
15. Möller CC, **Pollak MR**, Reiser J. The genetic basis of human glomerular disease, Adv Chronic Kidney Dis. 2006 Apr;13(2):166-73.
16. Dandapani SV, **Pollak MR**. The glomerular filter: Biologic and genetic complexity. Kidney Int. 2006 Sep;70(6):980-2.
17. Schlöndorff JS, **Pollak MR.,** TRPC6 in glomerular health and disease: what we know and what we believe, Semin Cell Dev Biol. 2006 Dec; 17(6):667-74.
18. **Pollak MR**, Alexander MP, Henderson JM. A case of familial kidney disease. Clin J Am Soc Nephrol. 2007 Nov; 2(6):1367-74.
19. Tayler E, **Pollak MR**, Yu A, Disturbances of Calcium, Magnesium, and Phosphate Metabolism. In Brenner B ed, The Kidney, WB.Saunders. 2007.
20. Mount D and **Pollak MR**, editors, Molecular and Genetic Basis of Kidney Disease, Elsevier, 2007.
21. Reiser J and **Pollak MR**, Inherited disorders of podocyte function, in Brenner B ed, The Kidney, 2007.
22. **Pollak MR**, Focal segmental glomerulosclerosis: recent advances. Curr Opin Nephrol Hypertens. 2008 Mar;17(2):138-142.
23. **Pollak MR**. Kidney disease and African ancestry. Nat Genet. 2008 Oct;40(10):1145-6.
24. **Pollak MR.** Surprising results following conditional podocyte inactivation. J Am Soc Nephrol. 2009 Oct;20(10):2086-8.

25. **Pollak MR**. Expanding the spectrum of NPHS1-associated disease. Kidney Int. 2009 Dec;76(12):1221-3.
26. **Pollak MR**. Genetics and genetic testing in kidney disease: introduction. Semin Nephrol. 2010 Jul;30(4):355
27. Parikh SM, **Pollak MR**. VEGF receptors and glomerular function. J Am Soc Nephrol. 2010 Oct;21(10):1599-600
28. Shankland SJ, **Pollak MR**. A suPAR circulating factor causes kidney disease. Nat Med.2011 Aug 4;17(8):926-7.
29. **Pollak MR**, Genovese G, Friedman DJ. APOL1 and kidney disease. Curr Opin Nephrol Hypertens. 2012 Jan 17.
30. Genovese, G, Friedman, DJ, and **Pollak, MR**. APOL1 variants and kidney disease in people of recent African ancestry. *Nature reviews. Nephrology* 9:240-244,2013.
31. Brown EJ, **Pollak MR**, and Barua M. Genetic testing for nephrotic syndrome and FSGS in the era of next-generation sequencing. *Kidney international.* 2014;85(5):1030-8.
32. **Pollak MR**. Modifiers of Cardiac Phenotypes. *Circ Cardiovasc Genet.* 2015;8(3):425-6.
33. **Pollak MR**. Idiopathic pediatric chronic kidney disease: can genomic technology crack the case? *The Journal of clinical investigation.* 2015;125(5):1799-800.
34. Toka HR, **Pollak MR**, and Houillier P. Calcium Sensing in the Renal Tubule. *Physiology (Bethesda).* 2015;30(4):317-26.
35. Sampson MG, **Pollak MR**. Opportunities and Challenges of Genotyping Patients With Nephrotic Syndrome in the Genomic Era. Semin Nephrol. 2015;35(3):212-21. doi: 10.1016/j.semnephrol.2015.04.002.
36. Friedman DJ, **Pollak MR**. Apolipoprotein L1 and Kidney Disease in African Americans. Trends Endocrinol Metab. 2016;27(4):204-15.

Books edited

Mount D and **Pollak MR**, editors. Molecular and genetic basis of renal disease. Saunders, 2007.

Narrative Report

The broad focus of my research is to understand the genetic basis of kidney disease. A major interest is to identify and understand genes involved in the development of focal segmental glomerulosclerosis (FSGS), a common form of chronic renal injury. My lab identified ACTN4, encoding α-actinin-4, as the cause of disease in FSGS-1 linked families. We have demonstrated altered actin binding activity in the mutant protein. Current studies are focusing on the function of ACTN4 and the mechanism of this form of kidney disease using mouse models, cell biologic, and biophysical approaches. Our recent evidence suggests that mutations, stress, and phosphorylation regulate exposure of a normally hidden actin-binding site. Recently, we identified a new FSGS gene, the formin family member INF2. Mutations in INF2, which we have found to interrupt both intra- and inter- molecular interactions, cause a slowly progressive form of FSGS. We are extending these efforts in a variety of ways: My lab continues to collect families and sporadic patients with FSGS for genetic studies. We have identified a number of disease causing mutations in the NPHS2 and TRPC6 genes. By genome-wide linkage analysis we have identified new FSGS loci and rare genetic variants in FSGS families and patients, and are now working to refine these loci and identify the causal genes and their variants.

Recently, we have focused increased attention on understanding the high rate of FSGS and hypertension-associated kidney disease in African Americans. We showed that two common coding sequence variants in the APOL1 gene confer both resistance to trypanosoma b. rhodiesiense infection (an African sleeping sickness agent) and 7 to 10 fold increased susceptibility to these forms of kidney disease. These variants in APOL1 appear to explain most of the increased incidence of non-diabetic kidney disease in people of recent African descent. We continue to study the genetics and biology of this form of disease using a variety of approaches, including human genetics, cell biology, and the development of new animal models.

A minor focus of study is the extracellular calcium receptor (CaR). Previously, I cloned the human CaR gene and demonstrated that defects in this gene cause three distinct disorders of extracellular calcium homeostasis. Our current work utilizes mouse models to further define the role of CaR in the diverse cell types in which it is expressed. We have recently developed new mouse models (including a floxed CaR mouse) and are using these mice to better define the role of CaR in the multiple cell types in which it is expressed. We have initiated collaborative efforts to investigate the role of CaR and other genes in the genetic basis of kidney stone disease. This work involves collaborators in the Nurses Health Study, and uses genome-wide associations and deep resequencing to identify the genetic basis of kidney stones and related phenotypes.

My teaching roles at HMS have included supervising the thesis work of three graduate students, serving as a tutor in the BBS Genetics 330 and HMS GDRB courses, lecturing to the HMS Genetics Training Program students in renal genetics, serving on PQE exam committees, and speaking at multiple HMS continuing medical education courses in renal genetics.

In summary, the major focus of my work is research into the genetic basis of kidney disease. I have a major administrative role as the Chief of Nephrology at Beth Israel Deaconess Medical Center. I teach at HMS in various settings as a lecturer, clinical supervisor, and laboratory mentor.

Akkihebbal Ramaiah RAVISHANKARA

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Education

Ph.D., Physical Chemistry, University of Florida	1975
M.Sc., Physical Chemistry, University of Mysore, India	1970
B.Sc., Physics and Chemistry, University of Mysore, India	1968

Employment History

University Distinguished Professor, Colorado State University	2017- to present
Professor, Colorado State University	Jan 2014- to present
National Oceanic and Atmospheric Administration	
Director, Chemical Sciences Division, Earth System Research Laboratory	Apr 2007–Jan 2014
Acting Director, Chemical Sciences Division, ESRL	Mar 2006–Apr 2007
Senior Executive Service (SES)	Mar 2007–Jan 2014
Senior Scientist (ST)	1997–Mar 2007
Chief, Atmospheric Chemical Kinetics Program	1993–Oct 2007
Supervisory Research Chemist	1992–1997
Research Chemist	1984–1992
University of Colorado–Boulder	
Professor of Chemistry, Adjoint	1989–2012
Georgia Institute of Technology	
Head of Molecular Sciences Branch, Georgia Tech Research Inst	1979–1985
Principal Research Scientist (equivalent to Professor)	1983–1985
Senior Research Scientist (equivalent to Associate Prof.)	1980–1983
Research Scientist II (equivalent to Assistant Prof.)	1976–1980
University of Maryland, Research Associate (post-doc)	1976

Current Fields of Interest

Atmospheric chemistry; chemical kinetics; photochemistry; heterogeneous and multiphase chemistry; aerosol formation and properties; measurement of atmospheric constituents; interpretation of atmospheric models; scientific information for policy decisions

Awards and Recognition over the past 20 years

Honorary Doctorate, University of York, UK	2017
Gordon Lecturer, University of Toronto, Toronto, Canada	2015
York University Public Lecturer, York, UK	2014
NOAA Administrator's Award	2014

Crandell Lecturer, University of Texas, Arlington	2013
Harold Schiff Memorial Lecturer, Univ. of York	2012
US Department of Commerce, Bronze Medal	2012
Hinshelwood Lecturer, University of Oxford, UK	2010
Morino Foundation Fellow, Japan	2009
Welch Foundation Lecturer, Texas	2009
Centenary Lecturer, Indian Institute of Science, India	2008
Fellow, International Union of Pure and Applied Chemistry	2008
NOAA Administrator's award	2008
US Department of Commerce, Bronze Medal	2008
US Department of Commerce, Bronze Medal	2007
Fellow, Royal Society of Chemistry (United Kingdom)	2005
Chancellor Lecturer, Louisiana State University	2005
American Chemical Society's Award on Creative Advances in Environmental Sciences	2005
US Presidential Rank Meritorious Award for a senior professional	2004
Royal Society of Chemistry (UK) Centenary Lecturer	2003
Crawford Lecture, University of Minnesota	2003
Fellow, American Association for the Advancement of Science	2001
Elected to US National Academy of Sciences	2000
Robertson Memorial Lecturer and medal, US National Academy of Sciences	1999
Polanyi Medal of Royal Society of Britain (Gas Kinetics Division)	1998
Fellow, American Geophysical Union	1997
US EPA, Stratospheric Ozone Protection Award	1996
US Department of Commerce, Silver Medal	1995
Multiple NOAA/OAR Outstanding Scientific Paper Awards	1995–2011

External Activities over the past 25 years

Co-Chair, NSF Site Visit Committee to review University Corporation for Atmospheric Research	2016
Member of Editorial Board of PNAS, US National Academy of Sciences	2016-present
Chair, Vienna Trust Fund Advisory Panel, UNEP	2015-present
Chair, Board on Atmospheric Science and Climate of the US National Academy of Science	2015- present
Member Editorial Board, CHEM	2015- present
Member Editorial Advisory Board, ACS Central Science	2015-2016
Member Editorial Advisory Board, Current Science, India	2014-present
Member, National Academy of Sciences Committee on "A strategic vision for NSF investments in Antarctic and southern ocean research, NRC	2008–2010
Member, Science Advisory Panel Climate and Clean Air Coalition (CCAC) of United Nations Environment Programme	2013- present
Chair, Review panel on climate and atmosphere,	

Helmholtz Association, Germany	2012-2013
Air Quality Research Subcommittee of the Committee on Environment and Natural Resources, US Government	2012-2014
Co-chair, Scientific Assessment Panel of the Montreal Protocol	2007–2015
Member, Advisory Editorial Board, *Physical Chem. Chem. Phys.*	2003–2015
Member, Board of the International Atmospheric Chemistry Society	2010–present
Guest Editor, *Chemical Reviews*, Issue on Role of Chemistry in Climate	2014-2015
Co-Chair, Interagency Working Group on Atmospheric Composition, US Climate Change Science Program (CCSP)	2005–2011
Member, National Academy of Sciences Committee on America's Climate Choices, Panel on Advancing the Science of Climate Change	2008–2010
Co-Chair (founding), Atmospheric Chemistry and Climate (ACC) joint project between WCRP/SPARC and IGBP/IGAC	2007–2009
Co-Chair, SPARC/WCRP Group on Upper Troposphere/ Lower Stratosphere Chemistry	1995–2009
Member, Scientific Steering Committee, Montreal Protocol Scientific Assessment Panel for *Scientific Assessment of Ozone Depletion: 2006*	2005–2007
Co-Lead, US CCSP Synthesis and Assessment Product 2.4 ("Trends in Emissions of Ozone-Depleting Substances, Ozone Layer Recovery, and Implications for Ultraviolet Radiation Exposure")	2005–2008
Co-Chair, SPARC Scientific Steering Group (SSG)	2004–2007
Member of the Scientific Steering Group, SPARC/WCRP	2000–2007
Co-Chair, SPARC/IGAC initiative on Laboratory Atmospheric Chemistry, Joint with IGAC/IGBP	1998–2008
Member, NASA Panel for Evaluation of Chemical Kinetics and Photochemical Data for Use in Stratospheric Modeling	1982–2007
Member, National Research Council Committee on Aeronautics Research and Technology for Environmental Compatibility	2000–2006
Advisory Editor, Chemical Physics Letter	1994–2005
Member, International Council on Middle Atmosphere	1999–2004
Guest Editor, *Chemical Reviews*, Issue on Atmospheric Chemistry—Long-Term Issues	2003
Editor, *Geophysical Research Letters*-Atmospheric Chemistry	1999–2001
Associate Editor, *Journal of Geophysical Research -Atmospheres*	1996–1998
Member, National Academy of Sciences Committee on Use of Halons in the Navy	1996–1997
Member, NASA Advisory Panel on Atmospheric Effects of High-speed Aircraft	1989–1995
Member, Editorial board, *International Journal of Chemical Kinetics*	1993–1995

Member, NAS/NRC Committee on Atmospheric Chemistry	1991–1995
Associate Editor, *Journal of Geophysical Research -Atmospheres*	1984–1993

Dr. Ravishankara has worked over the past four decades on the chemistry of the Earth's atmosphere as it relates to stratospheric ozone depletion, climate change, and regional air quality. His measurements in the laboratory and in the atmosphere along with model calculations have contributed to deciphering the ozone layer depletion, including the ozone hole; to quantifying the role of chemically active species on climate; and to advancing understanding of the formation, removal, and properties of air pollutants. He is an author or coauthor of more than 350 peer-reviewed publications with nearly 18 thousand citations and an H-Index of 71 (according to Web of Science) and with over 28 thousand citations and an H-Index of 80 (according to Google Scholar).

Ravishankara's Publications:

1. Edwards, P.M., et al., (2017), Transition from high NOx to low- to-low-NOx control of night-time oxidation in the southeastern US, Nature Geoscience, 10, 490, DOI: 10.1038/NGE02976.
2. Zhou, L., A.R. Ravishankara, S.S. Brown, M. Idir, K.J. Zarzana, V. Daele, A. Mellouki, (2017), Kinetics of the reaction of NO3 radical with methacrylate esters, J. Phys. Chem., 121, 4464-4474, DOI: 10.1021/acs.jpca.7b02332.
3. Brewer, J.F., M. Bishop, M. Kelp, C.A. Keller, A.R. Ravishankara, and E.V. Fischer, (2017) A sensitivity analysis of key natural factors in the modeled global acetone budget, J. Geophys. Res., 122, 2043, DOI: 10.1002/2016JD025935.
4. Butler, A.H., J.S. Daniel. R.W. Portmann, A.R. Ravishankara, P.J. Young, D.W. Fahey, K.H. Rosenlof, (2106) Diverse policy implications for future ozone and surface UV in a changing climate, Env. Res. Lett., 11, DOI: 10.1088/1748-9326/11/6/064017
5. Seinfeld, J. H. et al (22 authors) (2016), Improving our fundamental understanding of the role of aerosol-cloud interactions in the climate system, Proc. Nat. Acad. Scie., 113, 5781-5790.
6. Warnecke, C., M. Trainer, J.A. de Gouw, D.D. Parrish, D.W. Fahey, A.R. Ravishankara, et al. (51 authors), Instrumentation and measurement strategy for the NOAA SENEX aircraft campaign as part of the Southeast Atmosphere Study 2013, Atmos. Meas. Tech., 9, 30163-3093
7. X. Fang, G. J. M Velders, A.R. Ravishankara, M. J. Molina, J. Hu, and R. G. Prinn (2016), Hydrofluorocarbons (HFCs) emissions in China: an inventory for 2005–2013 and projections to 2050, Env. Scie.&Tech., DOI: 10.1021/acs.est.5b04376
8. Ravishankara, A. R.(2015) Why do we do the science we do, Current Science, 2015.
9. Ravishankara, AR, Y. Rudich, J.A. Pyle, JA (2015), Role of Chemistry in Earth's Climate, Chem. Rev., 115, 3679-3681, DOI: 10.1021/acs.chemrev.5b00226
10. Ravishankara, AR, Y. Rudich, D.J. Wuebbles (2015), Physical Chemistry of Climate Metrics, Chem. Rev., 115, 3682-3703, DOI: 10.1021/acs.chemrev.5b00010
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351. Ravishankara A, Wine P, and Langford A (1979) Absolute rate constant for the reaction OH (V = O)+O3-]HO2 +O2 over the temperature-range 238-degrees-K-357-degrees-K. *Journal of Chemical Physics* 70(2):984-989.
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359. Ravishankara A and Hanrahan R (1977) Gamma-radiolysis of 1,1,2,2-tetrafluorocyclobutane in gas-phase. *Radiation Physics and Chemistry* 10(3):183-189.
360. Ravishankara A, Davis D, Smith G, Tesi G, and Spencer J (1977) Study of chemical degradation of CLONO2 in stratosphere. *Geophysical Research Letters* 4(1):7-9.
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July, 2017

CURRICULUM VITA

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DATE OF BIRTH: (b) (6)

PLACE OF BIRTH: (b) (6)

MARITAL STATUS: (b) (6)

EDUCATION:

1966 - 70	A.B.	University of Chicago
1970 - 76	M.D.	University of Chicago

POSTGRADUATE TRAINING:

1976 - 78	Internal Medicine Resident, Mount Auburn Hospital Cambridge, Massachusetts
1980 - 82	Preventive Medicine Resident, Centers for Disease Control (CDC) - Atlanta, Georgia

POSITIONS HELD:

1979 - 80	Epidemic Intelligence Service Officer, State of Connecticut - Department of Health Services Hartford, Connecticut
1980 - 81	Epidemic Intelligence Service Officer, Special Pathogens Branch - Bacterial Diseases Division Centers for Disease Control (CDC) - Atlanta, Georgia
1981 - 85	Assistant Chief, Respiratory & Special Pathogens Epidemiology Branch, Center for Infectious Diseases Centers for Disease Control (CDC) - Atlanta, Georgia
1985 - 87	CDC Liaison Officer, Office of the Director Centers for Disease Control - Atlanta, Georgia

FACULTY APPOINTMENTS:

1979 - 80	Instructor, Department of Medicine (Epidemiology) University of Connecticut - Hartford, Connecticut
1985 - 87	Visiting Lecturer, Department of Biomedical and Environmental Health Sciences (Epidemiology) University of California, Berkeley
1987 -	Professor of Epidemiology, School of Public Health, University of California, Berkeley
1989 -	Professor, Department of Epidemiology and Biostatistics - University of California, San Francisco

FACULTY APPOINTMENTS: (CONTINUED)	1990 - 94	Head, Epidemiology Program, Department of Biomedical and Environmental Health Sciences, University of California, Berkeley
	1991 -	Clinical Professor, Department of Medicine University of California, San Francisco
	1994 - 2000	Head, Division of Public Health Biology and Epidemiology University of California, Berkeley
	2000 -	Head, Division of Epidemiology, School of Public Health, University of California, Berkeley
	2008 - 2014	Associate Dean for Research, School of Public Health, University of California, Berkeley
	2009 - 2014	Edward Penhoet Distinguished Chair for Global Health and Infectious Disease
MEDICAL LICENSURE:		California
BOARD CERTIFICATION:	1980	American Board of Internal Medicine
AWARDS:	1970 - 74	Medical Scientist Training Program
	1985	Commendation Medal, U.S. Public Health Service
	1986	Charles Shepard Award, Centers for Disease Control (CDC)
MEMBERSHIPS:	1970	Sigma Xi
	1978	American College of Physicians
	1983	American Society for Microbiology
	1984	Society for Epidemiologic Research
	1986	Infectious Disease Society of America (Fellow)
	1988	American Epidemiological Society
	1991	American College of Epidemiology (Fellow)
	1994	AAAS (Fellow)
	2003	Institute of Medicine (Member)

PROFESSIONAL ACTIVITIES

CONSULTATIONS:	1981	Institute of Medicine: Toxic-shock syndrome
	1981	Food and Drug Administration: Toxic-shock syndrome
	1982	United States Agency for International Development: Control of meningococcal meningitis in West Africa
	1983	World Health Organization (WHO): Control of meningococcal meningitis in Nepal
	1983	East-West Center, University of Hawaii: Role of indoor air pollution in acute respiratory infections in developing countries
	1984	Institute of Medicine: Meningococcal vaccines
	1986	World Health Organization (WHO): Control of meningococcal meningitis in South Asia

CONSULTATIONS: (CONTINUED)	1987 - 1993	Center for Child Survival, University of Indonesia: Control of Acute Respiratory Infections
	1988	Evaluation of the Combating Communicable Childhood Disease Program, Ivory Coast
	1994	Evaluation of National Epidemiology Board Program, Rockefeller Foundation
	1995	Planning of a School-based Acute Rheumatic Fever Prevention Project - New Zealand Heart Foundation
	1995	Vaccines Advisory Committee, Food & Drug Administration Approval of accellular pertussis vaccine
	1996	External Reviewer, NIAID Group B Streptococcus Research Contract with Harvard University
	1996 - 2000	U.S. Food and Drug Administration; Consultant to the Vaccines Advisory Committee
	1996	World Health Organization, Consultation on Control of Meningococcal Meningitis in Africa
	1998 – 2002	Advisor to the INCLEN "Indiaclen" project
	2002 – 2003	Evaluation of a School-based Acute Rheumatic Fever Prevention Project – New Zealand Heart Association
ADVISORY BOARDS AND PANELS:	1988 - 1989	Member, Advisory Committee on Ground Water and Reproductive Outcomes, State of California Department of Health Services
	1989 - 1990	AIDS Advisory Committee, Alameda County Board of Supervisors
	1989 - 1993	Advisory Committee, Birth Defects Monitoring Program, State of California Department of Health Services
	1993 - 1995	Centers for Disease Control (CDC): Public Health Service Advisory Panel on the Case Definition for Lyme Disease
	1992 - 1994	World Health Organization (WHO): Task Force on Strengthening Epidemiologic Capacity; Childhood Vaccine Initiative
	1996 - 2000	Armed Forces Epidemiological Board
	1997 - 2012	University of California, San Francisco AIDS Research Institute Steering Committee
	1998 - 2003	Emerging Infections Committee of the Infectious Diseases Society of America
	1998 – 2000	Panelist, Howard Hughes Medical Institute Predoctoral Fellowship
	2001 - 2006	Technical expert, Sub-Committee on the Protection of Public Health; California State Strategic Committee on Terrorism
	2003 - 2008	Advisory Board, Chinese University of Hong Kong – Centre for Emerging Infectious Diseases

ADVISORY BOARDS AND PANELS (CONTINUED)	2004 -	Advisory Board, University of California, Berkeley Clinical Research Center
	2004 - 2008	Advisory Board, New York University School of Medicine Fellowship in Medicine and Public Health Research
	2004 - 2005	Institute of Medicine Committee on Measures to Enhance the Effectiveness of CDC Quarantine Station Plan for U.S. Ports of Entry
	2005 - 2012	Strategic Advisory Group of Experts (SAGE) for Vaccine Policy, World Health Organization (WHO) (Deputy Chairman, 2010-2012)
	2005 -	Data and Safety Monitoring Committee; F.I. Proctor Foundation, University of California, San Francisco (UCSF)
	2007 - 2012	NIH Fogarty International Center External Advisory Board
	2007 - 2009	Chair, Working Group on Pneumococcal Vaccine, Strategic Advisory Group of Experts (SAGE), World Health Organization (WHO)
	2008 - 2012	Working Group on H5N1 Influenza Vaccines, Strategic Advisory Group of Experts (SAGE), World Health Organization (WHO)
	2008 - 2011	Chair, Leptospirosis Burden Epidemiology Reference Group, World Health Organization (WHO)
	2008 - 2012	National Biosurveillance Advisory Subcommittee of the Advisory Committee to The Director, Centers for Disease Control and Prevention (CDC)
	2008 - 2009	Institute of Medicine Committee on the Review of Priorities in the National Vaccine Plan
	2009 - 2012	Chair, Working Group on Hepatitis A Vaccine, Strategic Advisory Group of Experts (SAGE), World Health Organization (WHO)
	2011 - 2013	Member, Institute of Medicine Committee on Vaccine Priorities
	2011 - 2014	Member, Working Group on Vaccine Hesitancy, Strategic Advisory Group of Experts (SAGE), World Health Organization (WHO)
	2012 - 2014	Chair, Review of the Heterologous Effects of Childhood Vaccines, World Health Organization (WHO)
	2012 - 2014	Chair, External Review of the Measles Rubella Initiative (of WHO, CDC, UNICEF, American Red Cross, and United Nations Foundation)
	2013 -	Advisory Committee on Immunization Practices (ACIP), U.S. Department of Health and Human Services
	2016-2017	Member, Institute of Medicine Committee on a National Strategy for the Elimination of Hepatitis B and C

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LEADERSHIP POSITIONS:

	1997 - 2012	Secretary-Treasurer, American Epidemiological Society
	2009 - 2010	President, Society for Epidemiologic Research
	2015 – 2016	President, American Epidemiological Society (AES)
EDITORIAL BOARDS:	1995 - 2000	Board of Editors, American Journal of Epidemiology
	2001 - 2005	Board of Editors, Epidemiology
	2005 -	Editorial Advisory Board, Global Public Health
	2009 - 2010	Editorial Advisory Board, American Journal of Epidemiology

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PUBLICATIONS:

1. Hayes RV, Pottenger LA, Reingold AL, Getz GS, Wissler RW. Degradation of I^{125} - labeled serum low density lipoprotein in normal and estrogen-treated male rats. Biochem Biophys Res Comm 1971;44:1471-1477.

2. Reingold AL, Kane MA, Murphy BL, Checko P, Francis DP, Maynard JE. Transmission of hepatitis B by an oral surgeon. J Infect Dis 1982;145:262-268.

3. Reingold AL, Dan BB, Shands KN, Broome CV. Toxic-shock syndrome not associated with menstruation: a review of 54 cases. Lancet 1982;1:1-4.

4. Bartlett P, Reingold AL, Graham DR, et al. Toxic-shock syndrome associated with surgical wound infections. JAMA 1982;247:1448-1450.

5. Reingold AL, Hargrett NT, Shands KN, et al. Toxic-shock syndrome surveillance in the United States, 1980-1981. Ann Intern Med 1982;96:875-880.

6. Reingold AL, Hargrett NT, Dan BB, Shands KN, Strickland BY, Broome CV. Nonmenstrual toxic-shock syndrome: a review of 130 cases. Ann Intern Med 1982;6:871-874.

7. Broome CV, Hayes PS, Ajello GW, Feeley JC, Gibson RJ, Graves LM, Hancock GA, Anderson RJ, Highsmith AK, Mackel DC, Hargrett NT, Reingold AL. In-vitro studies of interactions between tampons and Staphylococcus aureus. Ann Intern Med 1982;96:959-962.

8. Guinan ME, Dan BB, Guidotti RJ, Reingold AL, et al. Vaginal colonization with Staphylococcus aureus in healthy women: a review of four studies. Ann Intern Med 1982;96(pt.2):944-947.

9. Schlech WF III, Shands KN, Reingold AL, et al. Risk factors for development of toxic-shock syndrome: association with a tampon brand. JAMA 1982;248:835-839.

10. Reingold AL, Bank JD. Legionellosis. In: Easmon CSF, Jeljaszewicz J, eds. Medical Microbiology. London: Academic Press 1982 (I):217-239.

11. Reingold AL. Toxic-shock syndrome. In: Spittell JA Jr., ed. Clinical Medicine. Philadelphia: Harper & Row Publishers 1982 (II):1-6.

12. Kornblatt AN, Reingold AL. Legionellosis. In: Steele JH, Hillyer RV, Hopla CE, eds. CRC Handbook Series in Zoonoses. CRC Press 1982:313-324.

13. Wilkinson HW, Reingold AL, Brake JB, McGiboney DL, Gorman GW, Broome CV. Reactivity of serum from patients with suspected Legionellosis against 29 antigens of legionellaceae and Legionella-like organisms by indirect immunofluorescence assay. J Infect Dis 1983;147:23-31.

14. Meenhorst PL, Reingold AL, Gorman GW, et al. Legionella pneumonia in guinea pigs exposed to aerosols of concentrated potable water from a hospital with nosocomial Legionnaires' disease. J Infect Dis 1983;147:129-132.

15. Reingold AL. Nonmenstrual toxic-shock syndrome: the growing picture. JAMA 1983; 249:932 (editorial).

16. Reingold AL. Meningococcal meningitis. Nepal Paed Soc J 1983; 2:144-148.

17. Reingold AL, Broome CV, Phillips CJ, Meda H, Tiendrebeogo H, Yada A. Evidence of continuing protection against group A meningococcal disease one year after vaccination: a case-control approach. Med Trop 1983;43:225.

18. Reingold AL, Kane MA, Hightower AW. Disinfection procedures and infection control in the outpatient oral surgery practice. J Oral Maxillofac Surg 1984;42:568-572.

19. Broome CV, Reingold AL. Current issues in toxic-shock syndrome. In: Remington JS, Swartz MN, eds. Current clinical topics in infectious diseases. McGraw Hill 1984;65-85.

20. Herwaldt LA, Gorman GW, McGrath T, Toma S, Brake B, Hightower AW, Jones J, Reingold AL, et al. A new Legionella species, Legionella feeleii species nova, causes Pontiac fever in an automobile plant. Ann Intern Med 1984;100:333-338.

21. Ajello GW, Feeley JC, Hayes PS, Reingold AL, Bolan G, et al. Trans-isolate medium: a new medium for primary culturing and transport of Neisseria meningitidis, Streptococcus pneumoniae, and Haemophilus influenzae. J Clin Microbial 1984;20:55-58.

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Education:

2004	Sc.D.	Epidemiology & Environmental Health	Harvard School of Public Health. Boston, Massachusetts
1999	M.P.H.	Epidemiology & Quantitative Methods	University of Medicine and Dentistry of New Jersey (now Rutgers University), School of Public Health. Piscataway, New Jersey
1994	B.S.	Public Health	Rutgers University, Cook College. New Brunswick, New Jersey

Postdoctoral Training:

2004-2005 **Post-Doctoral Fellow**
Exposure, Epidemiology, & Risk Program
Department of Environmental Health
Harvard School of Public Health
Boston, Massachusetts
Mentor: Douglas Dockery, ScD

2004-2005 **Post-Doctoral Fellow**
Division of Aging, Department of Medicine
Brigham and Women's Hospital
Boston, Massachusetts
Mentors: Michael Gaziano, MD & Tobias Kurth, MD, ScD

Faculty Appointments:

2016-Present	**Associate Professor** - *Secondary Appointment* Department of Medicine University of Rochester School of Medicine and Dentistry Rochester, New York
2012-Present	**Associate Professor -** *Secondary Appointment:* Department of Environmental Medicine University of Rochester School of Medicine and Dentistry Rochester, New York
2012-Present	**Associate Professor** Department of Public Health Sciences (*new name*) Division of Epidemiology University of Rochester School of Medicine and Dentistry Rochester, New York
2010-2012	**Assistant Professor** Department of Community and Preventive Medicine (*old name*) Division of Epidemiology University of Rochester School of Medicine and Dentistry Rochester, New York
2010-2016	**Adjunct Assistant Professor** Department of Epidemiology Rutgers School of Public Health Piscataway, New Jersey
2009-2010	**Member** Cancer Institute of New Jersey UMDNJ-Robert Wood Johnson Medical School New Brunswick, NJ
2007-2010	**Visiting Scholar** Department of Entomology Rutgers University School of Environmental and Biological Sciences New Brunswick, New Jersey
2005-2010	**Member** Division of Environmental Epidemiology and Statistics Environmental and Occupational Health Sciences Institute UMDNJ-Robert Wood Johnson Medical School and Rutgers University Piscataway, New Jersey
2005-2010	**Assistant Professor** Department of Epidemiology University of Medicine and Dentistry of New Jersey (*now Rutgers*) School of Public Health Piscataway, New Jersey

Administrative Appointment:

2014-Present **Associate Director**
Center for Energy and Environment
University of Rochester
Rochester, New York

Professional Societies

1999 - Present	International Society of Environmental Epidemiology	Member
2005 – 2010	Society for Epidemiologic Research	Member
2005 – 2010	International Society of Exposure Science	Member
2012 – 2014	American Thoracic Society	Member

Journal Publication Reviews

Associate Editor:	Inhalation Toxicology
Editorial Review Board (former):	Environmental Health Perspectives
Ad hoc reviewer:	American Journal of Epidemiology
	Epidemiology
	Circulation
	Epidemiologic Perspectives & Innovations
	Environmental Health
	Environmental Science & Technology
	Journal of Toxicology and Environmental Health
	Journal of Epidemiology and Community Health
	Particle and Fibre Toxicology
	PLOS ONE

Grant Reviews

2012 NIEHS/EPA – Children's Environmental Health Sciences Centers (ZES1 LWJ-K P01)
2012 Health Effects Institute
2013 NIH - (IRAP) Infectious, Reproductive, Asthma, and Pulmonary Conditions Study Section
2013 NIH – Exploratory/Developmental Research Grants (R21): Time Sensitive Study Section (ZES1 SET-J(ET))
2014 NIH – Kidney, Nutrition, Obesity, and Diabetes Study Section
2015 NIEHS/EPA - ZRG1 HDM-S (50) Center on Environmental Health Disparities Research Study Section
2015 NIH – ZRG1 PSE-U 02 M – Review of IRAP Member Submissions Study Section
2015 NIH – ZES1 LKB-D (K-9) Training for Career Independence in Environmental Health Sciences Study Section
2016 NIH - Environmental Influences on Children's Health Outcomes (ECHO), Pediatric Cohorts Special Emphasis Panel (SEP)
2016 NIH - ZRG1 PSE-02 M – Review of KNOD and SPSS Submissions – *Stand-in-Chair*
2017 NIH - ZRG1 PSE-V (90) R - Infectious Diseases, Reproductive Health, Asthma and Pulmonary Conditions: Small Grant Mechanisms – *Chair*

Committee Service:

2015	University of Rochester – Chair, Organizing Committee for Environmental Health Sciences Research Day 2015
2015	University of Rochester – Faculty Promotion Review - Ad Hoc Committee
2013 – Present	University of Rochester School of Medicine and Dentistry, Medical Faculty Council – Alternate Representative, Department of Public Health Sciences
2013 – Present	University of Rochester School of Medicine and Dentistry, Environmental Health Sciences Center – Integrative Health Sciences Facility Core – Steering Committee
2013 – 2016	University of Rochester - Strategic Plan Actualization and Review Committee
2011 – 2015	University of Rochester School of Medicine and Dentistry, "Women's Health and the Environment over the Entire Lifespan" Training Program – Advisory Committee
2010 – Present	University of Rochester School of Medicine and Dentistry, Department of Public Health Sciences – Graduate Program Committee
2006-2010	UMDNJ Biopharma Educational Initiative – Admissions Committee
2006-2010	UMDNJ School of Public Health - Committee on Technology; Website Subcommittee (Chair); Marketing Committee; Doctoral Committee; Course Evaluation Committee; Research Committee; Secretary of the Faculty; Executive Council; By-laws Committee
2005-2006	UMDNJ IST Educational Governance Committee
2005-2006	UMDNJ President's Strategic Planning Advisory Committee

Other Professional Activities

2017	External Reviewer	Health Effects Institute, Final Report
2016	Member, Site Visit Team	Health Effects Institute – Georgia Technical University, Atlanta, Georgia
2016	Invited Speaker	Workshop on the Health Risks of Indoor Exposure to Particulate Matter – National Academies of Sciences, Engineering, and Medicine, Washington D.C.
2015	Invited Participant	Workshop to draft "*What defines an adverse effect of air pollution*" – European Respiratory Society and American Thoracic Society, Brussels, Belgium
2013	External Examiner	PhD Thesis Defense – Susan Henschel: Dublin Institute of Technology, Dublin, Ireland
2013-Present	Trainer	University of Rochester Pulmonary and Critical Care Training Program (T32-HL066988)
2012-2014	Member	Planning Committee for the International Conference: American Thoracic Society
2012-Present	Trainee	University of Rochester Environmental Biostatistics T32 Training Program (T32-ES007271)
2011	Reviewer	California Public Health Goal – Perchlorate

2008-2009	Author	US Environmental Protection Agency, National Center for Environmental Assessment - Integrated Science Assessment for the National Ambient Air Quality Standard for Particulate Matter
2008	Reviewer	Association of Schools of Public Health / Centers for Disease Control – Allan Rosenfield Global Health Fellowship Program

Honors and Awards

2015	George H. Cook Distinguished Alumni Award: Rutgers University, Cook College Alumni Association
2014	International Society of Environmental Epidemiology - Best Environmental Epidemiology Paper of 2013: *Faiz AS, Rhoads GG, Demissie K, Lin Y, Kruse L,* ***Rich DQ****. Does ambient air pollution trigger stillbirth? Epidemiology 2013;24(4):538-544.*
2009	UMDNJ (now Rutgers), School of Public Health Student Government Association Excellence in Teaching Award
1990-1994	General Honors Program (B.S.): Rutgers University, Cook College, New Brunswick, NJ
1993-1994	George H. Cook Scholar (B.S.): Rutgers University, Cook College, New Brunswick, NJ
1994	B.S. (with Honors): Rutgers University, Cook College, New Brunswick, NJ

Teaching Responsibilities

A. University of Rochester

2011-2017	**Environmental and Occupational Epidemiology (PM 470: 3 credits)** Co-Director 12-30 Students each year (PhD, MPH, MS, BA, and BS students)
2010-2017	**Advanced Epidemiology Methods (PM 416: 3 credits)** Director 14-23 Students each year (PhD, MPH, MS students)
2015-2017	**Concepts of Epidemiology (PH 103: 4 credits)** Director 148-150 Students each year (BA, BS students)
2016	**Scientific Writing for Epidemiology (PM 494: 3 credits)** Director 1 Student (PhD)

B. University of Medicine and Dentistry of New Jersey (now Rutgers University), School of Public Health

2009-2010	**Environmental & Occupational Epidemiology (2 courses over 2 years)** Director 15-20 Students each year (MPH and PhD students)
2008-2010	**Intermediate Epidemiology Research Methods (3 courses in 3 years)** Director 20-30 Students each year (MPH and PhD students)

2006-2007	**Epidemiology Research Methods (3 courses in 2 years)** Director 30 Students (MPH and PhD students)
2005-2008	**Department of Epidemiology Journal Club (4 years)** Coordinator 15 PhD Students and Faculty Members
1998	**Principles and Methods of Epidemiology (PHCO 0502)** Teaching Fellow 50 Students (MPH students)
1999	**Infectious Disease Epidemiology (EPID 0552)** Teaching Fellow 30 Students (MPH students)

C. Brigham and Women's Hospital

2004-2005	**Advanced SAS Programming** Instructor 15 Fellows (10 MD research fellows)

D. Harvard School of Public Health

2005	**Environmental and Occupational Epidemiology (ID 215)** Teaching Fellow 40 students (MS and ScD students)
2001-2002	**Principles of Epidemiology (EPI 200)** Teaching Fellow 100 Students (MS and ScD students)
2001	**Principles of Epidemiology (EPI 200s)** Teaching Fellow 50 Students (MS and ScD students)

E. Harvard Extension School

2001-2002	**Introduction to Epidemiology (NSCI E-161)** Teaching Fellow 85 Students (various academic degrees)

<u>Student Mentoring</u>

2017-Present	Erik Howell, MD University of Rochester – Master of Science, Clinical Investigation	Member, MS-CLI Thesis Committee Current Masters Student

Thesis: *"Evaluation of pulmonary capillary wedge pressure as a predictor of quality of life improvement after transcatheter aortic valve replacement"*

2016-Present	Rui Li, BS University of Rochester – Doctor of Philosophy in Epidemiology	Academic Advisor Current Doctoral Student

2014-Present	Meng Wang, MS University of Rochester – Doctor of Philosophy in Epidemiology	Advisor & Chair, PhD Thesis Committee Current Doctoral Candidate

Thesis: "*The influence of implantable cardioverter defibrillator on cardiac and mental health in patients with Long QT syndrome*"

2013-Present	Philip Meacham, MPH University of Rochester – Doctor of Philosophy in Epidemiology	Academic Advisor Current Doctoral Student

Dissertation Proposal Defense planned for Fall 2017

2012-2017	Timmy Li, BS University of Rochester – Doctor of Philosophy in Epidemiology	Advisor & Chair, PhD Thesis Committee

Thesis: "*The effect of neighborhood socioeconomic status on emergency stroke care: emergency medical services activation, adherence to guidelines, and timeliness of emergency care*"

2011-2017	Vanessa Assibey-Mensah, MPH University of Rochester – Doctor of Philosophy in Epidemiology	Advisor & Chair, PhD Thesis Committee

Thesis: "*Ambient particulate matter pollution and hypertensive disorders of pregnancy*"

2011-2016	Heather McGrane-Minton, MS University of Rochester – Doctor of Philosophy in Epidemiology	Member, PhD Thesis Committee

Thesis: "*Does maternal bitter taste sensitivity influence the type of foods consumed by her child?*"

2015-2016	Eric Kim, MD, MPH University of Rochester – Master of Science in Clinical Investigations	Member, Master's Thesis Committee

Thesis: "*Risk of Thromboembolism in Lung Cancer Patients treated with Cisplatin versus Carboplatin*"

2015-2016	Matthew Kottmann, MD, MPH University of Rochester – Master of Public Health	Chair, Master's Thesis Committee

Thesis: "*Pulmonary function and time to hospital discharge in LVAD patients post surgery"*

2015-2016	Sade Fridy, MPH University of Rochester – Master of Public Health Thesis: "*Inflammation and increased perceived stress in psoriasis patients*"	Chair, Master's Thesis Committee
2014-2015	Tara Foti, MPH University of Rochester – Master of Public Health Thesis: "*Infant and family factors associated with non-receipt of birth dose Hepatitis B vaccine in the Finger Lakes region of New York"*	Member, Master's Thesis Committee
2013-2014	Lauren Mack, RDMS, MPH University of Rochester – Master of Public Health Thesis: "*Head circumference to abdominal circumference ratio: Is this an accurate predictor of shoulder dystocia?*	Member, Master's Thesis Committee
2012-2015	Megan Herr, PhD University of Rochester – Doctor of Philosophy in Epidemiology Thesis: "*Brain cancer metastases and use of antidepressants*"	Advisor & Chair, PhD Thesis Committee
2012-2013	Kristin Evans, PhD University of Rochester – Doctor of Philosophy in Epidemiology Project: "*The relationship of local food prices to children's body mass index*"	Member, PhD Thesis Committee
2012-2013	Jacob Taylor, MPH University of Rochester – Master of Public Health Project: "*Use of publicly available recreation space and socioeconomic status*"	Chair, Master's Thesis Committee
2012-2013	Carla Velarde, MPH University of Rochester – Master of Public Health Project: "*Racial disparities in health-related quality of life among patients with colorectal cancer"*	Member, Master's Thesis Committee
2007-2010	Mark Katz, MPH UMDNJ SPH – Master in Public Health Project: "*Methodologic artifacts in adult sun protection habit trends*"	Advisor & Member, Master's Thesis Committee

2006-2010	Ambarina Faiz, MD, PhD UMDNJ SPH – Doctor of Philosophy Thesis: *"Ambient Air Pollution and Risk of Stillbirth in New Jersey 1998-2004"*	Advisor & Member, PhD Thesis Committee
2006-2013	Sampada Gandhi, PhD, MBBS UMDNJ SPH - Doctor of Philosophy Thesis: *"Effects of air pollutants on endothelial function"*	Academic Advisor & Member, PhD Thesis Committee
2005-2007	Wing Chow, PharmD, MPH UMDNJ, SPH - Master of Public Health Fieldwork Project: *"Association between Type II diabetes mellitus and non-vertebral fractures*"	Advisor & Chair, Master's Thesis Committee
2005-2008	Stella Man Chun Tsai, PhD UMDNJ, SPH – Doctor of Philosophy Thesis: *"Outdoor aeroallergens, air pollutants, and daily asthma hospitalization in two urban areas of New Jersey"*	Member, PhD Thesis Committee

Academic Advisor to over 25 additional MPH students

Post-Doctoral Fellow Mentoring

1. Jelani Wiltshire, PhD — University of Rochester School of Medicine and Dentistry
4/2013-3/2015 — Environmental Biostatistics Fellow

Project:

A. Ambient and controlled particle exposures as triggers for acute ECG-changes, and the role of total antioxidant status

Current Position: Analyst - Wells Fargo Bank

2. Kristin A. Evans, PhD — University of Rochester School of Medicine and Dentistry
8/2013-8/2015 — Pulmonary and Critical Care Fellow

Projects:

A. Particulate air pollution and differences in markers of thrombus formation and thrombolysis between ST elevation myocardial infarction and non-ST elevation myocardial infarction
B. Effects of ambient wood smoke exposure on the risk of myocardial infarction and biomarkers of systemic inflammation, coagulation, and thrombosis
C. Changes in birth weight, length, and head circumference associated with increased perchlorate exposure during pregnancy

Current Position: Research Analyst II – Truven Health Analytics

3. Daniel P. Croft, MD, MPH University of Rochester School of Medicine and Dentistry
7/2015 – 6/2017 Pulmonary and Critical Care Fellow

Projects:

A. Have changes in air pollution levels and composition reduced the risks of myocardial infarction and fetal growth restriction in Rochester, New York? - An accountability study
B. Effects of ambient wood smoke exposure on the risk of myocardial infarction and biomarkers of systemic inflammation, coagulation, and thrombosis

Current Position: Instructor of Pulmonary & Critical Care Medicine, University of Rochester

Grant Support

A. Current

2017-2018 **NIEHS – University of Rochester Environmental Health Sciences Center: Pilot Project Program**
PIs: David Rich and Philip Hopke
Total and direct costs = $30,000
"Development of a year around land use regression model to predict hourly secondary pollutant concentrations at any location in Monroe County: Application in a study of ST-elevation myocardial infarction"

2017-2018 **NIEHS – University of Rochester Environmental Health Sciences Center: Seed Project Funding**
PI: Katrina Korfmacher
Total and direct costs = $8,000
" Piloting community engagement in air quality/health research in Monroe County"
Role: Co-Investigator

2016-2021 **NIH / National Center for Research Resources**
PIs: Martin Zand and Nancy Bennett
Total costs = $3,795,125 (Annual – Current)
Direct costs = $2,472,394 (Annual – Current)
"*The University of Rochester's Clinical and Translational Science Institute*"
Role: Biostatistics, Epidemiology, and Research Design Team Member

2016-2017 **Health Effects Institute RFA 10-1**
PI: David Rich
Total cost = $191,439
Direct cost = $147,231
*"The Multicenter Ozone Study in Elderly Subjects (MOSES) 2: Impacts of personal and ambient concentrations of ozone and other pollutants on cardiovascular and pulmonary function***"**

2015-2018 **New York State Energy Research and Development Authority PON 2981**
PI: David Rich
Total cost = $399,749
Direct cost = $260,886
"Have changes in air pollution levels and composition reduced the risks of myocardial infarction and fetal growth restriction in Rochester, New York? - An accountability study"

2015-2017 **New York State Energy Research and Development Authority PON 3027**
PI: Andrea Ferro
Total cost = $56,464
Direct cost = $36,784
"Community Exposure to Wood Smoke in Rochester, NY"
Role: PI of subcontract

2016-2018 **New York State Energy Research and Development Authority PON 3208**
PI: David Rich
Total cost = $458,425
Direct cost = $339,833
"*Impact of environmental policies and changes in air pollution levels, particle composition, and cause specific hospital admission rates"*

B. Pending

2017-2022 **NIH/ National Institute of Environmental Health Sciences R01**
PI: Rich and Zhang (15% salary support)
Total cost = $2,993,771
Direct cost = $2,550,908
"Potential pathophysiologic mechanisms linking air pollution exposure in pregnant women to reduced birth weight"

2018-2020 **Health Effects Institute RFA 17-2**
PI: Rich (15% salary support)
Total cost = $400,000
Direct cost = $307,692
"Risk of ST-elevation myocardial infarction, but not non-ST-elevation myocardial infarction, associated with increased $PM_{2.5}$, and the role of platelet phenotype"

C. Completed

2015-2016 **Electric Power Research Institute – Contract**
PI: David Rich
Total and direct cost = $26,747
"Accountability studies of air pollution and health effects: lessons learned and recommendations for future natural experiment opportunities - A review paper"

2013-2017 **NIEHS – University of Rochester Environmental Health Sciences Center: Pilot Project Program**
PI: David Rich
Total and direct costs = $7,300
"Do oxylipins mediate air pollutant & aspirin effects on platelet function in patients with type II diabetes?"

2013-2016 **New York State Energy Research and Development Authority – Contract**
PI: David Rich
Total cost = $398,477
"Effects of ambient wood smoke exposure on the risk of myocardial infarction and biomarkers of systemic inflammation, coagulation, and thrombosis"

2011-2016 **Health Effects Institute RFA 10-1**
PI: Mark Frampton
Total cost =$1,290,789
"*Cardiovascular Effects of Exposure to Low Levels of Ozone in the Presence or Absence of Other Ambient Pollutants: The Multicenter Ozone Study in oldEr Subjects (MOSES)***"**
Role: Co-Investigator

2009-2014 **NIH / National Cancer Institute R01 CA132950-A2**
PI: Deborah Ossip
Total cost = $2,613,773
"*Community-Partnered Tobacco Control in Underserved Dominican Republic Communities*"
Role: Co-Investigator

2012-2014 **Health Effects Institute RFA 10-3**
PIs: David Rich and Annette Peters
Total cost = $302,165
"Ambient and controlled particle exposures as triggers for acute ECG-changes, and the role of antioxidant status"

2010-2014 **NIH / National Institute of Environmental Health Sciences R01-ES019165**
PI: David Rich
Total cost = $946,738
"*Impact of air pollution reductions during the Beijing Olympics on pre-term birth and birth weight"*

2012-2013 **New York State Energy Research & Development Authority – Contract**
PIs: Mark Utell and David Rich
Total cost = $49,000
"*Health impacts of changes in energy generation systems upwind of Western New York*"
Role: Co-Investigator

2011-2016 **NIH / National Center for Research Resources UL1 RR024160-07; KL2 RR024136-07; TL1 RR024135-07**
PI: Thomas Pearson
Total cost = $9,323,697 (2011 Total Cost)
"*The University of Rochester's Clinical and Translational Science Institute*"
Role: Core Expert Team Member for the key function of Approach and Governance

2009-2011 **United States Environmental Protection Agency (EPA)**
PI: Barbara Turpin
Total cost = $87,750 (Rochester portion)
"Refined Exposure Surrogates for Ambient PM in Epidemiology Studies: Accounting for Temporal/Spatial Variations in Infiltration"
Role: PI of subcontract

2007-2011 **American Heart Association – National Research Program**
PI: David Rich
Total cost = $195,000
Scientist Development Grant
"Triggering of myocardial infarction by ambient fine particles and fine particle components"

2006-2007 **UMDNJ NIEHS Center Pilot Project Program**
PI: David Rich
Total cost = $25,000
"Diabetic Susceptibility to the procoagulant effects of traffic generated particulate air pollution"

2008-2010 **Cancer Institute of New Jersey**
PI: Howard Kipen
Total cost = $49,766
"Oxidative stress from automobile commuting exposures: a biomarker study using the New Jersey Family Medicine Research Network"
Role: Co-Investigator

2006-2008 **Foundation of the University of Medicine and Dentistry of New Jersey**
PI: David Rich
Total cost = $40,000
"Ambient air pollution and the risk of fetal growth restriction"

2007-2009 **Foundation of the University of Medicine and Dentistry of New Jersey**
PI: Pamela Ohman-Strickland
Total cost = $34,868
"Relation between airborne pollen concentration and daily cardiovascular hospital admissions"
Role: Co-Investigator

2008-2009 **Health Effects Institute**
PI: Douglas Dockery
Total cost = $66,976
"Effect of Air Pollution Control on Mortality and Hospital Admissions in "Ireland"
Role: PI of subcontract

2007-2010 **Health Effects Institute**
PI: Junfeng Zhang
Total cost = $596,602
"Molecular and physiological responses to drastic changes in PM concentration and composition"
Role: Co-Investigator

2008-2010 **NIEHS Center Pilot Project Program**
PI: Howard Kipen
Total cost = $25,000
"COPD Susceptibility to the procoagulant effects of traffic generated particulate air pollution"
Role: Co-Investigator

2009-2010 **New Jersey Department of Environmental Protection**
PI: Barry Weinberger
Total cost = $40,383
"*A Pilot Study of the Endocrine Disruption and Inflammatory Effects of Environmental Toxicants on Fetuses"*
Role: Co-Investigator

2007-2010 **National Institute of Environmental Health Sciences (NIEHS) R01**
PI: Junfeng Zhang
Total cost = 1,174,664
"Responses to Drastic Changes in Air Pollution: Reversibility and Susceptibility"
Role: Co-Investigator

2009-2010 **UMDNJ NIEHS Center Pilot Project Program**
PI: Barry Weinberger
Total cost = $25,000
"A Pilot Study of the Endocrine Disruption and Inflammatory Effects of Phthalates, Bisphenol-A, and Perchlorate on Fetuses"
Role: Co- Investigator

Lectures, Presentations, and Seminars
A. Invited Seminars and Presentations
B.

4/2003 **Hourly ambient air pollution and ICD detected cardiac arrhythmias in Boston, Massachusetts.**
Lecturer - Seminar Series
Environmental Epidemiology Program, Department of Environmental Health
Harvard School of Public Health
Boston, Massachusetts
30 Students, Post-doctoral fellows, and Faculty members

4/2004 **Association of ICD detected ventricular arrhythmias and ambient air pollution in St. Louis, Missouri.**
Lecturer - Seminar Series
Exposure, Epidemiology and Risk Program, Department of Environmental Health
Harvard School of Public Health
Boston, Massachusetts
30 Students, Post-doctoral fellows, and Faculty members

6/2004 **How to read a scientific paper**.
Lecturer
Summer session in biostatistics and epidemiology
Department of Epidemiology
Harvard School of Public Health
Boston, Massachusetts
12 Undergraduate students

12/2004 **Association of fine particulate matter from different sources and the incidence of ventricular arrhythmias in St. Louis, Missouri**
Lecturer – Seminar Series
Exposure, Epidemiology and Risk Program, Department of Environmental Health
Harvard School of Public Health
Boston, Massachusetts
30 Students, Post-doctoral fellows, and Faculty members

2/2005 **Effect of air pollution control on mortality in Cork, Ireland: an intervention study**
Lecturer – Seminar Series
Exposure, Epidemiology and Risk Program, Department of Environmental Health
Harvard School of Public Health
Boston, Massachusetts
30 Students, Post-doctoral fellows, and Faculty members

9/2005 **Review of case-crossover design in study of myocardial infarction and heavy Exertion**
Lecturer – Journal club
Department of Epidemiology
UMDNJ – School of Public Health
Piscataway, New Jersey
15 Students, 4 faculty members

11/2005 **Ambient air pollution and mortality**
Lecturer
Chronic Disease Epidemiology
Department of Epidemiology
UMDNJ – School of Public Health
Piscataway, New Jersey
20 Students

11/2005 **Analysis of case-controls studies**
Lecturer
Epidemiologic Research Methods II
Department of Epidemiology
UMDNJ – School of Public Health
Piscataway, New Jersey
20 Students

3/2006 **Case-crossover designs in air pollution studies**
Lecturer
Environmental and Occupational Epidemiology
Department of Environmental and Occupational Health
UMDNJ – School of Public Health
Piscataway, New Jersey
20 Students

10/2006 **Ambient air pollution and episodes of pacemaker-detected paroxysmal atrial fibrillation**
Lecturer-Faculty meeting
Environmental and Occupational Health Sciences Institute
UMDNJ-RWJMS and Rutgers University
Piscataway, New Jersey
30 Faculty

11/2006 **Does air pollution trigger ventricular arrhythmias?**
Lecturer
Occupational Medicine Residents Seminar Series
Environmental and Occupational Health Sciences Institute
UMDNJ-RWJMS and Rutgers University
Piscataway, New Jersey
20 Faculty, Residents, and Staff

3/2007 and 3/2008 **Case-crossover designs in air pollution studies**
Lecturer
Environmental and Occupational Epidemiology
Department of Environmental and Occupational Health
UMDNJ – School of Public Health
Piscataway, New Jersey
20 Students

11/2007 **Ambient air pollution and mortality/morbidity**
Lecturer
Chronic Disease Epidemiology
Department of Epidemiology
UMDNJ – School of Public Health
Piscataway, New Jersey
8 Students

12/2007 **Diabetic susceptibility to the acute procoagulant effects of traffic generated air pollution**
Invited Seminar
UMDNJ Diabetes Symposium
Newark, New Jersey
50 Faculty and Students

09/2010 **Does air pollution cause premature mortality and increased morbidity?**
Lecturer
Medical Ecology
Department of Community and Preventive Medicine
Rochester, New York
20 Students

02/2011 **Ambient air pollution and adverse health effects: What have we learned from the 2008 Beijing Summer Olympics?**
Invited Seminar
Public Health Grand Rounds, URMC
Rochester, New York
40 Faculty and Students

05/2011 **Dodgson Lecture: University of Rochester Medical Center - "What have we learned from the 2008 Beijing Summer Olympics?"**
Invited Seminar
Occupational Medicine, URMC
Rochester, New York
20 Faculty

11/2011 **Inflammatory responses to ambient ultrafine and fine particles in patients undergoing cardiac rehabilitation**
Poster Presentation
Lung Research Day
University of Rochester Medical Center
Rochester, New York

12/2011 **Ambient air pollution, preterm birth, and fetal growth restriction**
Invited Seminar
Department of Obstetrics and Gynecology, URMC
Rochester, New York
25 Faculty

12/2011 **Cardiovascular and reproductive responses to air pollution**
Invited Seminar
URMC NIEHS Environmental Health Sciences Center, Community Advisory Board Meeting
Rochester, New York
5 Faculty, 10 Community Members

03/2012 **Ambient air pollution, preterm birth, and fetal growth restriction**
Toxicology 530: Reproductive and Developmental Toxicology
Rochester, New York
10 Students and Faculty

07/2012 **Changes in air pollution during the Beijing Olympics and markers of inflammation and coagulation?**
Invited Seminar
Cardiology Grand Rounds, URMC
Rochester, New York
50 Faculty and Fellows

12/2012 **Triggering of myocardial infarction by ambient air pollution**
Invited Seminar
Lung Biology Seminary Series, URMC
Rochester, New York
50 Faculty and Students

02/2013 **Ambient air pollution, preterm birth, and fetal growth restriction: what have we learned from the 2008 Beijing Summer Olympics?**
Invited Seminar
NIEHS Environmental Health Sciences Center Seminar Series, URMC
Rochester, NY
30 Faculty and Students

05/2013 **Increased birth weight and the 2008 Beijing Olympic air pollution reduction: an update**
Invited Seminar
Department of Obstetrics and Gynecology Research Workshop, URMC
Rochester, NY
25 Faculty, Staff, and Students

01/2015 **Breathing Dirty Air – To the Respiratory Tract and Beyond**
Invited Seminar
Department of Medicine, Research in Medicine Seminar Series, URMC
Rochester, NY
75 Faculty, Staff, and Students

02/2015 **Breathing Dirty Air – To the Respiratory Tract and Beyond**
Invited Seminar
Jesse L. Rosenberger Seminar Series
Center for Energy and the Environment
Rochester, NY
30 Faculty, Staff, and Students

06/2016 **Ambient air pollution and cardiovascular health here in Rochester, New York**
Invited Presentation
URMC NIEHS Environmental Health Sciences Center, Community Advisory Board Meeting
Rochester, New York
5 Faculty, 15 Community Members

08/2016 **Clinical and statistical significance, and use of the p-value to make inference:**
Invited Presentation
Evidence Based Medicine Grand Rounds
University of Rochester Medical Center, Department of Medicine
Rochester, New York
20 Faculty, 80 Residents and Fellows

11/2016 **Environmental Lung Disease**
1st year medical students
University of Rochester Medical School
Rochester, New York
50 Medical Students

C. Regional, National, or International Contributions

11/2000 **Comparison of home lead dust reduction techniques on hard surfaces: the New Jersey Assessment of Cleaning Techniques (NJACT) Study.**
Platform Presentation
Annual Meeting of American Public Health Association (APHA)
Boston, Massachusetts.

1/2001 **Comparison of home lead dust reduction techniques: the New Jersey Assessment of Cleaning Techniques (NJACT) Study.**
Invited Poster Presentation
Centers for Disease Control and Prevention (CDC), Childhood Lead Poisoning Prevention Branch, 2001 Grantees Meeting.
New Orleans, Louisiana.

8/2002 **Case-crossover analysis of the effects of hourly air pollution on ICD-detected cardiac arrhythmias**
Poster Presentation.
Annual Meeting of the International Society of Environmental Epidemiology
Vancouver, Canada

7/2003 **ICD detected cardiac arrhythmias and ambient air pollution.**
Invited Seminar
Nelson Institute of Environmental Medicine, New York University
Sterling Forest, New York

8/2003 **Case-crossover analysis of the effects of hourly air pollution on ICD-detected cardiac arrhythmias.**
Invited Seminar
Epidemiology Branch, National Institutes of Environmental Health Sciences.
Research Triangle Park, North Carolina

7/2004 **ICD detected cardiac arrhythmias and ambient air pollution.**
Invited Seminar
Washington University
Saint Louis, Missouri

6/2005 **Increased stroke incidence associated with residence in the southeastern United States in the Physician's Health Study.**
Poster Presentation
Annual Meeting of the Society for Epidemiologic Research
Toronto, Canada

10/2005 **Major air pollution sources in St. Louis, and their proportional contribution to $PM_{2.5}$.**
Poster Presentation
Annual meeting of the International Society for Exposure Analysis
Tucson, Arizona

10/2005 **Decline in black smoke concentrations in Ireland following a series of regional coal sales bans.**
Oral Presentation.
Annual meeting of the International Society for Exposure Analysis
Tucson, Arizona

12/2005 **Case-crossover analyses of the association between acute increases in ambient air pollution and risk of cardiac arrhythmias detected by implantable cardioverter defibrillators.**
Invited Seminar
New Jersey Department of Health and Senior Services
Trenton, New Jersey

6/2006 **Acute increases in ambient air pollution and risk of cardiac arrhythmias detected by implantable cardioverter defibrillators**
Invited Seminar
Nankai University
Tianjin, China

9/2007 **Acute changes in right heart pressures and ambient fine particle concentrations**
Poser Discussion
International Society of Environmental Epidemiology Annual Conference
Mexico City, Mexico

9/2007 **Ambient air pollution and the risk of paroxysmal atrial fibrillation episodes, in dual-chamber pacemaker patients**
Poster Presentation
International Society of Environmental Epidemiology Annual Conference
Mexico City, Mexico

9/2007 **Ambient particulate air pollution and the risk of fetal growth restriction**
Oral Presentation
International Society of Environmental Epidemiology Annual Conference
Mexico City, Mexico

10/2007 **Environmental Epidemiology Methods**
Air Pollution Epidemiology and Epidemiology Methods
Oral Presentations – 1 week course
Environmental Epidemiology and Health Impact Assessment Workshop
Thai Fogarty – Chulalongkorn University, Rutgers University, UMDNJ
Bangkok, Thailand

10/2007 **Health effects of outdoor air pollution**
Invited Seminar
Environmental Health Forum - Chulalongkorn University
Bangkok, Thailand

04/2008 **Triggering of cardiovascular disease by ambient air pollution**
Invited Seminar
Lehman College, City University of New York
Department of Biological Sciences
New York City, New York

04/2008 **What's new in air pollution from Piscataway to Peking: lessons learned from observational research**
Invited symposium presenter
American Occupational Health Conference
New York, New York

06/2008 **Acute changes in right heart pressure following increases in particulate air Pollution**
Invited symposium presenter
New Jersey Thoracic Society Annual Meeting
New Brunswick, New Jersey

09/2008 **Triggering of cardiovascular disease by ambient air pollution**
Invited Seminar
Farleigh Dickinson University
Department of Natural Sciences
Hackensack, New Jersey

10/2008 **Triggering of preterm birth by ambient air pollution**
Poster Presentation
International Society of Environmental Epidemiology Conference
Pasadena, California

10/2008 **Acute changes in heart rate variability in Type II diabetics following a highway traffic exposure**
Poster Presentation
NIEHS Center Director's Meeting
Philadelphia, Pennsylvania

05/2009 **Triggering of Myocardial Infarction by Ambient Fine Particles & Fine Particle Species**
Poster Discussion Presentation
American Thoracic Society Conference
San Diego, California

08/2009 **Effect of air pollution control on mortality in County Cork, Ireland**
Oral Presentation
International Society of Environmental Epidemiology
Dublin, Ireland

04/2010 **Effect of Air Pollution Control on Mortality and Hospital Admissions in Ireland**
Poster presentation
Health Effects Institute Conference
Alexandria, Virginia

08/2010 **Refined exposure surrogates for ambient PM in epidemiology: Accounting for temporal/spatial variations in infiltration**
Symposium/Oral presentation
International Societies of Exposure Science & Environmental Epidemiology Conference
Seoul, South Korea

12/2010 **International Studies of ambient air pollution and adverse birth outcomes**
Oral presentation
Chinese Research Academy of Environmental Sciences
Beijing, China

05/2011 **Do ultrafine and fine particles alter cardiac responses in patients undergoing cardiac rehabilitation?**
Symposium presentation
American Thoracic Society
Denver, Colorado

09/2011 **Inflammatory responses to ambient ultrafine and fine particles in patients undergoing cardiac rehabilitation**
Poster Presentation
International Society of Environmental Epidemiology
Barcelona, Spain

09/2011 **Triggering of transmural infarctions by ambient fine particles, role of secondary versus primary particle species mass fractions**
Oral Presentation
International Society of Environmental Epidemiology
Barcelona, Spain

03/2012 **Impact of air pollution reductions during the Beijing Olympics on pre-term birth and birth weight: Study design.**
Oral Presentation
NIEHS Environmental Health Sciences Centers Core Meeting
Boston, Massachusetts

05/2012 **Acute changes in temperature are associated with adverse changes in cardiac rhythm**
Poster Presentation
American Thoracic Society Annual Meeting
San Francisco, California

03/2013 **Health effects of air pollution and wood smoke**
Invited Symposium Presentation
Northeast Biomass Heating Exposition
Saratoga Springs, New York

04/2013 **Ambient and controlled particle exposures as triggers for acute ECG changes, and the role of antioxidant status – An update**
Poster Presentation
Health Effects Institute Annual Meeting
San Francisco, California

08/2013 **Increase in birth weight associated with the 2008 Beijing Olympic air pollution reduction: results from a natural experiment.**
Oral Presentation
International Society of Environmental Epidemiology
Basel, Switzerland

11/2013 **Ambient air pollution and adverse health effects: What have we learned from the 2008 Beijing Summer Olympics?**
Invited Oral Presentation
Dublin Institute of Technology
Dublin, Ireland

11/2013 **The 2008 Beijing Summer Olympics: What did we learn about air pollution effects on pregnancy outcomes?**
Invited Oral Presentation
Chinese Research Academy of Environmental Sciences
Beijing, China

05/2014 **Ambient and controlled particle exposures as triggers for acute ECG changes, and the role of antioxidant status – An update**
Poster Presentation
Health Effects Institute Annual Meeting
Alexandria, Virginia

08/2014 **Risk of myocardial infarction associated with increased particulate matter concentration: effect modification by air mass back trajectory**
Oral Presentation
International Society of Environmental Epidemiology
Seattle, Washington

05/2015 **Ambient and controlled particle exposures as triggers for acute ECG changes – final report**
Poster Presentation
Health Effects Institute Annual Meeting
Philadelphia, Pennsylvania

05/2015 **Triggering of myocardial infarction by increased ambient fine particle concentration: examination of source specific $PM_{2.5}$ and $PM_{2.5}$ source direction**
Invited Oral Presentation
Environmental Vision – an International Electricity Sector Conference
Washington, DC

02/2016 **Ambient particulate matter (PM) air pollution and adverse birth outcomes: targets for studies on health effects of indoor PM**
Invited Oral Presentation
National Academy of Sciences - Workshop on the health risks of indoor exposure to particulate matter
Washington, DC

08/2016 **Ambient particulate air pollution and adverse changes in fibrinogen and CRP: effect modification by omega-3 fatty acids and vitamin-D**
Oral Presentation
International Society of Environmental Epidemiology
Rome, Italy

11/2016 **Cardiovascular effects of ambient wood smoke exposure**
Invited Oral Presentation
Wood Smoke Symposium – New York State Energy Research and Development Authority
Albany, New York

05/2017 **Multicenter Ozone Study in oldEr Subjects (MOSES): Part 2. Impacts of personal and ambient concentrations of ozone and other pollutants on cardiovascular and pulmonary function**
Poster Presentation
Health Effects Institute Annual Meeting
Alexandria, Virginia

Publications

A. Refereed Articles in Journals (* 1st author was a Pre-doctoral or Post-doctoral trainee)

1. Jobanputra NK, Jones R, Buckler G, Cody RP, Gochfeld M, Matte TM, **Rich DQ**, Rhoads GG. Accuracy and reproducibility of blood lead testing in commercial laboratories. Archives of Pediatric & Adolescent Medicine 1998;152:548-553.
2. **Rich DQ**, Yiin LM, Rhoads GG, Glueck DH, Weisel C, Lioy PJ. A field comparison of two methods for sampling lead in household dust. Journal of Exposure Analysis and Environmental Epidemiology 1999;2:106-112.
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7. Whang W, Mittleman MA, **Rich DQ**, Wang PJ, Ruskin JN, Tofler GH, Muller JE, Albert CM; for the TOVA Investigators. Heart failure and the risk of shocks in patients with implantable cardioverter defibrillators: Results from the Triggers of Ventricular Arrhythmias (TOVA) Study. Circulation 2004;109:1386-1391.
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12. **Rich DQ,** Mittleman MA, Link MS, Schwartz J, Luttmann-Gibson H, Catalano PJ**,** Speizer FE, Gold DR, Dockery DW. Increased risk of paroxysmal atrial fibrillation episodes associated with acute increases in ambient air pollution. Environmental Health Perspectives 2006;114:120-123. PMCID: PMC1332666
13. **Rich DQ**, Kim MH, Turner JR, Mittleman MA, Schwartz J, Catalano PJ, Dockery DW. Association of ventricular arrhythmias detected by implantable cardioverter defibrillator and ambient air pollutants in Saint Louis, Missouri. Occupational and Environmental Medicine 2006;63(9):591-596. PMCID: PMC2078163
14. **Rich DQ**, Gaziano JM, Kurth T. Geographic patterns in overall and specific cardiovascular disease incidence in apparently healthy U.S. men. Stroke 2007;38:2221-2227.
15**.** **Rich DQ**, Freudenberger RS, Ohman-Strickland P, Cho Y, Kipen HM. Right heart pressure increases following acute increases in ambient particulate concentration. Environmental Health Perspectives 2008;116(9):1167-1171 PMCID:PMC2535617
16. Goodman PG, **Rich DQ**, Zeka A, Clancy L, Dockery DW. Effect of sequential air pollution controls on black smoke and sulphur dioxide concentrations across Ireland. Journal of the Air and Waste Management Association 2009;59:207-213.
17**.** **Rich DQ**, Demissie K, Lu SE, Kamat L, Wartenberg D, Rhoads GG. Ambient air pollutant concentrations during pregnancy and the risk of fetal growth restriction. Journal of Epidemiology and Community Health 2009;63(6):488-496. PMCID: PMC4019072
18. Blount BC, **Rich DQ**, Valentin-Blasini L, Lashley S, Ananth CV, Murphy E, Smulian JC, Spain BJ, Barr DB, Ledoux T, Hore P, Robson M. Perinatal exposure to perchlorate, thiocyanate, and nitrate in New Jersey mothers and newborns. Environmental Science and Technology 2009;43:7543-7549. PMCID: PMC2766598
19. Laumbach R, **Rich DQ**, Gandhi S, Amorosa L, Schneider S, Zhang J, Ohman-Strickland P, Gong J, Lelyanov O, Kipen HM. Acute changes in heart rate variability in Type II diabetic following a highway traffic exposure. Journal of Occupational and Environmental Medicine 2010;52(3):324-331. PMCID: PMC4043282
20. **Rich DQ**, Kipen HM, Zhang J, Kamat L, Wilson AC, Kostis JB. Triggering of transmural infarctions, but not non-transmural infarctions, by ambient fine particles. Environmental Health Perspectives 2010; 118:1229-1234. PMCID: PMC2944082
21. Kipen HM, **Rich D**, Huang W, Zhu T, Wang G, Hu M, Lu S, Ohman-Strickland P, Zhu P, Wang Y, Zhang J. 2010. Measurement of inflammation and oxidative stress following drastic changes in air pollution during the Beijing Olympics: A panel study approach. Annals of the New York Academy of Sciences 2010;1203:160-7.
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23. Kipen HM, Gandhi S, **Rich DQ**, Ohman-Strickland P, Laumbach R, Fan ZH, Chen L, Laskin DL, Zhang J, Madura K. Acute decreases in proteasome pathway activity following inhalation of fresh diesel exhaust or secondary organic aerosol. Environmental Health Perspectives 2011;119(5):658-663. PMCID: PMC3094417.
24. Parker J, **Rich DQ**, Glinianaia SV, Leem JH, Wartenberg D, Bell ML, Bonzini M, Brauer M, Darrow L, Gehring U, Gouveia N, Grillo P, Ha E, van den Hooven E, Jalaludin B, Jesdale BM, Lepeule J, Morello-Frosch R, Morgan GG, Slama R, Pierik F, Pesatori AC, Sathyanarayana S, Seo J, Strickland M, Tamburic L, Woodruff TJ. The international collaboration on air pollution and pregnancy outcomes: initial results. Environmental Health Perspectives 2011;119(7):1023-1028. PMCID: PMC3222970
25. **Rich DQ**, Kipen HM , Huang W, Wang G, Wang Y, Zhu P, Zhu T, Ohman-Strickland P, Hu M, Philip C, Diehl SR, Lu SE, Tong J, Gong J, Zhang J. Association between changes in air pollution levels during the Beijing Olympics and biomarkers of inflammation and thrombosis in healthy young adults. JAMA 2012a;307(19):2068-2078. PMCID: PMC4049319
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27. *Faiz AS, Rhoads GG, Demissie K, Kruse L, **Rich DQ**. Ambient air pollution and the risk of stillbirth. The American Journal of Epidemiology 2012;176(4):308-316. PMCID: PMC3491970
28. *Hodas N, Meng Q, Lunden MM, **Rich DQ**, Ozkaynak H, Baxter LK, Ohman-Strickland PA, Turpin BJ. Variability in the fraction of ambient particulate matter found indoors and observed heterogeneity in health effect estimates. Journal of Exposure Science and Environmental Epidemiology 2012;22(5):448-454.
29. **Rich DQ**, Zareba W, Beckett W, Hopke PK, Oakes D, Frampton MW, Bisognano J, Chalupa D, Bausch J, O'Shea K, Wang Y, Utell MJ. Are Ambient Ultrafine, Accumulation Mode, and Fine Particles Associated with Adverse Cardiac Responses in Patients Undergoing Cardiac Rehabilitation? Environmental Health Perspectives 2012b;120(8):1162-1169. PMCID: PMC3440073
30. Huang W, Wang G, Lu SE, Kipen H, Wang Y, Hu M, Lin W, **Rich D**, Ohman-Strickland P, Diehl SR, Zhu P, Tong J, Gong J, Zhu T, Zhang J. Inflammatory and oxidative stress responses of healthy young adults to changes in air quality during the Beijing Olympics. American Journal of Respiratory Care and Critical Care Medicine 2012; 186: 1150-1159. PMCID: PMC3530204
31. Zhang J, Zhu T, Kipen H, Wang G, Huang W, **Rich D**, Zhu P, Wang Y, Lu S-E, Ohman-Strickland P, Diehl S, Hu M, Tong J, Gong J, Thomas D. Cardiorespiratory Biomarker Responses in Healthy Young Adults to Drastic Air Quality Changes Surrounding the 2008 Beijing Olympics. Research Report 174. 2013. Health Effects Institute, Boston, MA.

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33. Dockery DW, **Rich DQ**, Goodman PG, Clancy L, Ohman-Strickland P, George P, Kotlov T; HEI Health Review Committee. Effect of air pollution control on mortality and hospital admissions in Ireland. Research Report 176. 2013. Health Effects Institute. Boston, MA.
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35. Baxter LK, Burke J, Lunden M, Turpin BJ, **Rich DQ**, Thevenet-Morrison K, Hodas N, Özkaynak H. Influence of human activity patterns, particle composition, and residential air exchange rates on modeled distributions of $PM_{2.5}$ exposure compared to central-site monitoring data. Journal of Exposure Science and Environmental Epidemiology 2013;23(3):322-327.
36. *Faiz AS, Rhoads GG, Demissie K, Lin Y, Kruse L, **Rich DQ**. Does ambient air pollution trigger stillbirth? Epidemiology 2013;24(4):538-544.
37. *Hodas N, Turpin B, Lunden M, Baxter L, Özkaynak H, Burke J, Ohman-Strickland P, Thevenet-Morrison K, **Rich DQ**. Refined ambient $PM_{2.5}$ exposure surrogates and the risk of myocardial infarction. Journal of Exposure Science and Environmental Epidemiology 2013;23(6):573-580. PMCID: PMC4084717.
38. **Rich DQ**, Özkaynak H, Crooks J, Baxter L, Burke J, Ohman-Strickland P, Thevenet-Morrison K, Kipen HM, Zhang J, Kostis JB, Lunden M, Hodas N, Turpin BJ. The triggering of myocardial infarction by fine particles is enhanced when particles are enriched in secondary species. Environmental Science & Technology 2013;47(16):9414-9423. PMCID: PMC3856764
39. Baxter LK, Dionisio KL, Burke J, Sarnat SE, Sarnat JA, Hodas N, **Rich DQ**, Turpin B, Jones R, Mannshardt E, Kumar N, Beevers SD, Ozkaynak H. Exposure prediction approaches used in air pollution epidemiology studies: Key findings and future recommendations. Journal of Exposure Science and Environmental Epidemiology 2013;23(6):654-659. PMCID: PMC4088339.
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51. Georas SN, van Wijngaarden E, **Rich DQ**. Air pollution and asthma incidence: doubt no more? Lancet Respiratory Medicine 2015;3(12):902-903.
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53. *Su J, Hopke PK, Tian Y, Baldwin N, Thurston S, Evans K, **Rich DQ**. Modeling particulate matter concentrations measured through mobile monitoring in a machine learning approach. Atmospheric Environment 2015;122:477-483.

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59. *Herr M, Mohile N, van Wijngaarden E, Brown E, **Rich DQ**. Antidepressant use and risk of central nervous system metastasis. Journal of Neuro-Oncology 2016;129(1)179-187.
60. Frampton MW and **Rich DQ**. Does particle size matter? Ultrafine particles and hospital visits in Eastern Europe. American Journal of Respiratory and Critical Care Medicine 2016;194(10):1180-1182.
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62. **Rich, DQ.** Accountability studies of air pollution and health effects: lessons learned and recommendations for future natural experiment opportunities. Environment International 2017;100:62-78. PMID: 28089581.
63. *Evans, KA, Hopke PK, Utell MJ, Kane C, Thurston SW, Ling FS, Chalupa D, **Rich DQ.** Triggering of ST-elevation myocardial infarction by ambient wood smoke and other particulate and gaseous pollutants. Journal of Exposure Science and Environmental Epidemiology 2017;27(2):198-206. doi: 10.1038/jes.2016.15. PMID: 27072425 PMCID: PMC5063679.
64. *****Croft D, Cameron SJ, Morrell CN, Lowenstein CJ, Ling F, Zareba W, Hopke PK, Utell MJ, Thurston SJ, Thevenet-Morrison K, Evans KA, Chalupa D, **Rich DQ**. Associations between ambient wood smoke and other particulate pollutants in biomarkers of systemic inflammation, coagulation, and thrombosis in cardiac patients. Environmental Research 2017;154:352-361. doi: 10.1016/j.envres.2017.01.027.

65. *Altemose B, Robson MG, Kipen HM, Ohman-Strickland P, Meng O, Gong J, Huang W, Wang G, **Rich DQ**, Zhu T, Zhang J. Association of air pollution sources and aldehydes with biomarkers of blood coagulation, pulmonary inflammation, and systemic oxidative stress. *In press:* Journal of Exposure Science and Environmental Epidemiology. Jul 20. doi: 10.1038/jes.2016.38
66. *Evans, KA, Stewart PA, Cook SR, Seplaki CL, **Rich DQ**, Fernandez ID. The relative cost of high vs. low energy density foods consumed by children varies by cost definition. *In press*: Journal of Hunger and Environmental Nutrition.
67. *Wang M, Corsetti J, McNitt S, **Rich DQ**, Sparks CE, Moss AJ, Zareba W. Inflammatory markers modify the risk of recurrent coronary events associated with apolipoprotein A-I in postinfarction patients. *In press:* Journal of Clinical Lipidology.
68. Frampton M, Balmes J, Bromberg P, Stark P, Arjomandi M, Hazucha M, **Rich DQ,** Hollenbeck-Pringle D, Alexis N, Ganz P, Zareba W, Costantini M. Multicenter Ozone Study in oldEr Subjects (MOSES): Part 1. Effects of exposure to low concentrations of ozone on respiratory and cardiovascular outcomes. Research Report 192, Pt. 1. Boston, MA: Health Effects Institute.

* 1st author was a Pre-doctoral or Post-doctoral trainee

B. Media coverage of select publications

1. **Rich DQ**, Liu KB, Zhang Ji, Thurston SW, Stevens T, Pan Y, Kane C, Weinberger B, Ohman-Strickland P, Woodruff T, Duan X, Zhang Ju. Differences in birth weight associated with the 2008 Beijing Olympic air pollution reduction: results from a natural experiment. Environmental Health Perspectives 2015; 123(9):880-887.PMCID: PMC4559955.

   URMC Press release: https://www.urmc.rochester.edu/news/story/4308/beijing-olympics-study-links-pollution-to-lower-birth-weight.aspx
   With this publication, I conducted a live television interview with Al Jazeera and several radio interviews with radio stations around the country. Further, this was picked up by UPI and AP, resulting in over 50 news stories around the world from media including the Washington Post, Wall Street Journal, New York Times, Newsweek, ABC News, CNN, Fox News, and the LA Times.

2. **Rich DQ**, Kipen HM , Huang W, Wang G, Wang Y, Zhu P, Zhu T, Ohman-Strickland P, Hu M, Philip C, Diehl SR, Lu SE, Tong J, Gong J, Zhang J. Association between changes in air pollution levels during the Beijing Olympics and biomarkers of inflammation and thrombosis in healthy young adults. JAMA 2012;307(19):2068-2078. PMCID: PMC4049319

   URMC Press release: https://www.urmc.rochester.edu/news/story/3501/beijing-olympics-provides-rare-window-into-air-pollutions-effect-on-health.aspx
   With this publication, I conducted several interviews resulting in over 20 written news stories from media describing the study and its findings including the BBC, US News and World Report, and ABC News.

C. Book Chapter

1. Ozkaynak H, Isakov V, Baxter L, Graham SE, Sarnat SE, Sarnat J, Mulholland J, Turpin B, **Rich DQ**, Lunden M. Evaluating Alternative Exposure Metrics Used for Multipollutant Air Quality and Human Health Studies. In: Steyn DG, Builtjes PJH, Timmermans RMA (eds): Air Pollution Modeling and its Application XXII - NATO Science for Peace and Security Series C: Environmental Security, Springer Netherlands 2014.
2. **Rich DQ**, Samet JM, Utell MJ. Indoor and outdoor pollution. In: Grippi MA, Elias JA, Fishman JA, Pack AI, Senior RM, Kotloff R (eds): Fishman's Pulmonary Diseases and Disorders, 5th ed. New York, McGraw-Hill 2015.

D. Reports

1. Utell M, Hopke PK, Zareba W, Oakes D, Wang Y, Frampton M, **Rich DQ**. Ultrafine Particles and Cardiac Responses: Evaluation in a Cardiac Rehabilitation Center. New York State Energy Research and Development Authority, August 2011.
2. Turpin B, **Rich DQ**, Ohman-Strickland P, Hodas N, Thevenet-Morrison K, Lunden MM. Refined Exposure Surrogates for Ambient PM in Epidemiologic Studies: Accounting for Temporal/Spatial Variations in Infiltration. United States Environmental Protection Agency, Final Report for EPA Cooperative Agreement CR-83407201-1, December 2011.
3. **Rich DQ**, Marcella SW, Weinberg B, Wartenberg D, Robson MG, Vetrano A, Archer F. Exposure of infants to endocrine disruptors. Final Report to the New Jersey Department of Environmental Protection, May 2012.
4. Utell MJ, Hopke P, **Rich D**, Beckett W, Oakes D, Zareba W, Frampton M, Wang Y, Bisognano J, Peters A. Ultrafine Particles and Cardiac Responses: Evaluation in a Cardiac Rehabilitation Center. Final Report to the United States Environmental Protection Agency, October 2012.
5. **Rich DQ,** Croft D, Thurston SW, Thevenet-Morrison K, Chalupa D, Utell MJ, Baldwin N, Tian Y, Hopke PK. Effects of ambient wood-smoke exposure on the risk of myocardial infarction and biomarkers of systemic inflammation, coagulation, and thrombosis. Final Report to the New York Energy Research and Development Authority, March, 2017.

E. Submitted Manuscripts

1. *Kim E, Baran A, Mondo E, Nielsen G, Pandya K, **Rich DQ**, Rodgers T, van Wijngaarden E. Risk of thromboembolism in lung cancer patients treated with cisplatin versus carboplatin. *Submitted to:* PLOS One.
2. *Enami F, Hopke PK, Chalupa DC, **Rich DQ**. Comparison of Rochester aerosol sources at two periods of time using combined size distribution and air pollutant data. *Submitted to:* Atmospheric Environment
3. **Rich DQ,** Utell MJ, Croft DP, Thurston S, Thevenet-Morrison K, Evans KA, Ling FS, Tian Y, Hopke PK. Daily land use regression estimated wood smoke and traffic pollution concentrations and the triggering of ST-elevation myocardial infarction: a case-crossover study. *Submitted to:* Air Quality, Atmosphere and Health
4. Zikova N, Masiol M, Chalupa D, **Rich D**, Ferro A, Hopke P. Estimating hourly concentrations of PM2.5 across a metropolitan area using low-cost particle monitors. *Submitted to:* Sensors

F. Manuscripts in preparation (to be submitted shortly)

1. *Meacham PJ, **Rich DQ**, Quiñones de Monegro Z, Diaz S, Chin N, Dozier A, McIntosh S, Thevenet-Morrison K, Holderness H, Rebstein J, Sanchez JJ, Bautista A, Ossip DJ. Predictors of secondhand smoke exposure among women of childbearing age in economically disadvantaged Dominican Republic communities.
2. **Rich DQ**, Balmes J, Frampton M, Zareba W, Stark P, Arjomandi M, Hazucha M, Costantini M, Ganz P, Hollenbeck-Pringle D, Dagincourt N, Bromberg P. Cardiovascular function and ozone exposure: The Multicenter Ozone Study in oldEr Subjects (MOSES) I.
3. Arjomandi M, Balmes J, Frampton M, Bromberg P, Stark P, Alexis N, **Rich DQ**, Costantini M, Hollenbeck-Pringle D, Dagincourt N Hazucha M. Respiratory responses to ozone exposure in healthy older adults: the Multicenter Ozone Study in Elderly Subjects (MOSES) II.
4. Balmes J, Bromberg P, Stark P, Arjomandi M, Hazucha M, **Rich DQ,** Costantini M, Alexis N, Ganz P, Zareba W, Hollenbeck-Pringle D, Frampton M. Acute systemic inflammatory and oxidative stress responses to controlled low level ozone exposure in healthy older adults: the Multicenter Ozone Study in oldEr Subjects (MOSES) III.
5. *Croft D, Cameron SJ, Morrell CN, Lowenstein CJ, Ling F, Zareba W, Hopke PK, Block R, Utell MJ, Thevenet-Morrison K, Evans K, Chalupa D, **Rich DQ**. Blunting of fine particle mediated increases in fibrinogen by omega-3 fatty acids. *Submitted to:* Environment International
6. Breitner S, Schneider A, Zareba W, Oakes D, Wiltshire J, Kane C, Bausch J, Frampton M, Hopke PK, Hampel R, Utell MJ, Peters A, **Rich DQ**. Multi-study assessment of ambient and controlled particle exposures as triggers for acute changes in SDNN and RMSSD: application of a discovery and replication approach.

G. Abstracts submitted and presented at conferences

1. **Rich DQ**, Schwartz J, Mittleman MA, Link M, Luttmann-Gibson H, Catalano PJ, Speizer F, Dockery DW. Case-crossover analysis of the effects of hourly air pollution on ICD-detected cardiac arrhythmias. Submitted 2002 to: *International Society of Environmental Epidemiology*. Poster Presentation.
2. **Rich DQ**, Kim MH, Turner JR, Mittleman MA, Schwartz J, Catalano PJ, Dockery DW. Major air pollution sources in St. Louis, and their proportional contribution to $PM_{2.5}$. Submitted 2005 to: *International Society of Exposure Analysis*. Poster Presentation.
3. **Rich DQ**, Goodman PG, Clancy L, Dockery DW. Decline in black smoke concentrations in Ireland following a series of regional coal sales bans. Submitted 2005 to: *International Society of Exposure Analysis*. Oral Presentation.
4. **Rich DQ**, Gaziano M, Kurth T. Increased stroke incidence associated with residence in the southeastern United States in the Physician's Health Study. Submitted 2005 to: *Society for Epidemiologic Research*. Poster Presentation.
5. **Rich DQ**, Dockery DW, Zimetbaum P, Suh H, Mittleman MA. Ambient air pollution and the risk of paroxysmal atrial fibrillation episodes, in dual-chamber pacemaker patients. Submitted 2007 to: *International Society of Environmental Epidemiology*. Poster Presentation.

6. **Rich DQ**, Freudenberger R, Ohman-Strickland P, Cho Y, Kipen HM. Acute changes in right heart pressures and ambient fine particle concentrations. Submitted 2007 to: *International Society of Environmental Epidemiology*. Poster Presentation.
7. **Rich DQ**, Kamat L, Lu SE, Demissie K. Ambient air pollution and risk of fetal growth restriction. Submitted 2007 to: *International Society of Environmental Epidemiology*. Oral Presentation.
8. **Rich DQ**, Lu SE, Patel A, Demissie K. Triggering of preterm birth by ambient air pollution. Submitted 2008 to: *International Society of Environmental Epidemiology*. Oral Presentation.
9. **Rich DQ**, Laumbach R, Gandhi S, Amorosa L, Schneider S, Zhang J, Ohman-Strickland P, Gong J, Lelyanov O, Lauer E, Kipen HM. Acute changes in heart rate variability in Type II diabetics following a highway traffic exposure. Submitted 2008 to: *NIEHS Center Directors Meeting.*
10. **Rich DQ**, Kipen HM, Zhang J, Kamat L, Wilson A, Kostis J. Triggering of Myocardial Infarction by Ambient Fine Particle Concentration, Differences in Response by MI Type and Presence of Chronic Obstructive Pulmonary Disease. Submitted 2009 to: *International Society of Environmental Epidemiology*. Poster Presentation.
11. **Rich DQ**, George P, Goodman PG, Ohman-Strickland P, Clancy L, Kotlov T, Dockery DW. Effect of air pollution control on mortality in County Cork, Ireland. Submitted 2009 to: *International Society of Environmental Epidemiology*. Oral Presentation.
12. Dockery DW, **Rich DQ**, Ohman-Strickland P, George P, Kotlov T, Goodman PG, Clancy L. Effect of air pollution control on mortality and hospital admissions in Ireland. Submitted to: *Health Effects Institute Conference* 2010. Poster Presentation.
13. **Rich DQ**, Turpin B, Lunden M, Ozkaynak H, Baxter L, Hodas N, Barzyk T, Burke J, Ohman-Strickland P. Refined exposure surrogates for ambient PM in epidemiology: accounting for temporal/spatial variations in infiltration. Submitted to*: International Society of Environmental Epidemiology* 2010. Oral Presentation.
14. **Rich DQ**, Thevenet-Morrison K, Kipen H, Ozkaynak H, Baxter L, Burke J, Crooks J, Lunden M, Kostis J, Zhang J, Hodas N, Turpin B. Triggering of transmural infarctions by ambient fine particles, role of secondary versus primary particle species mass fractions. Submitted to*: International Society of Environmental Epidemiology* 2011. Oral Presentation.
15. **Rich DQ**, Beckett W, Hopke PK, Oakes D, Frampton MW, Zareba W, Utell MJ. Do ambient ultrafine and fine particles alter cardiac responses in patients undergoing cardiac rehabilitation? Submitted to: *American Thoracic Society* 2011. Oral Presentation
16. **Rich DQ**, Beckett W, Hopke PK, Wang Y, Oakes D, Frampton MW, Zareba W, Utell MJ. Inflammatory responses to ambient ultrafine and fine particles in patients undergoing cardiac rehabilitation. Submitted to: *International Society of Environmental Epidemiology* 2011. Poster Presentation
17. **Rich DQ**, Philbrick E, Zareba W, Oakes D, Hopke PK, Frampton MW, Utell MJ. "Acute changes in temperature are associated with adverse changes in cardiac rhythm. American *Thoracic Society Annual Meeting, 2012*. Poster Presentation
18. **Rich DQ**, Peters A, Zareba W, Schneider A, Breitner S, Oakes D. Ambient and Controlled Particle Exposures as Triggers for Acute ECG-Changes, and the Role of Antioxidant Status. *Health Effects Institute Conference* 2012. Poster Presentation.

19. **Rich DQ**, Peters A, Schneider A, Zareba W, Breitner S, Oakes D, Wiltshire J, Frampton M, Hampel R, Utell M, Bausch J, Cyrys J, Hopke PK. Ambient and Controlled Particle Exposures as Triggers for Acute ECG-Changes, and the Role of Antioxidant Status. *Health Effects Institute Conference* 2013. Poster Presentation.
20. **Rich DQ**, Zhang Ji, Thurston S, Stevens T, Pan Y, Kaibo L, Ohman-Strickland P, Weinberger B, Woodruff T, Duan X, Zhang Ju. Increase in birth weight associated with the 2008 Beijing Olympic Air Pollution Reduction: results from a natural experiment. *International Society of Environmental Epidemiology Annual Conference*, 2013, Basel, Switzerland. Oral Presentation.
21. **Rich DQ**, Peters A, Schneider A, Zareba W, Breitner S, Oakes D, Wiltshire J, Frampton M, Hampel R, Utell M, Bausch J, Cyrys J, Hopke PK. Ambient and Controlled Particle Exposures as Triggers for Acute ECG-Changes, and the Role of Antioxidant Status. *Health Effects Institute Conference* 2014. Poster Presentation.
22. **Rich DQ**, Utell MJ, Ling F, Frampton M, Zareba W, Kane C, Baldwin N, Hopke PK. Risk of myocardial infarction associated with increased particulate matter concentration: effect modification by air mass back trajectory. *International Society of Environmental Epidemiology Annual Conference*, 2014, Seattle, Washington. Poster Presentation.
23. **Rich DQ**, Peters A, Schneider A, Zareba W, Breitner S, Oakes D, Wiltshire J, Frampton M, Hampel R, Utell M, Bausch J, Cyrys J, Hopke PK. Ambient and Controlled Particle Exposures as Triggers for Acute ECG-Changes. *Health Effects Institute Conference* 2015. Poster Presentation.
24. **Rich DQ**, Croft D, Cameron SJ, Morrell CN, Lowenstein CJ, Ling F, Zareba W, Hopke PK, Thevenet-Morrison K, Thurston SW, Evans K, Utell MJ, Chalupa D, Block R. Ambient particulate air pollution and adverse changes in fibrinogen: effect modification by omega-3 fatty acids and vitamin-D. *International Society of Environmental Epidemiology Annual Conference*, 2016, Rome, Italy. Oral Presentation.

H. Abstracts (Presented by collaborators):

1. Singh JP, Whang W, Mittleman M, Wang P, Merlan JC, **Rich DQ**, Muller JE, Ruskin JE, Albert CM. *Smoking Is Associated With Increased Risk of Shocks After Cardioverter Defibrillator Implantation (TOVA Study).* American College of Cardiology Conference, Chicago, IL. April 2003.
2. Luttmann-Gibson H, Gold D, Link M, Mittleman MA, **Rich DQ**, Schwartz J, Verrier RL, Dockery DW. *Risk of cardiac arrhythmias related to time of the day and to air pollution during different exposure periods in a cohort of patients with implanted cardioverter defibrillators*. International Society of Environmental Epidemiology, Perth Australia. September, 2003.
3. Mittleman MA, **Rich DQ**, Whang W, Wang PJ, Ruskin JN, Muller JE, Albert CM for the TOVA *Investigators.* Moderate exertion and ICD discharge for ventricular tachycardia and fibrillation. The Triggers of Ventricular Arrhythmia Study. *American Heart Association, Orlando, Florida. November 2003.*
4. Albert CM, Whang W, **Rich DQ**, Wang PJ, Ruskin JN, Muller JE, Mittleman MA for The TOVA *Investigators.* Driving and ICD discharge for ventricular tachycardia and fibrillation: The Triggers of Ventricular Arrhythmia Study. *American Heart Association, Orlando, Florida. November 2003.*

5. R.J. Laumbach, **D.Q. Rich**, S. Gandhi, L. Amorosa, S. Schneider, J. Zhang, P. Ohman-Strickland, O. Lelynov, J. Gong, H.M. Kipen. Acute Changes in Heart Rate Variability in Type II Diabetics after a Highway Traffic Exposure. *American Thoracic Society Conference, San Diego, California, May 2009.*
6. H.M. Kipen, G. Wang, J. Gong, **D. Rich**, W. Huang, P. Zhu, Y. Wang, X. Shuo, T. Zhu, J. Zhang. Changes in Pulmonary and Systemic Markers of Inflammation Following Drastic Reductions in Air Pollution during the Beijing Olympics. *American Thoracic Society Conference, San Diego, California, May 2009.*
7. S. Gandhi, A.P. Pettit, P. Ohman-Strickland, A. Gow, J. Zhang, E. Lauer, **DQ Rich**, H.M. Kipen Two Methods for Measurement of Acute Changes in Endothelial Function Following Diesel Exhaust Inhalation. *American Thoracic Society Conference, San Diego, California, May 2009.*
8. H.M. Kipen, G. Wang, J. Gong, **D. Rich**, W. Huang, P. Zhu, Y. Wang, X. Shuo, T. Zhu, J. Zhang. What The Beijing Olympics Is Teaching Us About Acute Air Pollution Health Effects. *American Thoracic Society Conference, San Diego, California, May 2009.*
9. H.M. Kipen, S. Gandhi, P. Ohman-Strickland, H. Choi, D.L. Laskin, **D. Rich**, E. Lauer, J. Zhang, C.S. Philipp. Increase in Platelet Count but Absence of Platelet Activation Following 2 Hours of Diesel Exhaust. *American Thoracic Society Conference, San Diego, California, May 2009.*
10. Lauer E, Kipen HM, Gandhi S, Ohman-Strickland P, Phillip C, **Rich DQ**. Acute platelet responses to ambient particulate matter. *International Society of Environmental Epidemiology, Dublin Ireland, August 2009.*
11. Ozkaynak H, Sarnat SE, Sarnat JE, Sheppard L, Turpin B, Isakov V, Crooks J, Sampson P, **Rich DQ**. Overview of USEPA/NERL Cooperative Agreement Research Program on Air Pollution and Health. *International Society of Environmental Epidemiology, Dublin Ireland, August 2009.*
12. Parker J, **Rich DQ**, Leem JH, Glinianaia S. International Collaboration on Air Pollution and Pregnancy Outcomes (ICAPPO): Pilot Study Analytic Plan for Data Re-Analysis. *International Society of Environmental Epidemiology, Dublin Ireland, August 2009.*
13. Zhang J, Zhu T, Huang W, Kipen H, Wang G, **Rich DQ**, Zhu P, Wang Y, Hu M, Lu SE, Ohman-Strickland P, Gong J, Tong J. The Beijing HEART Study: Study Hypotheses and Preliminary Results. *International Society of Environmental Epidemiology, Dublin Ireland, August 2009.*
14. Kipen HM, Gandi S, **Rich DQ**, et al. Genetic susceptibility to acutely decreased ubiquitin proteasome pathway (UPP) activity following inhalation of fresh diesel exhaust or secondary organic aerosols. *International Societies of Exposure Science and Environmental Epidemiology, Seoul, Korea, August 2010.*
15. Baxter L, Barzyk T, Burke J, Turpin B, **Rich DQ**, Lunden M, Hodas N, Ozkaynak, H. Comparison of exposures estimated using ambient PM2.5 concentrations with those estimated by the Stochastic Human Exposure and Dose Simulation Model (SHEDS) for two New Jersey cohorts. *International Societies of Exposure Science and Environmental Epidemiology, Seoul, Korea, August 2010.*
16. Laumbach R, Kipen HM, **Rich DQ** et al. In-vehicle exposures to traffic and biomarkers of airway oxidative stress among healthy humans. *International Societies of Exposure Science and Environmental Epidemiology, Seoul, Korea, August 2010.*

17. Laumbach R, **Rich DQ**, Ko S, et al. Short-term exposure to traffic-related particles is associated with acute decrease in high frequency heart rate variability among healthy adults. *American Thoracic Society, Denver, Colorado, May 2011.*
18. Laumbach RJ, **Rich DQ**, Gong J, Zhang L, Zhang J, Ko S, Cepeda D, Kelly-McNeill K, Ohman-Strickland P, Petit A, Kipen HM. Traffic pollution and biomarkers of pulmonary oxidative stress in healthy humans. *International Society of Environmental Epidemiology, Barcelona, Spain, September 2011.*
19. Laumbach RJ, **Rich DQ**, Hussain S, Zhang L, Zhang J, Ko S, Cepeda D, Kelly-McNeill K, Ohman-Strickland P, Petit A, Kipen HM. Comparison of two methods for controlling in-vehicle exposures in studies of acute cardiopulmonary effects of traffic-related air pollutants. *International Society of Environmental Epidemiology, Barcelona, Spain, September 2011.*
20. Gong J, Kipen H, Zhu T, Wang G, Huang W, **Rich D**, Zhu P, Wang Y, Lu SE, Ohman-Strickland P, Diehl S, Hu M, Tong J, Zhang L, Zhang J. Malondialdehyde in Exhaled Breath Condensate and Urine: Each Associated with Air Pollution Exposure? *International Society of Exposure Science, Baltimore, Maryland, November 2011.*
21. Baxter L, Burke J, Lunden M, Crooks J, Hodas N, Turpin B, **Rich D**, Thevenet-Morrison K, Özkaynak H. Comparison of five different exposure surrogates used in two established epidemiological studies in New Jersey. *International Society of Exposure Science, Baltimore, Maryland, November 2011.*
22. Turpin B. Lunden M, Hodas N, Özkaynak H, Baxter L, Burke J, Crooks J, Thevenet-Morrison K, Kipen H, Kostis J, Zhang J, **Rich DQ**. Use of Refined Exposure Surrogates to Investigate Associations between Myocardial Infarction and $PM_{2.5}$ Exposure. *International Society of Exposure Science, Baltimore, Maryland, November 2011*
23. Augustine A, Ulrich C, DiBitetto K, **Rich DQ**, Cook S. Tobacco smoke exposure and its association with adiponectin among 9-10 year olds. *Pediatric Asthma Society Annual Meeting, 2012.*
24. Özkaynak H, Isakov I, Baxter L, Graham SE, Sarnat SE, Sarnat JA, Mulholland J, Turpin B, **Rich D**, Lunden M. Evaluating alternative exposure metrics used for multi-pollutant air quality and human health studies. *The NATO International Technical Meeting on Air Pollution Modeling and its Application, 2012.*
25. Dadvand P, Parker J, Bell ML, Bonzini M, Gehring U, Glinianaia SV, Gouveia N, Ha E, Jalaludin B, **Rich DQ**, Slama R, Nieuwenhuijsen M, Woodruff TJ on behalf of the International Collaboration on Air Pollution and Pregnancy Outcomes (ICAPPO) Group. Maternal exposure to particulate air pollution and fetal growth: a multi-country evaluation of effect and heterogeneity. *International Society of Environmental Epidemiology Annual Meeting, Charleston, South Carolina, August 2012.*
26. Gardner B, **Rich DQ**, Zareba W, Frampton M, Utell M, Kulandhaisamy S, Topf M, Thevenet-Morrison K, Kane C, Ling F. Triggering of STEMI, but not NSTEMI, by fine particle air pollution. *American College of Cardiology Annual Meeting, San Francisco, California, March 2013.*
27. Schneider A, Breitner S, Hampel R, Zareba W, Cyrys J, **Rich DQ**, Peters A. Ultrafine particles induce rapid changes in repolarization in individuals with impaired glucose metabolism. *International Society of Environmental Epidemiology Annual Conference,* 2013, Basel, Switzerland.

28. Gong J, Zhang J, Zhu T, Kipen H, Wang G, Hu M, Ohman-Strickland P, Lu SE, **Rich DQ**, Huang W, Lin W. Associations of ultrafine particles and biomarkers of inflammation, oxidative stress, thrombosis, and autonomic dysfunction in healthy young adults. *International Society of Environmental Epidemiology Annual Conference,* 2013, Basel, Switzerland.
29. Özkaynack H, Dionisio K, Baxter L, Burke J, **Rich DQ**, Sarnat S, Sarnat J, Jones R. Overview and evaluation of alternative air quality exposure metrics used in recent air pollution epidemiological studies. *International Society of Environmental Epidemiology Annual Conference*, 2013, Basel, Switzerland.
30. Gong J, Zhang J, Zhu T, Kipen H, Wang G, Hu M, Ohman-Strickland P, Lu SE, **Rich DQ**, Huang W, Lin W. Associations of urinary amino-PAHs with ambient air pollutants in Beijing residents. *International Society of Environmental Epidemiology Annual Conference*, 2013, Basel, Switzerland.
31. Becerra AZ, Georas S, Brenna JT, Hopke PK, Kane C, Chalupa D, Frampton M, Block R, **Rich DQ.** Increases in ambient particulate matter air pollution and acute changes in platelet function in patients with type II diabetes mellitus. *International Society of Environmental Epidemiology Annual Conference, 2014. Seattle, Washington.*
32. Assibey-Mensah V, Liu K, Stevens T, Zhang Jin, Thurston SW, Pan Y, Zhang Jun, Kane C, Wei Y, **Rich DQ**. Impact of air pollution reductions during the 2008 Beijing Olympics on pregnancy complications. *International Society of Environmental Epidemiology Annual Conference, 2014. Seattle, Washington.*
33. Evans K, **Rich DQ,** Weinberger B, Valentin L, Ohman-Strickland P, Blount B. Association of prenatal perchlorate, thiocyanate, nitrate and iodide exposure with birth weight, length, and head circumference. *International Society of Environmental Epidemiology Annual Conference, 2014. Seattle, Washington.*
34. Meacham PJ, **Rich DQ**, Quiñones de Monegro Z, Diaz S, Chin N, Dozier A, McIntosh S, Thevenet-Morrison K, Holderness H, Rebstein J, Sanchez JJ, Bautista A, Ossip DJ. Predictors of secondhand smoke exposure among women of childbearing age in economically disadvantaged Dominican Republic communities. Rochester Global Health Symposium, 2015. Rochester, New York.
35. Zikova N, Twomey T, Hopke PK, Chalupa DC, **Rich DQ**, Ferro AR. Exposure to indoor wood smoke as measured by low-cost air quality monitor. Oral presentation: International Society of Exposure Science, 2016, Utrecht, Netherlands.
36. Croft D, Cameron SJ, Morrell CN, Lowenstein CJ, Ling F, Zareba W, Hopke PK, Utell MJ, Thurston SJ, Thevenet-Morrison K, Evans KA, Chalupa D, **Rich DQ**. Associations between ambient wood smoke and other particulate pollutants in biomarkers of systemic inflammation, coagulation, and thrombosis in cardiac patients. Poster Presentation: American Thoracic Society, 2016. San Francisco, California
37. Zikova N, Twomey T, Hopke PK, Chalupa DC, **Rich DQ**, Ferro AR. Wood Smoke Exposure as Measured by Low-cost Air Quality Monitors. Poster Presentation: American Association for Aerosol Research, October, 2016.
38. Foti T, **Rich DQ**, Dozier A. Predicting non-receipt of birth dose hepatitis B vaccine (HBV) using regional birth registry data. Oral Presentation: American Public Health Association Conference, October, 2016. Denver, Colorado.

39. *Croft D, Cameron SJ, Morrell CN, Lowenstein CJ, Ling F, Zareba W, Hopke PK, Block R, Utell MJ, Thevenet-Morrison K, Evans K, Chalupa D, **Rich DQ**. Blunting of fine particle mediated increases in fibrinogen by omega-3 fatty acids. Poster presentation: Wood Smoke Symposium – New York State Energy Research and Development Authority, November 2016 – Albany, New York.
40. Croft D, Cameron SJ, Morrell CN, Lowenstein C, Ling F, Zareba W, Hopke PK, Thevenet-Morrison K, Thurston S, Evans KA, Utell MJ, Chalupa D, Block R, **Rich DQ**. Effect Modification by Differing Omega-6 (n-6) to Omega-3 (n-3) Ratios on the Adverse Changes in Fibrinogen Associated with Ambient Particulate Air Pollution. American Thoracic Society, May 2017 – Washington, D.C.
41. Croft D, Hopke PK, Utell MJ, Thurston S, Thevenet-Morrison K, Evans KA, Ling F, Tian Y, **Rich DQ.** The association between source specific particulate pollution and triggering of ST-elevation myocardial infarction (STEMI) using land use regression estimates. American Thoracic Society, May 2017 – Washington, D.C.
42. Hopke PK, Masiol M, **Rich DQ**, Ferro A. Hourly land-use regression model using data collected with low-cost PM monitors. European Aerosol Conference, August 2017 – Zurich, Switzerland.

CURRICULUM VITAE
August 2017

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EDUCATION

1995	Ph.D. in Epidemiology, School of Public Health, UCLA
1993	M.P.H. in Epidemiology, School of Public Health, UCLA
1987	Doctoral Degree in Medical Sociology, University of Hamburg.
1983	Medical Examination Certificate, Registration as a Physician (M.D.), Board of Health in Hamburg
1977-1983	Medical School, University of Hamburg, Germany

PROFESSIONAL POSITIONS AND APPOINTMENTS

2012- 2015	Chair, Department of Epidemiology, School of Public Health, University of California Los Angeles (UCLA)
2006-current	Professor, Departments of Epidemiology, Environmental Health, and Center for Occupational and Environmental Health, School of Public Health, and Neurology, School of Medicine, UCLA
2005-2012	Vice Chair, Department of Epidemiology, School of Public Health, University of California Los Angeles (UCLA)
2004-current	Appointment in the Department of Neurology, School of Medicine, UCLA
2002-current	Co-director of the UCLA-CGEP (UCLA center for Parkinson 's Disease Environmental Research (CCPDER- CNS)
2001 -2006	Associate Professor, Department of Epidemiology, Department of Environmental Health, and Center for Occupational and Environmental Health, School of Public Health, UCLA
1995-2001	Assistant Professor, Department of Epidemiology and Center for Occupational and Environmental Health, School of Public Health, UCLA
1993-1995	Assistant Researcher, Department of Epidemiology, School of Public Health, UCLA
1989-1991	Hochschulassistentin (Assistant Professor), Institute of Medical-Sociology, University of Hamburg, Germany.
1987-1988	Research Fellow and Resident, Psychiatric University-Hospital Eppendorf, Hamburg, Germany
1984-1986	Research Fellow, Institute of Medical Sociology, University Hospital Eppendorf, Hamburg, Germany

OTHER HONORARY PROFESSIONAL APPOINTMENTS

2002-2008	Editorial Board: EPIDEMIOLOGY
2004-2009	Editorial Board: Epidemiologic Perspectives & Innovations
2007-2010	Editorial Board: Environmental Health
2001-current	Chair (since 2005) and Member (since 2001) of the external advisory committee for the NCI/NIEHS Agricultural Health Cohort Study
2001-current	Board of Directors for the 'R. Lemelson Foundation for Psychocultural Research.' Annual awards of $800,000 for research and training including a UCLA training grant for cross-disciplinary studies in anthropology, psychology and neuroscience

2001-2002	Member of the external advisory committee for the California Biomonitoring Planning Project conducted by the Environmental Health Laboratory's Biomonitoring Project (CDHS)
2002	Member of the EPA Science Advisory Board for Human Health Research Strategy (HHRS)
2002-2004	Member of the external advisory committee for the California Environmental Health Surveillance System (Governor Davis appointee to expert working group for SB 702)
2003-2006	Member of the Ethic Committee for the International Society for Environmental Epidemiology
2003-2004	Member of NAS, IOM Committee on Gulf War and Health, Phase 3: Literature Review of Selected Environmental Particulates, Pollutants, and Synthetic Chemical Compounds
2002-2004	Member of the external advisory committee for the California Environmental Health Surveillance System (Governor Davis appointee to expert working group for SB 702)
2006	Member of NAS, IOM Committee on Gulf War and Amyotrophic Lateral Sclerosis
2006	Member of the Scientific Steering Committee for Pediatric BioBank in California
2007	Robert M. Zweig M.D. Memorial Award (Clean Air Award) from the California South Coast Air Quality Management District
2007	Appointed as a Collegium Ramazzini Fellow
2007	Scientific Organizing committee for the PPTOX conference in Faroe Island
2008	Scientific Organizing committee for the ISEE conference in Pasadena
2008	Member of the Environmental Exposures Working Group conducted by RTI International for the PhenX project of GWA research at NIH
2009	Member of NAS, IOM Committee on Gulf War and Health, Phase 4
2008-09	Member of the U.S. EPA CO standard setting panel for (CASAC: *Carbon Monoxide National Ambient Air Quality Standards*)
2009-2012	Elected Councilor for the International Society for Environmental Epidemiology (ISEE)
2010-current	Member of the Conference Organizing committee of the ISEE
2009	Award from the American Parkinson's Disease Association (APDA) for outstanding contributions to the medical and scientific communities towards the advancement of Parkinson's disease research
2010-2013	Member of the External Advisory Board for the Superfund site center grant at University of Washington
2010-2013	Member of the External Review Board for the Swiss Tropical and Public Health Institute in Basel
2013	Scientific Organizing committee for the ISEE conference in Basel/Switzerland
2012-current	Member of CA-EPA Scientific Review Panel on Toxic Air Contaminants
2012	Affiliate member of the Institute of the Environment and Sustainability
2014	Scientific Organizing committee for the ISEE conference in Seattle Washington
2014-current	Member of NAS/IOM committee on Incorporating 21st Century Science into Risk-Based Evaluations

FUNDED RESEARCH

NNH12ZDA006O-EVI3
Agency: NASA (PI: Ritz)
Total Direct Costs to UCLA: $1,294,244
Multi-Angle Imager for Aerosols (MAIA) 08/01/16-11/30/25
This project will assess air pollution and adverse birth outcomes using exposure data provided by Dr. Diner's group from the MAIA NASA project. UCLA researchers will be responsible for the modeling the effects of prenatal air pollution exposures on adverse birth outcomes derived from vital statistics records for multiple locations across the world.

1 U01 HD087221 (PI: Devaskar/UCLA Ob-GYN)
Agency: NIH/NICHD Period: 01/01/16-12/30/19
Total Direct Costs: $2,999,640
Imaging Innovations for Placental Assessment in Response to Environmental Pollution
The objective of this proposal is to develop and evaluate a suit of cutting-edge multi-parametric magnetic resonance imaging (mp-MRI) technologies and translate these novel placental imaging modalities to assessing the impact of environmental pollution exposure on prediction of placental insufficiency.

Psychosocial stressors, air pollution and childhood respiratory health in LAFANS
Agency: NIEHS R03ES025908 (PI: Ritz) Period: 07/01/15-06/30/17
Total Direct Costs $100,000
This study will add to the previous literature by constructing a more holistic measure of the stress perceived by the child, and use that measure to determine if a child's perceived stress modifies their risk of asthma or reduced lung function from air pollution.

Pesticide Exposures and Risk of Cerebral Palsy
Agency: NIEHS R03ES025904 (PI: Ritz) Period: 07/01/15-06/30/17
Total Direct Costs $100,000
Using records from the California Department of Developmental Services (DDS), we will identify children born 1995-2007 and diagnosed with CP in California until 2010. For ~10,000 CP cases we will randomly select 1:10 matched controls from the California birth certificates. Ambient pesticide exposure estimates pre-pregnancy, during pregnancy and/or first year of life for each child will be estimated using a Geographic Information System (GIS) model we previously developed based on the California Pesticide Use Reporting (PUR) system. We will examine specific vulnerable periods in pregnancy (trimesters or months of pregnancy) to assess pesticide exposure effects on CP.

Autism, Metabolomics, and Environment (AIME)
Agency: NIEHS R21ES25573 (PI: Ritz) Period: 07/01/15-06/30/17
Total Direct Costs $275,000
We will assess whether autism risk factors can be identified using metabolomic biomarkers of exposure in stored maternal serum samples from mid-pregnancy from 200 case and 200 control pregnancies in Central California and compare biomarker exposure patterns with modelled air pollution and pesticide exposures. Metabolomics analyses will be performed in a targeted as well as untargeted manner with high-resolution metabolomics that uses mass spectrometry and advanced data extraction algorithms to quantify up to 20,000 chemicals in small biologic extracts.

Air Pollution and Childhood Autism
Agency: NIEHS R21ES024006 (PI: Ritz/Ehrenstein – multiple PI) Period: 07/01/15-06/30/17
Total Direct Costs $275,000
We use highly sophisticated modeling and analytical techniques for the detailed spatial and temporal assessment of air pollution to examine their influence on neurodevelopment in a California birth cohort linked to autistic disorder records of the CA Department of Developmental Services.

Environment and cognitive decline in older Hispanics
Multi-PI: Ritz/Haan
Agency: NIEHS Type: R01- RES023451A Period: 04/01/15-03/31/19
Total Direct Costs: $ 2,000,000
The goal of the proposed research is to investigate whether long-term exposure to two ubiquitous environmental exposures, air pollution and pesticides, contribute to cognitive decline and dementia in elderly Mexican Americans (MA) from the "Sacramento Area Latino Study on Aging" (SALSA) cohort. We capitalize upon our expertise in modeling air pollution and pesticide exposure and plan to model 1) long and short term regional, local, and traffic related air pollution using monitored criteria pollutants, CALINE4 - emissions and land use regression (LUR) models; and 2) long-term exposures to pesticides of specific chemical classes with our GIS model; and 3) assess impairment in cognitive domains and the onset of dementia longitudinally based on multiple complex environmental exposure patterns while taking into account vulnerability due to genetic and physiologic risk factors for dementia.

Air Pollution and Autism in Denmark
PI: Ritz
Agency: NIEHS Type: R21 Period: 04/01/15-03/31/17
Total Direct Costs: $ 275,000
The goal of the proposed research is to utilize Danish nationwide population-based registers and sophisticated individual-level air pollution exposure measures to assess whether early life exposure to traffic-related and particulate air pollution during critical periods of fetal development are associated with autism risk. We will use the Danish National Birth Cohort (DNBC) which enrolled pregnant women and collected extensive prospective risk factor data during pregnancy and early life for ~100,000 children

among whom 720 are already diagnosed with ASD to examine potential confounding bias for a large number of risk factors assessed in pregnancy.

Air Pollution and Cardiovascular Diseases: Identification of Novel Biomarkers
Agency: NIEHS R21 ES024560 (PI: Zhu) Period: 05/01/15-04/30/17
Total Direct Costs $275,000
Objectives: The goal of this project is to identify novel and sensitive biomarkers of cardiovascular health effects, in association to air pollution exposures.
Role: Co-I

Environmental exposure, DNA methylation, and Parkinson's disease

Agency: NIEHS 21ES024356 (PI: Ritz/ Horvath) Period: 08/06/14 – 07/31/16

Total Direct Costs: $ 250,000

Environmental exposure, DNA methylation, and Parkinson's disease
Here we use a powerful new tool and systems biology analytic methods to identify signatures for toxic exposures that evoke long-term biologic responses. Using DNA methylation we will investigate specific epigenetic markers (CpGs) correlate with toxic exposures and the role these epigenetic changes play in PD progression using epigenome wide technologies combined with analytic tools to integrate these data. We will investigate epigenetic determinants of Parkinson's disease in over 800 subjects with existing biospecimens.
Role: PI

Maternal comorbidities, prescription drug use in pregnancy, and childhood cancer (COMPAC): a record linkage study in Denmark
PI: Heck
Agency: NIH/NCI Type: R21CA175959 Period: 04/01/14-03/31/16
Total Direct Costs: $ 275,000
This study aims to link several large-scale databases in Denmark to examine maternal health and medication use in pregnancy in relation to childhood cancers. We propose to examine common pregnancy conditions that have been linked to cancers in adults and children in other studies as well as common medications taken in pregnancy which are suspected carcinogens or linked to cancer in other studies.
Role: Co-I

Inflammatory Cytokine Polymorphisms, Air Pollution, and Very Preterm Birth
PI: von Ehrenstein
Agency: NIEHS Type: R21ES022734 Period: 07/01/13 - 06/30/15
Total Direct Costs: $ 275,000
We examine the hypotheses that maternal exposure to air pollutants during pregnancy is associated with an increased risk of very preterm birth (VPTB, <32 weeks gestation), and that polymorphisms in inflammatory genes modify the influence of air pollution on the risk of VPTB. We use data from the CA Very Preterm Birth (CVPTB) Study, a nested case-control study of VPTB from 5 counties in Southern CA known for high particulate matter, ozone, and traffic exposures that has genotyped SNPs related to PTB in 26 inflammatory/immune response pathway genes in mother-infant pairs and will utilize a combination of extensive air monitoring data and air pollution modeling approaches (land use regression (LUR), CALINE4, kriging) to estimate air pollution exposures in pregnancy for CVPTB Study subjects.
Role: CO-I

Pesticide Exposure and Childhood Autism
PI: von Ehrenstein
Agency: NIEHS Type: R21ES022389 Period: 01/01/14 - 12/31/15
Total Direct Costs: $ 275,000
We examine the hypothesis that exposure to specific pesticides during vulnerable periods, particularly during fetal development, determines risks of subsequent development of autistic disorder (AD). We developed a geographic pesticide exposure assessment tool (GRAPES) that utilizes the unique California Pesticide Use Report system, in combination with agricultural land-use maps, to derive record-based estimates of historical residential exposures, and expect to identify >20,000 autism cases with diagnoses up to the age of 72

months from the CA-DDS database born in CA 1997-2009 and >1,700 from agricultural areas as well as 1:10 age-sex match controls from birth records, the largest cohort ever to address hypotheses that exposures to specific chemicals (e.g. neurotoxic or endocrine disrupting agents) contribute to AD during vulnerable periods of development.
Role: CO-I

Parkinson's Susceptibility Genes and Pesticides (PEG-Renewal)
Principal Investigator: Ritz
Agency: NIEHS/NINDS Type:R01ES010544 03/01/11-11/30/15
Total Direct Costs: $ 2,500,000
In this renewal of an epidemiologic population-based case-control study we recruit 500 additional PD patients in three rural California counties and will assessed their exposures to pesticide exposures and the effects of gene-pesticide interactions.
Role: PI

Systems genetic and reverse phenotypic analysis of age and retirement.
PI: Horvath (UCLA)
Agency: NIA Type: R01AG042511-02 07/01/13 - 06/30/17
Total Direct Costs: $ 1,000,000
We will apply/develop state of the art computational, statistical, and bioinformatic approaches with which to investigate the association between genetic data and aging- related phenotypes. Specifically, the study uses data from the Health and Retirement Study (HRS) and a systems biology approach to identifying relevant SNPs and genetic pathways and machine learning techniques and reverse phenotyping methods to better understand the complex relationship between genetics and aging outcomes including cognition and wealth.
Role: CO-I

Exposure to C8-chemicals and autism, ADHD, and cerebral Palsy in the Danish Birth Cohort
PI: Jorn Olsen (UCLA and Aarhus University, Denmark)
Agency: Danish Medical Council
Total Direct Costs (at UCLA): $ 250,000 01/01/11 - 08/31/15
The overall goal of the project is to assess the impact of C8 persistent organic pollutants in maternal serum during pregnancy and childhood outcomes of autism, ADHD and cerebral palsy in the Danish Birth cohort using follow-up data from the National Danish medical registry systems.
Role: CO-I

A Cohort Study on Air Pollution and Breast Cancer in Los Angeles County
IIR13262718 Wu (co-PI) 02/13/14-02/150/17
Susan G Komen $217,728
The overall objective is to examine the role of air pollution and risk of breast cancer among whites and non-whites in Los Angeles using the large Multiethnic Cohort Study
Role: Co-Principal Investigator

Improvements in Air Quality and Health Outcomes among California Medicaid Enrollees Due to Goods Movement Actions — Phase I: Assessing Air Quality Changes
PI: Meng , UCLA
Agency: Health Effects Institute (HEI) #: 4914-RFA11-1/2-6 09/01/12 – 08/31/15
This phase of the project will evaluate the effect of goods movement emission reduction actions on ambient air quality in goods movement corridors, non-goods movement corridors, and areas outside of these two corridors in 10 major California counties between the 2003-2007 pre-policy and 2008-2012 post-policy years.

COMPLETED RESEARCH
Assessing and Reducing Taxi Drivers' Exposure to Ultrafine Particles
PI: Yifang Zhu (UCLA) Type: R21OH10196 09/01/12–08/31/14
Agency: CDC/NIOSH
Total Direct Costs: $ 275,000

Goal: The major goals of this project are to develop ultrafine particle exposure assessment instrument and explore novel low-cost ultrafine particle exposure mitigation strategies for taxi drivers.
Role: Co-I

Air Pollution and PD in Denmark
PI: Ritz Type: R21-ES022391 12/01/12-30/11/14
Agency: NIEHS
Total Direct Costs: $ 275,000
This study will use a sophisticated and validated GIS-based dispersion model, AirGIS, to assess exposure to traffic-related air pollution in PASIDA participants; i.e. NO_2/NO_x. Specific aims are to: (1) assess the influence of long-term traffic-related air pollution exposure on PD risk for 1,867 cases and 1,920 population controls combining existing PASIDA data with new exposure measures from AirGIS; and (2) investigate the combined action of air pollution and genetic variants in inflammatory genes previously linked to PD.
Role: PI

Parental Occupation and Childhood Cancers in Denmark
PI: Heck (UCLA) TYPE: R03 ES021643 4/15/12-3/31/14
Agency: NIEHS
Total Direct Costs: $ 50,000
The specific aims of this study are: 1) Create a linked database of all childhood cancers in Denmark diagnosed 1965-2010 with recorded information on parental employment. 2) Examine the relation between parental employment and childhood cancers focusing on maternal occupational exposures. 3) Examine specific hypotheses in childhood cancer risk (occupational social contact; contact with animals; organic dust; welding fumes; bitumen fumes; outdoor work; and several associations seen in previous literature (solvents, paints and pigments, motor vehicle exhaust related occupations)).
Role: Co-I

Pesticides and Childhood Cancers
Principal Investigator: Ritz (UCLA)
NIEHS R21- ES019986 4/1/11 – 12/31/13
Total Direct Costs: $ 275,000
The specific aims of this study are to examine associations between prenatal exposure to pesticides and specific childhood cancers in California between 1980-2009 using ambient measurement data using our GIS model of pesticide exposures based on land use maps and pesticide use report (PUR) data.

UCLA Center for Centers for Neurodegeneration Science (CNS; former CGEP)
Director: Chesselet, UCLA; Co-director: Ritz
NIEHS P01ES016732 09/15/08-08/31/13
Total Direct Costs: $5,000,000
We have previously shown associations between high levels of exposure to specific environmental pesticides and Parkinson's disease and will build on this knowledge to determine the mechanisms of action that may be causing this association. We will use an integrated, multidisciplinary approach to identify additional agricultural pesticides that are disrupting similar molecular pathways, and determine whether these also increase the risk of Parkinson's. This work is expected to shed light on the pathological processes involved in sporadic Parkinson's disease, the most frequent form of the disorder, and could have public health implications for precautions in the use of some pesticides.
Project 4: Pesticides and Genes in PD: Studies in Humans
Principal Investigator: Ritz
NIEHS 09/15/08-08/31/13
Total Direct Costs: $1,250,000
This project will use the existing PEG data to test biological candidate genes and newly identified putative environmental toxicants for association with PD. We will recruit and collect biological (DNA) samples from and construct exposures estimates for 400 additional population controls. This will enable us to test new hypotheses for rarer exposures to specific toxins and will allow us to investigate gene-gene (GxG) and gene-environment (GxE) interactions with sufficient power. Targeted toxins are either (a) interfering with the ubiquitin proteasomal system (UPS), (b) altering microtubule integrity, and/or (c) inhibiting the aldehyde/alcohol dehydrogenase. Targeted genes include UBE1 and UBE1L2; PSMC2, 3, 4, and 5; HIP2; SKP1A; GSK3B; CDK5; MAPT, Sirt2, and ALDH and ADH gene clusters.

Registry of Parkinson's Disease Study In Denmark (PASIDA)
Principal Investigator: Ritz
NIEHS RO1 - ES013717 09/01/06-08/31/13
Total Direct Costs: $5,600,000
We conduct 1) a case-control study of ~13,000 PD cases and age-gender matched controls from the Danish population via passive record linkage by unique ID between the National Patient Register, Pharmacy Database, and National Pension fund to identify risk factor information contained in these records (e.g. occupations, medication use, diseases prior to PD onset); and 2) recruit actively ~2500 of the most recently registered PD patients and population controls to collect additional risk factor information per interview and biological materials for gene-environment interaction analyses and to characterize PD patients phenotypically.

Air Pollution and Childhood Cancers
Principal Investigator: Heck (UCLA)
NIEHS R21- ES018960 4/1/10 – 12/31/13
Total Direct Costs: $250,000
The specific aims of this study are to examine associations between prenatal exposure to motor vehicle related air pollution toxics and specific childhood cancers in Los Angeles County and all of California between 1980-2009 using ambient measurement data, land use based regression (LUR) and CALINE4 models.

California Parkinson's Disease Registry Pilot Feasibility Study
Principal Investigator: Ritz
DOD 09/01/07-04/30/12
Total Direct Costs: $390,000
The primary goal is to conduct a pilot study for the legally mandated statewide population-based PD registry. We will identify PD cases in Kern, Tulare and Fresno counties from legally mandated sources (pharmacists, health care institutions, physicians and other providers). A secure prototype database will be established, and associations between PD and toxicant chemical exposure will be determined by linking to a database of toxicant chemicals established previously by UCLA based on California state data (e.g. the pesticide use databases).

UCLA UDALL Parkinson's Disease center
Principal Investigator: Chesselet, UCLA
NINDS Type: P50 NS38367 04/01/06-03/31/12
Total Direct Costs: $7,500,000
Project 6 within the center (budget of $ 500,000 annual direct costs): Progression and Health Impacts of PD Motor and Non-Motor Manifestations (C-PI Ritz)
Research goals are to assess whether development and progression of PD motor and non-motor manifestations in 300 PD patients ascertained in the PEG study (PI: Ritz see below) are influenced by environmental, behavioral, and social factors and by genetic variants of ApoE and serotonin transporter alleles; and to determine the relative contributions of progression of motor and non-motor manifestations of PD to changes in HRQOL over time.

Sunlight exposure and variations in vitamin D metabolic genes in Parkinson's disease
Principal Investigator: Ritz
NIEHS R03- ES017139 09/01/09-08/31/11
Total Direct Costs: $100,000
The goal of the proposed research based on the PEG study population is to examine the hypothesis that long-term low levels of vitamin D either through inadequate sunlight exposure or alterations in metabolic genes that influence physiological vitamin D levels increase the risk of PD. We will test associations between long-term UV exposure measures and PD and examine whether genetic alterations presumed to result in different physiological vitamin D activity in genes critical to the vitamin D pathway (VDR, CYP27B1 and CYP24A1) increase the risk of PD.

Traffic-Related Air Pollution and Ultrasound Measures of Fetal Growth
Principal Investigator: Wilhelm Turner (UCLA)

NIEHS R03- ES017314 04/01/09-03/31/11
Total Direct Costs: $100,000
The specific aims of this study are to estimate prenatal exposures to O3 and PM10 and pollutants originating from traffic (NOx) using CALINE4 air dispersion modeling and examine associations with fetal size throughout pregnancy using ultrasound measures to examine associations with weight, length, head circumference, fetal growth ratio, ponderal index, and cephalization index at birth.

Ambient Air Toxics and Adverse Birth Outcomes
Principal Investigator: Wilhelm Turner (UCLA)
NIEHS R03 ES017119-01 12/15/08 – 12/30/10
Total Direct Costs: $100,000
The specific aims of this study are to: (1) examine associations between prenatal exposure to motor vehicle air toxics and low birth weight (LBW) and preterm birth in women residing in Los Angeles County, California between 1994-2006 using both ambient measurement data and land use based regression (LUR) models; and (2) gain information about how LUR models built on NOx measurements reflect exposures to specific toxins thought to have biological relevance for these outcomes.

Exposure to mobile source air pollution and adverse birth outcomes in the Los Angeles Air Basin
Principal Investigator : Jun Wu (UCI)
NIEHS R21 ES016379 9/11/08 -12/31/10
Total Direct Costs: $250,000
The overall goal of the project is to improve exposure assessment of air pollution exposure in pregnant women and investigate the impact of air pollution exposure on adverse reproductive outcomes, such as preterm birth, low birth weight, and intrauterine growth retardation.

Disparity in asthma among Californians from pollutant exposures.
Principal Investigator: Meng, UCLA
California Air Resources Board 04/22/08- 12/31/10
Direct Costs: $270,000
The goal of the research is to conduct a population-based study to examine the effects of long-term air pollution exposure near residence on chronic severe asthma and asthma-like symptoms in vulnerable populations.

Development of Exposure and Health Outcome Indicators for Those with Asthma or Other Respiratory Problems
Principal Investigator: Meng, UCLA
EPA- R833629 09/01/07-12/31/10
Direct Costs: $410,000
The goal of this research is to investigate the feasibility of combining existing environmental monitoring and health survey data to develop indicators that signal trends in exposures and health for those with asthma or other respiratory problems

Neighborhood Effects on Children's Health & Access to Care
Principal Investigator: A. Pebley, UCLA
HRSA 09/01/07- 8/31/10
Total Direct Costs: $500,000
The goal of this study is to significantly advance our knowledge about the relative importance of specific family and neighborhood characteristics in the development of major child health problems. This project is based on the Los Angeles Family and Neighborhood Survey (L.A.FANS), a longitudinal study of neighborhoods, families, adults, and children in Los Angeles County

Traffic-Related Air Pollution and Asthma in Economically Disadvantaged and High Traffic Density Neighborhoods in Los Angeles County, California (with LA F.A.N.S.)
Principal Investigator: Ritz
California Air Resources Board 01/06/05-09/30/09
Total Direct Costs: $420,000
The objectives of this research are: (1) to conduct NO_x and NO_2 monitoring at 200 locations within LA County neighborhoods with varying levels of economic disadvantage and varying exposures to air

pollution originating from vehicular sources; (2) to use these monitoring data to help inform land use-based regression (LUR) models developed to predict traffic pollutant exposures; (3) to use geostatistical models to estimate regional background concentrations of O_3 and $PM_{2.5}$; (4) to evaluate associations between exposure to NO_x, NO and NO_2 and measures of lung function and asthma prevalence, exacerbation and possibly incidence in children ages 0-17 years in conjunction with the Los Angeles Family and Neighborhood Survey (L.A. FANS) study; and (5) to evaluate whether concentrations of the more regionally distributed background pollutants (O_3 and $PM_{2.5}$) confound or modify the effects of exposure to the more heterogeneously distributed traffic-related pollutants (NO_x, NO and NO_2) on lung function and asthma.

Aggregate Exposure Assessment: Longitudinal Surveys of Human Exposure-Related Behavior
Principal Investigator: Irva Hertz-Picciotto, UC Davis
EPA 01/12/04-11/30/09
Direct Direct Costs: $388,111
This project develops data collection platforms for longitudinal assessment of exposure-related behavior. The data characterize short-term, seasonal, and long-term changes in time-activities, food consumption habits, and use of household and personal care products. We assess exposure-related behaviors at multiple collection points over time, and evaluate a number of data collection methods for validity (accuracy), precision, completion rates, cost, feasibility, and user acceptability.

UCLA Center for Gene-Environment Studies in Parkinson's Disease (CGEP-part of the NIEHS CCPDER)
Director: Chesselet, UCLA; Co-director: Ritz
NIEHS 09/01/02-08/31/09
Total Direct Costs: $7,000,000
The overall objective of this Center is to understand how the detrimental effects of pesticides, a suspected environmental risk factor for Parkinson's disease, are modulated by genetic variations that impact dopamine homeostasis in nigrostriatal neurons. The center integrates 3 RO1 research projects that investigate these questions in fly, mouse, cell culture models and applies the results also to human genetics (project 1: PI Ritz)

Research Project I within the CGEP center "Environmental toxins and genes that influence dopamine in Drosophila and humans"
Principal Investigator: Ritz
NIEHS 09/01/02-08/31/09
Total Direct Costs: $1,000,000
This project examines interindividual variability of dopamine vesicular transporter (VMAT) expression due to promoter variants in two human populations in parallel with a reporter gene assay. These populations will be genotyped for functional VMAT2 variants and association analyses of gene-environment interactions and pesticide exposures collected in the parent grant will be conducted. In addition, Drosophila genetics will be used to determine how the expression of VMAT affects dopamine-mediated toxicity and identify genes that modulate VMAT function, which will then be examined in the human population for their relevance to increase risk of PD.

Parkinson's Susceptibility Genes and Pesticides (PEG)
Principal Investigator: Ritz
NIEHS/NINDS 10/01/00-09/30/07
Total Direct Cost: $2,653,852
We are testing the gene-environment interaction hypothesis for Parkinson's disease by conducting an epidemiologic population-based case-control study of 400 newly diagnosed PD patients from three rural California counties matched to population controls; in addition we are collecting data for unaffected sibling controls. Environmental and occupational pesticide exposure estimate are derived from California pesticide-use reporting (PUR) and other data. We are examining the effects of gene-environment interactions by testing for associations of PD using multiallelic repeat markers and genotyping intragenic single nucleotide polymorphisms (SNPs) and/or deletions in 50 candidate genes.

PD Consortium: Genetic and Environmental Factors in Parkinson's Disease
Principal Investigator: L. Nelson, Stanford
MJ Fox Foundation 10/01/04-09/30/07

Total Direct Costs $50,000
We established the Consortium for the Study of Genetic and Environmental Factors in Parkinson's disease, with the goal of organizing the collaborative efforts of five investigative groups that have who have conducted (or are conducting) seven case-control studies of PD. For approximately 1700 PD cases and 2100 gender- and age-matched control subjects, we investigate how the risk of developing PD varies according to tobacco and caffeine intake, as well as variants in ten candidate genes that code for proteins that may be involved in conferring the protective effect of these agents.

Alpha Synuclein and Environmental Exposures: A Study in Humans
Principal Investigator: Langston, The Parkinson's Institute
MJ Fox Foundation 01/01/05-12/31/07
Total Direct Costs $100,000
We are investigating the joint effects of: (1) consequences of alpha-synuclein over-production and enhanced mapping of the SNCA promoter region and (2) the biologic effects specific toxicants (e.g., rotenone, paraquat, organochlorine pesticides). We take advantage of two unique cohorts at high risk for pesticide exposure currently evaluated by members of the NIEHS-funded Collaborative Centers for Parkinson's Disease Environmental Research (CCPDER) at the Parkinson's Institute (PI) and UCLA, the Agricultural Health Study cohort and a population-based study of PD and pesticide exposure in rural Central California (the PEG study).

Prostate Cancer and Pesticide Exposure in Diverse Populations in California's Central Valley
Principal Investigator: Cockburn, USC
DOD 05/01/06-12/31/07
Total Direct Costs: 250,000$
This is a pilot study bringing an innovative collaborative approach to prostate cancer research. Specifically, this study will apply novel methods of pesticide exposure assessment using Geographical Information Systems (GIS), examine whether our proposed method of recruiting and approaching cases and controls for a large population-based case-control study will result in acceptable response rates, or whether our sample will be biased with respect to socioeconomic status, race, and disease characteristics, and whether we will be able to obtain sufficient DNA from mailed (Oragene) spit collection kits to assess effect modification by known relevant genes, and have sufficient stored DNA to assess the impact of genes that may be discovered in future.

Traffic-related Air Pollution and Adverse Birth Outcomes
Principal Investigator: Ritz
NIEHS 07/15/01-06/14/07
Total Direct Costs: $641,612
The objectives of this project are to determine whether exposures to elevated and traffic-related ambient air pollution during pregnancy result in low birth weight, preterm birth, intrauterine and postneonatal mortality, or cardiac defects in infants born to women living in the South Coast Air Basin (SoCAB). We performed a cohort study of all births (between 1995 and 1999), fetal and infant deaths (between 1989 and 1997), and conducted a nested case-control study of 2600 women who delivered children in LA in 2003 to collect additional exposure, confounder, and effects modifier data.

Ergonomic Interventions for Sewing Machine Operators
Principal Investigator: Ritz
CDC/NIOSH 10/01/02-09/31/06
Total Direct Costs: $868,262
We are conducting a randomized trial of a newly developed ergonomic intervention in sewing machine operators working in LA garment shops. The ergonomic intervention package includes changes in work-station design, training of employees, and suggestions of improvement in work procedures. We are examining whether interventions can reduce rates of upper extremity, neck (and lower back) musculoskeletal disorders, severity of pain and impairment, and lost-time compared to 'placebo' (control) interventions. This study will provide employers, employees and public agencies with evidence of the effectiveness of ergonomic interventions in order to guide health and safety policy.

Traffic-Related Air Pollution and Acute Respiratory Diseases and Asthma in Children Ages 0-5 in the SoCAB From 1990-2000

Principal Investigator: Ritz
California Air Resources Board 01/06/04-09/30/05
Total Direct Costs: $55,000
The aims of this study are to estimate the transient effects of traffic related and background air pollution in the South Coast Air Basin (SoCab) on the risk for hospitalization for acute respiratory illness and asthma in children ages 0-5 using a case- crossover study design and a time-series analysis.

Assessment of In-Traffic Exposures and Human Reproductive Health
Pilot project Principal Investigator: Ritz; SCEHSC Center Principal Investigator: Froines, UCLA
EPA 07/01/04-06/30/05
Total Direct Costs Pilot Project within the PM-center: $28,000
The goal of this project is to evaluate whether maternal in-vehicle air pollutant exposures during commutes (either in passenger cases, buses or other means of public transportation) affected the risk of low birth weight (LBW) and preterm birth in infants born to women living in Los Angeles County, California between 2003-2004. Commuting behavior (travel time, mileage and/or modeled routes) will be used to evaluate exposure to motor vehicle exhaust pollutants while in-transit

Molecular Epidemiology and Gene-Environment Interaction
Principal Investigator: Zhang, UCLA
NIH/NIEHS R21 ES 011667 04/01/02-03/31/05
Total Direct Costs: $450,000
This was a planning grant for molecular epidemiology in Environmental genome. The award was to establish a molecular epidemiology research program focusing on environmental genome.

Uncontrolled Asthma and Exposure to Air Pollutants: Linking Chronic Disease and Environmental Data Sources
Principal Investigator: Meng, UCLA
CDC/NIOSH/ 10/01/02-09/01/05
Total Direct Costs: $600,000
Based on the California Health Interview Survey (CHIS 2001) data, an extensive air monitoring network, and detailed information on traffic density we are conducting a population-based epidemiologic case-control study to: (1) ascertain the relationship between control of asthma and exposure to air pollutants in Los Angeles County and San Diego County, California; and (2) build and enhance the partnerships between public health and environmental agencies and local communities.

Center of Excellence for Environmental Public Health Tracking
Principal Investigator: Balmes, UCSF
CDC/ATSDR 10/01/02-09/01/05
Total Direct Costs (UCLA only): $300,000
The UCLA part of this center grant uses the data from 5,200 California Health Interview Survey (CHIS 2001) respondents who reported having been diagnosed with asthma at some point in their lives and live in the Greater Bay Area, San Joaquin Valley, and Los Angeles County. Criteria pollutant averages are employed as measures of background ambient air quality and linked with sociodemographic information and data on asthma management, access to care, and risk behaviors collected through CHIS for each targeted respondent.

Community Response to Maternal/Child Heath Disparities
Principal Investigator: Hobel, Cedars Sinai
NIH 04/1/03-9/30/05
The major goals of this study are to examine the interrelating biological and social-behavioral factors that contribute to health disparities in pregnancy outcomes and infant and early childhood mortality and morbidity. We will participate as one of five selected sites in the nation to plan for a multi-centered, community-based study examining the relationship between environmental factors and child health disparities.

Extension of the Rocketdyne/AI Worker Cohort Through 1999
Principal Investigator: Ritz
California Cancer Research Program 07/01/00-06/30/04

CRP award #00-00781V-20218
Total Direct Cost: $324,508
We extended the mortality follow-up of two previously established cohorts of workers employed at Rocketdyne/Atomics International (now Boeing North American) facility for an additional 5 years and added a cancer incidence component for the period 1972-1998. This study allowed evaluating the impact of radiation and some known animal carcinogens on cancer mortality and morbidity.

Assessment Scale for End-of-Life Care in End-Stage Dementia
Principal Investigator: Ackerman, UCLA
Alzheimer's Association 10/01/00-09/30/03
Total Direct Costs: $217,583
This pilot project developed a scale to assess end-of-life care for end-stage dementia patients and evaluated its performance using mortality data.

Pilot grant from Southern California Center for Airborne Particulate Matter (SCCAPM)
Principal Investigator: Froines, UCLA; Pilot grant Principal Investigator: Ritz
U.S.-EPA-Star grant 07/01/01-12/31/02
Total Direct Cost: $12,000
The pilot grant supported exposure assessment for an epidemiologic study of traffic related adverse birth outcomes.

Evaluation and Validation of Pesticide Use Reporting in California
Principal Investigator: Ritz
UC Toxic Substances Research & Teaching Program 07/01/99-06/30/01
Total Direct Costs: $ 50,000
The goal of this pilot grant was to use biomarker data to evaluate the validity of pesticide exposures estimates derived from geographic models of environmental exposure based on pesticide use reports and land use maps in California residents.

Identify and Reduce Work Hazards in Home Health Care Workers
Principal Investigator: Ritz
Institute of Labor and Employment Pilot Study 02/01/01-30/08/01
Total Direct Costs: $ 7,500
This pilot project developed and tested a survey instrument and collected preliminary data for a study of job hazards in 74,000 home health care workers in LA county.

Pilot Study for Gene-Environment Interaction and Parkinson's Disease Study
Principal Investigator: Ritz
APDA Center Pilot Grant 03/01/99-12/31/00
Total Direct Costs: $35,000
This pilot project involved establishing data resources to improve exposure measures for pesticides, and setting up of a county-wide networks to reach incident Parkinson's cases in rural California.

Development of a Temporary Parkinson's Disease Registry for Southern California
Principal Investigator: Ritz
APDA/Pilot Grant from the PD-center at UCLA 03/01/99-12/31/00
Total Direct Costs: $10,000
This pilot project established mechanisms to obtain incident Parkinson's cases in rural California using information provided by local health care providers, Parkinson's disease foundations, clinics, and Medicare, and to determine which data sources exist for the application of capture-recapture methods to validate coverage of a future PD registry.

Modeling Air Pollution and Birth Defects
Principal Investigator: Ritz
CBDMP Grant/SCEHS/NIEHS Pilot Grant 07/01/00-09/30/00
Total Direct Costs: $5,600
The objective of this project was to examine the usefulness of some advanced statistical modeling procedures in order to determine whether exposures to elevated levels of ambient air pollutants (PM10,

CO) at the levels found in the South Coast Air basin (SoCAB) basin caused defects of the cardiac system of fetuses.

Pesticide Exposure Modeling Based on Historical Use Reporting in California to Investigate Long-Term Health Effects
Principal Investigator: Ritz
UCLA-USC NIEHS-Center Pilot Grant 05/01/99-04/30/00
Total Direct Costs: $18,000
The objectives of this pilot grant were to develop a geographic model for pesticide exposure of California residents between 1950 and 1990 using satellite images of crops, aerial photographs, and Pesticide Use Reporting Data from the California Department of Pesticide Regulations.

Epidemiologic Study to Determine Possible Adverse Health Effects on Rockwell/Rocketdyne Workers from Exposure to Radioactive and Hazardous Substances
Principal Investigator: Morgenstern, UCLA
CPHF/DOE/DE-FG-03-91SF18983 01/10/93-03/31/99
Total Direct Costs: $740,000
The major goal of this study was to test the hypothesis whether exposure to toxic chemicals and ionizing radiation among Rockwell/Rocketdyne workers caused an excess of cancer mortality.

Hazard Surveillance in the Defense Nuclear Industry
Principal Investigator: Froines, UCLA
CDC/NIOSH/R01-CCR912034 09/01/95-08/31/99
Total Direct Costs: $1,244,745
The major goals of this project were to develop an integrated theory, approach, and methodology to exposure assessment and hazard surveillance in the U.S. defense nuclear industry.

The Influence of Air Pollution in the Los Angeles Metropolitan Area on the Occurrence of Birth Defects, 1990-1993
Principal Investigator: Ritz
SCEHSC/NIEHS/UCLA-USC NIEHS-Center Pilot Grant 09/01/97-09/30/98
Total Direct Costs: $24,000
The objective of this pilot project were to examine whether the exposure of pregnant women to elevated levels of ambient air pollutants (Ozone, NO2, PM10, CO) at the levels found in the Los Angeles Metropolitan Area or the South Coast Air basin (SoCAB) basin cause low birth weight or preterm birth.

RESEARCH CONDUCTED IN GERMANY (1984-1989)
Health effects of airborne-dioxin exposure in Hamburg nursery schools
Rheumatic disorders, working conditions and coping behaviors in female office workers
Work-related knee-joint and elbow injuries in pipe-fitters and welders
Back and neck pain, psycho-social and ergonomic stresses in nursing professions

HONORS AND AWARDS

1999	UCLA Faculty Career Development Award
1999	'Rothman' award presented at SER by C. Poole
1989-1992	Post-doctoral fellowship received from DAAD ("German Academic Exchange Office of the Ministry of Research and Technology")
2001	Delta-Omega Award
2007	Robert M. Zweig M.D. Memorial Award (Clean Air Award) from the South Coast Air Quality Management District (AQMD)
2009	Award from the American Parkinson's Disease Association for outstanding contributions to the medical and scientific communities and for my work towards the advancement of Parkinson's disease research

TEACHING

UCLA, School of Public Health, graduate courses, 1995-present

Epidemiology Methods (Core methods course (200B) in the UCLA Epidemiology program)
Environmental Epidemiology
Occupational Epidemiology
Advanced Methods in Occupational and Environmental Epidemiology
Seminar: Occupational and Environmental Cancers
Seminar: Policy Issues in Occupational and Environmental Health

University of Hamburg, Medical School, 1984-89

Lectures and seminars in Medical Sociology for medical students
Lectures and seminars in Psychiatry for medical students

ADVISING AND MENTORING OF DOCTORAL STUDENTS (PH.D) AND POSTDOCTORAL FELLOWS (SUBJECT OF DISSERTATION OR FELLOWSHIP)– *note: this list only includes primary advisees (i.e. chair of committee and not member of dissertation committee) and does not include master level students*

At UCLA:

1997 - 2001	Kurt Straif (Cancer mortality in the German rubber industry)
1998 - 2000	Timothy Clary (Pancreatic cancer mortality and pesticide use in California)
1998 - 2004	Michelle Wilhelm (Traffic-related air pollution and pregnancy related health effects)
1998 - 2004	Rudy Rull (GIS modeling of pesticide exposure and neural tube defects)
1998 - 2004	Anusha Krishnadsan (Occupational physical activity and prostate cancer incidence)
2001 - 2004	Yingxu Zhao (Work place exposures to chemicals and cancer incidence)
2003 - 2004	Gail Asleson Kang (*Movement Disorder Fellow*: Clinical characteristics of PD patients)
2002 - 2006	Pin-Chieh Jason Wang (Ergonomic interventions and health effects in LA garment workers)
2003 - 2006	Chad Lewis (TTHM contamination in drinking water and adverse birth outcomes)
2003 - 2005	Kathrine Hoggatt (co-mentored with Dr Greenland: Air pollution and adverse birth outcomes)
2004 - 2008	Angelika Wahner (Doctoral student & postdoctoral fellow: Parkinson's disease, genetic factors and anti-inflammatory drug use)
2004 - 2008	Marie Sharp (The Latina Paradox in Birth Outcomes)
2004 - 2008	Sadie Costello (Parkinson's disease and life style factors)
2005 - 2008	Shannon Rhodes (Doctoral student & postdoctoral fellow: Iron genetics and Parkinson's disease)
2008 - 2010	Nicole Gatto (Postdoctoral fellow: Vitamin D, sunlight and Parkinson's disease)
2004 - 2008	Amanda Colligan (Residential pesticide exposure and Parkinson's disease)
2005 - 2012	Anthony Wang (Occupational pesticide exposures and Parkinson's disease)
2007- 2011	JoKay Ghosh (Air toxics and adverse birth outcomes)
2008- 2013	Tracy Becerra (Autism and race ethnicity in Los Angeles)
2008- 2013	Erin Jacob-Marcotte (Pesticides in pregnancy and childhood cancers)
2011-2012	Anshu Shresta; post-doctoral fellow (Childhood cancers and the environment)
2011-2013	Pei Chen Lee; postdoctoral fellow (Air pollution and pregnancy biomarkers)
2009-2014	Shilpa Narayan (Progression in Parkinson's disease)
2009-2014	Christina Lombardi (Air pollution and childhood cancers)
2011-2014	Zeyan Liew: PFOA exposures in the Danish birth cohort and ADHD and autism)
2012 -present	Gretchen Bandoli (Stress, asthma and birth outcomes in LA)
2012 -present	Kristina Vanderwaal Hool (breast cancer and methylation patterns)
2011- present	Kim Paul (Gene-environment interactions in Parkinson's – PASIDA study)
2011- present	Xin Cui (Bias analysis in the PASIDA study of Parkinsons)
2011- present	Andrew Park (Pesticides and childhood cancers)
2012- present	Vivian Alonso (Nutrition, vitamins use and reproductive health)
2013- present	Yu-Hsuan Chuang (Parkinsons, gene methylation, and gene-environment interactions)
2013- present	Xiaoqing Xu (Pharmaceuticals and childhood cancers in Denmark)
2013- present	Matt Feaster (Occupations risk factors for childhood cancers)
2013- present	I-Fan Shih (Parkinsons and physical activity)
2013- present	Negar Omid (Childhood cancer risk factors)

2013- present Aline Duarte (Parkinson's non-motor symptoms)
2013- present Chenxiao Ling (Bias analysis in environmental epidemiology)
2014- present Cynthia Kuster (Parkinsons' and estrogen receptors)
2014- present Zuelma Esquivel (Childhood cancer risk factors)

At University of Washington:

2004-2006 Kathrine Carr (*Postdoctoral Fellow*: Bronchiolitis and air pollution in LA infants)

At UCI:

2011-2013 Jun Wu (junior faculty mentor for W. Rosenblith award given by HEI)

At the University of Copenhagen, Denmark:

2008-present Line Kenborg (Parkinson's disease and outdoors work and sunlight exposures)
2007-2009 Kathrine Rugbjerg (Parkinson's disease and head trauma and auto-immune diseases)

University of Umea/Sweden

2014 Opponent for doctoral student David Olsson (Air pollution and PTB and preeclampsia in Stockholm)

PARTICIPATION IN GRANT AND CENTER REVIEWS

Reviewer on a NCI Special Emphasis Panel "Improving Exposure Assessment in Environmental and Occupational Epidemiology of Cancer", May 2001
Reviewer of the NIEHS-funded Columbia University Environmental Health Sciences Center, May 2002
Reviewer of the Charles Harkin Award Application for Research in Thyroid Cancer, NIH, April 2003
Reviewer of the Wellcome Trust Application "Pre and post-natal exposure to particulate matter and pregnancy and infant outcomes: an historical cohort study", 2003
Reviewer of the Health Effects Institute's (HEI) Walter Rosenblith New Investigator Award application, April 2003
Reviewer of pilot grants for the Southern California NIEHS center grant (2004 and 2005)
Reviewer of pilot grants for the UCLA-CCPDER center (NIEHS funded) (2003 and 2005 and 2008)
Reviewer for NCI, Epidemiology of Cancer (2004/05 Council EPIC)
Reviewer for several NIH, Department of Health & Human Services meeting applications, 2003-2005
Reviewer (Chair of Review Committee) for a NIEHS-PO1 application (2004)
Appointment to Review Committee of the European Science Foundation (ESF) (2005)
Annual Review of SCEHSC Pilot Project Submission (permanent member 2004-current)
Institutional Patient-Oriented Career Development Programs in the Environmental Health Sciences [K12] (ES06-005). (2007)
Conference grant applications (2004-2007)
NIH reviewer for Outstanding New Environmental Scientist (ONES) award in the Environmental Health Sciences (2006)
Member of the EPA's Clean Air Scientific Advisory Committee (CASAC) Carbon Monoxide (CO) Review Panel (2008-current)
Grant review for an internal NIEHS scientist's application (Dr. Chen) (2007 and 2008)
Grant review for NIEHS special emphasis panels 2009-2010
Grant review for NIH-BCHI 2011
Pilot grant review for the Northern California Center for the National Children's Study –Pilot Projects Program August 2011
External Review of the Neurology Department at Columbia (NY), 2011
Scientific Review of Superfund Site Projects as EAC member for University of Washington, 2012
External Review of the Swiss Tropical and Public Health Institute (TPH), 2012 and 2013
External Review of the Epidemiology Branch at NIEHS, 2013
Review for Harvard NIEHS center pilot grant, 2014
Review of applications for Health Effects Institute (HEI Boston), Rosenblith awardees, 2014
Review for Mount Sinai (NY) NIEHS center pilot grants, 2014
Review for NIEHS USC-UCLAEnvironmental Health Science center pilot grants, 2014
Review of NIEHS conference grants July 2015
Review of Parkinson's disease grant for Parkinson's UK foundation in Great Britain

JOURNAL REVIEWER FOR:

American Journal of Epidemiology
Epidemiology
International Journal of Epidemiology
Annals of Epidemiology

Environmental Health Perspectives
Environmental Health
Occupational and Environmental Medicine
Archives of Neurology
Annals of Neurology
Neurology
Movement Disorders
Pediatrics
JAMA
Lancet
Parkinson's and Related Disorders
Pharmacogenetics and Genomics
Journal of the Air & Waste Management Association
Journal of Exposure Analysis and Environmental Epidemiology
Chemosphere
Zeitschrift Sozial- und Präventivmedizin (SPM)
Human Reproduction
Women & Health
Etc.

INVITED SEMINARS AND LECTURES (SELECTED)

1. The Health Effects of Low-level Ionizing Radiation, USC, Health Sciences 1996
2. Work Environment and Health, UCLA Health Sciences 1996
3. The Effects of Carbon Monoxide Exposure on Low Birth Weight in the LA Metropolitan Area, 1989-1993, USC, Southern California Environmental Health Sciences, 1997
4. Cancer Mortality in Radiation Workers, USC Southern California Environmental Health Sciences, 1997.
5. Basic Principles of Reproductive Epidemiology, European School of Risk Assessment in Reproduction" in Florence/Italy December, 1997.
6. The Rocketdyne/AI Worker Health Study: Results and Lesson's Learned, California Department of Health Services, Occupational Health Branch, 1998
7. Air Pollution and Low Birth Weight in Southern California, GSF Munich Germany, 1998.
8. Air Pollution and Adverse Birth Outcomes: Methodological Issues and First Results, Southern California Environmental Health Science Center, USC, 1998.
9. Gene-Environment Interaction and Parkinson's Disease, Neurology Grand Rounds, UCLA 1998
10. Air Pollution and Adverse Birth Outcomes in Southern California, Dept. of Reproductive Epidemiology, University of Michigan, East Lansing, 1999.
11. Methodologic Issues in Studying of Gene-Environment Interaction, GSF Munich Germany, 1999
12. Methodologic Aspects of Studying Cancer Mortality in Radiation Workers, Dept. of Epidemiology, University of Michigan, East Lansing, 2000.
13. Cancer Mortality in Fernald Uranium Workers, NIOSH, Cincinnatti, 2000.
14. GIS Modeling of Pesticide Exposures in California, Dept. Environmental Epidemiology, GSF Munich Germany, 2000
15. Traffic-related Air Pollution and Adverse Birth Outcomes in Southern California, Dept. Environmental Epidemiology, GSF Munich Germany, 2000
16. Studying Parkinson's disease in Populations; American Parkinson's Disease Association conference for patients and care providers at UCLA, 2001
17. From the Epidemiology of Parkinson's Disease to Gene-Environment Interactions, VA-PD conference, Woodland Hills, 2001
18. GIS Modeling of Air Pollution and Pesticide Exposures in California, USC-UCLA NIEHS Town hall meeting; Dec, 2001
19. GIS Modeling in the context of a Gene-Environment Interaction study of Parkinson's disease, Dept. Environmental Epidemiology, GSF Munich Germany, 2001
20. The Epidemiology of Parkinson's Disease, Conference of the Society for Research on Amyotrophic Lateral Sclerosis, Colorado May 2002
21. Traffic-related Air Pollution and Reproductive Health Effects: An Overview; Environmental Health Sciences seminar at UC Riverside, Feb. 2002
22. Reproductive Health Effects due to Carbon Monoxide Air Pollution in Southern California, NRC

Subcommittee on Health Effects from CO pollution meeting at UC Irvine, April 2002
23. Traffic-related Air Pollution and GIS Modeling in Southern California, USC-GIS Workshop Pasadena, May 2002
24. Health Effects Modeling with GIS, USC-GIS Workshop Public Forum at USC, May 2002
25. Dopamine Imbalance and Oxidative Stress in Parkinson's Disease, VA Research Conference on PD and Movement Disorders, Los Angeles 2002
26. The Center for Gene Environment Interaction in Parkinson's disease (CGEP) at UCLA: Dopamine Imbalance in Parkinson's Disease, Inaugural NIEHS Conference at the Parkinson's Institute in Sunnyvale CA, August 2002
27. Air pollution effects on birth outcomes: An overview. Health Effects Institute, Annual conference held at Georgetown University; 2003
28. Linking air pollution effects and adverse birth outcomes in the Los Angeles basin throughout the 1990s. U.S. EPA, Chapel Hill, NC; 2003
29. Air Pollution and Adverse Birth Outcomes in the South Coast Air Basin, 1989-2000; Conference of the Czech NAS meeting on air pollution effects (Dr. Sram), Prague, 2003.
30. Air pollution and adverse birth outcomes, an update on recent developments. Department of Preventive Medicine at the University of Southern California, 2003
31. GIS modeling of environmental exposures: applications to air pollution and pesticide exposures. Department of Environmental Health, Harvard, 2004
32. Air pollution models of adverse birth outcomes. Department of Epidemiology at the University of North Carolina, 2004
33. Parkinson's disease, metals and pesticides. Department of Toxicology, Symposium on Toxics Risks and Aging, Duke 2005
34. Air pollution and adverse birth outcome research in the SoCAB from 1995-2005. California Air Resources Board, Sacramento, Sept 2005
35. Parkinson's disease and pesticide exposure assessment in farming communities in the California Central Valley. Symposium of the Ramazzini Conference, Bologna, Italy Sept. 2005
36. Parkinson's disease and aging. UCLA Center on Aging Research Conference on Aging 2006.
37. Air Pollution and Asthma in Children. AQMD Asthma Impacts of Air Pollution Conference Los Angeles, Feb. 2006
38. Parkinson's disease and pesticides in the Central California Valley. NIEHS center at Columbia University, NY 2007
39. Assessing pesticides exposures for prostate cancers in the Central California Valley. IARC, Lyon 2007
40. Air pollution and adverse birth outcomes in LA. INSERM, Paris 2007
41. Gene Environment Interactions in Parkinson's disease. CREAL Institute, Barcelona 2008
42. Latest results on Gene Environment Interactions in Parkinson's disease. INSERM, Paris 2008
43. Re-assessing Gene Environment Interactions in Parkinson's disease. MDS conference symposium, Chicago 2008
44. Methodological Issues in studying risk factor for Parkinson's disease in populations. MDS conference symposium, Chicago 2008.
45. Environmental and occupational health studies in California. University of Dublin 2008
46. Air pollution, pregnancy and child health; Healthy Development and Ageing Workshop; British Foreign & Commonwealth Office, LA 2009
47. Air pollution, pregnancy and child health; Physician's for Social Responsibility Environmental training 2009
48. Air pollution and adverse pregnancy outcomes in LA; Annenberg School of Journalism 2009
49. Parkinson's disease and pesticides. George Washington University Environmental Health Program 2009
50. LUR model for traffic related exposures and adverse birth outcomes in LA. Helmholtz Center Munich 2010
51. Parkinson's disease and gene–pesticide interactions. Symposium on Predictive Health, Human Health: Molecules to Mankind. Emory University Atlanta Dec 2010
52. Air Pollution and Adverse Birth Outcomes, invited speaker at HEI annual conference Boston 2011
53. Parkinson's disease in Denmark; the PASIDA study; University of Odense Denmark, May 2011
54. Gene-environment interactions in Parkinson's disease, invited symposium speaker at the International Society for Environmental Epidemiology (ISEE), Barcelona 2011
55. Air Pollution and the Brain; invited plenary speaker at the annual conference of the International Society for Environmental Epidemiology (ISEE), South Carolina 2012

56. Air Pollution and Autism; invited speaker at the University of Aarhus, Denmark 2012
57. Air Pollution, Children and Women's Health in LA; invited speaker at the SCAMQD conference for stakeholders, LA 2013
58. How to be an Epidemiologist, invited speaker at SER, Boston 2013
59. Pesticides and Neurodegeneration; invited speaker at the Conference on safety of fumigated container shipping in Berlin, Germany 2014
60. History of Environmental and Occupational Epidemiology, invited speaker at SER, Seattle 2014
61. History of Air Pollution, Adverse Birth Outcomes and Children's Health in California; Invited Plenary Speaker for the ISEE Young Researcher Conference, Barcelona 2014
62. Environmental Causes of Adverse Neurodevelopment; Invited Speaker at the B-Debate Barcelona (Environment and Child Brain Development: the Challenges in the Global Context) Conference, Barcelona 2014
63. Autism Epidemiology; invited speaker at the annual CART meeting UCLA 2014
64. Epidemiology of Parkinson's disease, invited speaker at annual GEO-PD meeting Vancouver CA, 2014
65. Parkinson's Disease Epidemiology: a Gene-Environment Perspective, invited speaker at the Neurogenetics Institute of Luebeck/Germany, 2015

PUBLICATIONS

PEER REVEIWED JOURNAL ARTICLES (*indicates mentored students/fellows)

1. **Ritz B**. Humeral Epicondylitis Among Gas- And Waterworks Employees. Scandinavian Journal of Work, Environment and Health, 1995 Dec, 21(6): 478-86.
2. **Ritz B**, Heinrich J, Wjst M, Wichmann E, Krause C. Effect Of Cadmium Body Burden On Immune Response Of School Children. Archives of Environmental Health 1998,Jul-Aug; Vol 53: 272-280
3. **Ritz B**, Morgenstern H, Froines J, Young B. Effects Of Exposure To External Ionizing Radiation On Cancer Mortality In Nuclear Workers Monitored For Radiation At Rocketdyne/Atomics International. AJIM 1999, Jan; Vol 35: 21-31.
4. **Ritz B**, Yu F. The Effect Of Ambient Carbon Monoxide On Low Birth Weight Among Children Born In Southern California Between 1989 and 1993. Environmental Health Perspectives 1999 Jan, 107(1):17-25. PMCID: PMC1566307
5. Heinrich J, Hoelscher B, Wjst M, **Ritz B**, Cyrys J, Wichmann HE. Respiratory Diseases And Allergies In Two Polluted Areas In East Germany. Environmental Health Perspectives 1999,Jan; 107(1):53-62. PMCID: PMC1566314
6. **Ritz B**, Morgenstern H, Moncau J. Age At Exposure Modifies The Effects Of Low-Level Ionizing Radiation On Cancer Mortality In An Occupational Cohort. Epidemiology 1999, Mar; 10(2):135-140.
7. **Ritz B**. Radiation Exposure and Cancer Mortality In Uranium Processing Workers. Epidemiology, 1999, Sep; 10:531-538
8. **Ritz B**. Cancer Mortality Among Workers Exposed To Chemicals During Uranium Processing. JOEM 1999, Jul;41(7):556-566.
9. **Ritz B**, Morgenstern H, Froines J., Moncau J. Chemical Exposures Of Rocket Engine Test Stands Personnel And Cancer Mortality In A Cohort Of Aerospace Workers. JOEM, 1999 Oct; 41(10): 903-910.
10. Jacob B, **Ritz B**, Heinrich J, Hoelscher B, Wichmann HE. The Effect Of Low-Level Blood Lead On hematologic parameters In Children. Environmental Research, 2000 Feb, 82 (2): 150-159.
11. **Ritz B**, Yu F. Parkinson's Disease Mortality And Pesticide Exposure In California 1984-1994. International Journal of Epidemiology, 2000 Apr, Vol. 29:323-329.
12. Hoelscher B, Heinrich J, Jacob B, **Ritz B**, Wichmann HE. Gas Cooking, Respiratory Health And White Blood Cell Counts In Children. Int. J. Hygiene and Environ Health, 2000 Mar; 203 (1): 29-37.
13. **Ritz B**, Morgenstern H, Crawford-Brown D,Young B.The Effects Of Internal Radiation Exposure On Cancer Mortality In Nuclear Workers At Rocketdyne/Atomics International. Environ Health Perspect, 2000 Aug; 108(8):743-751. PMCID: PMC1638302
14. **Ritz B**, Yu F, Chapa G, Fruin S. Effect Of Air Pollution On Preterm Birth Among Children Born In Southern California Between 1989 And 1993. Epidemiology, 2000 Sep; 11(5):502-511.
15. Morgenstern H, **Ritz B**. Effects of Radiation And Chemical Exposures On Cancer Mortality Among Rocketdyne Workers: A Review of Three Cohort Studies. Occup. Med. 2001 Apr-Jun;16(2): 219-237.
16. **Ritz B**, Yu F, Chapa G, Fruin S, Shaw G, Harris J. Ambient Air Pollution And Risk of Birth Defects in Southern California. Am J Epidemiol 2002 Jan 1;155:17–25.

17. **Ritz B**, Hoelscher B, Frye C, Meyer I, Heinrich J. Allergic sensitization owing to 'second-hand' cat exposure in schools. Allergy 2002 Apr;57(4):357-61
18. Jacob B, **Ritz B,** Gehring U, Koch A, Bischof W ,Wichmann HE, Heinrich J for the INGA-Study group. Indoor Exposure To Molds And Allergic Sensitization. Environ Health Perspect. 2002 Jul;110(7):647-53. PMCID: PMC1240910
19. Clary T, **Ritz B**. Pancreatic Cancer Mortality And Organochlorine Pesticide Exposure In California, 1989-1996. Am J Ind Med. 2003 Mar;43(3):306-13.
20. Wilhelm M, **Ritz B.** Residential Proximity To Traffic And Adverse Birth Outcomes In Los Angeles County, California, 1994-1996. Environ Health Perspect. 2003 Feb; 111(2):207-16. PMCID: PMC1241352
21. Rull R, **Ritz B**. Historical Pesticide Exposure In California Using Pesticide Use Reports And Land-Use Surveys: An Assessment Of Misclassification Error And Bias. Environ Health Perspect. 2003 Oct; 111(13):1582-9. PMCID: PMC1241678.
22. Hashibe M, **Ritz B**, Le AD, Li G, Sankaranarayanan R, Zhang ZF. Radiotherapy For Oral Cancer As A Risk Factor For Second Primary Cancers. Cancer Letters 2005 Apr 8; 220(2):185–195.
23. **Ritz,B**, Tager I, Balmes J. Can Lessons From Public Health Disease Surveillance Be Applied To Environmental Public Health Tracking? Environ Health Perspect. 2005 Mar; 113(3):243-9. PMCID: PMC1253746
24. Kang G, Bronstein JM, Masterman DL, Redelings M, Crum JA, **Ritz B**. Clinical Characteristics In Early Parkinson's Disease In A Central Californian Population-Based Study. Mov Disord. 2005 Sep; 20(9):1133-42. PMCID: PMC3643967
25. Ponce NA, Hoggatt KJ, Wilhelm M, **Ritz B**. Preterm Birth: The Interaction Of Traffic-Related Air Pollution With Economic Hardship In Los Angeles Neighborhoods. Am J Epidemiol. 2005 Jul 15;162(2):140-8.
PMCID: PMC3636775
26. Wilhelm M, **Ritz, B**. Local Variations In CO And Particulate Air Pollution And Adverse Birth Outcomes In Los Angeles County, California, USA. Environ Health Perspect; 2005 Sep;113(9):1212-21. PMCID: PMC1280404
27. Rull RP, **Ritz B**, Shaw GM. Validation Of Self-Reported Proximity To Agricultural Crops In A Case-Control Study Of Neural Tube Defects. Journal of Exposure Analysis and Environmental Epidemiology; J Expo Sci Environ Epidemiol. 2006 Mar;16(2):147-55.
28. Zhao Y, Krishnadasan A, Kennedy N, Morgenstern H. **Ritz B**. Estimated effects of solvents and mineral oils on cancer incidence and mortality in a cohort of aerospace workers. Am J Ind Med. 2005 Oct;48(4):249-58.
29. Lewis C, Suffet I, **Ritz B**. Estimated Effects Of Disinfection By-Products On Birth Weight In A Population Served By A Single Water Utility. Am J Epidemiol. 2006 Jan 1;163(1):38-47.
30. Karr C, Lumley T, Shepherd K, Davis R, Larson T, **Ritz B**, Kaufman J. A Case Crossover Study Of Wintertime Ambient Air Pollution And Infant Bronchiolitis. Environ Health Perspect. 2006 Feb;114(2):277-81. PMCID: PMC1367844
31. **Ritz B,** Zhao Y, Krishnadasan A, Kennedy N, Morgenstern H. Estimated Effects of Hydrazine Exposure on Cancer Incidence and Mortality in Aerospace Workers. Epidemiology. 2006 Mar;17(2):154-61.
32. Rull RP, **Ritz B**, Shaw GM. Neural Tube Defects And Maternal Residential Proximity To Agricultural Pesticide Applications. Am J Epidemiol. 2006 Apr 15;163(8):743-53.
33. Glatt CE, Wahner AD, White DJ, Ruiz-Linares A, **Ritz B**. Gain Of Function Haplotypes In The Vesicular Monoamine Transporter Promoter Are Protective For Parkinson Disease In Women. Hum Mol Genet. 2006 Jan 15;15(2):299-305. PMCID:PMC3643966
34. Marusek JC, Cockburn MG, Mills PK, **Ritz B**. Control Selection And Pesticide Exposure Assessment Via GIS In Prostate Cancer Studies. Am J Prev Med. 2006 Feb;30(2 Suppl):S109-16.
35. **Ritz B**, Wilhelm M, Zhao Y. Air pollution and infant death in southern California, 1989-2000. Pediatrics 2006 Aug;118(2);493-502. PMCID: PMC3636770
36. Schernhammer E, Chen H, **Ritz B**. Circulating Melatonin Levels: Possible Link Between Parkinson's Disease And Cancer Risk? 2006 May;17(4):577-82.
37. Karr C, Lumley T, Schreuder A, Davis R, Larson T, **Ritz B**, Kaufman J. Effect of Subchronic and Chronic Exposure to Ambient Air Pollutants on Infant Bronchiolitis. Am J Epidemiol. 2007 Mar 1;165(5):553-60.
38. **Ritz B**, Ascherio A, Checkoway H, Marder KS, Nelson LM, Rocca WA, Ross GW, Strickland D, Van Den Eeden SK, Gorell J. Pooled Analysis Of Tobacco Use And Risk Of Parkinson Disease. Arch Neurol. 2007 Jul;64(7):990-7.

39. **Ritz B,** Costello S. Geographic model and biomarker-derived measures of pesticide exposure and Parkinson's disease. Ann N Y Acad Sci. 2006 Sept;1076:378-87. PMCID: PMC3656600
40. Elbaz A, Nelson LM, Payami H, Ioannidis JPA, Fiske BK, Annesi G, Belin AC, Factor SA, Ferrarese C, Hadjigeorgiou GM, Higgins DS, Kawakami H, Krüger R, Marder KS, Mayeux RP, Mellick GD, Nutt JG, **Ritz B**, Samii A, Tanner CM, Van Broeckhoven C, Van Den Eeden SK, Wirdefeldt K, Zabetian CP, Dehem M, Montimurro JS, Myers RM, Southwick A, Trikalinos TA. Lack Of Replication Of Thirteen Single-Nucleotide Polymorphisms Implicated In Parkinson's Disease: A Large-Scale International Study. Lancet Neurol. 2006 Nov; 5(11):917-23. PMCID: PMC3636768
41. Rempel DM, Wang PC, Janowitz I, Harrison RJ, Yu F, **Ritz B**. A Randomized Controlled Trial Evaluating the Effects of New Task Chairs on Shoulder and Neck Pain among Sewing Machine Operators: The Los Angeles Garment Study. 2007 Apr 20. Spine; 32(9): 931–938
42. Wahner AD, Sinsheimer JS, Bronstein JF, **Ritz B**. Inflammatory Cytokine Gene Polymorphisms And Increased Risk of Parkinson disease. Arch Neurol. 2007 Jun;64(6):836-40.
43. Wahner AD, Glatt CE, Bronstein JM, **Ritz B**. Glutathione S-Transferase Mu, Omega, Pi, And Theta Class Variants And Smoking In Parkinson's Disease. Neurosci Lett. 2007 Feb 21;413(3):274-8. PMCID: PMC1864949
44. Lewis C, Suffet HI, Hoggatt KJ, **Ritz B**. Estimated Effects of Disinfection By-products On Preterm Birth in a Population Served by a Single Water Utility. Environ Health Perspect. 2007 Feb;115(2):290-5. PMCID: PMC1831522
45. Krishnadasan A, Kennedy N, Zhao Y, Morgenstern H, **Ritz B**. Nested Case-Control Study of Occupational Chemical Exposures and Prostate Cancer in Aerospace and Radiation Workers. Am J Ind Med. 2007 May; 50(5):383-90.
46. Meng YY, Wilhelm M, Rull R, English P, **Ritz B**. Traffic And Outdoor Air Pollution Levels Near Residences And Poorly-Controlled Asthma In Adults. Ann Asthma, Allergy, Immunol; 2007 May, 98(5), 455-63.
47. Wang PC, Rempel DM, Harrison RJ, Chan J, **Ritz B**. Work-Organizational And Personal Factors Associated With Upper Body Musculoskeletal Disorders Among Sewing Machine Operators. Occup Environ Med. 2007 Dec;64(12):806-13. Epub 2007 May 23 PMCID: PMC2095384
48. **Ritz B**, Wilhelm M, Hoggatt KJ, Ghosh JKC. Ambient Air Pollution And Preterm Birth In the Environment And Pregnancy Outcomes Study at the University of California, Los Angeles. Am J Epidemiol. 2007 Nov 1;166(9):1045-52.
49. Wahner AD, Bronstein JM, Bordelon YM, **Ritz B**. Nonsteroidal Anti-Inflammatory Drugs May Protect Against Parkinson Disease. Neurology. 2007 Nov 6;69(19):1836-42.
50. Wahner AD, Bronstein JM, Bordelon YM, **Ritz B**. Statin Use and the Risk of Parkinson's Disease. Neurology. 2008 Apr 15;70(16 Pt 2):1418-22. PMCID: PMC3690297
51. Krishnadasan A, Kennedy N, Zhao Y, Morgenstern H, **Ritz B**. Nested Case-control Study of Occupational Physical Activity and Prostate Cancer Among Workers Using a Job Exposure Matrix. Cancer Causes Control. 2008 Feb;19(1):107-14.
52. **Ritz B**, Wilhelm M. Ambient Air Pollution And Adverse Birth Outcomes: Methodologic Issues In An Emerging Field. Basic Clin Pharmacol Toxicol. 2008 Feb;102(2):182-90. PMCID: PMC3656653
53. Meng YY, Wilhelm M, Rull RP, English P, Nathan S, **Ritz B**. Are frequent asthma symptoms among low-income individuals related to heavy traffic near homes, vulnerabilities, or both? Ann Epidemiol. 2008 May;18(5):343-50.
54. Wilhelm M, Qian L, **Ritz B**. Outdoor air pollution, family and neighborhood environment, and asthma in LA FANS children. Health Place. 2009 Mar;15(1):25-36. PMCID: PMC2658528
55. Heck JE, **Ritz B**, Hung R, Hashibe M, Boffetta P. The Epidemiology of Neuroblastoma: A Review. Paediatr Perinat Epidemiol. 2009 Mar;23(2):125-43.
56. Wilhelm M, Meng YY, Rull RP, English P, Balmes J, **Ritz B.** Environmental public health tracking of childhood asthma using California health interview survey, traffic, and outdoor air pollution data. Environ Health Perspect 2008 Sep;116(9):1254-60. PMCID: PMC2535631
57. Wang PC, **Ritz, B**, Janowitz I, Harrison RJ, Yu F, Chan J, Rempel DM. A Randomized Controlled Trial of Chair Interventions on Back and Hip Pain Among Sewing Machine Operators: The Los Angeles Garment Study. J Occup Environ Med. 2008 Mar;50:255–262.
58. Wang PC, Rempel DM, Hurwitz EL, Harrison RJ, Janowitz I, **Ritz B**. Self-Reported Pain And Physical Signs For Musculoskeletal Disorders In The Upper Body Region Among Los Angeles Garment Workers. Work. 2009;34(1):79-87.
59. Rhodes SL, **Ritz, B**. Genetics of Iron Regulation and the Possible Role of Iron in Parkinson's Disease. In Neurobiol Dis. 2008 Nov;32(2):183-95. PMCID: PMC3643980

60. Goldberg DW, Wilson JP, Knoblock CA, **Ritz B**, Cockburn MG. An effective and efficient approach for manually improving geocoded data. International Journal of Health Geographics 2008 Nov 26, 7:60. PMCID: PMC2612650.
61. **Ritz B**, Rull R. Assessment of Environmental Exposures from Agricultural Pesticides in Childhood Leukemia Studies: Challenges and Opportunities. Radiat Prot Dosimetry. 2008;132(2):148-55.
62. Rugbjerg K, **Ritz B**, Korbo L, Martinussen N, Olsen JH. Risk for Parkinson's disease after hospital contact for head injury: a population-based case–control study. BMJ. 2008 Dec 15;337. PMCID: PMC2603581
63. Costello S*, Cockburn M., Bronstein J, Zhang X, **Ritz B.** Parkinson's disease and residential exposure to Maneb and Paraquat from agricultural applications in the central valley of California. Am J Epidemiol. 2009 Apr 15;169(8):919-26. PMCID: PMC2727231.
64. Hoggatt KJ, Greenland S, **Ritz B**. Adjustment for response bias via two-phase analysis: an application. Epidemiology. 2009 Nov;20(6):872-9. PMCID: PMC3656648
65. Wang PC, Harrison RJ**,** Yu F, Rempel DM, **Ritz B**. Follow-up Of Neck And Shoulder Pain Among Sewing Machine Operators: the Los Angeles Garment Study. Am J Ind Med. 2010 Apr;53(4):352-60.
66. **Ritz B**, Manthripragada A, Costello S, Lincoln SJ, , Farrer M, Cockburn M, Bronstein J. Dopamine transporter genetic variants and pesticides in Parkinson's disease. Environ Health Perspect 2009 Jun;117(6):964-9 PMCID: PMC2702414.
67. Meng YY, Rull RP, Wilhelm M ,Lombardi C,Balmes J, **Ritz B**. Outdoor air pollution and uncontrolled asthma in the San Joaquin Valley, California. J Epidemiol Community Health. 2010 Feb;64(2):142-7.
68. Manthripragada A, Cockburn M, Costello S, Bronstein J**, Ritz B**. Paraoxonase 1, agricultural organophosphate exposure, and Parkinson disease. Epidemiology. 2010 Jan;21(1):87-94. PMCID: PMC3117899
69. Su JS, Jerrett M, Beckerman B, Wilhelm M, Ghosh JK, **Ritz B**. Predicting traffic-related air pollution in Los Angeles using a distance decay regression selection strategy. Environ Res. 2009; Aug; 109(6):657-70. PMCID: PMC 3656661
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2. **Ritz B**, Karmaus W, Ellinger S: Schmerz-,Beruhigungs-und Schlafmittel - die verordnete Normalität ("Pain Killers, Sleeping Pills and Tranquilizers - Prescribed Norms"). In: Jahresheft 1984 Hamburgische Landesstelle gegen die Suchtgefahren e.V.(Eds.) Hamburg 1984.
3. Glaser N, **Ritz B**: Lungenkrebs, Rauchen und Schadstoffbelastung bei Hamburger Gaswerkern; Risikoabschätzung anhand der logistischen Regression ("Lung Cancer, Smoking and Air Pollutants of Workers Employed at the Hamburg Gas Company "). In: Muß Arbeit krank machen? Eds: G.Elsner, W.Karmaus, L.Lißner, VSA-Verlag,Hamburg 1986.
4. **Ritz B:** Zur Epidemiologie degenerativer rheumatischer Erkrankungen im Zusammenhang mit Arbeitsbedingungen: Halswirbelsäulenveränderungen bei weiblichen Verwaltungsangestellten ("The Epidemiology of Musculo-Skeletal Disorders and Working Conditions of Female Office Workers: Work-Related Neck Disorders"). In: Rheuma und Krebs; Beiträge zur wissenschaftlichen Jahrestagung der Deutschen Gesellschaft für Sozialmedizin Eds: E.O. Krasemann, U.Laaser, E.Schach, Springer Verlag, Heidelberg, München 1987.
5. **Ritz B**: Methodological Aspects in Studying Musculo- Skeletal Disorders and Working Conditions in Office Work Places. In: Work-related musculo-skeletal disorders. Proceedings of an International Symposium. HDA, Tagungsbericht TB 48, Wirtschaftsverlag NW, Bremerhaven, 1987.
6. **Ritz B**, Hullmann B: How Women Office Workers Deal with Stress In: Health Promotion in the Working World. Springer-Verlag Berlin Heidelberg 1989.
7. **Ritz B**: Chapter 3 - Health and Regulatory Considerations In: Using Reclaimed Water to Augment Potable Water Resources. Water Environment Federation, Virginia 1998.
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9. Van Den Eeden S, **Ritz B**, Cobb K. Measurement and Analysis. In: Neuroepidemiology; From Principles to Practice. Eds: Nelson L, Tanner C, Van Den Eeden S, McGuire V. Oxford University Press 2004.
10. **Ritz B**, and other Committee Members: Chapter 4 Cancer: Gulf War and Health volume 3, Fuels, Combustion products, and Propellants, The National Academies Press Washington, D.C., 2005
11. **Ritz B**, and other Committee Members: Amyotrophic Lateral Sclerosis in Veterans. Review of the scientific literature. IOM, NAS National Academy Press, Washington DC, 2006

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3. **Ritz B**: Der Einfluß sozialer und struktureller Bedingungen an Büroarbeitsplätzen auf den Gebrauch psychotroper Medikamente; Ergebnisse einer epidemiologischen Untersuchung *("The Influence of*

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6. Slama R, Darrow L, Parker J, Woodruff TJ, Strickland M, Nieuwenhuijsen M, Glinianaia S, Hoggatt KJ*, Kannan S, Hurley F, Kalinka J, Srám R, Brauer M, Wilhelm M, Heinrich J, **Ritz B**. Meeting report: atmospheric pollution and human reproduction. Environ Health Perspect. 2008 Jun;116(6):791-8
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9. Liew Z, Olsen J, Cui X, **Ritz B**, Arah OA. Response to Werler and Parker letter: Comment on live-birth bias in pregnancy cohorts. Int J Epidemiol. 2015 Jun;44(3):1080-1
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11. Thurston GD, Kipen H, Annesi-Maesano I, Balmes J, Brook RD, Cromar K, De Matteis S, Forastiere F, Forsberg B, Frampton MW, Grigg J, Heederik D, Kelly FJ, Kuenzli N, Laumbach R, Peters A, Rajagopalan ST, Rich D, **Ritz B,** Samet JM, Sandstrom T, Sigsgaard T, Sunyer J, Brunekreef B. A joint ERS/ATS policy statement: what constitutes an adverse health effect of air pollution? An analytical framework. Eur Respir J 2017; 49:1600419.

ANNETTE C. ROHR, ScD, DABT, MASc

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•PROFESSIONAL EXPERIENCE•

Electric Power Research Institute (EPRI), Palo Alto, CA. 2001 to present
Principal Project Manager, Air Quality and Health (previously Principal Technical Leader, Senior Technical Leader, and Project Manager)

- Develops and manages research activities related to air pollution health effects in the Air Quality and Multimedia Sciences Program. Primary research areas include *in vitro* and *in vivo* toxicology of particulate matter (PM) and other air pollutants; health effects of trace metals, including chromium, arsenic, and mercury; air pollution epidemiology; air quality characterization; exposure assessment; indoor environmental quality; and evaluation of potential health impacts of emerging energy technologies such as biomass combustion, wind generation, and carbon capture and storage.
- Collaborates with other EPRI Energy and Environment programs on human health-related issues, including polycyclic aromatic hydrocarbons (PAHs), coal combustion byproducts, arsenic as it relates to ambient water quality, right-of-way issues, and wind turbine noise.
- Responsible for all aspects of project execution, including research planning, development, and design, preparation and issuance of RFPs, funding acquisition from utility members as well as non-traditional funders, contractor retention, contractor management, fiscal management, and presentation of results to stakeholders.
- Responsible for strategic, multi-year research planning related to air quality and health.
- Oversees four direct reports.
- Prepares competitive proposals for research funding.
- Participates in data collection, analysis, and interpretation, and preparation of manuscripts for the peer-reviewed literature.
- Coordinates multi-institution and multi-disciplinary research projects.
- Reviews and describes key studies in the air quality field.
- Prepares comments on air pollution regulations and Integrated Risk Information System (IRIS) toxicological assessments.
- Serves as a resource for utility funders and others.
- Interacts with funders, contractors, project external advisory committees, the regulatory community, and the public.

Selected Project Activities:

- ***Development of a Medicare Cohort for Use in Air Pollution Epidemiology:*** Managing joint Northeastern University/EPRI research involving the assembly of a large, national database for use in a number of long-term air pollution analyses, including those related to potential confounding, impact of specific PM components, and determination of the

shape of the concentration-response function. Oversees a multidisciplinary External Scientific Advisory Committee which provides guidance on the project.

- ***Evaluation of Air Pollution Benefits Assessment Tools:*** Managing portfolio of activities related to evaluation of methods currently employed to estimate the health benefits of air pollution regulations. Research includes evaluation of the current tool (BenMAP) and development of an integrated uncertainty assessment (IUA) tool to improve uncertainty analysis of health benefits. Several peer-reviewed papers have been published on these topics, with several more in development.
- ***Influence of PM on Pulmonary Deposition of VOCs and SVOCs:*** Managing joint University of Florida/EPRI toxicological research to understand whether or not the presence of elemental carbon enhances deposition of organic gases in the respiratory tract. Project is complex, with expertise required for particle generation, nose-only animal exposure, measurement of respiratory parameters during *in vivo* exposure, management and measurement of radiolabeled materials, tissue retrieval and processing, and exposure atmosphere monitoring.
- ***Toxicological Evaluation of Realistic Emissions of Source Aerosols***: Managed joint Harvard/EPRI research involving large-scale, multi-site field project to evaluate the toxicity of primary and secondary particles derived from coal-fired power plants. Co-funding was acquired via competitive DOE-NETL solicitation. Project generated eight manuscripts published in a special issue of *Inhalation Toxicology*. Served as co-author on four of the manuscripts. Oversaw multidisciplinary External Scientific Advisory Committee and secured and coordinated utility access to study locations.
- ***Children's Air Pollution Asthma Study***: Managing joint EPRI, Harvard, Columbia, and Mount Sinai School of Medicine research involving a panel study of asthmatic children in New York City. The objective of the study was to determine which air pollutants and PM components were associated with asthma exacerbation in this panel of high-risk children. Project generated four published papers; served as first author on one and co-author on the remaining three. One additional paper is in preparation. Oversees a multidisciplinary External Scientific Advisory Committee.
- ***Research on Hexavalent Chromium:*** Managing epidemiological study to extend and update an occupational cohort exposed to Cr(VI) in Painesville, OH. Managed toxicological research involving use of the Big Blue^{TM} transgenic rat model to determine mode of action of Cr(VI) in rat oral cavity and small intestinal tissue. Served as co-author on three manuscripts reporting on the projects. Launching systematic review and meta-analysis of Cr(VI) and stomach cancer; assembling multidisciplinary External Scientific Advisory Committee.
- ***Research on Inorganic Arsenic:*** Managing portfolio of toxicological and epidemiological research on arsenic, including gene expression studies *in vitro* and *in vivo*, development of cancer and non-cancer adverse outcome pathways, and evaluation of the literature related to neurobehavioral effects in children.
- ***Bi-City Concentrated Ambient Particle Study***: Managed joint EPRI, Michigan State University, and University of Michigan research involving field toxicology experiments in Detroit, MI and Steubenville, OH to ambient PM. The objective of the project was to

determine the PM components most associated with cardiovascular effects in rodents. The bulk of the funding was acquired via a competitive DOE-NETL solicitation. Project generated four published papers; served as first author on one and a key co-author on the remaining three.

- ***PAH/Naphthalene Risk Assessment:*** Manages ongoing activities in EPRI's Manufactured Gas Plant Site Management Program related to the toxicity of naphthalene, benzo(a)pyrene, and other PAHs. Prepared comments on the relative potency factor approach for PAHs and on the IRIS toxicological assessment for B(a)P.
- ***Wind Turbine-Related Noise***: Managed several projects related to this topic, including a field study in New York State funded via a competitive NYSERDA solicitation and a critical review of health effects/annoyance related to wind turbine noise. Oversaw two External Scientific Advisory Committees (Scientific and Utility).

Electric Power Research Institute (EPRI), Palo Alto, CA, 2008 to present
Program Manager, Air Quality Health and Risk Assessment

- Responsible for managing all activities within the Air Quality Health program, including program strategic direction, research development, internal and external communications, and budgets.

Electric Power Research Institute (EPRI), Palo Alto, CA, 2009 – 2014
Program Manager, Health and Environmental Impacts of Future Power Plant Emissions

- Program leader for multidisciplinary, cross-sector research initiative to investigate the possible health and environmental risks related to future power plant configurations, including integrated gasification combined cycle, carbon capture technologies, oxyfuel combustion, and emerging fuels such as biomass.
- Program included projection of future configurations (including utilization of EPRI models), programmatic risk assessment, emissions monitoring, ambient monitoring, laboratory toxicology, field toxicology, chemistry and thermodynamics studies, and occupational health and safety studies.
- Oversaw 6 EPRI project managers and interacted with multiple Generation Sector staff.
- Individually managed the toxicology research within the program, which focused on amines and their degradation products.
- Assembled and oversaw two External Advisory Committees (Scientific and Utility).

Harvard T.H. Chan School of Public Health, Boston, MA, 1997-2001
Department of Environmental Health
Research Associate/Doctoral Student

- Dissertation research entitled *Effects of Terpene/Ozone Reaction Products on the Murine Respiratory System*.
    - Developed steady-state exposure system to generate terpene oxidation products.
    - Utilized a number of inhalation toxicology methods, including whole-body and head-out plethysmography with concomitant pulmomary function evaluation (Buxco), and bronchoalveolar and nasal lavage.
    - Employed aerosol monitoring equipment, including a Scanning Mobility Particle Sizer (SMPS) and Aerodynamic Particle Sizer (APS).

- Portion of research was conducted at the Danish Institute of Occupational Health, Copenhagen.

Dames & Moore, Inc., Vancouver, Canada, 1994-1997
Project Manager/Environmental Scientist

- Project Manager for human health and ecological risk assessments, Phase I and II environmental site assessments (ESAs), and site remediation projects.
- Oversaw field staff.
- Extensive experience with all aspects of contaminated site assessment and management, including investigative procedures, analytical program design, remedial options, risk management, and regulatory matters.

•EDUCATION AND PROFESSIONAL CERTIFICATIONS•

Doctor of Science, **Harvard T.H. Chan School of Public Health**, Boston, MA, Environmental Health, 2001
Master of Applied Science, **University of British Columbia**, Vancouver, Canada, Environmental Engineering, 1994
Bachelor of Science, **University of British Columbia**, Vancouver, Canada, Microbiology, 1991 (First Class Honors)
Diplomate of the American Board of Toxicology (DABT), Certified November 2006, recertified 2011, 2016

•AWARDS AND HONORS•

EPRI Chauncey Award Winner, 2003, 2005, and 2010:

- 2010: Team award for "Leadership in Understanding the Impact of Power Plants on Air Quality Components of Particulate Matter and their Health Effects"
- 2006: Individual award for "Development of a First-Class Toxicology Research Program at EPRI Aimed at Understanding How Coal-Fired Power Plant Emissions Affect Health"
- 2003: Team award for "Advances in Air Quality and Health: The Aerosol Research and Inhalation Toxicology Study"

Natural Sciences and Engineering Research Council of Canada Postgraduate Scholarship "B", 1997
Natural Sciences and Engineering Research Council of Canada Postgraduate Scholarship "A", 1991
University of British Columbia Graduate Fellowship Supplement, 1991
Technical and Research Committee on Reclamation, Jake McDonald Scholarship, 1991
University of British Columbia Scholarship, 1989
Jane A. and Charles C. Banks Foundation Scholarship, 1988
British Columbia Provincial Scholarship, 1987

•PROFESSIONAL SERVICE•

Associate Editor, *Journal of the Air and Waste Management Association*, 2015 – present
EPA STAR grant reviewer for Graduate Fellowships (Green Engineering/Building/Chemistry/Materials), 2010
Member of Scientific Advisory Board for the Harvard-EPA Center for Particle Health Effects, (2005-2010)

Councilor, Inhalation and Respiratory Toxicology Specialty Section, Society of Toxicology (2008-2009)
EPA STAR grant reviewer for Particulate Matter Research Center grants, 2005
Member, Editorial Board, *Indoor Air*
Member, Editorial Board, *Journal of Clinical Toxicology*
Member of International Scientific Committee, Indoor Air 2005, Beijing, China
Peer reviewer for *Atmospheric Environment, Indoor Air, Inhalation Toxicology, Journal of the Air & Waste Management Association, Environmental Science & Technology, Environmental Health Perspectives*, *Toxicology Letters*, *Critical Reviews in Toxicology*, *Toxicological Sciences, Building and Environment, Science of the Total Environment*

•PROFESSIONAL SOCIETY MEMBERSHIPS•

Full Member, Society of Toxicology
Member, International Society for Environmental Epidemiology
Member, International Society of Indoor Air Quality
Member, Air and Waste Management Association

•PUBLICATIONS•

Thompson, C.M., Young, R.R., Dinesdurage, H., Suh, M., Harris, M.A., **Rohr, A.C.,** Proctor, D.M. 2017. Assessment of the mutagenic potential of hexavalent chromium in the duodenum of Big Blue® rats. *Toxicol. Appl. Pharmacol.* 330:48-52.

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Schachter, E.N., Moshier, E., Habre, R., **Rohr, A**., Godbold, J., Nath, A., Grunin, A., Coull, B., Koutrakis, P., Kattan, M. 2015. Outdoor air pollution and health effects in urban children with moderate to severe asthma. Epub ahead of print, *Air Qual. Atmos. Health*; doi 10.1007/s11869-015-0335-6.

Young, R.R., Thompson, C.M., Dinesdurage, H., Elbeka, R.H., Suh, M., **Rohr, A.C.**, Proctor, D.M. 2015. A robust method for assessing chemically induced mutagenic effects in the oral cavity of transgenic Big Blue® Rats. *Environ. Mol. Mutagen* 56(7):629-636.

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Rohr, A.C., Campleman S.L., Long C.M., Peterson M.K., Weatherstone S., Quick W., Lewis A. 2015. Potential occupational exposures and health risks associated with biomass-based power generation. *Int. J. Environ. Res. Pub. Health* 12:8542-8605.

Wyzga, R.E., **Rohr, A.C.** 2015. Long-term particulate matter exposure: attributing health effects to individual PM components. *J. Air Waste Manage. Assoc*. 65:523-543.

Sinclair, A.H., Melly, S., Tolsma, D., Spengler, J., Perkins, L., **Rohr, A.C.**, Wyzga, R. 2014. Childhood asthma acute primary care visits, traffic, and traffic-related pollutants. *J. Air Waste Manage. Assoc*. 64(5):561-7.

McDonald, J.D., Kracko, D., Doyle-Eisele, M., Garner, C.E., Wegerski, C., Senft, A., Knipping, E., Shaw, S., **Rohr, A**. 2014. Carbon capture and sequestration: an exploratory inhalation toxicity assessment of amine-trapping solvents and their degradation products. *Environ. Sci. Technol.* 48(18):10821-8.

Magari, S.R., Smith, C.E., Schiff, M.T., **Rohr, A.C**. 2014. Evaluation of community response to wind turbine-related noise in western New York State. *Noise Health* 16(71):228-39.

Wagner, J.G., Kamal, A.S., Morishita, M., Dvonch, J.T., Harkema, J.R., **Rohr, A.C.** 2014. $PM_{2.5}$-induced cardiovascular dysregulation in rats is associated with elemental carbon and temperature-resolved carbon subfractions. *Part. Fibre Toxicol.* 11:25.

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Habre, R., Coull, B., Moshier, E., Godbold, J., Grunin, A., Nath, A., Castro, W., Schachter, N., **Rohr, A**., Kattan, M., Spengler, J., Koutrakis, P. 2014. Sources of indoor air pollution in New York City residences of asthmatic children. *J. Expos. Sci. Environ. Epidemiol.* 24(3):269-78.

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Schiff, M.T., Magari, S.R., Smith, C.E., **Rohr, A.C**. 2013. Evaluation of wind turbine-related noise in western New York State. *Noise Cont. Eng. J.* 61(5):509-519.

Lund, A.K., Doyle-Eisele, M., Lin, Y.H., Arashiro, M., Surratt, J.D., Holmes, T., Schilling, K.A., Seinfeld, J.H., **Rohr, A.C**., Knipping, E.M., McDonald, J.D. 2013. The effects of α-pinene versus toluene-derived secondary organic aerosol exposure on the expression of markers associated with vascular disease. *Inhal. Toxicol.* 25:309-324.

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Godleski, J.J., **Rohr, A.C.**, Kang, C-M., Diaz, E.A., Ruiz, P.A., Koutrakis, P. 2011. Toxicological Evaluation of Realistic Emission Source Aerosols (TERESA): introduction and overview. *Inhal. Toxicol.* 23(S2):1–10.

Kang, C-M., Gupta, T., Ruiz, P.A., Wolfson, J.M., Ferguson, S.T., Lawrence, J.E., **Rohr, A.C.**, Godleski, J., and Koutrakis, P. Aged particles from emissions of coal-fired power plants: the TERESA field results. *Inhal. Toxicol*. 23(S2):11–30.

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Morishita, M., Keeler, G.J., Kamal, A.S., Wagner, J.G., Harkema, J.R., **Rohr, A.C.** 2011. Source identification of ambient $PM_{2.5}$ for inhalation exposure studies in Steubenville, Ohio using highly time-resolved measurements. *Atmos. Environ*. 45:7688-7697.

Kamal, A.S., **Rohr, A.C.**, Mukherjee, B., Morishita, M., Keeler, G.J., Harkema, J.R., Wagner, J.G. 2011. $PM_{2.5}$-induced changes in cardiac function of hypertensive rats depend on wind direction and specific sources in Steubenville, Ohio. *Inhal. Toxicol.* 23(7):417–430.

Morishita, M., Keeler, G.J., Kamal, A.S., Wagner, J.G., Harkema, J.R. **Rohr, A.C**. 2011. Identification of ambient $PM_{2.5}$ sources and analysis of pollution episodes in Detroit, Michigan using highly time-resolved measurements. *Atmos. Environ*. 45:1627-1637.

Rohr, A.C., Kamal, A., Morishita M., Mukherjee, B., Keeler, G.J., Harkema, J.R., Wagner, J.G. 2011. Altered heart rate variability in spontaneously hypertensive rats is associated with specific particulate matter components in Detroit, Michigan. *Environ Health Perspect*. 119(4):474-80.

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Campen, M.J., Lund, A.K., Doyle-Eisele, M., McDonald, J.D., Knuckles, T.L., **Rohr, A.C.**, Knipping, E.M., Mauderly, J.L. 2010. A comparison of vascular effects from complex and individual air pollutants indicates a role for monoxide gases and volatile hydrocarbons. *Environ. Health Perspect.* 118(7):921-7.

Mantecca, P., Farina, F., Moschini, E., Gallinotti, D., Gualtieri, M., **Rohr, A.**, Sancini, G., Palestini, P., Camatini, M. 2010. Comparative acute lung inflammation induced by atmospheric PM and size-fractionated tire particles. *Toxicol. Lett*. 198:244-254.

Wyzga, R.E., **Rohr, A.C.** 2010. Air pollution: what does the future hold? *AWMA EM*, September 2010.

Mantecca, P., Sancini, G., Moschini, E., Farina, F., Gualtieri, M., **Rohr, A.C,** Miserocchi, G., Palestini, P, Camatini, M. 2009. Lung toxicity induced by intratracheal instillation of size-fractionated tire particles. *Toxicol. Lett.* 189:206-214.

Seagrave, J.C., Campen, M., McDonald, J.D., Mauderly, J.L., and **Rohr, A.C.** 2008. Oxidative stress, inflammation, and pulmonary function assessment in rats exposed to laboratory-generated pollutant mixtures. *J. Toxicol. Environ. Health A.* 71:1352-62.

Ruiz, P.A., Gupta, T., Kang, C.M., Lawrence, J.E., Ferguson, S.T., Wolfson, J.M., **Rohr, A.C**., and Koutrakis, P. 2007. Development of an exposure system for the toxicological evaluation of particles derived from coal-fired power plants. *Inhal Toxicol*. 19(8):607-19.

Rohr, A.C. 2006. Indoor Particulate Matter: Sources and Health Effects. *ASHRAE IAQ Applications* 7(3):15-16.

Rohr, A.C. 2005. Indoor Air Quality in Green Buildings. *ASHRAE IAQ Applications* 6(2):21-22.

Rohr, A.C. and Wyzga, R.E. 2004. ARIES: Introduction and Overview. *Epidemiology* 15(4): S42-S43.

Rohr, A.C. 2004. Household Products May Cause SBS Symptoms. *ASHRAE IAQ Applications* 5(2):18-19.

Rohr, A.C., Shore, S.A., and Spengler, J.D. 2003. Repeated exposure to terpene oxidation products causes enhanced respiratory tract effects in multiple murine strains. *Inhal. Toxicol.* 15(12):1191-1197.

Rohr, A.C., Weschler, C.J., Koutrakis, P., and Spengler, J.D. 2003. Generation and quantification of ultrafine particles through terpene/ozone reaction in a chamber setting. *Aerosol Sci. Tech.* 37(1): 65-78.

Rohr, A.C., Wilkins, C.K., Clausen, P.A., Hammer, M., Nielsen, G.D., Spengler, J.D., and Wolkoff, P. 2002. Upper airway and pulmonary effects of oxidation products of (+)-α-pinene, *d*-limonene, and isoprene in BALB/c mice. *Inhal. Toxicol.* 14(7):663-684.

Rohr, A.C. 2001. Effects of Terpene/Ozone Reaction Products on the Murine Respiratory System. Doctor of Science Dissertation, Harvard School of Public Health, Boston, MA.

Rohr, A.C. 2000. Methods for Assessing Irritation Effects in IAQ Field and Laboratory Studies, in Spengler, J.D., Samet, J.M., and McCarthy, J.F., editors. Indoor Air Quality Handbook. McGraw-Hill, Inc., New York, NY.

Spengler, J.D. and **Rohr, A.C.** 1998. Multiple Chemical Sensitivity Reexamined. *Chemical and Engineering News* 76 (38): 105-106.

Rohr, A.C., Hall, E.R., and Hall, K.J. 1995. Use of semipermeable membrane devices for monitoring pulp mill effluents: a preliminary assessment. *Water Quality Research Journal of Canada*: 31(1): 85-100.

Rohr, A.C. 1994. Application of Semipermeable Membrane Devices to the Monitoring of Kraft Mill Effluents with Emphasis on Potential Fish Tainting Compounds. Master of Applied Science Thesis, University of British Columbia, Vancouver, B.C.

Linda Rudolph, MD, MPH

(b) (6)

SUMMARY

- Recognized state and national thought leader on climate change and health, Health in All Policies, health inequities, chronic disease prevention and environmental health
- Strong track record in conceiving and implementing innovative cross-sectoral programs, and building consensus and collaboration around complex and controversial issues
- Proven performance in bringing focus and results to programs in state and local jurisdictions
- Executive positions in public health and health care in the nation's largest state government, and in local government
- White House Champion of Change for Climate Change and Public Health (2013)

EXPERIENCE

Director, Center for Climate Change and Health, Public Health Institute
Program Director, Health in All Policies in Local Jurisdictions (current)

- Convener, U.S. Climate and Health Alliance: The Alliance brings together the public health and health care sectors to leverage the health voice to address the health risks of climate change and optimize the health benefits of climate change solutions.
- Leader: Learning Collaborative for Local Health Departments on Climate Change and Health
- Principal Investigator: Training Ethnic Physician "Climate and Health Champions"
- Consultation, training, and technical assistance for local and state governments and national and international organizations on climate change and health and Health in All Policies

Deputy Director, California Department of Public Health (CDPH), Director, Center for Chronic Disease Prevention and Health Promotion (2008 - 2012)

- Directed Center comprised of programs for all aspects of chronic disease prevention and management, environmental health, injury control, violence, occupational health
  - 650 employees and annual budget of over $300 million
- Envisioned and implemented innovative initiatives to address need for multi-sectoral engagement in key health issues
  - Chair, Health in All Policies Task Force, Strategic Growth Council: 18 agency task force tasked to develop and implement consensus recommendations to address health, equity, and sustainability health through actions across state government (e.g. transportation, housing, land use, agriculture)
- Envisioned and implemented new initiatives for public health and climate change
  - Chair, Climate Action Team Public Health Work Group
  - Lead author, first California Public Health Climate Adaptation Strategy
  - ASTHO Climate Change Work Group
- Oversight for development/implementation of California Obesity Prevention Plan and transformation of food stamp nutrition education (SNAP-Ed) program and planning for Community Transformation Grant/Ca4Health

Health Officer and Director of Public Health, City of Berkeley, 2005 –2008

- Local health officer responsible for directing all public health programs for local health jurisdiction with 105,000 people
- Collaborated with multiple stakeholders to develop and implement new programs to address health inequities with focus on healthy child development and chronic illness
- NACCHO Climate Change work group

Chief Medical Officer, Medi-Cal Managed Care Division, California Department of Health Services, 2001 – 2005

- Implemented multiple quality improvement collaboratives with managed care organizations, including asthma, diabetes, adolescent health
- Developed first Medi-Cal Managed Care Quality Improvement Strategy
- Chaired monthly meetings of Medi-Cal managed care plan Medical Directors

Lecturer, UC Berkeley School of Public Health

- Taught graduate seminars on Health Care Quality Measurement and Improvement for four years

Medical Director, Division of Workers' Compensation, California Department of Industrial Relations, 1993 –2001

Executive Medical Director, Industrial Medical Council, California Department of Industrial Relations, 1992-1993

Public Health Medical Officer, California Department of Health Services. 1982 – 1992

Union Physician, Oil, Chemical, and Atomic Workers International Union. 1979-1982

EDUCATION

- M.P.H., University of California, Berkeley, 1981, Epidemiology.
- M.D., University of California, San Francisco, 1975.
- B.A., University of California, Berkeley, 1971, Anthropology.
- Board-Certified, Occupational (Preventive) Medicine, 1984

COMMUNITY and PROFESSIONAL SERVICE: Available on request

REFERENCES: Available on request

GRANTS: Available on request

PUBLICATIONS: (Selected)

Klinenberg, E., McCormick, S., Rudolph, L.

Rudolph, L & Harrison, C. A Physician's Guide to Climate Change, Health and Equity. 2016. Public Health Institute. Oakland, CA http://climatehealthconnect.org

Rudolph, L., Gould, S. (2015) Climate Change and Health Inequities: A Framework for Action. Annals of Global Health. Published on-line June 15, 2015. http://dx.doi.org/10.1016/j.aogh.2015.06.003

Gould, S., Rudolph, L. (2015) Challenges and Opportunities for Advancing Work on Climate Change and Public Health. *Int J. Environ. Res. Public Health* 2015:12:15649-15672.

Rudolph, L, Richardson, M. (2015). Health Co-Benefits of Climate Mitigation Strategies. In: Luber G & Lemery J., eds. Global Climate Change and Human Health: From Science to Practice. Wiley, U.S.

Rudolph, L., Gould, S. (2014) Why we need climate, health, and equity in all policies. Commentary, Institute of Medicine, Washington, D.C. www.iom.edu/climatehealthcommentary

Rudolph, L., Caplan, J., Mitchell, C., Ben-Moshe, K., & Dillon, L. (2013). Health in All Policies: An Emerging Approach for Improving Health. Discussion Paper, Institute of Medicine, Washington, D.C. http://nam.edu/perspectives-2013-health-in-all-policies-improving-health-through-intersectoral-collaboration/

Rudolph, L., Caplan, J., Ben-Moshe, K., & Dillon, L. (2013). Health in All Policies: A Guide for State and Local Governments. Washington, DC and Oakland, CA: American Public Health Association and Public Health Institute.

Richardson MJ, English P, Rudolph L. A Health Impact Assessment of California's Proposed Cap-and-Trade Regulations. Am J Public Health. 2012 Sep;102(9):e52-8. Epub 2012 Jun 28.

PRESENTATIONS (Selected)

Climate Change, Health, and Equity.
- National Association City and County Health Officials Annual meeting (plenary), 2016
- California Conference of Public Health Nurses, 2016
- Network of Ethnic Physician Organizations Summit, 2016
- National Latino Climate Summit, 2016
- California Conference of Local Environmental Health Directors, 2016
- Robert Wood Johnson Culture of Health workshop, 2016
- HealthyHospitals conference, Sao Paolo, 2016
- Society of Public Health Educators (webinar), 2015

Health Impact Assessment
- Healthy Energy Conference, Beijing, 2016
- Healthy Energy Conference, Manila, 2016

Public Health Workforce Development: Climate and Health: National Network of Public Health Institutes: Public Health Learning Network (webinar)

Climate Change, Health, and Transportation. American Public Health Association, 2016

Climate Change, Health, and Water. Carpe Diem West (webinar), 2016

Health Impacts of Coal. Healthy Energy Conference, Beijing, 2016

Health in All Policies

Northwest Primary Care Conference, 2015
American Public Health Association, annual meetings, 2015 & 2016
Ventura County Health Department, 2015
San Joaquin Valley Local Health departments, 2015

ARMISTEAD (Ted) G. RUSSELL

PRESENT POSITION

Howard T. Tellepsen Chair and Regents' Professor
School of Civil and Environmental Engineering
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PROFESSIONAL INTERESTS

Air Pollution Modeling, Health Effects of Air Pollutants, Aerosol Dynamics, Environmental Economics and Control Strategy Design, Atmospheric Chemistry, Computer Modeling, Numerical Methods

EDUCATION

Ph.D. Mechanical Engineering, (1985)
Environmental Quality Laboratory, California Institute of Technology

M.S. Mechanical Engineering (1980)
California Institute of Technology

B.S. Mechanical Engineering (1979) Summa Cum Laude
Washington State University

PROFESSIONAL EXPERIENCE

2015-	Co-Director, Integrated Infrastructure Solutions (NSF-funded Sustainability Research Network team)
2012-	Howard T. Tellepsen Chair of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, Georgia.
2013-	Regents' Professor
2010-2016	Co-Director, Southeastern Center for Air Pollution Epidemiology
2005-	Director, GT Air Resources Engineering Center
1996-2012	Georgia Power Distinguished Professor of Environmental Engineering, Georgia Institute of Technology, Atlanta, Georgia.
2001-2004	Coordinator, Environmental Engineering, Georgia Inst. Technology
2004-2013	Associate Editor, Environmental Science and Technology
2006-2012	Member, USEPA Clean Air Science Advisory Committee
1994-1996	Professor, Department of Mechanical Engineering and Engineering and Public Policy, Carnegie Mellon University, Pittsburgh, Pennsylvania.
1990-1994	Associate Professor, Department of Mechanical Engineering and Engineering and Public Policy, Carnegie Mellon University, Pittsburgh, Pennsylvania.
1985-1990	Assistant Professor, Department of Mechanical Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania.
1985	Senior Research Scientist, California Institute of Technology, Pasadena, California.

HONORS AND AWARDS

Paper of the Year, Frontiers of Environmental Science and Technology (2016)
Environmental Excellence Award-Air Quality, Federal Highway Administration (2016)
Distinguished Alumni Award, Washington State University (2015)
Fellow, American Society of Mechanical Engineering (2014)
National Associate of the National Academies
Regents' Professor (2013)
Howard T. Tellepsen Chair (2012)
Fellow, American Association for the Advancement of Science
Ralph Teetor Outstanding Professor Educator Award (SAE)
Smithsonian Scientific Computation Award: Finalist (one of 5 nationally)
1990 Siggraph Award for a Scientific Visualization,
Niccograph '90 Scientific Visualization, 1st place
Finalist, INA Visualization, Monte Carlo
Computer Graphics Society of Japan, 1st place, Scientific Visualization
Warren Lecture, Univ. Minnesota (2011)
Class of 1934 Outstanding Interdisciplinary Activities Award (Georgia Tech, 2015)
Sustained Research Award (CEE, 2013)
Most influential individual to Intel Science Talent Search semifinalist (2013)
"Thank you" Teacher Appreciation (2011)
Guest Editor, Environmental Science and Technology, Issue on Particulate Matter and Health, July, 2009
Visiting Professor, King Mongkut's University of Technology (2008)
Distinguished Lecture, University of California-Riverside (2005)
Outstanding Reviewer, Atmospheric Environment
Sigma Xi Sustained Research Award (Georgia Tech, 2006)
Outstanding Graduate Advisor (Georgia Tech, 2012)
Outstanding Leadership Award (CEE)
Plenary Lecture, AAAR (2004)
Visiting Professor, University of Athens (2006)
Outstanding Reviewer, J. Geophysical Research
Interdisciplinary Research Award (CEE, Georgia Tech, 2014)
Georgia Power Professorship
Excellence in Review Award, Environmental Science and Technology
Visiting Professor, National Taiwan University
Visiting Professor Fellowship, Ecole Polytechnique Federale Lausanne (Switzerland)
Outstanding Young Scholar Fellowship (Japanese International Cooperative Research Fund)
Air Pollution Control Association National Paper Contest -- First Place
Various Fellowships and Scholarships at Caltech and WSU

PATENTS

Dacosta H F; Fan M; Russell A G. "Carbon dioxide removal from flue gas by passing flue gas including carbon dioxide through bed of particulate material consisting of metal silicates, alkaline earth and/or metal oxides, and reacting carbon dioxide with particulate material" US2010221163-A1

EDITORIAL ROLES

Guest Editor, Frontiers of Environmental Science and Engineering (2016)
Associate Editor, Environmental Science and Technology (2004-2013)
Editorial Board, Air Quality, Atmosphere and Health (2011-present)
Guest Editor, Focus issue on Particulate Matter and Health, Environmental Science and Technology (2009)

NATIONAL RESEARCH COUNCIL REPORTS

1. "Assessment of the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry" (2017). Washington, DC: The National Academies Press.
2. "Review of the Draft Interagency Report on the Impacts of Climate Change on Human Health in the United States" (2015) Greenbaum D., et al., National Research Council, National Academy Press, Washington D.C.
3. "Sustainability and the US Environmental Protection Agency" (2011) Goldstein, B., et al., National Research Council, National Academy Press, Washington D.C.
4. "Estimating Mortality Risk Reduction and Economic Benefits from Controlling Ozone Air Pollution" (2008) Bailar, J.C. et al., National Research Council, National Academy Press, Washington D.C.
5. "Review of the U.S. Climate Change Science Program's Synthesis and Assessment Product 3.2, "Climate Projections Based on Emission Scenarios for Long-lived and Short-lived Radiatively Active Gases and Aerosols" (2007) Carroll, MA, et al. National Research Council, National Academy Press, Washington D.C.
6. "Energy Futures and Urban Air Pollution: Challenges for China and the United States" (2007) Watson J. et al., National Research Council, National Academy Press, Washington D.C.
7. "Managing Carbon Monoxide in Meteorological and Topographical Problem Areas" (2003) Russell, A.G., et al. National Research Council, National Academy Press, Washington D.C.
8. "The On-going Challenge of Managing Carbon Monoxide Pollution in Fairbanks, Alaska" (2003) Russell, A.G. et al., National Research Council, National Academy Press, Washington D.C.
9. "Mobile Source Emissions Modeling," (2000) Russell, A.G., et al., National Research Council, National Academy Press, Washington DC.
10. "Ozone Forming Potential of Reformulated Gasoline" Chameides W. et al., (1999) National Research Council, National Academy Press, Washington D.C.
11. "Science and Judgment in Risk Assessment," with K. Isselbacher et al. (1993), National Research Council, National Academy Press, Washington, DC.
12. "Rethinking the Ozone Problem in Urban and Regional Air Pollution," with J.H. Seinfeld et al. (1991), National Research Council, National Academy Press, Washington, DC.

INTERNATIONAL AGENCY FOR RESEARCH ON CANCER MONOGRAPHS

1. Russell, AG, "Combustion Emissions" in **Air Pollution and Cancer, IARC Scientific Publication No 161**, (K. Strait, A. Cohen and J. Samet, Eds.) WHO Press, World Health Organization, Switzerland
2. Outdoor Air Pollution (2016) **IARC MONOGRAPH No 109**, WHO Press, World Health Organization, Switzerland

BOOK CHAPTERS

3. Odman, M. T., Hu, Y., Russell, A. G. and Chang, M. E., "Forecasting Ozone and PM2.5 in Southeastern U.S.," in **Air Pollution Modeling and its Application** XVIII, pp. 220-229 (C. Borrego and E. Renner, Eds.), New York: Elsevier (2007)
4. Cohan, D. and Russell, A (2006) "Cost-optimized air pollution control using high-order sensitivity analysis." In **Air Pollution Modeling and Its Application** XVII, Eds. C. Borrego and A-L Norman, Springer
5. Cohan, D. Hu, Y. and Russell, A (2006) "Alternative Approaches to diagnosing ozone production regime." In **Air Pollution Modeling and Its Application** XVII, Eds. C. Borrego and A-L Norman, Springer
6. Bergin, M., West, J., Keating, T. and Russell, A.G.. (2005), "Regional Atmospheric Pollution and Transboundary Air Quality Management," **Annual Review of Environment and Resources**, Annual Reviews, pp 1-37
7. Bergin, M., Croes, B., Carter, W., Russell, A.G., and Seinfeld, J.H. (1998), "Ozone Control and VOC Reactivity," **E. Environmental Analysis and Remediation**, Wiley-Interscience, pp 3355-3383.
8. Russell, A.G. (1997), "Regional Air Quality Modeling," **Ann. Reviews of Energy and the Environment**, Annual Reviews, Inc., 537-588.
9. Russell, A.G. and Milford J.B. (1995), "Air Quality Modeling," **Encyclopedia Energy Technol. and Environment**, Wiley-Interscience, 207-225.
10. Milford J.B. and Russell, A.G. (1994), "Air Pollution Modeling," **Environmental Modeling**, Elsevier.
11. Odman, M.T. and Russell, A.G. (1992), "Multiscale Horizontal Transport for Urban and Regional Air Quality Modeling," **Air Pollution Modeling and Its Application, 17,** 211-220, Plenum, New York.
12. Russell, A.G. and Milford, J.B. (1992), "Atmospheric Modeling," **E. Chemical Technology, 3**, 725-751, John Wiley & Sons.
13. Russell, A.G. (1991), "Air Pollution, Causes and Control," **E. Applied Physics**, VCH Publishers, Inc., NY.
14. Russell, A.G. (1990), "Methanol Fuel Use for Photochemical Smog Control," **Methanol as an Alternative Fuel: An Assessment** (W. Kohl, Ed.). World Resources Institute.
15. Russell, A.G. (1989), "Air Pollution and The Design of Environmental Controls," **Computational Physics** (L.D. Yuan and D.H. Feng, Eds.), World Scientific, Singapore.
16. Russell, A.G. (1987), "Mathematical Modeling of the Effect of Emission Sources on Atmospheric Pollutant Concentrations," in **Air Pollution, The Automobile and Public Health**, Health Effects Institute Future Strategy Project, National Academy Press, Washington, DC -- Translated into Japanese, 1990.
17. Russell, A.G., McRae, G.J. and Cass, G.R. (1982), "Acid Deposition of Photochemical Oxidation Products -- A Study Using a Lagrangian Trajectory Model," in **Air Pollution Modeling and its Application, III**, Plenum Press, New York.

JOURNAL PUBLICATIONS

1. Friberg, M. D., X. Zhai, H. A. Holmes, H. H. Chang, M. J. Strickland, S. E. Sarnat, P. E. Tolbert, A. G. Russell and J. A. Mulholland (2016). "Method for Fusing Observational Data and Chemical Transport Model Simulations To Estimate Spatiotemporally Resolved Ambient Air Pollution." *Environmental Science & Technology* **50**(7): 3695-3705.
2. Fang, T., V. Verma, J. T. Bates, J. Abrams, M. Klein, M. J. Strickland, S. E. Sarnat, H. H. Chang, J. A. Mulholland, P. E. Tolbert, A. G. Russell and R. J. Weber (2016). "Oxidative potential of ambient water-soluble PM2.5 in the southeastern United States: contrasts in sources and health associations between ascorbic acid (AA) and dithiothreitol (DTT) assays." *Atmospheric Chemistry and Physics* **16**(6): 3865-3879.
3. Johnson, K. K., M. H. Bergin, A. G. Russell and G. S. W. Hagler (2016). "Using Low Cost Sensors to Measure Ambient Particulate Matter Concentrations and On-Road Emissions Factors." *Atmos. Meas. Tech. Discuss.*
4. Lal, R. M., A. S. Nagpure, L. N. Luo, S. N. Tripathi, A. Ramaswami, M. H. Bergin and A. G. Russell (2016). "Municipal solid waste and dung cake burning: discoloring the Taj Mahal and human health impacts in Agra." *Environmental Research Letters* **11**(10).
5. Longo, A. F., D. J. Vine, L. E. King, M. Oakes, R. J. Weber, L. G. Huey, A. G. Russell and E. D. Ingall (2016). "Composition and oxidation state of sulfur in atmospheric particulate matter." *Atmospheric Chemistry and Physics* **16**(21): 13389-13398.
6. Lv, B., Y. Hu, H. H. Chang, A. G. Russell and Y. Bai (2016). "Improving the Accuracy of Daily PM2.5 Distributions Derived from the Fusion of Ground-Level Measurements with Aerosol Optical Depth Observations, a Case Study in North China." *Environmental Science & Technology* **50**(9): 4752-4759.
7. Ramaswami, A., A. G. Russell, P. J. Culligan, K. R. Sharma and E. Kumar (2016). "Meta-principles for developing smart, sustainable, and healthy cities." *Science* **352**(6288): 940-943.
8. Redman, J. D., H. A. Holmes, S. Balachandran, M. L. Maier, X. X. Zhai, C. Ivey, K. Digby, J. A. Mulholland and A. G. Russell (2016). "Development and evaluation of a daily temporal interpolation model for fine particulate matter species concentrations and source apportionment." *Atmospheric Environment* **140**: 529-538.
9. Sailor, D., M. Shepherd, S. Sheridan, B. Stone, L. Kalkstein, A. Russell, J. Vargo and T. Andersen (2016). "Improving Heat-Related Health Outcomes in an Urban Environment with Science-Based Policy." *Sustainability* **8**(10).
10. Shi, G.-L., J. Xu, X. Peng, Y.-Z. Tian, W. Wang, B. Han, Y.-F. Zhang, Y.-C. Feng and A. G. Russell (2016). "Using a new WALSPMF model to quantify the source contributions to PM2.5 at a harbour site in China." *Atmospheric Environment* **126**: 66-75.
11. Turner, M. D., D. K. Henze, S. L. Capps, A. Hakami, S. L. Zhao, J. Resler, G. R. Carmichael, C. O. Stanier, J. Baek, A. Sandu, A. G. Russell, A. Nenes, R. W. Pinder, S. L. Napelenok, J. O. Bash, P. B. Percell and T. F. Chai (2016). "Reply to Comment on 'Premature deaths attributed to source-specific BC emissions in six urban US regions'." *Environmental Research Letters* **11**(9).

12. Vargo, J., B. Stone, D. Habeeb, P. Liu and A. Russell (2016). "The social and spatial distribution of temperature-related health impacts from urban heat island reduction policies." *Environmental Science & Policy* **66**: 366-374.
13. Vreeland, H., J. J. Schauer, A. G. Russell, J. D. Marshall, A. Fushimi, G. Jain, K. Sethuraman, V. Verma, S. N. Tripathi and M. H. Bergin (2016). "Chemical characterization and toxicity of particulate matter emissions from roadside trash combustion in urban India." *Atmospheric Environment* **147**: 22-30.
14. Weber, R. J., H. Guo, A. G. Russell and A. Nenes (2016). "High aerosol acidity despite declining atmospheric sulfate concentrations over the past 15 years." *Nature Geoscience* **9**(4): 282-+.
15. West, J. J., A. Cohen, F. Dentener, B. Brunekreef, T. Zhu, B. Armstrong, M. L. Bell, M. Brauer, G. Carmichael, D. L. Costa, D. W. Dockery, M. Kleeman, M. Krzyzanowski, N. Kuenzli, C. Liousse, S.-C. C. Lung, R. V. Martin, U. Poeschl, C. A. Pope, III, J. M. Roberts, A. G. Russell and C. Wiedinmyer (2016). ""What We Breathe Impacts Our Health: Improving Understanding of the Link between Air Pollution and Health"." *Environmental Science & Technology* **50**(10): 4895-4904.
16. Xiao, Q. Y., Y. Liu, J. A. Mulholland, A. G. Russell, L. A. Darrow, P. E. Tolbert and M. J. Strickland (2016). "Pediatric emergency department visits and ambient Air pollution in the US State of Georgia: a case-crossover study." *Environmental Health* **15**.
17. Zhai, X. X., A. G. Russell, P. Sampath, J. A. Mulholland, B. U. Kim, Y. Kim and D. D'Onofrio (2016). "Calibrating R-LINE model results with observational data to develop annual mobile source air pollutant fields at fine spatial resolution: Application in Atlanta." *Atmospheric Environment* **147**: 446-
18. Davis, A. Y., R. Ottmar, Y. Liu, S. Goodrick, G. Achtemeier, B. Gullett, J. Aurell, W. Stevens, R. Greenwald, Y. Hu, A. Russell, J. K. Hiers and M. T. Odman (2015). "Fire emission uncertainties and their effect on smoke dispersion predictions: a case study at Eglin Air Force Base, Florida, USA." *International Journal of Wildland Fire* 24(2): 276-285.
19. Thomas, V., P. Kerl, J. M. Cruz, A. Nenes, M. Realff, A. Russell, J. Sokol and W. Zhang (2015). "Reduce Ozone When and Where It Matters Most." *Power* 159(11): 68-68.
20. Bates, J. T., et al. (2015b), Reactive Oxygen Species Generation Linked to Sources of Atmospheric Particulate Matter and Cardiorespiratory Effects, *Environ. Sci. Technol.*, *49*(22), 13605-13612, doi:10.1021/acs.est.5b02967.
21. Galvis, B., M. Bergin, J. Boylan, Y. Huang, M. Bergin, and A. G. Russell (2015), Air quality impacts and health-benefit valuation of a low-emission technology for rail yard locomotives in Atlanta Georgia, *Sci. Total Environ.*, *533*, 156-164, doi:10.1016/j.scitotenv.2015.06.064.
22. Henneman, L. R. F., H. A. Holmes, J. A. Mulholland, and A. G. Russell (2015), Meteorological detrending of primary and secondary pollutant concentrations: Method application and evaluation using long-term (2000-2012) data in Atlanta, *Atmos. Environ.*, *119*, 201-210, doi:10.1016/j.atmosenv.2015.08.007.
23. Hu, Y., M. T. Odman, M. E. Chang, and A. G. Russell (2015), Operational forecasting of source impacts for dynamic air quality management, *Atmos. Environ.*, *116*, 320-322, doi:10.1016/j.atmosenv.2015.04.061.
24. Ivey, C. E., H. A. Holmes, Y. T. Hu, J. A. Mulholland, and A. G. Russell (2015),

Development of PM2.5 source impact spatial fields using a hybrid source apportionment air quality model, *Geoscientific Model Development*, *8*(7), 2153-2165, doi:10.5194/gmd-8-2153-2015.

25. Kerl, P. Y., W. Zhang, J. B. Moreno-Cruz, A. Nenes, M. J. Realff, A. G. Russell, J. Sokol, and V. M. Thomas (2015), New approach for optimal electricity planning and dispatching with hourly time-scale air quality and health considerations, *Proc. Natl. Acad. Sci. U. S. A.*, *112*(35), 10884-10889, doi:10.1073/pnas.1413143112.
26. Koo, B., N. Kumar, E. Knipping, U. Nopmongcol, T. Sakulyanontvittaya, M. T. Odman, A. G. Russell, and G. Yarwood (2015), Chemical transport model consistency in simulating regulatory outcomes and the relationship to model performance, *Atmos. Environ.*, *116*, 159-171, doi:10.1016/j.atmosenv.2015.06.036.
27. Nagpure, A. S., A. Ramaswami, and A. Russell (2015), Characterizing the Spatial and Temporal Patterns of Open Burning of Municipal Solid Waste (MSW) in Indian Cities, *Environ. Sci. Technol.*, *49*(21), 12904-12912, doi:10.1021/acs.est.5b03243.
28. Rudokas, J., P. J. Miller, M. A. Trail, and A. G. Russell (2015), Regional Air Quality Management Aspects of Climate Change: Impact of Climate Mitigation Options on Regional Air Emissions, *Environ. Sci. Technol.*, *49*(8), 5170-5177, doi:10.1021/es505159z.
29. Trail, M., A. P. Tsimpidi, P. Liu, K. Tsigaridis, Y. Hu, A. Nenes, B. Stone, and A. G. Russell (2015a), Reforestation and crop land conversion impacts on future regional air quality in the Southeastern US, *Agric. For. Meteorol.*, *209*, 78-86, doi:10.1016/j.agrformet.2015.05.001.
30. Turner, M. D., et al. (2015a), Premature deaths attributed to source-specific BC emissions in six urban US regions, *Environmental Research Letters*, *10*(11), doi:10.1088/1748-9326/10/11/114014.
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255. Scheme for Urban and Regional Modeling," **Atmospheric Environment**, **25A**: 2785-2794.
256. Odman, M.T. and Russell, A.G. (1991), "Multiscale Modeling of Pollutant Transport with Chemistry," **J. Geophys. Res., 96**: 7363-7370.
257. Milford, J.B., Gao, D., Russell, A.G. and McRae, G.J. (1991), "Use of Sensitivity Analysis to Compare Chemical Mechanisms for Air Quality Modeling," **Environmental Science and Technology**, **26**: 1179-1189**.**
258. McRae, G.J. and Russell, A.G. (1990), "Smog, Supercomputers and Society," **Computers in Physics**, **4**: 227-233.
259. Russell, A.G., Milford, J.B., Harris, J.N. and St. Pierre, D. (1990), "Photochemical Oxidant Control and Methanol Use," **Science**, **247**: 201-205.
260. Milford, J.B., Russell, A.G. and McRae, J.G. (1989), "A New Approach to Photochemical Pollution Control: Implications of Spatial Patterns in Pollutant Responses to Reductions in Nitrogen Oxides and Reactive Organic Gas Emissions," **Environmental Science and Technology**, **23**: 1290-1301.
261. Harris, J., Milford, J.B. and Russell, A.G. (1988), "Air Quality Implications of Methanol Fuel Utilization," **Trans. of the Society of Automotive Engineers**, **97**: 3399-3421.
262. Russell, A.G., McCue, K.F. and Cass, G.R. (1988), "Mathematical Modeling of the Formation of Nitrogen-Containing Pollutants -- 2. Evaluation of the Effects of Emission Controls," **Environmental Science and Technology**, **22**: 1336-1347.
263. Russell, A.G., McCue, K.F. and Cass, G.R. (1988), "Mathematical Modeling of the Formation of Nitrogen-Containing Air Pollutants -- 1. Evaluation of an Eulerian Photochemical Model," **Environmental Science and Technology**, **22**: 263-271.
264. Russell, A.G., Seinfeld, J.H. and Cass, G.R. (1986), "On Some Aspects of Nighttime Atmospheric Chemistry," **Environmental Science and Technology**, **20**: 1167-1172.
265. Russell, A.G. and Cass, G.R. (1986), "Verification of a Mathematical Model for Aerosol Nitrate and Nitric Acid Formation and Its Use for Control Measure Evaluation," **Atmospheric Environment**, **20**: 2011-2025.
266. Russell, A.G., McRae, G.J. and Cass, G.R. (1985), "The Dynamics of Nitric Acid

Production and the Fate of Nitrogen Oxides," **Atmospheric Environment**, **19**: 893-903.

267. Russell, A.G. and Cass, G.R. (1984), "Acquisition of Regional Air Quality Model Validation Data for Aerosol Nitrate, Sulfate, Ammonium Ion and Their Precursors," **Atmospheric Environment**, **18**: 1815-1827.
268. Hildemann, L., Russell, A.G. and Cass, G.R. (1984), "Ammonia and Nitric Acid Concentrations in Equilibrium with Atmospheric Aerosols: Experiment vs. Theory," **Atmospheric Environment**, **18**: 1737-1750.
269. Russell, A.G., McRae, G.J. and Cass, G.R. (1983), "Aerosol Nitrate Dynamics in an Urban Basin," **Aerosol Science and Technology**, **2**: 179.
270. Russell, A.G., McRae, G.J. and Cass, G.R. (1983), "Mathematical Modeling of the Formation and Transport of Ammonium Nitrate Aerosol," **Atmospheric Environment**, **17**: 949-964.

HEALTH EFFECTS INSTITUTE REPORTS

1. Improving Estimates of Diesel and Other Emissions for Epidemiologic Studies (2003) Health Effects Institute, Boston, MA
2. Research Directions to Improve Estimates of Human Exposure and Risk from Diesel Exhaust, (2002) Health Effects Institute, Boston, MA

PUBLISHED EDITORIAL LETTERS

Russell, A.G. (2003) Fairbanks Daily News Miner, Letter to the editor on CO management in Alaska, May 1, 2003.

Russell, A.G. (2004) Fairbanks Daily News Miner, Letter to the editor on the Inspection and Maintenance program in Fairbanks, January 7, 2004.

MOVIES:

"Pollutant Dynamics in Mexico City," With L. McNair and C. Nuuja.

"Smog: Visualizing the Components," with Aliza Corson, Greg McRae, Michael McNeil and William Sherman (1990 Siggraph final video; 1st Place, Scientific Visualization, Niccograph '90; Finalist, INA Visualization, Monte Carlo).

"Visualizing Air Quality in Los Angeles," with Chris Nuuja, et al. (1st place, Computer Graphics Society of Japan).

"Methanol, A Path Towards Cleaner Air," with Dan Stodalsky, Damon Liparelli, Joel Welling, and Greg McRae.

"Improving Air Quality With Methanol -- Solving An Environmental Problem Using a CRAY XMP."

COMPUTER CODE RELEASES

DDM-3D in CMAQ for version 4.3, released to US EPA, U.C. Berkeley, Princeton, CMAS and NESCAUM.

Mass conservation algorithms in CMAQ for version 4.3, released to US EPA, CMAS and NESCAUM.

PROFESSIONAL SOCIETIES

American Society of Mechanical Engineers, American Association for Aerosol Research, American Chemical Society, American Association for the Advancement of Science, Sigma Xi, Air and Waste Management Association, International Society for Environmental Epidemiology, Int. Society for Exposure Science

NATIONAL AND INTERNATIONAL COMMITTEES, RESEARCH PROGRAM/AGENDA REVIEWS

National Atmospheric and Oceanic Administration Air Resources Laboratory Review (2016)

National Research Council, National Academy of Sciences Decadal Survey for Earth Science and Applications from Space: Weather and Air Quality Panel, (2016-present)

National Academy of Engineering Delegation to Russia on Atmospheric Black Carbon (2016)

National Research Council, Committee on the Review of the Draft Interagency Report on the Impacts of Climate Change on Human Health in the United States" (2015-2016)

Coordinating Research Council, Air Quality Modeling Research Planning (2016)

CASAC panel on NOx and SOx Ecosystem Effects, US EPA, (2015-present)

National Academy of Medicine (Institute of Medicine), Committee on the Review of the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry (2014-2017).

Air and Waste Management Association, Publications Committee (2015-)

National Research Council Review Coordinator, "Sustainability Concepts in Decision Making: Tools and Approaches for U.S. EPA," (2014)

Member, Peking University College of Environmental Science and Engineering International Review Committee (2103-2014)

Member, Peking University College of Urban and Environmental Sciences International Review Committee (2103-2014)

Air and Waste Management Association, Arthur Stern Award Committee (2013, 2014, 2015, 2016)

International Agency for Research on Cancer, Air Pollution Panel (2012-2013)

Committee on Incorporating Sustainability in the US Environmental Protection Agency, National Research Council, (2010 – 2011)

Nitrogen Cycle-Climate Interactions Workshop to advise the National Climate Assessment, (2011).

Chair, Atmospheric Monitoring and Methods Subcommittee, US EPA, (2011-2012)

Chair, National Particle Toxicity (NPACT) Initiative Report Review Committee, Health Effects Institute (2011-2013)

Session Chair, HEI Annual Conference (2011, 2012, 2013)

Chair, EPA Council on Clean Air Compliance Analysis, Air Quality Modeling Subcommittee, US EPA, 2008-present.

Member, Clean Air Scientific Advisory Committee (CASAC), USEPA, Committee mandated in the Clean Air Act to review National Ambient Air Quality Standards, and review other air quality issues for US EPA. (2006-2012)

Chair, CASAC panel on NOx and SOx Ecosystem Effects, US EPA, (2007-2011)

Board on Environmental Studies and Toxicology, National Research Council, (2004-2009)

CMAQ Review Panel, US EPA, RTP, NC (2011)

Chair, Ambient Air Monitoring and Methods Subcommittee, US EPA (2007-2010)

Committee on Energy Futures and Air Pollution in Urban China and the United States National Academy of Engineering, Washington, DC, 2004 – 2007

Member, Review team of the EPA ORD Human Exposure and Atmospheric Sciences Division

Member, Council on Clean Air Compliance Analysis, USEPA, 2008-2014

Member, Health Effects Institute Review Committee, 2007-present.

Committee on Ozone Mortality and Risk Assessment, National Research Council, Washington, DC, 2006 – 2008

Committee to Review the Climate Change Science Program Synthesis and Evaluation Product 3.2, National Research Council, Washington, DC, 2007

Session Chair, MIT Symposium on Energy and the Environment (2006)

CMAQ Review Panel, US EPA, RTP, NC (2006)

Session Chair, NARSTO Workshop on Particulate Matter Modeling (2006)

US EPA CASAC Ozone Panel, 2005-2007

Chair, Workgroup on Air Monitoring Plan (in response to Hurricane Katrina), US EPA Science Advisory Board 2005

Health Effects Institute, Public Health and Air Pollution in Asia, Scientific Review Panel, 2006

Health Effects Institute, Air Toxics Workshop Co-Chair, April, 2004

American Association for Aerosol Research, PM Conference Executive Committee, 2004-2005 (Conference, Feb. 2005)

EPA Science Advisory Board/Clean Air Science Advisory Committee June, Ambient Air Monitoring Methods Subcommittee (2003-present)

EPA Science Advisory Board, May, Air Quality Modeling Subcommittee (2003-present)

Governor's Joint Study Committee on Alternative and Environmentally Sensitive Truck Fuels, State of Georgia, 2002

Atlanta Chamber of Commerce Committee on Transportation Control Measures for Air Quality, May, 2003.

Association of Environmental Engineering and Science Professors
Strategic Planning Committee, 2002

EPA Science Advisory Board June, 2003-2004
National Ambient Air Monitoring Strategy Committee

Health Effects Institute, Boston, MA, 2002-2003
Chair, Diesel Signature Working Group

EPA Peer Reviews: STAR Fellowships, SBIR Program.

Reactivity Scientific Advisory Committee
California Air Resources Board, Member (1996-…)

National Research Council, Washington, DC, 2001 - 2003
Chairman, Committee on Carbon Monoxide Episodes in Meteorological and Topographical Problem Areas
Subject: Carbon Monoxide Non-attainment problems

Health Effects Institute, 2000-2003
Diesel PM Review
Subject: Assessment of research directions for assessing health effects of diesel emissions

US EPA Board of Scientific Counselors, 1999,Subcommittee member,
Subject: Review of the Management of the Office of Research and Developments Particulate Matter Research Program

National Research Council, Washington, DC, 1998 - 2000
Chairman, Committee to Review EPA's MOBILE Emissions Program
Subject: Review of EPA's MOBILE Model

World Bank, Mexico City, 1999
Member, Expert Panel for Addressing Mexico City Air Pollution

Chair, Academic and Research Institution Perspectives on Models 3, Washington D.C., May, 2000.

National Research Council, Washington, DC, 1997 - 1999
Member, Committee on Ozone Forming Potential of Reformulated Gasoline
Subject: Reactivity of Reformulated Gasoline

Environmental Protection Agency, Research Triangle Park, NC, 1998,
MAPPER Review Committee, Chair.

NARSTO Modeling and Chemistry Assessment Committee, 1995-1999
Writing Chair for Application Assessment and Strategies

US EPA FACA Subcommittee on Ozone, Particulate Matter and Regional Haze,
Committee Member

Advisory Board to the White House,
Office of Science Technology and Policy,
Oxygenated Fuels Assessment Steering Committee,
Air Quality Benefits Team: Member

American Association for Aerosol Research,
Co-chair, Technical Program, Pittsburgh, PA 1995

Environmental Protection Agency, Research Triangle Park, NC, 1995,
Regional Modeling Review Committee Member, 1995-Present

Environmental Protection Agency, Research Triangle Park, NC, 1994,
SOS Peer Review Committee Member

NARSTO-NE, Executive Steering Committee,
Member, 1995-Present

Department of Defense, Environmental Quality Modeling Committee,
Co-Chair, 1994-Present

Environmental Protection Agency, Research Triangle Park, NC, 1987

Member, Peer Review Committee
Subject: Regional and Urban Oxidant Modeling Research

Health Effects Institute, Cambridge, MA, 1986 - 1987
Future Strategies Project
Subject: Future Research Directions in Air Quality Modeling

Environmental Protection Agency, Research Triangle Park, NC, 1989
Member, Peer Review Committee
Subject: Alternative Fuel Impacts

Environmental Protection Agency, Research Triangle Park, NC, 1990
Chair, Peer Review Committee
Subject: Air Oxidant Formation Program

National Research Council, Washington, DC, 1989 - 1991
Member, Committee on Tropospheric Ozone Control
Subject: Oxidant Dynamics and Control

National Research Council, Washington, DC, 1991 - 1993
Member, Committee on Risk Assessment of Hazardous Air Pollutants
Subject: Atmospheric Dynamics of Air Pollutants

Third International Conference on Air Pollution Modeling, Monterey, Mexico
Member, Organizing Committee

National Research Council, Washington, DC, 1992
Workshop on the "Review of DoE's Office of Conservation and Renewable Energy"

Environmental Protection Agency/Northeast States External Review Workgroup, ROMNET 2, 1992 - 1993

Mexico City Air Pollution Control Strategy Review, 1992 - 1994

OTHER PROFESSIONAL SERVICE

Manuscript Reviews for *Atmospheric Environment, Env. Science and Technology, Air and Waste, J. Geophys. Research, Aerosol Science and Technology, Environmental Engineering, Transportation Research Record, J. Applied Meteorology, Atmospheric Chemistry and Physics, Env. Health Perspectives. Science of the Total Environment, Rev. in Toxicology, Env. Health Perspectives, Air Quality, Atmosphere and Health, Epidemiology, Geophys. Model. Development*

Proposal Reviews for US EPA, NSF, DoE, DoD, NASA, HEI, Swiss NSF, Hong Kong, Singapore, India, Qatar NSF.

Air and Waste Management, Judge, Student Poster Competition (2015, 2016)

Air and Waste Management, review, Best Thesis Award (2015, 2016)

American Association for Aerosol Research, Judge, Student Poster Competition (multiple years)

INSTITUTE SERVICE

Chair, CEE Awards Committee (2015-present)
Member, 5-Year Review of Dean Gary May, College of Engineering (2016-2017)
Chair, 5-Year Review of Aerospace Engineering Chair (2014)
Faculty Advisor: Student Air and Waste Management Association (AWMA) Georgia Tech Student Chapter (2014-present)
Chair, Review of the Brook Byers Institute on Sustainable Systems (2012-2013)
Chair, EnvE Curriculum Committee (2012-2014)
Faculty Representative to the Intramural Sports Improvement Committee
Member, Reappointment, Promotion and Tenure Committee (Institute, 2013-2014)
Member, CEE Strategic Planning Committee (2012-2013)
Chair, ad hoc Committee on Group Structure (CEE, 2011-2012)
Chair, Georgia Power/Georgia Research Alliance Chair Search Committee (EAS, 2011-2012)
College of Engineering Strategic Planning Workshop (2011-2012)
Co-Director, Southeastern Center for Air Pollution and Epidemiology (2010-present)
Chair, EnvE Graduate Committee (CEE, 2007-2010)
EnvE Facilities Committee (CEE, 2010-present)
Strategic Advisory Committee (CEE, 2007-2010)
Co-Chair, Faculty Search Committee (CEE, 2005-2006)
Chair, Graduate Committee (EnvE, 2005-2008)
Graduate Committee (CEE, 2005-2010)
Chair, ad hoc Committee on Courtesy Appointments (CEE, 2005)
Periodic Peer Review Committee (CEE, 2005)
Reappointment, Promotion and Tenure Committee (CEE, 2003-2005)
Program Coordinator, Environmental Engineering (CEE, 2001-2004)
Executive Committee (CEE, 2001-2004)
Ford Environmental Science and Technology Building Management Committee (Institute, 2001-2004)
Blue Skies Committee (2003, College)
Environmental Engineering Strategic Planning Committee (CEE, 2003)
Director, Air Resources and Engineering Center (Institute, 2002-…)
Reappointment, Promotion and Tenure Committee (CEE, 1998-2002)
Chair, Reappointment, Promotion and Tenure Committee (CEE, 2000-2002)
Regents' Professor Nominating Committee (College, 2001)
Dean's Task Force on Undergraduate Education (College, 2000-2001)
Computer Committee (CEE, 2000-2001)
EAS Chair Search Committee (Institute, 1999-2000)
Dean's Task Force on Student Centered Education: Co-Chair (College, 1999-2000)

Lake Lanier OIP Retreat (Institute, 2000).
CEE ad hoc Committee on Graduate Student Recruitment (CEE, 1999)
CEE South Georgia Initiative ad hoc committee (CEE, 1999)
CEE ad hoc Committee on Graduate Student Recruitment (CEE, 1998)
Science and Technology Center Committee (GIT, 1998-1999)
CEE Computing Course ad hoc committee (CEE, 1998)
Faculty Research Awards Committee (GIT, 1997)
Strategic Planning Committee (CEE, 1997)

PROFESSIONAL TESTIMONIES AND POLICY BRIEFINGS:

Blue-Ribbon Panel on Oxygenated Fuels, Washington, DC , May, 1999;
Subject: Ozone-forming potential of oxygenated fuels

Senator John Chaffee, Washington, DC , March, 1999;
Subject: Reactivity-based Ozone Control Regulations.

California Air Resources Board, Sacramento, CA , July, 1995;
Subject: Reactivity-based Ozone Control Regulations.

Ozone Transport Commission, Washington, DC, August, 1994;
Subject: Ozone Control Strategies in the Northeast.

Senior EPA Staff, Washington, DC, May 21, 1992;
Subject: NAS Ozone Study.

Presidential Commission (Mexican) on Adopting Daylight Savings Time, Mexico City, March 27, 1992;
Subject: Air Quality Issues Associated with Daylight Savings Time.

Senior White House Staff, Washington, DC February 12, 1992;
Subject: NAS Ozone Report. Presentation at the request of NAS.

United States Alternative Fuels Council, San Diego, CA, June 15, 1990;
Subject: Alternative Fuels.

California Commission on Clean Fuels, Sacramento, CA, August 9, 1988;
Subject: Clean Fuel Strategies.

California Energy Commission Energy Development Report Hearing,
Los Angeles, CA, June 24, 1988; Subject: Alternative Fuels.

Vice Presidential Committee for Regulatory Relief, Washington, DC,
May 1987; Subject: Strategies to Improve Air Quality.

CONTINUTING EDUCATION AND OTHER EDUCATIONAL ACTIVITIES

Series of Invited Lectures for European Research Course on Atmospheres, given to graduate students taking a short course at the University of Grenoble (2002-2003)

Air Pollution Control (Video Course) (GIT)

Urban and Regional Aerosol Modeling. AAAR Continuing Education Tutorial, AAAR, Cleveland, June 23, 1998.

"Including Sustainability in Engineering Courses and Curricula" Workshops given at TERI ,University (Delhi), Indian Institute of Technology-Gandhinagar and Indian Institute of Technology-Mumbai, January 12-16, 2015.

"Defining and Measuring Environmental Sustainability, Health, and Livability" Semester course associated with the NSF Sustainability Research Network

GRANTS AND CONTRACTS AWARDED AT GEORGIA TECH

"Integrated Analysis of Land Use-Based Policies for Improving Air and Water Quality: A Focus on Agricultural Reactive Nitrogen and Wildland Fire Emissions as Climate, Land Use and Anthropogenic Emissions Change" EPA, $789,820, 2/2016-1/2019, (PI).

"HRES-X: Scientific and Geographic Extension of an Operational High Resolution, Prognostic Air Quality System Providing Smoke Impacts Forecasts for Health Protection, Ecosystem Management and Economic Development Using Earth Observations." NASA, $ 456,536 8/2016-8/2019, (PI).

"The effect of ammonia on organic aerosols in a changing climate" EPA, $789,261, 2/2016-1/2019, (Co-I), (PI: R. Weber).

"Enhancing Daily PM2.5 Source Apportionment Data Fusion Methodology" Centers for Disease Control $121,467, 1/2015-12/2015 (co-PI)

"SRN: Integrated Urban Infrastructure Solutions for Environmentally Sustainable, Health and Livable Cities" NSF, $12,000,000, 08/01/2015-07/31/19; (Role: Co-Director and Georgia Tech PI; GT Portion $1,290,523)

"Assessing Air Quality Fields Developed Using Alternative Methods for Exposure and Epidemiologic Studies, Phase I: Intercomparison of Air Quality Fields for Ozone, NO_2, CO, SO_2, $PM_{2.5}$, and $PM_{2.5}$ Species" EPRI, $193,302, 05/01/2015-4/30/16; (Role: PI)

"Impacts of Energy Sector Emissions on Air Quality" Phillips 66, $668,373, 01/01/2015-12/31/17; (Role: Co-PI)

"CMAQ Modeling" NW Clean Air Agency, $69,171, 01/01/2016-12/15/16; (Role: Co-PI)

"Assessment of Spatial Aerosol Characterization in Atlanta" Southern Company, $56,000, 2016 (PI)

"Acquisition of Instrumentation for Real-Time Molecular Level Measurement of Atmospheric Gas- and Particle-Phase Compounds" NSF, $482,297, 09/01/2014; (Role: Co-PI)

"Dissemination of Nanotechnologies for Energy Production and Environmental Protection" NSF, $1,987,048, (GIT Portion: $90,000) 07/2010-06/2015, (Role GIT PI)

"Characterizing Daily PM2.5 Source Impacts over the US 2005-2012" Centers for Disease Control $149,387, 1/2015-12/2015 (co-PI)

"Dorm Room Inhalation to Vehicle Emissions (*DRIVE*) study," Health Effects Instutute $695,321, 12/2013-11/2015 (Grant to Emory; GIT Portion: $288, 831) (role: GIT PI).

"HERCULES: Health and Exposome Research Center: Understanding Lifetime Exposures" National Institute of Health, $4,653,860, 4/01/2013-3/31/2017 (Grant to Emory) (role: GIT Investigator).

"Characterizing the emissions on fine particulate matter in the vicinity of a rail yard", EPD, Georgia Dept. of Natural Resources, $124,599, 20012-2013. (role: PI) (GIT co-PI, M. Bergin).

"Impacts of Emission Changes on Air Quality and Acute Health Effects in the Southeast, 1993-2012" Health Effects Institute, $685,596, 12/2012-11/2015 (role: PI), (GIT co-PI, J. Mulholland).

"PIRE: Developing Low-Carbon Cities in the USA, China & India through Inter-Disciplinary Integration Across Engineering, Environmental Sciences, Social Sciences & Public Health" NSF, $3,999,686 (Grant to U. Minn.; GIT portion: $787,185), 12/2012-12/2016, A. Russell (role: GIT PI), (GIT co-PI: M. Bergin,).

"Southeastern Center for Air Pollution and Epidemiology (SCAPE), Joint Emory-Georgia Tech US EPA Clean Air Center," EPA, $7,999,995 (GIT portion: $3,590,576), 12/2010-12/2015, A. Russell (role: GIT PI, and co-director), (GIT co-PIs, J. Mulholland, M. Bergin, R. Weber, A. Nenes, T. Odman).

"Impacts of Energy Sector Emissions on Air Quality" ConocoPhillips, $581,500, Jan. 1, 2012-Dec. 31, 2014 (co-PI with A. Nenes).

"Assessment of Spatial Aerosol Characterization in Atlanta" Southern Company, $54,000, 2011 (PI)

"Impact of Climate-Responsive Design on Heat-Related Morbidity and Mortality in Large U.S. Cities: 2010 – 2050," Centers for Disease Control, $847,141, 2010-2013, co-PI (with B. Stone)

"Improving Operational Regional Air Quality Forecasting Performance through Emissions Correction Using NASA Satellite Retrievals and Surface Measurements," NASA, $648,566, 2011-2016, A. Russell (PI), (co-PIs Y. Hu and T. Odman),

"Assessment of Spatial Aerosol Characterization in Atlanta" Southern Company, $54,000, 2010 (PI)

"Regional air quality management aspects of climate change: Examination of climate-responsive controls and forest management practices on regional air quality and associated uncertainties," EPA, $599,963, A. Russell (PI), (co-PIs, A. Nenes, Y. Wang), 6/2009-5/2012.

"Improving Particulate Matter Source Apportionment" US EPA, $899,956, Dec. 1, 2008-Nov. 30, 2012 (PI)

"Impact of Volatile Organic Carbon (VOC) emissions on Air Quality " ConocoPhillips, $498,917, Jan. 1, 2009-Dec. 31, 2011 (co-PI with A. Nenes).

"Assessment of Spatial Aerosol Characterization in Atlanta" Southern Company, $50,000, 2009 (PI)

"Particulate and Gas Sampling of Prescribed Fire" Ga EPD, $59,562, April-Sept. 2007 (PI)

"Development and Assessment of Environmental Indicators: Application to Mobile Source impacts on Emissions, Air Quality, Exposure and Health Outcomes" US EPA, $499,512, Oct. 1, 2007-Sept 30, 2011 (PI)

"Assessing Near-field and Downwind Impacts of Reactivity-based Substitutions", $54,162, American Chemical Council, 2008 (PI)

"Characterization of Emissions and Air Quality Modeling for Predicting the Impacts of Prescribed Burns at DoD Lands." Army Corps of Engineers, Strategic Environmental Research and Development Program (SERDP) $1,045,432, April 1, 2008 - December 31, 2010 (co-PI with T. Odman)

"A new physiochemical CO2 separation method." Siemens, $100K, 2007-2008. (Co-PI with M. Fan)

"Mitigating the impact of forest fires on air quality in the Southeast," USDA, $499,780, 2/1/2007-1/31/2010 (co-PI with Y. Wang).

"Development a new amine-based solid CO2 sorbent." Environmental System Incorporation, $1,000,000, 2008-2012 (Co-PI with M. Fan)

"Interaction of ecosystems, fires, air quality and climate change in the Southeast", EPA National Center for Environmental Research, $749,047, 2005-2008. (co-PI with Y. Wang)

"Characterizing the emissions on fine particulate matter in the vicinity of a railyard", EPA Georgia Dept. of Natural Resources, $200,000, 2009-2011. (PI)

"Proposal to Study Health Effects and Associated Population Trends and Outcomes Impacted by Climate Change in Tennessee: Estimation of Future Air Quality" ETSU, $41,162, 2006-2007 (PI)

"Spatial Aerosol Characterization in Atlanta" Southern Company, $100,000, 2008 (PI)

"Benefits and Costs of Cross-Border Electric Power Transmission: Mexicali/Imperial County" RFF (sub on funding from LAUSPAU), $30,060, 2007-2008 (GIT-PI)

"Interaction of ecosystems, fires, air quality and climate change in the Southeast" US EPA, $749,057, March 1, 2005-Feb. 28, 2008 (co-PI with Y. Wang)

"Integrated Source/Receptor-Based Methods For Source Apportionment and Area-of-Influence (AOI) Analysis" US EPA, $444,899, Feb. 1, 2005-Jan. 31, 2008 (PI)

"Analysis of Air Quality Modeling Issues for the State of Texas" Texas Council on Environmental Quality, $120,000 to NC State ($40,000 to GIT), Oct. 1, 2004-Sept. 30, 2005 (GIT-PI)

"Regional Development, Population Trend, and Technology Change Impacts on Future Air Pollution Emissions" US EPA, $649,999, Dec. 1, 2004-Nov. 30, 2008 (co-PI with M. Chang)

"Sensitivity and Uncertainty Assessment of Global Climate Change Impacts on Ozone and Particulate Matter: Examination of Direct and Indirect, Emission-Induced Effects" US EPA, $988,746, October 1, 2003-Sept. 30, 2007 (PI)

"Support for Environmental Science and Technology Editorial Activities" American Chemical Society, ~$60,000 annually, January 1, 2004-Dec. 30, 2008 (PI)

"Factors Controlling PM2.5 in the Southeast: Factor Analysis of SEARCH Data and 3D Simulations" Southern Company, $123,718, October 1, 2003-Sept. 30, 2005 (co-PI with Y. Wang)

"Emissions Inventory and Process Reconciliation Using Molecular Markers and Hybrid/Inverse Photochemical Modeling with Direct Sensitivity Analysis" US EPA, $449, 828, Dec 1, 2003-Nov. 30, 2008 (PI)

"Preparing for and supporting INTEX through Integrated Analysis of Satellite and Sub-

Orbital MEASUREMENTS with Global and Regional 3-D Models" NASA $450,000, Randall Martin (Harvard-Smithsonian), PI. (GIT Portion: $167,565, Russell, GIT-PI)

"Sensitivity Analysis and Source Apportionment for VISTAS," Southeastern States Air Resource Managers / Visibility Improvement - State and Tribal Association of the Southeast December 5, 2003 through December 31, 2008, $ 474,773. (T. Odman, PI, Russell Co-PI)

"Mexico-Imperial Valley Air Quality Modeling and Monitoring Program in Support of LASPAU's Border Ozone Reduction and Air Quality Improvement Program" LASPAU: Academic and Professional Programs for the Americas, $500,000, A. Mendoza-Dominguez (ITTESM) PI, (GIT Portion, $74,999) June 1, 2004-May 30, 2006 (GIT PI)

"Assessing the Impacts of Hartsfield Airport on Particulate Matter and Ozone," NASA Glenn Research Center, August 1, 2003 through October 31, 2004, $116,291 (PI)

"Multiple Pollutants and Cardiorespiratory Outcomes" NIEHS; Sept. 2002-Aug. 2006. $326,902, (Jim Mulholland, GIT-PI, Russell, Co-PI)

"Multiple Pollutants and Risk of Cardiac and Respiratory Emergency Department Visits in Atlanta" Jan. 1, US EPA. 2002-Dec. 31, 2004. (Jim Mulholland, GIT-PI, Russell, co-PI)

"Air quality modeling for the SAMI initiative," Southern Appalachian Mountain Initiative, $717,770, April, 1997-June, 2003, (P.I.)

"Characterization of the Spatial Patterns of Particulate Matter in the Atlanta Region" Georgia Power, $258,000. January, 1999-August, 2003, (P.I.)

"Fall Line Air Quality Study" State of Georgia, $2,800,000 April, 2000-Sept, 2004, (co-P.I. at GIT.)

"Adaptive Grid Modeling and Direct Sensitivity Analysis for Predicting the Air Quality Impacts of DOD Activities" to the Department of Defense, Strategic Environmental Research and Development Program (SERDP); one year; $100,000; June, 2002-Jue, 2003 (co-PI).

"Partnership for Environmental Research and Community Health" US EPA/U. West Florida, GIT Funding: $450,000 Dec., 2002-Dec, 2004, (co-P.I. at GIT.)

"Spatial Assessment of Ozone and Particulate Matter in the Gulf Coast Region, Response to Controls and Advanced Field Monitoring as Part of the GC-ARCH SuperSite Study." US EPA, $5,000,000. D. Allen (U. Texas) PI GIT Funding: $500,000 June, 2000-July, 2003, (P.I. at GIT.)

"Emissions Assessment in Georgia" Georgia Power, $200,000. January, 2001-August,

2003, (P.I.)

"Fine Particle Analysis in India" WorldBank, $30,000, July 2002-July 2003

"Characterization of Organic Aerosol Sources" Georgia Power, $320,000, January 2001-December, 2005 (co-PI).

"Reactivity Assessment in the Eastern US" American Chemical Council, $50,000, January 2002-Dec. 2003 (grant to GTF) (PI).

"Reactivity Assessment in the Eastern US" California Air Resources Board, $15,000, January 2002-Dec. 2002 (PI).

"Air quality modeling and sensitivity analysis of the Mexico-U.S. border area," National Science Foundation, $95,000, July 1, 1997-June 30, 2000, P.I.

"Southeastern Center for Integrated Study of Secondary Air Pollutants", U.S. EPA, $3,000,000, April 1, 1998-March 31, 2001. (co-P.I)

"Air quality modeling for the SAMI initiative Amendments-II," Southern Appalachian Mountain Initiative, $100,000, June, 2001-Dec., 2002, P.I.

"Aerosol Modeling of the Northeastern United States" U.S. EPA, $3,000,000 (subcontract from Caltech) GIT portion: $210,000, April 1, 1998-March 31, 2001. (P.I. at GIT)

"Source Characterization and Emissions Quantification Technology Development" U.S. EPA, $200,000 April, 1999-March, 2001, (co-P.I.)

"Characterization of the Spatial Patterns of Particulate Matter in the Atlanta Region" Georgia Power, $115,000. January, 1999-December, 1999, (P.I.)

"Reactivity Quantification and Uncertainty Assessment over Regional Domains" California Air Resources Board, $240,000 (GIT Portion: $80,000), April, 1999-March, 2001, (P.I. at GIT.)

"Particulate Matter in the Atlanta Region" Georgia Power, $65,000. August, 2001-December, 2002, (P.I.)

"Emissions Estimation and Uncertainty", Georgia Power, $200,000. January 2001-December, 2002. (P.I.)

"Air quality modeling for the SAMI initiative Amendments-I," Southern Appalachian Mountain Initiative, $100,000, June, 2000-Dec., 2001, P.I.

"Southern Oxidants Study: Phase III," Environmental Protection Agency, $270,000, Sept, 2000-July., 2002, P.I.

"Biogenic Emissions Uncertainty Analysis" Electric Power Research Institute, $15,000, June 2001-June 2002.

"Air quality modeling for the SAMI initiative," Southern Appalachian Mountain Initiative, $799,000, June, 1997-May., 2000, P.I.

Dr. Russell was also P.I. or co-P.I. on approximately $4 million in research projects at Carnegie Mellon University.

DIRECT RESEARCH ADVISEMENT

Post Doctoral (current association/position):

1. Huizhong Chen (Georgia Tech)
2. Haofei Yu (Asst. Prof. U. Central Florida)
3. Momei Qin (Georgia Tech)
4. Ehsan Goodarzi (Georgia Tech)
5. Cong Liu (Assoc. Prof. Nankai University, China)
6. David Lavoue (France)
7. Siv Balachandran (Asst. Prof. University of Cincinnati)
8. Heather Holmes (Asst. Prof., U. Nevada, Reno)
9. Alexandra Tsimpidi (Max Planck Institute, Mainz)
10. Vlassis Karydis (Max Planck, Mainz)
11. Hanlim Lee (Prof. Pusan National University, Korea)
12. Yangjun Wang (Assoc. Prof., Shanghai University)
13. Ethimios Tagaris (Res. Scientist, National Observatory, Greece)
14. K. Manomaiphiboon (Prof., Thailand)
15. Xuesong Wang (Assoc. Prof., Peking University)
16. Yueh-Jin Yang (Engineer, Cal. Air Res. Board)
17. Jim Boylan (Georgia Dept. of Natural Resources)
18. M. Khan (Res. Scientist, NASA)
19. Yongtao Hu (Senior Res. Scientist, GIT)
20. Alper Unal (Prof. Istanbul Technical University, Turkey)
21. Wei Liu (co-advise) (Consultant, CA)
22. Sangil Kim (co-advise) (Res. Prof., KIIST, Korea)

Students:

Ph.D:

1. Yilin Chen (exp. 2020)
2. Ran Huang (exp. 2019)
3. Raj Lal (exp. 2018)
4. Josephine Bates (exp. 2017, Presidential Fellow, ARCs Fellowship)
5. Jennifer Mouitnho (exp. 2017, Presidential Fellow; NSF Fellow, Best Poster, AAAR 2016)
6. Alex Yu (exp. 2018)
7. Lucas Henneman (exp., 2017, NSF Fellow, Presidential Fellow; Post-doc, Harvard)
8. Bryce Dutcher (2015, U. Wyoming, Post-doc, UWyo) (co-chair w. M. Fan)
9. Cessunica Ivey (2016, Sloan Fellow; EPA STAR Fellow; AWMA Scholarship; Post-doc, U. Nevada, Reno)
10. Marcus Trail (2014, Georgia Power Fellow, Amina Ghosh Prize) (Post Doc, Emory; Eng. Ga Dept. of Env. Prot.)
11. Peng Liu (2015) (Post-doc, US EPA)
12. Boris Galvas (2013, LAUSPAU Fellow) (Prof. Universidad de La Salle, Bogota, Columbia)
13. Aika Yano (2014, co-advise with T. Odman) (Underwriters Laboratories)
14. Fernando Garcia (2013, co-advise with T. Odman, AWMA outstanding student Scholarship) (Asst. Prof., North Carolina State University)
15. Wenxian Zhang (2013) (Sierra Research)

16. Soonchul Kwon (2011, co-advisor with Maohong Fan) (Assist. Prof., Pusan National University, Korea)
17. Shannon Capps (2012, co-advisor, NSF Fellow, Proctor and Gamble Fellow, Outstanding Student Paper Award, American Geophysical Union) (Post-doc, U. Colorado; Asst. Prof, Drexel, 2015)
18. Siv Balachandran (2013) (Amina Ghosh Fellowship, 2008) (Asst. Prof. University of Cincinnati)
19. Gretchen Goldman (co-advise, 2011) (Union of Concerned Scientists)
20. Jorge Pachon (2011; Amina Ghosh Fellowship, 2007) (Prof. Universidad de La Salle, Bogota, Columbia)
21. Farhan Akhtar (GIT EAS, co-advised, 2009) (Res. Sci, US Dept. of State)
22. K.J. Liao (GIT, 2008) (AWMA Outstanding Student Award/Scholarship) (Asst. Prof. Texas A&M, Kingsville)
23. Burcak Kaynak (GIT, 2009) (Asst. Prof. Istanbul Technical Inst.)
24. Sangil Lee (GIT, 2006) (Best Grad. Paper, ASEE) (Prof. Korean University of Science and Technology)
25. Bo Yan (GIT-EAS, 2009) (South Carolina Department of Health Environmental Control)
26. Jaemeen Baek (GIT, 2009) (Best Grad. Paper, ASEE) (U. Iowa)
27. Amit Marmur (GIT, 2006) (AWMA Outstanding Student Award/Scholarship, currently VP, Nesher Cement Enterprises)
28. Sergey Napelenok (GIT, 2006) (AMS Scholarship) (Res. Sci. US EPA)
29. Di Tian (GIT, 2006) (Currently at GA DNR)
30. Michelle Bergin (GIT, 2006) (EPA STAR Fellow)(Duke, Univ.)
31. Dan Cohan (GIT, 2004) (AWMA Outstanding Student Award/Scholarship, CMAS Award) (currently Assoc. Prof. at Rice University)
32. Sun-Kyoung (Helena) Park (GIT, 2005) (Professor, Hanyang Cyber University Korea, Best Teacher, 2013)
33. Jim Wilkinson (CMU 2004) (Golder and Assoc.)
34. Zohir Chowdhury (2004) (Best Paper, Better Air Quality, 2004) (Assoc. Prof., San Diego State University)
35. K. Manophiboon (GIT, 2004) (Prof., Thailand)
36. Maudood Kahn (GIT, 2003) (NASA)
37. Amir Hakami (GIT, 2003) (Assoc. Prof., Carleton Univ.)
38. Jim Boylan (GIT, 2002) (Best Thesis) (Georgia Dept. of Natural Resources)
39. Jerome Kubler (EPFL, 2002) (Project Manager, Swatch group)
40. Vijay Sathya (EPFL, 2002) Principal, Diginoc
41. Alberto Mendoza (GIT, 2001) (Professor, Dept. Chair, ITESM)
42. Andre Butler (GIT, 2000) (Professor and Chair, Mercer University: Teacher of the Year, 2002)
43. Karen Chess (CMU, 1998) (Bennett Prize) (Vice President, Strategic Development, Fuel Tech, Naperville, IL)
44. Naresh Kumar (CMU, 1995)(Program Manager, EPRI)
45. Laurie McNair Triplett (CMU, 1995) (AWMA Student Paper: First prize)(Los Alamos National Lab)
46. John Boyle (CMU, 1993) (Bennett Prize; AWMA Student Paper: First place) (Senior Director, Fuel Tech)
47. Talat Odman (CMU, 1993) (AWMA Student Paper: Second place)(Principal

Engineer, Georgia Tech)

M.S.

1. Abi Lawal (exp. 2016)
2. Xinbei Guan (exp. 2016)
3. Vasudha Bhogeni (exp. 2016)
4. Jennifer Moutinho (exp. 2015)
5. Poornima Sampath (exp. 2016)
6. Josephine Bates (exp. 2016)
7. Raj Lal (exp. 2016)
8. Ran Huang (exp. 2016)
9. Karoline Johnson (co-advisor with M. Bergin) (2015) (currently: Duke)
10. Yukti Arora (2015)
11. Victor Miller (2014)
12. Lina Luo (2015)
13. Rawan Al-Afifi (2014) (Trinity)
14. Kyle Digby (2013)(ARA)
15. Jeremiah Redman (2013) (Georgia Power Fellow) (Trinity consulting)
16. Cesunica Ivey (2012 (GIT, Sloan Fellow)
17. Marissa Meier (2012) (Georgia Power Fellow) (currently at ENVIRON)
18. Laura Parry (2010) (Georgia Power Fellow) (Jacobs Engineering)
19. Marcus Trail (2010) (Georgia Power Fellow, Amina Ghosh Fellowship, 2009) (Emory University)
20. Roshini Shankaran (2009) (Trinity)
21. Julie Simon (2008) (Georgia Power)
22. Santosh Chandru (2008) (Trinity)
23. Emily Lantrip (2009; Medical School)
24. Kelly Smolinski (2006) (MACTEC/AMEC)
25. Soonchul Kwon (2006) (Prof. Pusan University)
26. Hyong-Kook Kim (2007) (U. Southern Florida)
27. Stephanie Kwan (co-advised, 2007) (Climate Change Officer, Sindicatum Carbon Capital)
28. Evan Cobb (GIT, 2006) (CH2MHill)
29. Kuo-Len Liao (GIT, 2006) (Prof., Texas A&M, Kingsville)
30. Ryan Gesser (GIT, 2006) (Georgia Pacific)
31. Rosa Chi (GIT, 2004) (Georgia Power)
32. Mohammad Arhami (Professor, Iran)
33. Sergey Napelenok (GIT, 2004) (EPA)
34. Kangwook Kim (GIT, 2003) (NC State)
35. Azin Sahabi
36. Hanlim Lee (GIT, 2002) (Prof. Pusan University)
37. Gautham Ramachandran (GIT, 2003)
38. Melissa Antoine (GIT, 2002) (Georgia Pacific)
39. Herman Holm (GIT, 2002) (Sage Environmental)
40. Michael Andrew (GIT, 2000)
41. Brigitte Bouvier (CMU) (Westinghouse)
42. Michelle Bergin (CMU) (Duke University)
43. Joel Harris (CMU) (Raytheon)

Undergraduate (dates shown are period of project work):

1. Xinbei Guan (2014-2016)
2. Nick Young (2015-2016)
3. Caroline Walden (2014-2016)
4. Alex Hyman (2014)
5. Tanmay Sanhi (2013)
6. Natalie Nora (2013)
7. Ena Lopez (2012)
8. Amy Christensen (2011-2014)
9. Chelsea Dyess (2010-2012)
10. Rachel Greiner (2011-2013)
11. Bryan Jones (2011-2012)
12. Cesunica Ivey (2010-2011)
13. Samuel Ward (2008-2009)
14. James Baynum (2009-2011)
15. Laura Perry (2007-2008)
16. Marcus Trail (2007-2008)
17. Nick Culpepper-Hickey (2007-2008)
18. Sara Nichols (2006-2007)
19. Shannon Cohan (2006-2007)
20. Michael Chamber (2006)
21. David Massey (2005)
22. Griffin Wasdin (2005)
23. Evan Cobb (2004-2005)
24. Marco Trigueros (2006)
25. Annie Gillespie (2004-2005)
26. Eric Walthall (GIT, 2006)
27. Clayton Milligan (GIT, 2004)
28. Anthony Prevost (GIT, 2002)
29. Sara Henry (GIT, 2001)
30. Aleacia Jenkins (GIT, 2000)
31. Mellissa Antoine (GIT, 1999)
32. Herman Holm (GIT, 1999)
33. Steven Porter (GIT, 1999)
34. Weseley Parkmond (GIT, 1999)
35. Jimmy Thomas (GIT, 1999)

High School

1. Bo Fan (currently, Columbia)

Research Scientists and Engineers

2. Talat Odman (Georgia Tech)
3. Yongtao Hu (Georgia Tech)
4. Maohong Fan (Prof. U. Wyoming, 2008)

Visiting Professors, Scholars and Students

1. Wenjun Meng (Peking University)
2. Zhijian Zhao (Tsinghua University)
3. Prof. Shi Guoliang (Nankai University)
4. Dennis Wong (Southern China University)
5. Baolei Lyu (Tsinghua University)
6. Momei Qin (Peking University)
7. Prof. Mei Zheng (Peking University)
8. Tanmay Sanhi, (IIT-Delhi)
9. Prof. Sachchida Tripathi (IIT-Kanpur)
10. Prof. Mansur Amanov (Uzbekistan)
11. Prof. Yinghui Han (North China Electric Power Univ., Hebei, China)
12. Prof. Guodong Jiang (Nanjing University)
13. Anne-Fleur Kouredan (Institue Polytechnique, Grenoble, France)
14. Kuojen Liao (Prof. Texas A&M)
15. Guofen Chen (Peking University: Currently, US EPA)
16. Cecilia Airola (Ecoles de Mines, France)
17. Yuan Cheng (Tsinghua University)
18. Shen Cui (Peking University)
19. Freddy Vargas (Columbia National University)
20. Yangjun Wang (Prof., Shanghai University)
21. Chong Bum Lee (Prof. Kangwon National University)
22. Asude Hanedar (Istanbul Technical University)
23. Camilla Baroncelli (U. Florence)
24. Dongho Kim (Res. Sci., Korea)
25. Phulumani Ngema (Humphrey Fellow, South Africa)
26. Zohir Chowdhury (Prof., San Diego State University)
27. Florian Habermacher (EPFL, Switzerland)
28. Xiseoung Wang (Post-Doc., PKU, China)
29. Ana Vanoye (ITESM, Mexico)
30. Laurent Bocahut (Ecole Polytechnique, France)
31. Vijay Sathya (EPFL, Switzerland)
32. Xiaoping Wang (Princeton)
33. Jerome Kubler (EPFL, Switzerland)
34. Laurent Cosandey (EPFL, Switzerland)
35. Kadir Alp (Prof., Turkey)
36. Jean-Michel Giovanoni (Res. Sci., EPFL, Switzerland, retired)

August, 2017

Curriculum Vitae

GEORGE D. THURSTON
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Email: george.thurston@nyu.edu
http://www.med.nyu.edu/biosketch/gdt1

Education

Degree	**Field**	**Institution**
Diploma	Academic	Barrington High School, RI
Sc.B. (Honors)	Environmental Engineering	Brown University
A.B.	Environmental Studies	Brown University
S.M.	Environmental Health Sciences	Harvard Univ. Schl. of Public Health
Sc.D.	Environmental Health Sciences	Harvard Univ. Schl. of Public Health

Postdoctoral Training

Specialty	Mentor	Place of Training
Environ. Epidemiology	Dr. H. Ozkaynak	Harvard Univ., Kennedy Schl. of Gov., Camb., MA

Internships and Residencies N/A

Clinical and Research Fellowships N/A

Licensure and Certification: Environmental Benefits Mapping and Analysis Program - Community Edition (BenMAP-CE) Training Certification (August 2014).

Academic Appointments

1987-1993	Assistant Professor, Dept. of Environmental Medicine, New York University School of Medicine, New York City, NY.
1993-2006	Associate Professor (Tenured), Dept. of Environmental Medicine, New York University School of Medicine, New York City, NY.
2007-present	Professor (Tenured), Dept. of Environmental Medicine, New York University School of Medicine, New York City, NY.
2007-present	Affiliated Faculty, Environmental Studies Program, College of Arts and Sciences, New York University, New York City, NY.
2012-present	Affiliated Faculty, Marron Institute on Cities and the Urban Environment, New York University, New York City, NY
2012-present	Faculty Mentoring Champion, Dept. of Environmental Medicine, New York University School of Medicine, New York City, NY.

Hospital Appointments: N/A

Other Professional Positions and Visiting Appointments:

Oak Ridge Institute for Science and Education (ORISE) Fellow (2008-2010)

Major Administrative Responsibilities

Year	*Title, Place of Responsibility*
1995-2004	Director, Community Outreach and Environmental Education Program, NYU-NIEHS Center of Excellence, Nelson Inst. of Environ. Med., NYU School of Medicine, Tuxedo, NY
2002-2012	Deputy Director, NYU Particulate Matter Research Center, Nelson Inst. of Environmental Medicine, NYU School of Medicine, Tuxedo, NY
2007-2008	Director, Environmental Epidemiology Core, NYU-NIEHS Center of Excellence, Department of Environmental Medicine, Tuxedo, NY
2010-2015	Co-Leader, Metals Research Focus Group, NYU-NIEHS Center of Excellence, Department of Environmental Medicine, Tuxedo, NY.
2012-2016	Chair, Appointments and Promotions Committee, Department of Environmental Medicine, NYU School of Medicine.
2014-2016	Co-Chair, Environmental Health Research Affinity Group, NYU Global Institute of Public Health (GIPH), New York University, Washington Square.
2012-present	Director, Program in Exposure Assessment and Human Health Effects, Department of Environmental Medicine, NYU School of Medicine.

Teaching Experience

Year	*Name of course*		*Type of Teaching*
1984-1994	Air Poll. Transport Modeling	(G48.2048)	Course Director
2006-present	Climate, Air Pollution, & Health	(G48.1010)	Course Director
1986-present	Aerosol Science	(G48.2033)	Course Director
1984-2010	Environmental Contamination	(G48.2305)	Lecturer
1984-present	Environ. Hygiene Measurements	(G48.2035)	Lecturer/Lab
1990-1998	Environmental Toxicology	(G48.1006)	Lecturer
1993-1995	Environmental Epidemiology I	(G48.2039)	Lecturer
2001-2003	NYU Summer Institute, Wagner School		Lecturer
2006-present	Environmental Epidemiology I	(G48.2039)	Lecturer
2006-present	Science, Health & Envir. Journalism	(G54.1017.0)	Lecturer
2009-2011	Global Environmental Health	(U10.2153.1)	Course Director
2009-2012	Global Issues in Environ. Health	(G48.1011)	Course Director
2009-present	Earth Systems Science (undergrad)	(V36.0200)	Lecturer
2011-present	Principles of Environmental Health	(G48.1004)	Course Director
2013-present	Environ. Hygiene Measurements	(G48.2035)	Course Co-Director

Awards and Honors

November 1999	Orange Environment Citizens Action Group, OE Award for Excellence in Translating Science to the Public
December 2000	NYU School of Medicine Dean's Research Incentive Award
October 2012	Recipient of the "Haagen Smit Prize" for Best Paper, Atmospheric Environment. http://geo.arc.nasa.gov/sgg/singh/winners12.html
March 2013	Recipient of the "Best Paper of the Year – Science" Award from ES&T http://pubs.acs.org/doi/full/10.1021/es400924t

Major Committee Assignments

New York University Committees

2007-present: University Sustainability Task Force
2010-2012: University Faculty Senate Alternate
2012-present: University Faculty Senator

NYU School of Medicine Departmental Committees

1992-1998:	Sterling Forest Library Committee, Member, NYU SOM Dept of Environ. Medicine
1991-1994	Health & Safety Committee, Member, NYU SOM Dept. of Environ.. Medicine
1992-2004	Community Outreach and Education Comm., Chairman, NYSOM Dept. of Environ. Med.
1999-2004	Dept. Chairman's Internal Advisory Comm., Member, NYUSOM Dept. of Environ. Med.
2005-present	Dept. Academic Steering Committee, Member, NYUSOM Dept. of Environ. Medicine
2007-2012	Dept. Appointments & Promotions Comm., Member, NYUSOM, Dept. of Environ. Medicine
2012-present	Dept. Appointments & Promotions Comm., Chair, NYUSOM, Dept. of Environ. Medicine

Advisory Committees

Regional

1983-1984	Massachusetts Acid Rain Advisory Board, Member, Mass. Dept. of Env. Protection
1984-1986	Committee on Environ. And Occup. Health. , NY State American Lung Association
1991-1996	Air Management Advisory Comm., Member of Health Effects Subcom., NY State DEC
1995-1999	Engineering Advisory Board, Member, Tuxedo, NY
1997-1998	Advisory Committee to the Mayor on the Port of Newburgh, Member, Newburgh, NY
1996-1999	CUES Asthma Working Group, Member, New York Academy of Medicine
2008-2010	New York City Community Air Study (NYCCAS) Advisory Panel

National

1995-1999	Comm. on Health Effects of Waste Incineration, Member, National Academy of Sciences
1995-1999	National Air Conservation Commission, Member, American Lung Association
2000-2004	National Action Panel on Environment, Member, American Lung Association
2005-present	National Clean Air Committee, Member, American Lung Association
2007-2010	U.S. EPA Clean Air Science Advisory Committee (CASAC) for SOx and NOx
Mar. 2012	EPA Panelist for "Kickoff Workshop to Inform EPA's Review of the Primary NO_2 NAAQS"

International

1996-1997	Sulfur in Gasoline Health and Environment Panel, Chairperson, Health Canada
Sept. 2007	Illness Cost of Air Pollution Expert Committee, Canadian Medical Association
2008-2012	Global Burden of Disease (GBD), Committee on the Human Health Effects of Outdoor Air Pollution, World Health Organization (WHO)

Grant Review Committees (National)

March 1989	EPA Air Chemistry and Physics Extramural Grants Review Panel (*ad hoc member*)
Oct. 1989	NIEHS P30 Center Special Review Panel (*ad hoc member*)
July 1992	NIH R01 Epidemiology & Disease Control Study Section (*ad hoc member*)
Nov. 1992	NIEHS P20 Center Development Grant Special Study Section, (*ad hoc member*)
June 1996	EPA Special Review Panel of the Health Effects Institute (HEI) (*ad hoc member*)
March 1997	EPA Office of Res. and Development External Grant Review Panel (*ad hoc member*)
April 1997	NIEHS Community-Based Participatory Res. R01 Special Study Sect. (*ad hoc member*)
July 1997	EPA National Environ. Research Lab Intramural Research Review Panel (*ad hoc member*)
June 1998	EPA Office of Res. and Development External Grant Review Panel (*ad hoc member*)
July 1998	EPA Climate Policy and Programs Division Grant Application Review (*ad hoc member*)
Oct. 1998	Mickey Leland Center for Air Toxics Grant Review Panel (*ad hoc member*)
April 2000	NIEHS P30 Center Special Review Panel (*ad hoc member*)
July 2001	NIEHS Community-Based Participatory Res. R01 Special Study Sect. (*ad hoc member*)
Dec. 2001	NIEHS Program Project P01 Site Visit Review Panel (*ad hoc member*)
April 2003	NIH R21 Fogarty Health, Env. and Economic Development Study Sect. (*ad hoc member*)
Nov. 2003	U.S. EPA STAR Grant Panel (Epidemiologic Research on Health Effects of Long-Term Exposure to Ambient Particulate Matter and Other Air Pollutants) (*member*)
October 2004	NIEHS Program Project P01 Review Panel (*ad hoc member*)
June 2005	NIH Special Emphasis Panel (ZRG1 HOP Q 90 S) (*ad hoc member*)
Nov. 2005	NIH Infectious Disease, Reproductive Health, Asthma/Allergy, and Pulmonary (IRAP) Conditions Study Section Review Panel (*ad hoc member*)

Feb. 2006	NIH Infectious Disease, Reproductive Health, Asthma/Allergy, and Pulmonary (IRAP) Conditions Study Section Review Panel (*ad hoc member*)
June 2006	NIH Infectious Disease, Reproductive Health, Asthma/Allergy, and Pulmonary (IRAP) Conditions Study Section Review Panel (*ad hoc member*)
Dec. 2006	NIEHS Special Emphasis Panel on Genetics, Air Pollution, and Respiratory Effects (ZES1 TN-E FG P) (*member*)
Nov. 2007	NIH Special Emphasis Panel on Community Participation in Research (ZRG1 HOP-S) (*member*)
June 2009	NIH Study Section Review Panel on Challenge Grants in Health & Science Research
March 2011	U.S. EPA Science to Achieve Results (STAR) Graduate Fellowship Review Panel – Clean Air Panel (*chair*)
Sept. 2011	NIH Special Epidemiology Study Section (ZRG1 PSE K 02 M) (*member*)
Oct. 2012	NIH Cardiac and Sleep Epidemiology (CASE) Study Section (*ad hoc member*)
June 2013	NIH Special NHLBI Dataset Study Section (ZRG1 PSEQ 56) (*member*)
July 2013	NIH "Career Awards" Study Section (ZES1 LWJ-D, K9) (*member*)
Sept. 2013-15	Permanent Member, NIH Cardiac and Sleep Epidemiology Study Section (CASE) Study Section
Sept. 2015-17	Permanent Member, NIH Cancer, Heart, and Sleep Epidemiology Study Section (CHSE) Study Section
Nov. 2016	NIEHS R13 Study Section (*member*)

Memberships, Offices, And Committee Assignments in Professional Societies

Year	*Society/Committees*
1980-1996	Air and Waste Management Association (Comm. on Health Effects and Exposure,)
1992-Present	American Thoracic Society (ATS): Environmental and Occup. Health (EOH) Assembly, 1995-1999, 2012-present: ATS EOH Long Range Planning Committee; 1993-1994, 2002-2004: ATS Program Committee 2006-2007 Chairman of the ATS-EOH Nominating Committee 2010-present: ATS Environmental Health Policy Committee, member 2012-2014: ATS Environmental Health Policy Committee, Vice-Chairman 2015-2018: ATS Environmental Health Policy Committee, Chairman
1990-present	International Society of Exposure Science
1992-present	International Society for Environmental Epidemiology (Annual Meeting Program Committee: 1998, 2000, 2003, 2004, 2006) (ISEE Conference Planning Committee: 2006-present)
2007-2009	New York Academy of Sciences (membership given in appreciation for a 1/23/07 NYAS forum presentation)
2017-present	American Public Health Association (APHA)

Editorial Positions

Journal Board Membership

Year	*Name of Board*
1993-2008	International Society of Exposure Analysis (J. of Exp. Anal. and Environ. Epid.)
2017-present	Environmental Health Perspectives (EHP)

Ad Hoc Manuscript Reviewer

Years	*Journal*
1996-1998	American Journal of Epidemiology
1994	Archives of Environmental Health
1995-present	Atmospheric Environment
1995-present	Environmental Health Perspectives
1994-present	Environmental Research

2004-present	Environmental Science and Technology
2011-present	Epidemiology
1993-present	Journal of Exposure Analysis and Environmental Epidemiology
1994-present	Journal of the Air and Waste Management Association
1996-present	Journal of the American Medical Association
1997-present	Journal of Occupational and Environmental Medicine
1997-present	Journal of Respiratory and Critical Care Medicine
2006-present	Thorax

Scientific Report Reviewer

August, 1986	Reviewer for the National Academy of Sciences, Board on Environmental Studies and Toxicology report "The Airliner Cabin Environment: Air Quality and Safety"
October, 2002	Reviewer for the NAS, Board on Environmental Studies and Toxicology report "Estimating the Public Health Benefits of Proposed Air Pollution Regulations"

Mentoring of Graduate Students, Residents, Post-Doctoral Fellows in Research

Under direct supervision:

Student Name	*Type of Position*	*Time Period*	*Present Position*
Mark Ostapczuk	Masters	1984-1986	Industrial Hyg., Barr Labs, Pomona, NJ
Kazuhiko Ito	Masters/Doctoral	1984-1990	Scientist, NYC Dept. of Health, NYC, NY
Peter Jaques	Masters/Doctoral	1988-1998	Assoc. Prof., Clarkson Univ., Potsdam, NY
R. Charon Gwynn	Masters/Doctoral	1992-1999	Epidemiologist, Columbia Univ., NY
Ramona Lall	Masters/Doctoral	2000-2007	Research Sci. IV, NYC Dept. of Health, NY
Ariel Spira-Cohen	Masters/Doctoral	2003-2009	Research Sci. III, NYC Dept. of Health, NY
Kevin Cromar	Masters/Doctoral	2008-2012	Assistant Professor, NYU School Of Medicine
Lital Yinon	Doctoral	2011-present	Doctoral Candidate, NYU School of Medicine
Chris Lim	Doctoral	2012-present	Doctoral Candidate, NYU School of Medicine

In advisory function (thesis committee):

Student Name	*Advisory Role*	*Time Period*	*Student's Supervisor*
Shao-Keng Liang	Doctoral Committee member	1990-1994	Dr. J. Waldman, UMDNJ, Rutgers
Jerry Formisano	Doctoral Committee member	1997-2000	Dr. M. Lippmann, NYU SOM
Yair Hazi	Doctoral Committee member	1993-2001	Dr. B. Cohen, NYU SOM
Samantha Deleon	Doctoral Committee member	1997-2003	Dr. K Ito, NYU SOM
Chun Yi Wu	Doctoral Committee member	2000-2004	Dr. L.C. Chen, NYU SOM
Carlos Restrepo	Doctoral Committee member	2002-2004	Dr. R. Zimmerman, Wagner, NYU
Shaou-I Hsu	Doctoral Committee member	2000-2009	Dr. M. Lippmann, NYU-SOM
Steven Schauer	Doctoral Committee member	2007-2009	Dr. B. Cohen, NYU-SOM
Christine Ekenga	Doctoral Committee Chair	2009-2011	Dr. G. Friedman-Jimenez, NYU-SOM
Rebecca Gluskin	Doctoral Committee Chair	2009-2012	Dr. Kazuhiko Ito, NYU SOM
Jiang Zhou	Doctoral Committee Chair	2008-2012	Dr. Kazuhiko Ito, NYU SOM
Eric Saunders	Doctoral Committee Chair	2012-present	Dr. Terry Gordon, NYU SOM

Teaching Awards Received

N/A

Major Research Interests

1) Air Pollution Epidemiology: Real-world air pollution exposures and human health effects in the general population and study cohorts of suspected susceptible individuals (e.g., children).

2) Aerosol Science: Ambient particulate matter aerosol exposures, including designing and implementing air monitoring equipment to collect human exposures to air pollution.

3) Environmental Exposure Assessment: Methods to assess human exposures and health effects from air pollution, especially the development of source apportionment models to separate human effects on the basis of pollution source. Design of epidemiological models/methods that better incorporate potential air pollution confounders/effect modifiers (e.g. weather and genetic influences).

Patents

None

Boards and Community Organizations

1990-1995	St. Mary's Episcopal Church, Tuxedo, NY, Vestry member
1992-2008	Monroe-Woodbury Soccer Club, Coach (Board Member: 1999-2000)
1994-1999	Orange County Citizen's Foundation, Member
1999-2009	Y2CARE Monroe-Woodbury, NY School District Residents Action Group, Founder
2005-present	St. Mary's Episcopal Church, Tuxedo, NY, Community Outreach Committee, Member
2006-present	EPISCOBUILD-Newburgh, NY Habitat for Humanity Advisory Board, Member
2012-present	St. Mary's Episcopal Church, Tuxedo, NY, Vestry member

Military Service

None

International Scientific Meetings Organized

May 28-30, 2003	"Workshop on the Source Apportionment of PM Health Effects." U.S. EPA PM Centers, Harriman, NY.
Aug. 1-4, 2004	"Sixteenth Conference of the International Society for Environmental Epidemiology," Kimmel Conference Center, Washington Square, New York University, New York City, NY.

Scientific Forums for the Public Organized

June 2001	"Science and Community Interaction Forum on the Environment." Held at Hostos Community College, Bronx, , New York City, NY.
October 2001	"Forum on Environmental Health Issues Related to the World Trade Center Disaster." Held at NYU Law School, Washington Square, New York City, NY.
October 2002	"2nd Annual Forum on the Environmental Health Issues Related to the World Trade Center Disaster." Held at Manhattan Borough Community College, New York City, NY.
October 2003	"3nd Annual Forum on the Environmental Health Issues Related to the World Trade Center Disaster." Held at NYU Lower Manhattan Campus, New York City, NY.

Invited U.S. House and Senate Congressional Testimony

Feb. 5, 1997	"Human Health Effects of Ambient Ozone Exposures" Statement before the Committee on Environment and Public Works, Subcommittee On Clean Air, Wetlands, Private Property, And Nuclear Safety, U.S. Senate, Washington, DC. http://epw.senate.gov/105th/thurston.htm
April 16, 1997	"Human Health Effects of Ambient Ozone and Particulate Matter Exposures." Statement before the Government Reform and Oversight Committee of the U.S. House of Representatives, Washington, D.C.

May 8, 1997 "Human Health Effects of Ambient Ozone and Particulate Matter Exposures." Statement before the Subcommittee on Health and Environment, Committee on Commerce of U.S. House of Representatives, Washington,. D.C.

July 29, 1997, "The Human Health Effects of Ambient Ozone And Particulate Matter Air Pollution." Statement before the Subcommittee on Commercial and Administrative Law of the Judiciary Committee of the U.S. House of Representatives, Washington,. D.C. http://judiciary.house.gov/legacy/commercial.htm

October 22, 1997 "Ozone and Particulate Matter Air Pollution Health Effects." Statement before the U.S. Senate Committee on Environment and Public Works Subcommittee on Clean Air, Wetlands, Private Property, and Nuclear Safety. Washington, DC.
http://epw.senate.gov/105th/thursto2.htm

July 15, 1999: "The Mandated Release of Government-Funded Research Data." Statement before the Committee On Government Reform, Subcommittee on Government Management, Information And Technology, U.S. House of Representatives

July 26, 2001 "The Human Health Effects Of Air Pollution From Utility Power Plants." Statement before the Committee on Environment and Public Works, U.S. Senate, Washington, D.C.
http://www.c-spanvideo.org/program/PlantE

Feb 11, 2002: "The Air Pollution Effects of The World Trade Center Disaster." Statement before the Committee On Environment And Public Works, Subcommittee On Clean Air, Wetlands, And Climate Change. United States Senate, New York, NY.
http://www.c-spanvideo.org/program/Qualitya

March 5, 2002 "The Use of the Nationwide Registries to Assess Environmental Health Effects." Statement before the Committee On Health, Education, Labor, And Pensions, Subcommittee On Public Health, U.S. Senate, Washington, DC.

Sept. 3, 2002 "The Clean Air Act and The Human Health Effects of Air Pollution from Utility Power Plants." Statement before the U.S. Senate Committee on Health, Education, Labor, and Pensions, Subcommittee on Public Health, Washington, D.C. http://www.c-spanvideo.org/program/AirStand

April 1, 2004 "The Human Health Benefits Of Meeting the Ambient Ozone And Particulate Matter Air Quality Standards." Statement before the Committee on Environment and Public Works, Subcommittee on Clean Air, Climate Change, and Nuclear Safety, U.S. Senate, Washington, D.C.
http://epw.senate.gov/epwmultimedia/epw040104.ram

July 19, 2006 "The Science And Risk Assessment Of Particulate Matter (PM) Air Pollution Health Effects." Statement before the Committee on Environment and Public Works, U.S. Senate, Washington, D.C.
http://epw.senate.gov/hearingstatements.cfm?id=258766

May 7, 2008 "Science And Environmental Regulatory Decisions." Statement before the Committee On Environment And Public Works of The U.S. Senate, Subcommittee on Public Sector Solutions to Global Warming, Oversight, and Children's Health Protection, U.S. Senate, Washington, D.C.
http://www.c-spanvideo.org/program/RegulatoryD
http://epw.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&HearingID=a1954f70-802a-23ad-4192-fc2995dda7f4

October 4, 2011 "The Science of Air Pollution Health Effects and the Role of CASAC in EPA Standard Setting" Statement before the Subcommittee on Energy and the

Environment, Committee on Science, Space and Technology, U.S. House Of Representatives, Washington, DC.

http://science.house.gov/hearing/energy-and-environment-subcommittee-—-hearing-quality-science-quality-air

Other Invited Presentations

Regional Presentations

April 21, 1993 "Summertime Smog and Hospital Admissions for Respiratory Illness", Environmental and Occupational Health Sciences Institute Seminar Series Lecture, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ.

Dec .14, 1995 "Health Effects of Acidic Aerosols", NY State Dept. of Health, Wadsworth Center Seminar, Albany, NY

Jan. 18, 1996 "Outdoor Air Pollution and Asthma in Children " American Lung Association Press Briefing, New York, NY.

June 1, 1996 "Asthma and Urban Air Pollution", WHEACT, Harlem Hospital, New York, NY.

July17, 1996 "Asthma and Outdoor Air Pollution", Making the Connection: Urban Air Toxics & Public Health. Northeast States for Coordinated Air Use Management (NESCAUM), Roxbury, MA

Feb. 11, 1997 "Outdoor Air Pollution and Asthma", Bellevue Hospital Asthma Clinic *Grand Rounds*. New York City, NY.

Feb. 26, 1998 "Scientific Research for Ozone and Fine Particulate Standards ", Pace University School of Law, White Plains, NY

Nov. 30, 1998 "Outdoor Air Pollution and Asthma", Center for Urban and Environmental Studies (CUES), NY Academy of Medicine,, New York, NY

Feb. 22, 1999 "Asthma and Air Pollution", Cornell University, Ithaca, NY

April 28, 2001 "Asthma and Air Pollution in New York City", NYC Council Environmental Candidate School, NY League of Conservation Voters, New York, NY.

Nov. 1, 2001 "Air Quality and Environmental Impacts Due to the World Trade Center Disaster", Testimony before the Comm. on Environ. Protection, NYC Council, New York, NY.

Nov. 13, 2001 "WTC Pollution Impacts in Lower Manhattan", Stuyvesant High School Parents Association General Meeting, Stuyvesant High School, New York, NY

Feb. 28, 2002 "Lung Cancer Effects of Long-Term Exposure to Ambient Fine Particulate Matter", Mailman School of Public Health, Columbia University, New York, NY.

April 5, 2002 "Air Pollution Impacts of the WTC Disaster", 23rd Annual Scientific Conference of the NY/NJ Education and Research Center: "Worker Health and Safety: Lessons Learned in the Aftermath of Sept. 11, 2001," Mt. Sinai School of Medicine, NYC, NY

April 21, 2002 "Adverse Health Effects of Power Plant Air Pollution on Children" Earth Day 2002, 14th Street Y, New York City, NY.

May 23, 2002 "Human Health Effects of Power Plant Pollution", Rockland County Conservation Association, Suffern, NY

May 31, 2002 "Environmental Health Impacts of the World Trade Center Disaster", University of Rochester Medical School, Rochester, NY.

Sept. 19, 2002 "Community Air Pollution Related to the World Trade Center Disaster". NYC Council Forum: The Environmental Health Consequences of 9/11: Where Do We Stand One Year Later? Borough of Manhattan Community College, New York City, NY.

Oct. 3, 2002 "Community Exposures to Particulate Matter Air Pollution from the World Trade Center Disaster", Mount Sinai School of Medicine *Grand Rounds*, New York City, NY.

April 11, 2003 "Environmental Impacts of the World Trade Center Disaster", NIEHS Public Interest Liaison Group, New York City, NY.

April 21, 2003 "Asthma and Air Pollution", Airborne Threats to Human Health, NIEHS Town Hall Meeting, Syracuse, NY.

May 7, 2003 "Asthma and Air Pollution in NY City" Environmental Candidate School for New York City Council Candidates, Wagner School, NYU, New York City, NY.

July 21, 2003 "Health Effects of Particulate Matter Air Pollution", Ozone Transport Commission, Philadelphia, PA.

Nov. 18, 2004 "Ambient Air Pollution Particulate Matter (PM): Sources and Health Impacts". U.S. Environmental Protection Agency, Region 2, New York City, NY.

Feb. 17, 2005 "Community Air Pollution Aspects Of The Demolition Of 9-11 Contaminated Buildings". Testimony before the Committee On Lower Manhattan Redevelopment, New York City Council, New York City, NY.

Oct. 19, 2005 Air Pollution Health Effects: Consideration of Mixtures. Fall Meeting of the Mid-Atlantic Chapter of the Society of Toxicology (MASOT), East Brunswick, NJ.

Dec.7, 2006 Asthma and Air Pollution Effects in the South Bronx. New York City Child Health Forum, The Children's health Fund, Harlem, NYC, NY.

Jan. 18, 2007 Air Pollution Effects in New York City. NYU Environmental Sciences Seminar Lecture, Washington Square, NYC, NY.

Jan. 23, 2007 The South Bronx Backpack Study: Asthma and Air Pollution in NYC. Presented at the forum "High Asthma Rates in the Bronx: What Science Now Knows and Needs to Learn." New York Academy of Sciences, 7 World Trade Center, NYC, NY.

Oct. 2, 2009 "Diesel Air Pollution and Asthma in New York City". Brown Superfund Research Program, Brown University, Providence, RI.

June 19, 2012 "The Backpack Study of Asthma and Diesel Air Pollution in the South Bronx". Region 1 U.S. EPA, Citizen Science Workshop, New York City, NY.

National Presentations

Oct. 20, 1987. NIEHS Symposium on the Health Effects of Acid Aerosols: "Re-examination of London, England, Mortality in Relation to Exposure to Acidic Aerosols During 1963-1972 Winters" RTP, NC.

Aug. 13, 1991 "Kuwait Mortality Risks from SO_2 and Particles: Insights from the London Fogs"' The Kuwait Oil Fires Conf., American Academy of Arts and Sciences, Cambridge, MA.

Jan. 24, 1994 "Air Pollution Epidemiology: Is the Model the Message?" The First Colloquium on Particulate Air Pollution and Human Morbidity and Mortality". Beckman Center of the NAS, Irvine, CA.

May 23, 1994 " Ozone Epidemiological and Field Studies". American Thoracic Society Annual Meeting, Boston, MA.

May 25, 1994 "Epidemiological Evidence Linking Outdoor Air Pollution and Increased Hospital Admissions for Respiratory Ailments" American Thoracic Society Annual Meeting, Boston, MA.

May 6, 1996 "Associations Between PM_{10} & Mortality in Multiple US Cities". Second Colloquium on Particulate Air Pollution and Health. Park City, Utah.

Sept. 5, 1996 "Particulate Matter Exposure Issues for Epidemiology" U.S. EPA Particulate Matter Workshop, RTP, NC

April 3, 1997 "Health Effects of Ambient Ozone & Particulate Matter" Air and Waste Assoc. Regional Conference On Impacts of EPA's Proposed Changes to Ozone and PM Standards, Oak Brook, IL

April 22, 1998 "The New EPA Standards for Ambient PM and Ozone" American Lung Association Annual Meeting, Chicago, IL.

Dec. 21, 1999	"Global Overview of Human Death and Illness due to Air Pollution". California Air Resources, Sacramento, CA.
March 24, 2000	"Estimating Ancillary Impacts, Benefits and Costs Of Proposed GHG Mitigation Policies For Public Health" Resources for the Future, Wash., DC.
June 24, 2002	"Investigations Into the Environmental Health Impacts Related to the WTC Disaster" Air And Waste Management Annual Meeting, Baltimore, MD.
July 15, 2002	"Air Pollution and Human Health" NIEHS Built Environment Conference, RTP, NC
July 26, 2002	"The Human Health Effects of Power Plant Emissions and Associated Air Pollution", The Environment & Health Forum, Physicians for Social Responsibility, Washington, DC.
October 7, 2002	"Community Exposures to Particulate Matter Air Pollution from the World Trade Center Disaster" Plenary Speaker at the American Association for Aerosol Research, Charlottesville, North Carolina.
Nov. 11, 2002	"Characterization of Community Exposures to World Trade Center Disaster Airborne and Settled Dust Particulate Matter Air Pollution", American Public Health Association Annual Meeting, Philadelphia, PA.
Dec. 5, 2002	"Susceptibility of Older Adults to Air Pollution", EPA Workshop on Differential Susceptibility of Older People to Environmental Hazards. National Academy of Sciences, Washington, DC.
Feb. 3, 2003	"Health Effects of Particulate Matter Air Pollution", National Air Quality Conference, U.S. EPA, San Antonio, Texas
May 17, 2003	"Assessing the Influence of Particle Sources and Characteristics on Adverse Health Effects of PM", PG18 - New Tools to Evaluate the Health Effects of Air Pollution in Epidemiologic Studies. American Thoracic Society Annual Meeting, Seattle, WA.
Sep. 10, 2003	"Nature and impact of World Trade Center Disaster fine particulate matter air pollution at a site in Lower Manhattan after September 11." Annual Meeting of the American Chemical Society, New York, NY.
October 20, 2003	"Translating Air Pollution Risks to the Community" Annual Meeting of the NIEHS Center Directors, Baltimore, MD.
May 18, 2004	"The Health Imperative for Implementation of the Clean Air Act" State and Territorial Air Pollution Program Administrators/ Association of Local Air Pollution Control Officials (STAPPA/ALAPCO) National Conference, Point Clear, Alabama.
Oct. 18, 2004	"NIEHS Centers' Investigations of the World Trade Center Collapse Pollution Exposures and Effects: A Public Health Collaboration" National Institute of Environmental Health Sciences Center Directors' Meeting, Research Triangle Park, NC.
May 25, 2005	"Human Health Effects Associated with Sulfate Aerosols", American Thoracic Society Annual Meeting, San Diego, CA
Oct. 24, 2005	"The Science Behind the Particulate Matter (PM) Standards" State and Territorial Air Pollution Program Administrators/ Association of Local Air Pollution Control Officials (STAPPA/ALAPCO) National Conference, Alexandria, Virginia.
Oct. 14, 2008	"Diesel Air Pollution and Asthma Exacerbations in a Group of Children with Asthma" Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Pasadena, California.
Feb. 26, 2010	"What studies are appropriate to use to estimate health impacts from specific sources such as diesel PM?" CARB Symposium: "*Estimating Premature Deaths from Long-term Exposure to $PM_{2.5}$*". Sacramento, CA.
May 6, 2011	"Lung Cancer Risks from Exposure to Fine Particle Air Pollution" NYU Cancer Institute Symposium: "Cancer and the Environment", NYC, NY.
May 16, 2012	"The Human Health Effects of Air Pollution" The Air We Breathe: Regional Summit on Asthma and Environment at Allegheny General Hospital, Pittsburgh, PA.

June 20, 2013 "Particles in our Air: A Global Health Risk", Northeastern University, Research Seminar. Boston, MA.

Mar 5, 2015 "Air Pollution, Climate Change and Health". Stegner Institute Air Quality Symposium, Salt Lake City, Utah.

International Presentations

May 1, 1987 "Acid Aerosols: Their Origins, Occurrence, and Possible Health Effects", Canadian Environmental Health Directorate Seminar, Health and Welfare Canada, Ottawa, Canada

July 2, 1987 "Health Effects of Air Pollution in the US", University of Sao Paulo, Sao Paulo, Brasil

Feb. 5, 1991 "Results from the Analysis of Toronto Summer Sulfate and Aerosol and Acidity Data", Workshop on Current Use and Future Directions of Hospital-Based Data in the Assessment of the Effects of Ambient Air Pollution on Human Health. Health and Welfare Canada, Ottawa, Canada.

April 23, 1997 "An Evaluation of the Role of Acid Aerosols in Particulate Matter Health Effects", Conference on the Health Effects of Particulate Matter in Ambient Air. Air & Waste Management Association, Prague, Czech Republic.

May 12, 1998 "The Health Effects of PM and Ozone Air Pollution", Air Pollution: Effects on Ontario's Health and Environment. Ontario Medical Association, Toronto, Canada

Nov. 1, 1999 "Climate Change and the Health Impacts of Air Pollution". The Public Health Opportunities and Hazards of Global Warming Workshop at the U.N. Framework Convention on Climate Change, Conference of Parties (COP5), Bonn, Germany.

August 31, 2000 "Particulate Matter Air Pollution and Health in three Northeastern Cities", World Congress on Lung Health, Florence, Italy

January 29, 2001 "PM Exposure Assessment and Epidemiology", NERAM International Colloquia: Health and Air Quality: Interpreting Science for Decision Makers. Ottawa, Canada.

Feb. 4-5, 2002: "Air Pollution Exposure Assessment Approaches in U.S. Long-Term Health Studies", Workshop on Exposure Assessment in Studies on the Chronic Effects of Long-term Exposure to Air Pollution, World Health Organization, Bonn, Germany

May 2, 2002 "Health Effects of Sulfate Air Pollution" Air Pollution as a Climate Forcing Workshop, East-West Center, Honolulu, Hawaii

Sept. 24, 2003 "Identification and Characterization of World Trade Center Disaster Fine Particulate Matter Air Pollution at a Site in Lower Manhattan Following September 11." Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Perth, Australia.

Dec. 1, 2003 "Terrorism and the Pulmonary Effects of the World Trade Center Disaster Particulate Matter Air Pollution", British Thoracic Society, London, England.

Sept 14, 2005 "Results And Implications of The Workshop on the Source Apportionment of PM Health Effects", Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Johannesburg, South Africa.

Sept. 4, 2006 "A Source Apportionment of U.S. Fine Particulate Matter Pollution for Health Effects Analysis", Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Paris, France.

Sept. 4, 2007 "Applying Attributable Risk Methods to Identify Susceptible Subpopulations", Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Mexico City, Mexico.

Aug. 27, 2009 "Ischemic Heart Disease Mortality Associations with Long-Term Exposure to $PM_{2.5}$ Components", Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Dublin, Ireland.

Dec. 1, 2010 "The Hidden Air Quality Health Benefits of Climate Change Mitigation". The Energy and Resources Institute (TERI), Lodhi Road, New Delhi, India.

July 17, 2012 "Recent Findings on the Mechanisms and Health Risks of Particulate Matter Air Pollution", European Centre for Environment & Human Health, Truro, England.

Aug. 29, 2012 "Health Effects of PM Components: NYU NPACT Epidemiology Results and their Integration with Toxicology Results", Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Columbia, SC.

May 20, 2013 "Long-term $PM_{2.5}$ Exposure and Mortality in the NIH-AARP Cohort", Annual Meeting of the American Thoracic Society (ATS). Philadelphia, PA.

Oct. 27, 2013 "Human Health Effects and Global Implications of Particle Air Pollution", Center of Excellence in Exposure Science and Environ. Health, Technion University, Haifa, Israel.

May 17, 2015 "Human Health Co-Benefits of Climate Change Mitigation Measures" in the Environment, Global Climate Change And Cardiopulmonary Health session of the American Thoracic Society (ATS) Annual Meeting in Denver, CO, USA.

Jan. 21, 2016 "Particle Air Pollution: Its Adverse Human Health Effects and Potential Climate Mitigation Health Co-Benefits". Imperial College. London, England.

Sep. 1, 2016 "Air Quality Health Co-benefits from Climate Change Mitigation Measures". 2016 Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Rome, Italy.

Feb. 12, 2017 "Human Health Effects and Global Implications of Particle Air Pollution". MASDAR Institute. Abu Dhabi, United Arab Republic.

Apr. 22, 2017 "Clean Air Health Benefits from Climate Change Mitigation Action". Global Health & Innovation Conference. Yale University, New Haven, CT.

Scientific Meeting Sessions Chaired

May 1, 1996 "Epidemiological Findings", 2nd Colloquium on Particulate Air Pollution & Health. Park City, UT.

May 14, 1996 "Particulate Toxicity", American Thoracic Society Annual Meeting, New Orleans, LA.

Jan. 30, 1998 "Evaluation of PM Measurement Methods". $PM_{2.5}$: A Fine Particulate Standard Specialty Conference. Los Angeles, CA.

August 18, 1998 "Communities and Airports: How to Co-Exist?", Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Boston, MA.

April 28, 1998 "Clean Air Act Update", American Thoracic Society Annual Meeting, Chicago, IL.

Oct. 21, 1998 "Health Effects and Regulatory Issues in PM", Particulate Methodology Workshop,. U.S. EPA Center, for Statistics and the Env., Univ. of Washington, Seattle, WA.

April 26, 1999 "Pulmonary Smoking and Air Pollution Epidemiology." American Thoracic Society Annual Meeting, San Diego, CA

Sept. 6, 1999 "Personal exposures to Gases and Particles", Annual Conference of the International Society for Environmental Epidemiology (ISEE), Athens, Greece.

March 31, 2000 "Epidemiology: Particles, Co-pollutants & Morbidity and Mortality", Workshop on Inhaled Environmental/Occupational Irritants and Allergens: Mechanisms of Cardiovascular Responses, American Thoracic Society, Scottsdale, AZ

Jan. 26, 2000 "Epidemiology of Particulate Matter Air Pollution", PM2000 Specialty Conference, Air & Waste Management Assoc., Charleston, SC

May 8, 2000 "Outdoor Air Pollution: Epidemiologic Studies", American Thoracic Society Annual Meeting, Toronto, Canada

Sept. 5, 2001 "Mortality Epidemiology Studies", Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Garmisch, Germany.

May 20, 2002 "After September 11: Bio-terrorism and The Environmental Health Aftermath of The World Trade Center Disaster", Plenary Session. American Thoracic Society Annual Meeting, Atlanta, GA.

April 1, 2003	"Epidemiology: Short-Term and Long-Term Health Effects", Conference on Particulate Matter: Atmospheric Sciences, Exposure, and the Fourth Colloquium on PM and Human Health, Pittsburgh, PA
May 19, 2003	"Particulate Air Pollution and Diseases in Adults", American Thoracic Society Annual Meeting, Seattle, WA.
May 21, 2003	"Air Pollution as a Cause of Childhood Asthma and Chronic Airway Disease", American Thoracic Society Annual Meeting, Seattle, WA.
Sept. 2003	"Unexplained Medical Symptoms", Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Perth, Australia.
Sept. 25, 2005	"Technology and Health", Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Johannesburg, South Africa.
June 22, 2006	"Characteristics of PM and Related Considerations", Annual Meeting of the Air and Waste Management Association, New Orleans, LA.
Sept. 3, 2006	"Air Pollution Mechanisms", Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Paris, France.
Sept. 20, 2006	"Linkage and Analysis of Air Quality and Health Data", EPA & CDC Symposium on Air Pollution Exposure and Health, RTP, NC
Sept. 5, 2007	"Radiation Exposures and Health Risks", 2007 Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Mexico City, Mexico
Aug. 26, 2009	"Exploring the Range of Methodological Approaches Available for Environmental Epidemiology." 2009 Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Dublin, Ireland
March 23, 2010	"Exposure to and Health Effects of Traffic Pollution", 2010 American Association for Aerosol Research Conference on Air Pollution and Health, San Diego, CA.
Sept. 16, 2011	"Susceptibility to Air Pollution", 2011 Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Barcelona, Spain.
Aug. 27, 2012	"Source Apportionment Of Outdoor Air Pollution: Searching For Culprits". 2012 Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Columbia, SC.
Aug. 21, 2013	"Source-specific health effects of air pollution". 2013 Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Basel, Switzerland.
May 19, 2015	"Indoor and outdoor pollution: epidemiology and mechanisms". 2015 Annual Meeting of the American Thoracic Society (ATS). Denver, CO, USA.
Sep. 1, 2016	"Climate Change, Mitigation Measures and Co-Benefits". 2016 Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Rome, Italy.

Bibliography

Invited Journal Editorials

Thurston GD and Bates DM. (2003). Air Pollution as an Underappreciated Cause of Asthma Symptoms, 2003. JAMA, 290:14, pp. 1915-1916.

Thurston G.D. (2006). Hospital admissions and fine particulate air pollution. JAMA. Oct 25; 296(16):1966.

Thurston G. (2007). Air pollution, human health, climate change and you. Thorax. 2007 Sep; 62 (9): 748-9.

Thurston GD, Balmes JR. (2012). Particulate matter and the environmental protection agency: setting the right standard. Environmental Health Policy Committee of the American Thoracic Society. Am J Respir Cell Mol Biol. Dec;47(6):727-8. doi: 10.1165/rcmb.2012-0414ED.

Thurston GD. (2013). Mitigation Policy: Health Co-Benefits. Nature Climate Change. Oct. (3) 863-864.

Thurston GD, Balmes JR. (2017). "We need to "Think Different" about PM. Am. J Resp. & Crit. Care Med. 2017 Jul 01; 196(1):6-7.

Book Chapters

Thurston, G.D. and Leber, M. The relationship between asthma and air pollution. In: *Emergency Asthma* (ed.: B. Brenner), pp. 127-144. Marcel-Dekker, New York, NY (1999).

Thurston, G.D. and Ito, K. Epidemiological studies of ozone exposure effects. In: *Air Pollution and Health* (ed.: S. Holgate and H. Koren). Academic Press. London. pp. 485-510 (1999).

Chen, LC, Thurston, G, and Schlesinger, RB. Acid Aerosols as a Health Hazard. In: *Air Pollution and Health* (ed.: J. Ayres, R. Maynard, and R. Richards). Air Pollution reviews: Vol. 3. Imperial College Press. London. pp. 111-161 (2006).

Thurston, G.D. and Wallace, L. Air Pollution: Outdoor and Indoor Sources. In: *Environmental and Occupational Medicine*, 4th Edition (Eds.: W. Rom and S. Markowitz). Lippincott, Williams, and Wilkins, Philadelphia (2006).

Thurston, G.D. Outdoor Air Pollution. In: *Encyclopedia of Public Health* (ed. K. Heggenhougen) Elsevier Press. (2008).

Thurston, G.D and Bell, M. Aerosols, global climate, and the human health co-benefits of climate change mitigation. In *Aerosol Handbook* (2nd edition) (eds.: Lev S. Ruzer and Naomi H. Harley). CRC Press (2012).

Thurston, G. and Bell, M. The Human Health Co-benefits of Air Quality Improvements Associated with Climate Change Mitigation. In. Global Climate Change and Public Health (eds. Kent E. Pinkerton and William N. Rom). Humana Press (2013).

Thurston, GD. Outdoor Air Pollution: Sources, Atmospheric Transport, and Human Health Effects. International Encyclopedia of Public Health, 2nd Edition (Editor-in-Chief: S.R. Quah). Academic Press (2016).

National Academy Committee Books Co-Authored

National Research Council (NRC), *Waste Incineration & Public Health.* Committee on Health Effects of Waste Incineration. Board on Environmental Studies and Toxicology. National Academy Press, Washington, DC (2000).

International Reports Co-Authored

Health Canada, *Health and Environmental Impact Assessment Panel Report*, "Joint Industry/Government Study: Sulfur in Gasoline and Diesel Fuels". Ottawa, Canada. (1997).

World Health Organization (WHO), *Exposure assessment in studies on the chronic effects of long-term exposure to air pollution.* Report EUR/03/5039759. Geneva, Switzerland (2003).

Peer Reviewed Journal Articles/Letters

Thurston, G.D. General Discussion: Atmospheric dispersion modeling - A critical review. J. Air Pollut. Control Assoc. 29: 939 (1979).

Thurston, G.D. Discussion of multivariate analysis of particulate sulfate and other air quality variables by principal components - part I. Annual data from Los Angeles and New York. Atmos. Environ. 15: 424-425 (1981).

Thurston, G.D., J.D. Spengler and P.J. Samson. An assessment of the relationship between regional pollution transport and trace elements using wind trajectory analysis. Receptor Models Applied to Contemporary Pollution Problems, Ed. E. Frederick, Air Pollution Control Association, Pittsburgh, PA (1982).

Spengler, J.D. and G.D. Thurston. Mass and elemental composition of fine and coarse particles in six U.S. cities. J. Air Poll. Control Assoc. 33: 1162-1171 (1983).

Currie, L., R. Gerlach, C. Lewis, W.D. Balfour, J. Cooper, S. Dattner, R. DeCesar, G. Gordon, S. Heisler, P. Hopke, J. Shah and G. Thurston. Inter-laboratory comparison of source apportionment procedures: Results for simulated data sets. Atmos. Environ. 18: 1517-1537 (1984).

Thurston, G.D. and J.D. Spengler. A quantitative assessment of source contributions to inhalable particulate matter in metropolitan Boston, Massachusetts. Atmos. Environ. 19: 9-25 (1985).

Thurston, G.D. and N.M. Laird. Letters: Tracing aerosol pollution. Science 227: 1406-1407 (1985).

Thurston, G.D. and J.D. Spengler. A multivariate assessment of meteorological influences on inhalable particle source impacts. J. Clim. and Appl. Met. 24: 1245-1256 (1985).

Ozkaynak, H., J.D. Spengler, A. Garsd and G.D. Thurston. Assessment of population health risks resulting from exposures to airborne particles. Aerosols: Second U.S.-Dutch International Symposium, Lewis Publishing Co., December 1985 (Peer Reviewed).

Ozkaynak, H., A.D. Schatz, G.D. Thurston, R.G. Isaacs and R.B. Husar. Relationships between aerosol extinction coefficients derived from airport visual range observations and alternative measures of airborne particle mass. J. Air Pollut. Control Assoc. 35: 1176-1185 (1985).

Thurston, G.D. and P.J. Lioy. Receptor modeling and aerosol transport. Atmos. Environ. 21: 687-698 (1987).

Ozkaynak, H., and G.D. Thurston. Associations between 1980 U.S. mortality rates and alternative measures of airborne particle concentration. Risk Analysis 7: 449-460 (1987).

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Professional Leadership & Recognition

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Invited participant, American Thoracic Society (ATS) Workshop: Optimizing Home Oxygen Therapy, ATS International Conference, 2017

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Appointed, NM Legislature Task Force: Tobacco Use and Employer Cost
Chair, subcommittee, Health & the Workplace, 2013

Volunteer of the Year, Albuquerque (for work as Chair, Air Quality Board for Albuquerque & Bernalillo County), 2013

Invited member, NM Department of Health Senate Memorial 57: COPD Working Group, 2012

Expert panelist, US Senate hearing on "Air Quality and Children's Health" – invited by Sen. Tom Udall, U.S. Senate Committee on Environment and Public Works, Subcommittee on Clean Air and Nuclear Safety and the Subcommittee on Children's Health and Environmental Responsibility, 2011

Invited participant, ALA Lung Health Disparities Roundtable, Washington DC, 2011

Master Tutor, UNM, 2010-

Outstanding Reviewer Award, American Association of Medical Colleges (one of top 10 reviewers, MedEdPORTAL), 2008

Certificate of Appreciation, NM Clinical Prevention Initiative, NM Department of Health, NM Medical Society (for dedication to maximizing the effectiveness and reach of high priority, evidence-based clinical preventive services delivered by New Mexico health care professionals, practices, and systems), 2006

Medical Education Scholar, UNM, 2005-2006

Incentive Award, NMVAHCS, 2004

Honored Guest, Latino Council on Alcohol & Tobacco National Conference, 2004

Invited participant, Expert Meeting, CDC Consensus Conference: Cardiovascular Health in Women, Tobacco Working Group, 1998

Invited participant, NIH Office of Research on Women's Health Conference, Adolescence Working Group, 1997

Honored Guest, Tobacco Use Prevention Summer Institute, CDC Office on Smoking and Health, 1997

President's Certificate of Recognition & Appreciation, Federated States of Micronesia, 1996

Certificate of Appreciation, Pohnpei State Health Services, 1996

Certificate of Appreciation, Pacific Basin Medical Officers Training Program, John A. Burns School of Medicine, University of Hawaii, 1995

Fellow, American College of Chest Physicians. 1994-

American Thoracic Society Leadership

Chair, Health Policy Committee, 2015-
Vice-chair, Health Policy Committee, 2012-2015
Health Policy Committee, 2005-
Tobacco Action Committee, 2013-2017
Health Equality Committee, 2013-2017
Steering Committee, Breathing Better Alliance, 2012-
Nominating Committee, 2014
VA Research Subcommittee (of Research Committee), 2011-2014
Board of Directors (BOD), 2010-2013
ATS BOD Documents Review Subcommittee, 2012-2014
Board of Trustees, ATS Foundation Member, 2011-2012
Immediate Past-chair, Council of Chapter Representatives (CCR), 2012-13
Chair, CCR, 2011-12
Chair-elect, CCR, 2010-11
Secretary, CCR, 2009-10
NM Representative, CCR 2005-2014
Environmental & Occupational Lung Health Committee, 2008-10
International Lung Health Committee, 2008-09
Government Relations Committee, 2004-05

New Mexico Thoracic Society

Chapter Advocacy Representative for ATS 2012-
NM Representative, CCR 2005-2014
Past-president, 2002-03
President, 2001-02
Vice-President, 2000-01
Secretary/ Treasurer, 1999-00

American Lung Association Leadership (National)

Scientific Advisory Committee, 2009-2011
Nationwide Assembly, 2007-2011
Advocacy Committee, 2008-2011
Diversity Caucus, 2008-2009
Tobacco Committee, 2007-2008; subcommittee to revise *State of Tobacco Control*, 2007-2008
Research Fellow, 1987-1989

ALA of the Southwest (previously ALA-AZ/NM)

Advocacy Committee, 2003-
Board of Directors, 2001-2015
Research Committee, 2001-2016
Audit Committee 2006-2009
Executive Committee, 2003-2005
Nominating Committee 2003-2005
Education Committee, 2003-2005
Cultural Diversity Committee, 2004-2005
Treasurer, 2003-2004
Finance Committee, 2003-2004
Consultant and Speaker, Freedom from Smoking, 2000-2004
Research Fellow, San Jacinto Area, 1987-1988

ALA in New Mexico

Board of Directors. 1999-
Chair, Board of Directors, 2007-09

American College of Physicians (ACP) Leadership & Recognition

Annals of Internal Medicine Letters of Appreciation: top 30% of reviewers, most years since 2001
Certificate of Appreciation, NM Chapter (for outstanding contribution to the 2005 NM Chapter Scientific Meeting), 2006
Leadership Conference, 2001, 2005
Outstanding Service Award, ACP-NM, 2003-04
President, ACP-NM, 2003-04 (NM received a Chapter Excellence Award)
President-elect, ACP-NM, 2002-03 (received a Chapter Excellence Award)
Chair, Health & Public Policy, ACP-NM, 2004-2008
Leadership Council, ACP-NM, 2000-2007

Publications

Upson D. Great Cases in Pulmonary Medicine: Clinical, Radiologic and Pathologic Correlations by Master Physicians. Book. Springer Publishing. In progress.

Leone F… Upson D. An official American Thoracic Society Policy Statement: Recommendations for the appropriate structure, communication and investigation of tobacco harm reduction claims. In progress.

Upson D. Reasons, and ways, to engage in U.S. health care reform. Editorial. Ann Am Thorac Soc Vol 15, Mar 2017.

Holguin F, Moughrabieh MA, Ojeda V, Patel SR, Peyrani P, Pinedo M, Celedon J, Douglas IS, Upson DJ, Roman J. Respiratory health of migrant populations – a crisis overlooked. Ann Am Thorac Soc Vol 14, No 2, pp 153–159, Feb 2017. DOI: 10.1513/AnnalsATS.201608-592PS

Bui PV, Moualla M, Upson DJ. A possible association of diindolylmethane with pulmonary embolism and deep venous thrombosis. Case report. Case Reports in Medicine, vol. 2016, Article ID 7527098, 2016. doi:10.1155/2016/7527098.

Bui PV, Moualla M, Upson D. Pulmonary emboli and deep venous thrombosis associated with diindolylmethane. Case report. ATS International Conference. Poster presentation; abstract published in Am J Respir Crit Care Med, ATS IC Abstracts 2016.

Bui P, Bhatia S, Upson DJ. Pulmonary embolism in the setting of negative computed tomography. Southwest J Pulm Crit Care, 3/31/16.

Douglas IS, Albertson TE, Ewart G, Folan P, Hanania NA, Tashkin DP, Upson DJ, Leone FT. Implications of marijuana decriminalization on the practice of Pulmonary, Critical Care and Sleep Medicine. American Thoracic Society Marijuana Workgroup. Ann Am Thorac Soc Vol 12, No 11, pp 1700–1710, Nov 2015

Leone FT, Carlsen KH, Folan P, Latzka K, Munzer A, Neptune E, Pakhale S, Sachs DPL, Samet J, Upson D, White A. An official American Thoracic Society Research Statement: Current understanding and future research needs in tobacco control and treatment. Am J Respir Crit Care Med, Vol. 192, No. 3 (2015), pp. e22-e41. doi: 10.1164/rccm.201506-1081ST

Upson D. Chapter 16: Social Determinants of Cigarette Smoking. Loddenkemper R, Kreuter M (eds): The Tobacco Epidemic. 2nd revised and extended edition. Prog Respir Res. Basel, Karger, 2015, vol 42, pp 1–18 (DOI: 10.1159/000369508).

Bui PV, Bhatia S, Upson DJ. Transient elevation in pulmonary arterial pressure in a patient with sepsis, acute pulmonary embolism, chronic heart failure, and chronic obstructive pulmonary disease. Case report. Am J Respir Crit Care Med ATS IC Abstracts 2015.

Bui PV, Moualla M, Upson DJ. Pulmonary emboli and deep venous thrombosis associated with diindolylmethane. Case report. Am J Respir Crit Care Med ATS IC Abstracts 2015

Drummond, MB, Leone FT, Upson DJ. The health effects of electronic nicotine delivery devices – current state of understanding. An American Lung Association white paper. Approved by the Scientific Advisory Committee and the Board of Directors. 2015

Drummond MB and Upson D. Electronic cigarettes. Potential harms and benefits. Ann Am Thorac Soc, Vol. 11, No. 2 (2014), pp. 236-242. doi: 10.1513/AnnalsATS.201311-391FR

Niehaus K, Upson D. Acute lung injury due to synthetic cannabis. Case report. Am J Respir Crit Care Med ATS IC Abstracts 2014

Upson D. Welcome to LAM week at the ATS; and General information about LAM. ATS website 2014

Upson D, Harkins M, Nici L. Great Cases Symposium: Clinical, radiologic and pathologic correlations by master physicians, ATS International Conference. 2013

Robbins R, Upson D and Welsh C. The state of Pulmonary and Critical Care in the Southwest. The Southwest J Pulm Crit Care;volume 6. 2013

NM Legislature Task Force. SM 22: Tobacco use and employer cost. Chair, subcommittee on Health & the Workplace, 2013

Faris T, Upson D and Moore S. Protect New Mexicans' health by increasing use of solar energy. Editorial. Albuquerque Journal. 5/2/13

Upson D. Welcome to LAM Week at the ATS. 2012

Upson D. General information about LAM. 2012 http://patients.thoracic.org/lung-disease-week/lam-week-2012/index.php

Upson D, Harkins M, Nici L. Great Cases Symposium: Clinical, radiologic and pathologic correlations by master physicians. ATS International Conference. 2012

Upson D. Welcome to LAM Week at the ATS; and general information about LAM. http://patients.thoracic.org/lung-disease-week/lam-week-2012/index.php

Upson D, Harkins M, Robbins R. Great Cases Symposium: Clinical, radiologic and pathologic correlations by master physicians. ATS International Conference, 2011.

Upson, D. Tobacco use among lesbian, gay, bisexual, transgender and queer people. Chapter, NM Clinical Prevention Initiative, NM DOH, NMMS. Tobacco Use Prevention and Cessation Program: A Continuing Education Program for Healthcare Practitioners in New Mexico, 4th Edition 2011.

Upson, D. There's no debate: public health comes first. Albuquerque Journal. Letter to the editor, 4/28/11.

Van Kim N, Upson D. Tobacco use and related mental health indicators among lesbian, gay and bisexual persons in New Mexico. Am J Respir Crit Care Med ATS IC Abstracts Issue, April 2010.

Brown LK, Angus DC, Marin MG, Balmes JR, Barker AF, Ewart G, Halbower AC, Lutz PO, Mularski RA, Nathanson IT, Sanders MH, Stewart GL, and Upson DJ; on behalf of the ATS Health Policy Committee. An official American Thoracic Society Statement: Position Statement on ATS activities for the promotion of respiratory and sleep/wake Health and the care of the critically ill in the United States. Am J Respir Crit Care Med Vol 180. pp 1023–1029. 2009

Upson D and Padilla J. Exploring factors that influence tobacco use & cessation among lesbian, gay, bisexual, transgender and queer youth in New Mexico. Am J Respir Crit Care Med, Volume 179. Abstracts issue, April 2009

Upson D and Padilla J. Multi-faceted approaches to LGBT tobacco data collection in New Mexico. Am J Respir Crit Care Med, Volume 177, Abstracts Issue, April 2008

Upson, D. Treatment of Tobacco Dependence. NM Cancer Facts & Figures. UNM Division of Epidemiology and Cancer Prevention. 2005, revised 2007

Upson D. How to obtain tobacco settlement money for health care. Posted on the American College of Physicians Chapter Leadership Network and ACPOnline Member Advocacy WebPages. 2005

Upson D. Airway management in the critically ill. Book review. Chest. 2003

Upson D. Leadership Day. New Mexico Chapter ACP-ASIM Governor's Newsletter. 2002

Mitchell S, Obenshain S, Fiedler K, Frank A, Katalanos N, McGrew M, Mennin S, Richter D, Teal J, Upson D. Constructing tutorial cases. UNM-SOM. 2001

Upson D, and Robbins R. Smoking. Chapter 1, Bone's Atlas of Pulmonary and Critical Care Medicine, 2nd Edition. Lippicott, Williams & Wilkins. 2001

Krummel D, Matson Koffman D, Bronner Y, Davis J, Greenlund K, Tessaro I, Upson D, Wilbur J. Cardiovascular health interventions in women: what works? Journal of Women's Health and Gender-Based Medicine 10(2): 117-136. 2001

Griffin J, Gilliland S, Perez, G, Upson D, Carter J. Challenges to participating in a lifestyle intervention program: the Native American Diabetes Project. The Diabetes Educator 26(4): 681-9. 2000

McCormick LK, Crawford M, Anderson RH, Gittlesohn J, Kingsley B, Upson D. Recruiting adolescents into qualitative tobacco research studies: experiences and lessons learned. Journal of School Health 69(3): 95-99. 1999

Hoffman R and Upson D. Appetite-suppressant drugs and primary pulmonary hypertension. Letter. New England Journal of Medicine 336 (7):511. 1997

Sachs-Robertson A, Upson D, Dever G, Tipene-Leach D. Community-based research and medical education: the PBMOTP experience with dengue, leptospirosis, TB and intestinal parasites. Pacific Health Dialog 3(2): 78-86. 1996

Tobin M, Yang K, Upson D. Breathing pattern in asthma. Editorial. Chest 95(1):1-2. 1989

Upson D. Branched chain amino acids and the acutely stressed patient. Roswell Park Cancer Institute, SUNY-Buffalo. Master's Thesis. 1983

Cerra F, Upson D, Angelico R, Wiles C, Lyons J, Faulkenback L, Paysinger J. Branched chains support postoperative protein synthesis. Surgery 92(2): 192-99. 1982

Meetings Planned/ Sessions Chaired

Chair, Poster Discussion Session: Teachable moments and other novel insights in smoking cessation. ATS International Conference, 2017

Meet the Professor Seminar. Electronic cigarettes and other electronic delivery systems – an overview and update. ATS International Conference, 2016

Co-chair, Symposium: Tobacco smoking and cessation in vulnerable populations. ATS International Conference, 2016

Co-chair, Scientific Symposium: Respiratory health in migrant populations. ATS International Conference, 2016

Lead facilitator, Thematic Poster session: Tobacco, Nicotine, and Marijuana Use, ATS International Conference, 2016

Meet the Professor Seminar. Electronic cigarettes – potential harms & benefits. ATS International Conference, 2015

Curriculum development, NMVAHCS Scan-Echo telemedicine and medical education project, 2013-2015

Co-chair, Great Cases Symposium. ATS International Conference, 2013

Chair, Great Cases Symposium. ATS International Conference, 2011-2012

Chair, Scientific Symposium. Medication availability and access: Issues of value and affordability. ATS International Conference, 2009

Chair, Workshop. Pharmaco-economics of medications for respiratory diseases. ATS International Conference, 2008

Program Director, New Mexico Thoracic Society Annual Conference, 2002
Planning Committee, NMTS Annual Conferences, 2000-2014

Program Director, American College of Physicians (ACP) New Mexico Chapter. Annual Conference, 2005

Moderator, ACP-NM Annual Conferences, 2002-2005

Co-chair, ALA-AZ/NM Research Forum Planning Committee, 2004

Program Director, Society of General Internal Medicine, Mountain West Regional Conference, Medicine and the Arts, 1998

Planning Committee, CDC Office of Smoking and Health. Tobacco Use Prevention Summer Institute, 1998

Chair, Panel discussion. Community-based partners: lessons learned, American Public Health Association Annual Meeting, 1996

Invited Presentations

Management strategies for tobacco dependence. Case-Based Discussion Session. American College of Chest Physicians, CHEST Annual Conference, 2016

Clearing the air: the truth about marijuana and e-cigarettes. Case-Based Discussion Session. American College of Chest Physicians. CHEST Annual Conference, 2016

Update on state and federal e-cigarette regulations. ATS International Conference, 2016

Should we allow e-cigarette use in hospitals? ATS International Conference, 2016

Tobacco products other than cigarettes – personal & public health effects. NM Thoracic Society Annual Conference, 2015

New Mexico's air quality, oil and gas pollution, and our children's health: what parents need to know. Town Hall, with Congresswoman Michelle Lujan Grisham. Albuquerque NM, 2015

The impact of tobacco dependence on the lesbian, gay, bisexual and transgender community. Symposium: Health Inequality in Tobacco Use and Dependence. ATS International Conference, 2014

Electronic cigarettes. Sandia National Labs, 2014

The health consequences of smoking – 50 years of progress: a report of the Surgeon General. Legislative press conference. Santa Fe (Capitol Rotunda) NM, 2014

Electronic cigarettes – potential harms & benefits. American Cancer Society Workshop, Santa Fe, 2014

Electronic cigarettes. NM Legislature Tobacco Settlement Revenue Oversight Committee, 2014

Electronic cigarettes - potential harms & benefits. NM Pharmacists Annual Conference, 2014

Fire smoke and human health. Southwest Fire Science Consortium, 2014

Asthma. Sandia National Labs, 2012

Respiratory effects of air pollution. Santa Fe, 2012

Health effects of coal-burning power plants. Albuquerque press conference, 2012

Tobacco dependence. Family Medicine Grand Rounds, UNM, 2010

Treating tobacco dependence in underserved and at-risk populations. Post-graduate course: How to help your patients stop smoking and have everybody win. American Thoracic Society International Conference, 2009

COPD. UNM Summer Geriatrics Institute, 2008

Exploring factors that influence tobacco use and cessation among lesbian, gay, bisexual, transgender and queer people in New Mexico. UNM Center for Participatory Research Seminar, 2008

Conducting participatory research with LGBT young Adults. NM Public Health Association Annual Conference, 2008

Tobacco and youth, Key Note Presentation. EXCEL & NM VOICES Youth Conference, 2005

State of the art in smoking cessation. Innovations in COPD Conference. Lovelace Clinic Foundation, 2004

Physiology and treatment of tobacco dependence. Tobacco Use Prevention & Control (TUPAC), NM DOH, 2004

Science of smoking and addiction. Sante Fe Lifelink Community Outreach Workshop, 2004

Maintaining lung health during influenza season. Life & Breath Group, ALA, 2004

An evidence-based approach to pulmonary embolism. ACP-NM Annual Conference, 2003

Importance of physician involvement in tobacco control. New Mexicans Concerned About Tobacco, NM DOH, TUPAC, 2003

Smoking & lung disease: asthma & COPD. Tobacco & Health Disparities in New Mexico Conference. Stop Tobacco on My People, National Latino Council on Alcohol & Tobacco Prevention, New Mexicans Concerned About Tobacco, NM DOH, TUPAC, 2002

Tobacco and health. TUPAC Quarterly Contractor Meeting**,** NM DOH, 2002

An evidence-based medicine approach to pulmonary thromboembolic disease. Grand Rounds, Department of Internal Medicine, UNM, 2002

Health effects of smoking. Great American Smokeout Day. NMVAHCS, 2002

Pharmacologic treatment of tobacco dependence. ALA-NM, 2001

Youth and tobacco. Grand Rounds, Department of Pediatrics, UNM, 2000

Treatment of tobacco dependence. Department of Psychiatry Seminar, NMVAHCS, 2000

Outpatient management of COPD. NM Society of Respiratory Therapists Annual Meeting, 2000

Development of a clinical prediction model for smoking cessation. UNM Tobacco Network Conference, 2000

Pulmonary parasites. NM Thoracic Society Conference, 1999

Tobacco cessation interventions in prenatal clinics. St. Vincent Hospital, Santa Fe, 1998

Smoking cessation products. UNM College of Pharmacy; 1998, 1999

Smoking cessation. NM Society of Health-System Pharmacists, 1997

Medical education in the Pacific. Gross Medical Club, Buffalo, NY, 1997

Practical epidemiology in parasitology. Graduate Student Seminar, Department of Parasitology, UNM, 1995

Parasites in paradise. Grand Rounds, Department of Internal Medicine, UNM, 1995

Recommendations for TB control. FSM National Workshop on Tuberculosis, 1994

Peer-reviewed Presentations

Van Kim N, Upson D. Tobacco use and related mental health indicators among lesbian, gay and bisexual persons in New Mexico. Poster presentation. ATS International Conference. 2010

Upson D and Padilla J. Exploring factors that influence tobacco use & cessation among lesbian, gay, bisexual, transgender and queer youth in New Mexico. Poster-discussion presentation. ATS International Conference. 2009

Upson D, Quijada A, Reid C, Dakota R, Padilla J, Vanslyke J, Corinne J. Exploring factors that influence tobacco use & cessation among LGBTQ youth In New Mexico. Poster. National Conference on Tobacco or Health. 2009

Quijada A, Upson D et al. Media literacy as a tool for LGBTQI tobacco prevention. Poster. National Conference on Tobacco or Health. 2009

Upson D and Padilla J. Multi-faceted approaches to LGBT tobacco data collection in New Mexico. Poster-discussion presentation. ATS International Conference. 2008.

Upson D, Padilla J, Grollmes T and Buchting F. How do we get data about ourselves? Breakout Session. National LGBTQI Anti-Tobacco Summit. 2008.

Upson D, Quijada A. Dragging it out: NM's LGBTQI tobacco prevention & outreach. Workshop. National Youth ACCESS Conference. 2008.

Padilla J and Upson D. Multi-faceted approaches to LGBT tobacco data collection in New Mexico. Poster presentation. National Conference on Tobacco or Health. 2007.

Dakota R, Padilla J, Quijada A, Reid C, Upson D and Winfrey K. Reaching LGBT Communities in a rural state. Poster presentation. National Conference on Tobacco or Health. 2007.

Upson D, Quijada A, Dakota R. Dragging It Out: Counter-marketing Tobacco in the LGBTI Community. Workshop. National LGBTI Health Summit. 2007

Padilla J and Upson D. Multi-Faceted Approaches to LGBT Tobacco Data Collection in New Mexico. Poster presentation. NM American College of Physicians Annual Conference. 2007

Upson D, Quijada A, Dakota R. Dragging it out: Counter-marketing tobacco in the LGBTI community. Poster presentation. NM American College of Physicians Annual Conference. 2007

Winfrey K, Upson D, Quijada A. Put something else in your mouth: Grassroots LGBTI Tobacco Use Prevention. Workshop. National LGBTI Health Summit. 2007

Upson DJ and Quijada A. Dragging It Out: Counter-marketing & Cessation in the LGBTQ Community. Poster. 13th World Conference on Tobacco and Health. 2006

Lawrence EC, Torke A, Upson DJ. Ethics Interest Group: Exploring the ethical issues of physician activism. Panel discussion. SGIM 29th Annual Meeting. 2006

Upson DJ and Quijada A. Dragging it out: Counter-marketing & cessation in the LGBTQ community. Verbal presentation. Best of the West Tobacco Conference. 2006

Upson D. How to obtain tobacco settlement money for health care. Verbal presentation. State Health Policy Networking Meeting of the ACP Leadership. 2005

Upson D. Queer women and tobacco. ACP-NM Annual Conference. 2005

Upson D. Tobacco dependence. UNM Department of Otolaryngology Conference. 2005

Upson D. Update on pneumococcal disease, NM Physicians' Assistants Annual Conference. 2005.

Madison CM, Upson DJ, King MM. Stress ulcer prophylaxis in the medical intensive care unit. Oral presentation. American Society of Health-System Pharmacists Midyear Clinical Meeting. 2004

Upson, D. Health Care Implications of tobacco control. Verbal presentation. Brown Ribbon Remembrance Ceremony. NM State Legislature Rotunda. 2004

Ahluwalia K, Jenkins R,Tierney M, Upson D. American Legacy Foundation workshop: Tobacco use assessment protocols: Training physicians and other health providers. National Conference on Tobacco or Health. (panel presentation). 2003

Upson D and New Breast L. Lung cancer & smoking. Native America Calling (nationally syndicated radio talk show), 60-minutes, KUNM. 2003

Upson D. An Evidence-based medicine approach to pulmonary thromboembolic disease. NM ACP Annual Conference. 2003

Upson D and Hoffman R. An Evidence-based Medicine Approach to Pulmonary Thromboembolic Disease. NM Thoracic Society Annual Conference. 2002

Upson D and Prochaska A. Pharmacologic Treatment of Tobacco Dependence. NM Thoracic Society Annual Conference. 2002

Upson D. Health Impact of Smoking. NM Legislature Committee Hearings. Verbal presentation. 2002

Upson D. Smoking Cessation during Pregnancy. CDC Consensus Conference - Cardiovascular Health in Women. Verbal presentation. 1998

Upson D. Smoking Cessation in Women. National Conference on Chronic Disease Prevention and Control. Verbal presentation. 1998

McCormick L, Anderson R, Crawford M, Gittelsohn J, Kingsley B and Upson D. Recruiting adolescents into tobacco research studies: What works. American School Health Association 72nd National School Health Conference. Poster. 1998

Davis S, Carter J, and Upson D. Issues in community and school-based research. Issues in Human Research: A Focus on Southwest Diversity Conference. Panel. 1998

McCormick L, Crawford M, Anderson R, Gittelsohn J, Kingsley B and Upson D. Recruiting adolescents into research studies: What works. Society for Research on Nicotine and Tobacco. 1998

Upson D, Sachs-Robertson A, Tipene-Leach D, Flear J, Becker K, Goebert D, Dever G. A community-based epidemiologic project as an instrument of medical education on a Pacific Island. Creative Endeavors Day, Department of Pediatrics, UNM. Poster. 1997

Upson D. Current topics in lung disease. Verbal Presentation. NM Optimists' Club (community philanthropic group). 1997

Upson D. Health care in Micronesia. Verbal Presentation. NM Optimists' Club 1997

Upson D, Sachs-Robertson A, Becker K, Flear J, Auerbach S, Dever G. A community-based epidemiologic project as an instrument of medical education on a Pacific Island. American Public Health Association Annual Meeting. Verbal presentation. 1996

Upson D, Sachs-Robertson A, Tipene-Leach D, Flear J, Becker K, Goebert D, Dever G. A community-based epidemiologic project as an instrument of medical education on a Pacific Island. American College of Physicians, New Mexico Meeting. Poster. 1996

Upson D. Use of epidemiologic projects to involve medical students in communities. World Indigenous Peoples Conference: Education. Workshop. 1996

Hoffman F, Murata G, Carter J, Fotieo G, Janis L, Lium D, Kapsner C, Michael C, Upson D, White R. Measuring Medical Residents' Attitudes Towards Primary Care. Society of General Internal Medicine Annual National Meeting. Poster. 1996

Upson D, Sachs-Robertson A, Tipene-Leach D, Hunton R, Goebert D, Robinson H, Becker K, Flear J, Auerbach S, Pointer A, Pretrick E, Williams S, Lizotte-Waniewski M, Dever G & the PBMOTP Students. A community-based epidemiologic project as an instrument of medical education on a Pacific Island. American Association of Medical Colleges, Western Group on Educational Affairs. Poster. 1996

Upson D. Parasites in Paradise. KROC Research Conference, UNM. Verbal presentation. 1995

Upson D. Preliminary results from the environmental health survey, Pohnpei, FSM. Hawaii Public Health Association Annual Meeting. Verbal presentation. 1994

Upson D, Tobin M. Role of respiratory work in causing changes in breathing pattern with mouthpiece and noseclips. American Thoracic Society Annual Meeting. Poster. 1989

Upson D. Hereditary hemorrhagic telangiectasia with dyspnea. Case presentation. American Thoracic Society Annual Meeting. 1988

Cerra F, Upson D, Angelico R, Wiles C, Lyons J, Faulkenback L, Paysinger J. Branched chains support postoperative protein synthesis. Society of University Surgeons Annual Meeting. Verbal presentation. 1982

Editorial Boards

Section Editor, Health Policy & Financing, Annals of the American Thoracic Society, 2017-
Associate editor, Southwest Journal of Pulmonary and Critical Care, 2010-
(http://www.swjpcc.com)

Academic Reviews

Drug and Alcohol Dependence, 2016-
American Journal of Respiratory and Critical Care Medicine, 2015-
Annals of the American Thoracic Society. 2014-
Annals of Internal Medicine. 1999-
AAMC Group on Educational Affairs Small Group Discussion Proposals and Mini-Workshop Proposals, Annual Meeting of the AAMC. 1998-
Editorial Consultant, Physicians' Interactive Electronic Resource (PIER), ACP. 2003-07
National Conference on Tobacco or Health. 2009-2012
ACP, PIER (web-based reference). 2001-
MEDPortal, Division of Medical Education, Association of American Medical Colleges. Women's Health. 2008-
Web-Based, Cross Cultural Educational Treatment Modules. 2005
Archives of Internal Medicine. 2003-2005
Lovelace Clinic Foundation Conference. 2005
Journal of Adolescent Health. 2000-2004
Chest. 1990-93

Grant and Contract Funding

Consultant, Low Dose CT Lung Cancer Screening: Informed Decision Making and Smoking Cessation; PI Richard Hoffman; SIP13-068 CDC. 2013

The Pharmaco-economics of Medications for Respiratory Diseases, Continuation. PI: Upson D American Thoracic Society, $2,500. 2009-11

The Pharmaco-economics of Medications for Respiratory Diseases, Continuation. PI: Upson D American Thoracic Society, $4,600. 2008-09

The Pharmaco-economics of Medications for Respiratory Diseases. PI: Brown L, Co-Investigator: Upson D. American Thoracic Society, $20,000. 2007-08

Exploring factors that influence tobacco use and cessation among lesbian, gay, bisexual, transgender and queer people in New Mexico. PI: Upson D. UNM Center for Participatory Research, $15,000. 2007-08

Development of a Clinical Model to Predict Smoking Cessation. PI: Upson D. Biomedical Research Institute of New Mexico (Pre-Merit Review Award), $60,000.1999-2002

Albuquerque VA Medical Center Outcomes Research Program. PIs: Murata G and Hoffman R. Investigators: Upson D et al. Veterans Affairs, $100,000. 1999-2002

Center for Health Promotion in American Indian Communities, Continuation Grant. PI: Davis S, Consultant: Upson D. Centers for Disease Control & Prevention, $500,000/yr. 1998-2003

Women's Cardiovascular Health Network, Extension Grant. PI: Herman C, Co-PI: Upson D. Centers for Disease Control & Prevention, $10,000. 1998-99

Women's Cardiovascular Health Network. PI: Herman C, Co-PI: Upson D.Centers for Disease Control & Prevention, $10,000. 1997-98

Family-Centered Diabetes Project for Pueblo Indians, Continuation Grant. PI: Carter J, Consultant: Upson D. National Institutes of Health, $300,000. 1997-99

Youth Response to Tobacco Control Policies. PI: Davis S, Co-PIs: Upson D and Allen P. Robert Wood Johnson Foundation, $50,000 (Matching Funds - Centers for Disease Control & Prevention Grant). 1998

Youth Response to Tobacco Control Policies. PI: Davis S, Co-PIs: Upson D and Allen P. Centers for Disease Control & Prevention, $50,000. 1997-98

A Community-based Intervention to Decrease Youth Tobacco Use. PI: Allen P. Consultant: Upson D. American Stop Smoking Intervention Study for Cancer Prevention (ASSIST), $20,000. Approved, partially funded at $10,000 (grant declined due to insufficient funds). 1997

Center for Health Promotion in American Indian Communities, Continuation Grant. PI: Davis S, Consultant: Upson D. Centers for Disease Control & Prevention, $360,000/yr. 1996-97

Environmental Health Project, Pohnpei, FSM. PI: Dever G, Co-PI: Upson D and Tipene-Leach D, Coordinator: Upson. USPHS (#CSH157007-01), Australian Embassy & the Federated States of Micronesia, $100,000. 1990-94

Community Health Assistant Training Program, Pohnpei, FSM. PI: Sachs-Robertson A, Spegal R and Dever G, Consultant: Upson D. Pacific Health Initiative, Public Health Service, Region IX, $38,000. 1991-93

Yap State Dispensary Managers Retraining Program, FSM. PI: Evans D and Dever G, Consultant: Upson D. FHP Foundation, $28,000. 1991-92

Changes in Breathing Pattern with a Mouthpiece and Noseclips: Role of Respiratory Work, Continuation Grant. PI: Upson D. American Lung Association. Training grant. 1988-89

Changes in Breathing Pattern with a Mouthpiece and Noseclips: Role of Respiratory Work. PI: Upson D, American Lung Association. Training grant. 1987-88

Changes in Breathing Pattern with a Mouthpiece and Noseclips: Role of Respiratory Work. PI: Upson D. American Lung Association, San Jacinto Area. 1987-88. Declined, due to restrictions of national ALA award.

Effects of Athletic Training on the Pulmonary Status of Wheelchair-dependent People. PI: Upson D. University of Texas Clinical Research Center. 1988. Declined, due to restrictions of national ALA award

Grant Reviews

Ohio State University Center of Excellence in Regulatory Tobacco Science project applications: Effects of Electronic Cigarette Use on the Human Lung. 2015

ALA. 2005-2015

Health Research Council of New Zealand, (RFP $4.26 million over 3 years). 2004

NM DOH, TUPAC grants ($4.5 million). 2004

Curriculum Development

Site Director, NMVAHCS Pulmonary Consults. 2010-2014, 2016-
Director, NMVAHCS Scan-Echo Tele-medicine/ Tele-medical education program, Pulmonary Section, 2012-2014
Site Director, Family Medicine NMVAHCS MICU rotation, 2010-2014
Curriculum Committee, Phase I Cardiovascular & Pulmonary Medicine, 1995-2011
Tutorial Steering Committee, UNM. 2002-2007
Tutorial Case Working Group, UNM. 2000-2006
Education & Training Committee, Center for Health Promotion, UNM. 1996-97
Faculty Supervisor, Rural Elective, Internal Medicine residents. 1995-96.
Curriculum committee, Pacific Basin Medical Officers Training Program, Federated States of Micronesia (FSM). John A. Burns School of Medicine, University of Hawaii. 1991-95

Community-based Professional Activities (in addition to above)

NM DOH TUPAC Advisory Committee, Decreasing Tobacco Use in the LGBT Community. 2004-

Advisory Council, New Mexicans Concerned About Tobacco (state-wide coalition including ALA, American Heart Association, American Cancer Society (ACS), grassroots groups). 2003-

Ad Hoc Committee on Homelessness, Albuquerque City Council. 2003-2005

Advisory Council. NM DOH Tobacco Settlement Fund. 2002- 2005

Public Health Advocate for Tobacco Control. Testimony at NM Legislature, Albuquerque City Council, press conferences.2002-

Public Health Advocate, NM Tobacco Settlement Discussions, ACS. 1999

Advisory Council. NM-ASSIST (to decrease smoking during pregnancy). 1998-99

Volunteer, Dream Catcher Science Program. 1998

Statement for Public Record. Options to Reduce Tobacco Use by Children, NM Department of Health Public Hearing.1998

Board of Advisors, Our Lady of Mercy Vocational Training School. Pohnpei, FSM. 1991-95

CURRICULUM VITAE - J. DEANE WALDMAN, MD MBA

I. Executive Summary

- Education and post-graduate training
  - Yale College, BA (1966). Chicago Medical School, MD (1971)
  - Training: Mayo Clinic, Northwestern, Harvard (1970-1976)
  - Anderson Graduate School, MBA (1999)
- Medical research
  - Over $3 million in research grant support
  - Former Chairman, Amer Heart Assoc South Peer Research Review Comm
  - Invited national or international lectures; Public town halls led: > 100
  - Refereed academic *medical* publications: N ≈ 120.
- Public policy activities
  - Director, Center for Health Care Policy, Texas Public Policy Foundation
  - Adjunct Scholar, Rio Grande Fndn, New Mexico public policy think tank
  - Board of Directors, New Mexico Health Insurance Exchange
  - Refereed academic articles on the healthcare system: N ≈ 50
  - Online magazine/newspaper articles for the public: N ≈ 300
  - Books: *Uproot US Healthcare* (2010); *Cambio Radical al Sistema de Salud de los Estados Unidos* (2010); *The Cancer In Healthcare* (2013); *The Cancer in the American Healthcare System* (2015); seven e-books series: *Restoring Care to American Healthcare* (2016-2017)
- Consulting Activities
  - Medicolegal: Over 100 cases for plaintiff, defense, and governing bodies
  - Business/Strategic: To both private businesses and State organizations

II. Contact Information

Office: Texas Public Policy Foundation, Center for Health Care Policy
901 Congress Ave. Austin, TX 78701
Phone: (512) 472-2700. Cell: (505) 260-2776

Private prof'l address: Deane Waldman, MD MBA
(b) (6) [redacted]

Emails: Texas Public Policy Foundation: dwaldman@texaspolicy.com
New Mexico Health Exchange: dwaldman@nmhix.com.
Personal: (b) (6) [redacted]

URLs: www.WeCanFixHealthcare.info. www.deanewaldman.com.

III. Education

Sept 1956–June 1962:	Horace Mann School, Bronx, NY
Aug 1960–June 1961:	Wallasey Grammar School, Wallasey, England
Sept 1962–May 1966:	Yale College (BA; History)
Aug 1967–May 1971:	Chicago Medical School (MD)
June 1997–June 1999:	RO Anderson Graduate School of Mgmt (MBA)

IV. Medical Training

June–Sept 1970: Student Fellow in Pediatric Cardiac Surgery and Pediatric Cardiology, Mayo Clinic and Foundation, Rochester, MN.

July 1971–June 1972: Straight Pediatric Intern, Children's Memorial Hospital, Northwestern University, Chicago, IL.

July 1972–June 1973: Resident in Pediatrics, Children's Memorial Hospital, Chicago, IL.

July 1973–June 1975: Fellow in Pediatric Cardiology, Children's Memorial Hosp, Chicago, IL.

July 1975–June 1976: Research Fellow, Pediatric Cardiology & Cardiac Pathology,
Children's Hospital Medical Center, Boston, MA.

V. Accreditation / Licensure

A. Board Status

1972 Diplomate, National Board of Medical Examiners (#115517)
1976 Diplomate, American Board of Pediatrics (#19401)
1978 Diplomate, Sub-Board of Pediatric Cardiology (#476)

B. Medical Licenses

1971 Illinois, Inactive (T5277)
1975 Massachusetts, Inactive (#37827)
1976 California, Inactive (#G031538)
1990 Illinois, Inactive (#036-079718)
1991 Indiana, Inactive (#01039555)
1995 New Mexico (#96-153)

VI. Professional Experience

A. Academic Positions

1972-1975: Clinical Instructor in Pediatrics, Northwestern University Medical School, Chicago, IL.

1975-1976: Instructor in Pediatrics (Cardiology), Harvard Medical School, Boston, MA

1976-1980: Assistant Clinical Professor of Pediatrics, University of California at San Diego, CA

1980-1990: Associate Clinical Professor of Pediatrics, University of California at San Diego, CA.

1990-1995: Professor of Pediatrics and Medicine University of Chicago, Chicago, IL.

1995-Present: Professor of Pediatrics and Pathology, University of New Mexico School of Medicine, Albuquerque, NM.

2000-2012: Professor of Decision Science (Strategy), R.O. Anderson Graduate Schools of Management, University of New Mexico, Albuquerque, NM. "Forensic Pediatric Cardiologist" for NM OMI (Office of the Medical Investigator)

2012-present Emeritus Professor of Pediatrics, Pathology, and Decision Science at University of New Mexico, Albuquerque, NM

B. Employment:

July 1976-June 1990: Member of Pediatric Cardiology Medical Group, San Diego, CA, a pediatric multispecialty group of cardiologists, pulmonologists & Critical care physicians. Director: 1980-1990

August 1980-January 1990: Chief of Cardiology, Children's Hospital of San Diego, CA

February 1990-June 1995: Chief of Cardiology, Wyler Children's Hospital, University of Chicago, Chicago, IL

July 1995-July 2014: Dept of Pediatrics, Children's Hospital Heart Center, Children's Hospital of New Mexico, University of New Mexico Health Sciences Center, Albuquerque, NM. Chief of Cardiology: 1995-1998

August 2016-present: Director of the Center for Health Care Policy at the Texas Public Policy Foundation, Austin, TX

C. **Chairman** Positions/Directorships (Research positions described separately below)

- Legislative Committee, American Academy of Pediatrics, Chapter III (CA), 1978-1980.
- Congenital Heart Registry, 1978-present (three Centers)
- CCS Regional Cardiac Center (California), State Accreditation Committee for Cardiac Centers, California, 1983-1989.
- Institutional Review Board, Sharp Hospital, 1982-1990.
- Taskforce on the Internal Customer, UNM-HSC (2002-04)
- Ronald McDonald House Charities of New Mexico (2003-04)
- President, ADM Healthcare Consulting, LLC (2004-present), including ADM Books as a Division
- Director of the Center for Health Care Policy at the Texas Public Policy Foundation, Austin, TX

D. Memberships (past and current [*])

- National, Regional:
  - Fellow, American Academy of Pediatrics (AAP)*
  - Fellow, American College of Cardiology (ACC)*
  - Council for Cardiovascular Disease in the Young (American Heart Association)
  - Western Society for Pediatric Research (Executive Council, 2002-2005)
- Local:
  - Greater Albuquerque Medical Association
  - New Mexico Pediatric Society
  - Rio Grande Foundation, Adjunct Scholar and Board member*
- University of New Mexico Committee Memberships:
  - Children's Hospital Information Collaborative (1998-2002)
  - Finance Committee (1997-2000)
  - Pediatric Research Committee (2000-06)
  - Clinical & Translational Science Center Grant Review Board (2007-2012)
- Boards of Directors:
  - Grossmont College of Cardiopulmonary Technology, San Diego, CA; 1978-82.
  - American Heart Association, Board of Directors (previous)
  - Southwest Velodrome Association (2001-03), Chairman: 2002-03
  - Ronald McDonald House Charities of New Mexico, member (2001-06)
  - New Mexico Health Insurance Exchange (2013-present)*

E. Contracts Negotiated with:

- Kaiser Permanente, CA (proprietary pricing system)
- San Diego Coroner's Office, CA
- Lovelace Medical Center, NM
- Indian Health Service, NM

- Santa Fe Health Care Group, NM

F. Medico-legal Counseling/Expert Witness

From 1984 through 2016, 102 cases were counseled: 56 for Plaintiff, 43 for Defense, one for a State Court, and two for regulatory agencies. Clients included: physicians, hospitals, health plans, State Boards of Medical Examiners, the Dept of Justice, and the Chicago Transit Authority. One was Defense at a murder trial: father was found not guilty.

G. Consulting

Clients

- Tissue Banks International
- Association of American Medical Colleges
- Province of Ontario, Canada

Public policy

- Adjunct Scholar & Board member, Rio Grande Fndn, a New Mexico think tank
- Member of the Board, New Mexico Health Insurance Exchange

VI. Honors

1960-61: Exchange Student (AFSC), USA to England
1961: Old Wallaseyan's Stump Speeches (debating) Trophy
1962: Regent Scholar, New York State
1966: Honors Degree, Yale College
1970: Minnesota Heart Association Cardiovascular Fellowship
1975: Chicago Pediatric Society Award for Research
1977: Finalist, Young Investigator Award Competition, Am Acad Pediatrics
1980: Finalist, Young Investigator Award Competition, Am Acad Pediatrics
1996: Tenure awarded by University of New Mexico
1999: MBA "With Honors" (GPA=4.0), Anderson Grad Schls of Management
2004: Best Paper, Careers Division of Academy of Management, for "Retention rather than Turnover," given at the Western Academy of Management annual Meeting, Anchorage, AK, April 3, 2004.
2014: First Place in 2014 CIPA "EVVY" Books Awards, category Politics/Political Science, for The Cancer In Healthcare (published by Hugo House, 2013); Bronze Medal, 2015 eLit award (Social Affairs/Public Affairs)

VII. Teaching Activities

A. Organization/Development

- In-service Series for Cardiopulmonary Technologists, Children's Hospital of San Diego; 24 hours/year, 1977-90.

- Selectives or Electives for Medical Students and Pediatric Residents, University of Chicago, Chicago, IL; 1990-95
- Clinical correlations Course (Anatomy-Physiology-Pathology) for Phase III students at University of New Mexico School of Medicine, Albuquerque, NM. 2000-present.
- Development (Version 1 in 1998) of published syllabus in Pediatric Cardiology for trainees in Pediatrics, Pathology, adult Cardiology and CV Surgery. Since 2005, the syllabus has been electronic (DVD.)

B. Cardiac Pathology Teaching

- Director, Cardiac Registry - Annotated and computer-organized collections of heart specimens in San Diego, Chicago, and New Mexico.
- Director-Congenital Anatomy and Physiology Section, Human Developmental Biology Course (#221): a course for undergraduates at University of Chicago.
- Founder/lecturer-Cardiac Morphogenesis for trainees in pediatrics, cardiac surgery, pathology and cardiology at Universities of Chicago and New Mexico
- Preceptor for 4th year medical students on Independent Study Program at University of California/San Diego:Terry Young 1982
  Gene Heard 1983
  Tom Jensen 1984
  Cindi Olson 1985 (Omaha, Nebraska)
- Director, Congenital Heart Block, Phase I curriculum at University of New Mexico School of Medicine: both lecture and laboratory components-anatomy, physiology, and clinical implications.
- Visiting Professor in Pediatric Cardiac Pathology, Children's Hospital of Wisconsin, November 15-16, 2004 & December 1-2, 2005.

C. Symposia Given

- Director, International Symposium entitled "Decision-Making in Congenital Heart Disease" held May 18-20, 1984, in San Diego. Attended by 184 physicians and nurses from the USA, South America, Europe and the Middle East.
- Co-Director, "Decision-Making in Congenital Heart Disease II", a Symposium, held Oct 9-12, 1988, in San Diego, California, attended by 151 individuals from Europe, the Middle East, Asia and the USA.

D. Invited Lectures; Visiting Professorships; Appearances.

1. "How to Diagnose and Treat the Child with Mitral Valve Prolapse" delivered at the Amer Heart Association Nat'l Meeting,Dallas, TX, November 18, 1981.
2. "Clinical Presentation of Kawasaki's Disease" delivered at the International Symposium on Coronary Arteries in Infants and Children, Tel Aviv, Israel, October 20, 1982.

3. "Echoes of the Young Heart" delivered at the 22nd Annual Scientific Sessions of the California Heart Association, Long Beach, CA, May 4, 1984.
4. "Surgery without Cardiac Catheterization" and "Definition of TGA" at Decision-Making in Congenital Heart Disease, an International Symposium, San Diego, CA, May 18-20, 1984.
5. "Approach to Hypoplastic Left Heart Syndrome" delivered at the First Annual Combined Neonatal Symposium, "Fetus and Newborn" San Diego, CA, October 16, 1985.
6. "Congenital Diseases of the Aortic Root: Diagnostic Considerations" presented at the International Symposium on the Aortic Root, Scripps Clinic and Research Foundation, San Diego, CA, October 25-27,1985.
7. Visiting Professor, Loma Linda Medical Center; "Therapeutic Cardiac Catheterization" and "An Experimental Model for the Study of Cyanosis" November 14-15, 1985.
8. "Congenital Heart Disease: A Hands-On Experience" presented at the 2nd Annual Combined Neonatal Symposium, "Fetus and Newborn" in San Diego, CA, Sept 9-11, 1986.
9. "Anatomy of Congenital Cardiac Anomalies" and "Cardiac Surgery in the Neonate" delivered at the Symposium -Congenital Cardiac Anomalies: Impact on Perinatal Outcome; Spokane, WA, October 24, 1986.
10. "Life-Threatening Cardiac Lesions in the Neonate" delivered at the 3rd Annual Combined Neonatal Symposium, "Fetus and Newborn" in San Diego, CA, September 22, 1987.
11. "BD of Stenotic RV-PA Conduits" presented at the IVth International Symposium on Cardiac Bioprostheses -San Diego, CA, April 16, 1988.
12. "Structural Cardiac Disease in the Neonate" delivered at the 2nd Annual Perinatal Review of the Saddleback Hospital and Health Center, Laguna Niguel, CA, August 12, 1989.
13. "Pathology of Neonatal Cardiac Disease" delivered at the 5th Annual Combined Neonatal Symposium, "Fetus and Newborn" San Diego, CA, Oct 12, 1989.
14. "Pediatric Cardiology for the Pediatrician, Review Course for the Pediatric Board Examination, Osler Institute, 8 Nov 1990.
15. "Acquired heart disease in children" given at the Specialty Review Course in Pediatric Cardiology, Chicago, 5/30/91.
16. "Therapeutic Cardiac Catheterization in children" given before the Chicago Pediatric Society, 18 Feb 1992.
17. "Hemodynamics at Cardiac Catheterization" and "Acquired heart disease in children" given at the Specialty Review Course in Pediatric Cardiology, National Center for Advanced Medical Education, Chicago, 10 June 1992.

18. "Cyanotic Congenital Heart Disease: and "Acyanotic Congenital Heart Disease and PDA" given at the 8th Annual Combined Neonatal Symposium on the Fetus and Newborn, Washington D.C., 29 Oct 1992.
19. "Non-surgical Correction of Congenital Heart Disease" given before the Plenary Session of the American Academy of Pediatrics, Chicago, 23 March1993.
20. "Diagnostic Approach to CHD" and "Current Therapy for CHD" presented at the Georgia Pediatric Cardiology Symposium, 13 May 1993, Savannah, Georgia
21. "Pathophysiology of CHD" and "Operative and trans-catheter treatment of neonates with CHD" given at the Specialty Review Course in Neonatology, 10 Aug 93, Chicago, IL.
22. "Cardiac Tumors in children", Grand Rounds at Lutheran General Hospital, 12 Oct 1993
23. "Interventional Cardiac Catheterization" and "Acquired heart disease" given at the Specialty Review Course in Pediatric Cardiology, Chicago, 29 June 1994.
24. "Therapeutic Cardiac Catheterization" and "Pathophysiology of Congenital heart disease" given at the Specialty Review Course in Neonatology, 9 Aug 1994, Chicago, IL.
25. "The Critically Ill Child with Congenital Heart Disease" given at the 17th Annual Pediatric Cardio-pulmonary Update, 6 April 1995, Albuquerque, NM
26. "Congenital Heart Disease: A Physiologic Approach to Diagnosis" given at the Specialty Review in Neonatology/ Perinatology, 15 Sept 1995, Chicago, IL.
27. "Identification of congenital heart disease in the nursery, given at "Another Look at the Amazing Newborn" UNM course for nurses and other health professionals,10/30/95, Albuquerque, NM
28. "Therapeutic Cardiac Catheterization in Children" given before the Eddy County Medical Society meeting, 1/18/96, Carlsbad, NM
29. "The infant with *Acquired* Critical Heart Disease" given before the First Annual Pediatric Critical Care Update Conference, April 11, 1996, Albuquerque, NM
30. "Acquired Heart Disease in Children" delivered before the Annual Meeting of the Family Association of New Mexico, Ruidoso, NM; 15 July 1997.
31. "Balloon angioplasty of Native coarctation: Does not replace surgery" delivered for the course titled *Transcatheter Devices for Congenital Heart Disease 1997*; Minneapolis, MN; 8 August 1997.
32. "Pathophysiology of Congenital Heart Disease" and "Management of Congenital Heart Problems in the Nursery" delivered for the Neonatal Board Review Course sponsored by the National Center for Advanced Medical Education; Chicago, IL; August 29, 1997.
33. "Sudden unexpected cardiac death in children" delivered for the S Lavin Memorial Lecture at Encino-Tarzana Regional Medical Center, Los Angeles, CA; 10/3/97

34. "Pathophysiology of Congenital Heart Disease" and "Management of Congenital Heart Problems in the Nursery" delivered for the Neonatal Board Review Course sponsored by the National Center for Advanced Medical Education; Dallas, TX; October 23, 1997.
35. "Managed Care and Pediatric Cardiology" delivered at the Meeting of the Amer Academy of Pediatrics, New Orleans, LA; November 1, 1997
36. "Sudden unexpected cardiac death in children" delivered at the Columbia Los Robles Medical Center, Thousand Oaks, CA; March 13, 1998.
37. "Interventional Cardiology in Children" delivered at the 3rd Annual Pediatric Critical Care Update, Albuquerque, NM; April 23, 1998.
38. "Syncope and Sudden Death" delivered at the conference titled Management of Common Pediatric Problems, Santa Fe, New Mexico, May 21, 1999.
39. "Anatomy and Pathophysiology of Congenital Heart Disease" and "Management of Congenital Heart Problems in the Neonate including Arrhythmias" delivered for the Neonatal Board Review Course sponsored by the Nat'l Ctr for Advanced Medical Education; Chicago, IL, August 19, 1999
40. "Learning Curves in Cardiology" presented at the Production and Operations Management Society annual meeting, San Antonio, TX; April 1-4, 2000.
41. "*Mis*management-of-Technology-The Fall of Schwinn." Presented at the IEEE-2000 meeting, Albuquerque, NM; August 13-15, 2000.
42. "A Flow diagram of learning in healthcare" presented before the Production & Operations Management Society annual meeting, Orlando, FL; April 2, 2001.
43. "Congenital Heart Disease: Anatomy, Pathophysiology and Management including Problems of the Fetus" delivered for the Neonatal Board Review Course sponsored by the National Center for Advanced Medical Education; Chicago, IL, 9/29/01
44. "Lessons Learned from Pediatric Malpractice Claims Analysis" presented at Lee Memorial Hospital, Ft. Myers, FL; 2/21/02
45. "Congenital Heart Disease: Anatomy, Pathophysiology, and Management, including Problems of the Fetus" delivered for the Neonatal Board Review Course sponsored by the National Center for Advanced Medical Education; Chicago, IL, October 17, 2003.
46. "You are WHO!" State of the Art lecture presented at the Western Society for Pediatric Meeting, Healthcare Research Section; January 31, 2004.
47. "Retention rather than Turnover" presented at the Western Academy of Management meeting, April 2004, Anchorage, AL
48. "The Shocking Cost of Turnover" presented at the Western Academy of Management meeting, April 2004, Anchorage, AL
49. "The Value of Retention in Healthcare" presented at the Western Academy of Management meeting, April 2004, Anchorage, AL

50. "Learning Theory Applied to Healthcare" presented at the International Conference on Systems Thinking in Management, Philadelphia May 2004.
51. "Systems Thinking in Healthcare Change" presented at the International Conference on Systems Thinking in Management, Philadelphia May 2004.
52. "Twins in Trouble: Healthcare and Education" presented at the International Conference on Systems Thinking in Management, Philadelphia May 2004.
53. Visiting Professor, Children's Hospital of Wisconsin, November 15-16, 2004; Pathologic-physiologic-clinical-surgical correlations in cong hrt disease.
54. "Evidence-based Decision-making in Healthcare" presented at the Health Care Research Sessions of the Western society for Pediatric Research meeting February 4, 2005 in Carmel, CA.
55. "A Double Standard in Healthcare" presented at the Health Care Research Sessions of the Western society for Pediatric Research meeting February 4, 2005 in Carmel, CA.
56. "ROI on Faculty Development" and "Internal v. External Faculty Recruitment" delivered before the Association of American Medical Colleges, Ottawa, Canada; July 31, 2005.
57. "Heart Disease in the Neonate and Fetus: Anatomy, Pathophysiology, and Management," delivered for the Neonatal Board Review Course sponsored by the National Center for Advanced Medical Education; Chicago, IL, August 25, 2005.
58. "Investing in Faculty Success is necessary for organizational health" requested presentation before the plenary session of the Association of American Medical Colleges, Nov. 6, 2005, Washington, DC.
59. "The Heart of the *Amazing Newborn*", presented before the Annual Mtg of NM Association of Neonatal Nurses, Nov. 11, 2005, Albuquerque, NM.
60. "Learning-THE means to improving medical outcomes" delivered before the Decision Sciences Institute, November 20, 2005, San Francisco, CA.
61. Visiting Professorship in Congenital Cardiac Pathology, Children's Hospital of Wisconsin, Milwaukee, WI; December 1-3, 2005.
62. "Hospital CEOs and Physicians – Reaching Common Ground" presented before the Western Society for Pediatric Research, Healthcare section, Carmel, CA; February 2, 2006.
63. "A Proposed Feedback Loop For Service Operations, Particularly Healthcare" presented at the Annual meeting of the Production and Operations Management Society, Boston, MA, 29 April 2006.
64. "Malprocess, Not Malpractice" presented at the Health Care Research Sessions of the Western Society for Pediatric Research meeting February 2, 2007 in Carmel, CA.

65. "MD & Mgt: Convert Our Differences Into Strength" presented at the Health Care Research Sessions of the Western Society for Pediatric Research meeting February 2, 2007 in Carmel, CA.
66. "Neonatal Cardiology" delivered at the Board Review Course in Neonatology, February 6-11, 2008 in Chicago, IL.
67. "The Figure-of-Eight Loop – A New Management Tool" delivered before the Western Academy of Management Annual Meeting in Oakland CA, March 26-28, 2008.
68. "How We Learn, Decide, & Communicate…or Don't", delivered as Grand Rounds, UNM-HSC, March 13, 2008.
69. "Cardiac Cath is Alive and Well at 90!" delivered before the conference titled *Care of the Child with Heart Disease,* Albuquerque NM, Sept 12, 2008.
70. "The Physiology of Congenital Heart Disease & the PDA," given at the Specialty Review Course in Neonatology, Feb. 14, 2010 in Orlando, FL.
71. "Healthcare Management: Moving from the 19th Century to the 21st." Keynote Speech at the ACE-UIC-Sloane Invitational Conference for Medical School Deans. Chicago, IL, September 24, 2010.
72. "The Physiology of Congenital Heart Disease & PDA," and Cases Studies in Neonatal Cardiology" given at the Specialty Review Course in Neonatology, February 26, 2011 in Orlando, FL.
73. "What Expanding Medicaid means for New Mexico," invited analysis and presentation before NM Chamber of Commerce, 1/3/13.
74. "It's Obama*Law* – There's No Care In It," delivered 4/13/13 at *Speak Out For Life*, Sponsored by NM Right To Life, Four Hills Country Club, ABQ, NM.
75. Visiting Lecturer, Columbia University Mailman School of Public Health, New York City, March 13, 2014: "Systems Thinking and a Patient Named Healthcare."
76. "Healthcare is a critically ill patient–Obamacare is malpractice, not good medicine," given for the New Mexico Association for Continuity of Care, Tanoan Country Club, Oct 16, 2014.
77. Visiting Lecturer, Pacific University, Portland, OR. "Strategy" for the Master's Degree in Finance, course #780, November 2014.

E. Management/Health Care Formal (Course) Teaching

- "Strategic Management," Course # 598, capstone course for MBA students, RO Anderson Graduate School of Management, UNM; annually 2000-to-2008.
- Guest lecturer: "Quality Management," Course #525 at Anderson School, 2001, 2003-2006.
- Visiting Professor, Pacific University, Portland, OR. Masters Course in Finance #780, teaching "Strategy," Fall 2014.

VIII. Research Activities

A. Development/Administration/Peer Review

1. Institutional Review Board, Children's Hospital of San Diego, CA, 1976-1980.
2. Clinical Research Committee, Sharp Memorial Hospital, San Diego, Ca, 1978-1980.
3. South Peer Review Committee for Fellowships and Grants-in-Aid, American Heart Association, California Affiliate: Member (1980-1984), Vice-Chairman (1984-1986), Chairman (1986-1988).
4. 1981-present: Founder and Chairman of the Board -Foundation for Research in Children, a nonprofit foundation that supports and promotes research in childhood diseases.
5. Permanent Editorial Board: *Pediatric Cardiology* [the journal]
6. Editorial Service (Manuscript reviewer) for:
   - New England Journal of Medicine
   - Pediatrics
   - Cath and Cardiovascular Diagnosis
   - Chest
   - Circulation
   - Pediatric Research
   - Journal of Amer College of Cardiology
   - Annals of Thoracic Surgery
   - Int'l Journal Integrated Care
   - Health Policy
   - BMC Health Serv Research
   - Canadian Med Assoc Journal
   - Hlth Care Mgmt Rev
7. American Heart Association Southwest Research Peer Review Committee: New Mexico/Arizona/ Colorado/Wyoming/Hawaii; member: 1996-2001.
8. Western Society for Pediatric Research, Executive Council, 2001-2004.
9. UNM, Dept of Pediatrics Research Committee, 2000-2006.

B. Grants

1. "Coagulation defects in cyanotic heart disease", JD Waldman, Principal Investigator CRC Contract MORR-00199, Children's Memorial Hospital, Chicago, IL; 1971-1974; $6,000.00.
2. "Experimental cyanosis and its effect on platelets", JD Waldman, Principal Investigator; American Heart Association-Northeast Massachusetts Affiliate; #13-515-8756; Children's Hospital Medical Center, Boston, MA; 1975-1976; $18,100.00.
3. "Maintenance of patency of the ductus arteriosus in congenital cardiac lesions", JD Waldman, Collaborating Investigator in multi-center protocol (#2907, Upjohn Co.) evaluating PGE1 (U-10, 136) during Phase II.
4. "Domiciliary nocturnal oxygen in the treatment of primary pulmonary hypertension", JD Waldman, Principal Investigator; Children's Hospital of San Diego, California Heart Association, 1981; Approved but not funded.

5. "An interdisciplinary cardiac care program", SE Kirkpatrick, Principal Investigator; JD Waldman, Collaborating Investigator; Children's Hospital of San Diego; NHLBI (1-R18HL32812-01A1), 1985-1988, $475,564.00.
6. "Prevention of coronary aneurysms in Kawasaki syndrome", F Rosen, Principal Investigator; K Chung, Collaborating Investigator; JD Waldman, Center Principal Investigator (January, 1985); NIH, $1,415,085.00.
7. "Per-catheter closure of patent ductus arteriosus", C Mullins, prinicipal investigator; JD Waldman, MD collaborating investigator, in phase II clinical trials of Rashkind Occluder; USCI Contract.
8. "Indomethacin prophylaxis of PDA in surfactant-treated infants." R Covert, principal investigator; JD Waldman, collaborating investigator; AHA, 1993-94, $55,000.
9. Minority Institutional Training Program, Wm Galey PhD (PI), JD Waldman MD, collaborating 'trainer/teacher'; NIH, renewed through 2003, $1,090,355.
10. "Transcatheter ASD closure device (Angel Wings), Phase II clinical trial; G Das & M O'Laughlin (PIs); J Plowden and JD Waldman (CIs). IDE G940005
11. "The vascular response to erythropoietin in preterm infants." RK Ohls (PI); JD Waldman (CI). American Heart Association, $29,000, 7/98-6/99
12. "The cost of undergraduate medical education." JD Waldman (PI); J Dillard (CI). Fraternal Society of Eagles, $10,000; 1998-2000.
13. "The Value of Employee Retention in Healthcare." JD Waldman (PI); A Preston (CI). Dept of Pediatrics, $4530. 2001-2003
14. "The Corporate Culture of Medicine (II)." JD Waldman (PI), JN Hood & HL Smith (CIs). Dept of Pediatrics at UNM, 2004-2006, $17,994,
15. "Academic Physicians in North America – Retention Analysis and Implications." JD Waldman (PI), S Scott (CI) and JH Hood (CI). RAC, $19, 760, 2006-08.
16. "Systems Approach to Medical Malpractice," JD Waldman & HL Smith; $10,000. Tully-Leach Fund, 2009-2010.
17. "The Corporate Culture of Medicine (National)." JD Waldman (PI) & JN Hood (CI), AHRQ, $2.9 million, "Approved but not Funded."
18. "Retention of Faculty at UNM-HSC," JD Waldman & Loretta Cordova de Ortega, Co-PIs; $6, 000 Pediatric Research Funds.

C. Publications/Chapters/Presentations – <u>by Subject</u>:

Physiology of Congenital Heart Disease

1. <u>Waldman JD,</u> Czapek EE, Paul MH, Schwartz AD, Levin DL, Schindler S (1975) "Shortened platelet survival in cyanotic heart disease." *Journal of Pediatrics* 87:

77-79. (Presented at Society for Pediatric Research, May 1-3, 1974, Washington, DC. Ped Res 8:355-81, 1974.)

2. Waldman JD, Paul MH, Newfeld EA, Muster AJ, Idriss F (1977) "Transposition of the great arteries with intact ventricular septum and patent ductus arteriosus." *American Journal of Cardiology* 39: 232-238. (Presented at the 24th Annual Scientific Session of the American College of Cardiology, Feb 10-13, 1975, Houston, TX. *American Journal of Cardiology* 35:175, 1975.)
3. Levin DL, Paul MH, Muster AJ, Newfeld EA, Waldman JD (1977) "D-transposition of great vessels in neonates." *Archiv Int Med* 137: 1421-1425.
4. Greenwood RD, Paul MH, Muster AJ, Newfeld EA, Waldman JD, Rosenthal A (1977) "Cardiovascular malformations in the de Lange syndrome." *Southern Medical Journal* 70: 80-84.
5. Waldman JD, Rosenthal A, Smith AL, Shurin S, Nadas AS (1977) "Sepsis and congenital asplenia." *Journal of Pediatrics* 90: 555-559. Reply to "Hyposplenic sepsis and adrenal hemorrhage" by JC Dearth and GS Gilchrist. *Journal of Pediatrics* 92:512, 1978.
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7. Waldman JD, Norwood CR, Norwood WI, Castaneda AR, Nadas AS (1977) "The effect of experimental cyanosis on platelet survival". (Presented for the Young Investigator Award Competition, American Academy of Pediatrics Meeting, Nov 5, New York, NY.)
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The Hill	The biggest lie about healthcare? Hint: it involves the government. http://thehill.com/blogs/pundits-blog/healthcare/341221-the-biggest-lie-about-healthcare-hint-it-involves-the	7/10/17
Townhall.com	Don't 'Prop Up' Collapsing Obamacare! https://townhall.com/columnists/drdeanewaldman/2017/07/19/dont-prop-up-collapsing-obamacare-n2357135	7/19/17
Investor's.	Medicaid Expansion Was — And Is — A Bad Mistake. D Waldman & D Rajagopalan. http://www.investors.com/politics/commentary/medicaid-expansion-was-and-is-a-bad-	8/4/17

com	mistake/	
The Hill	The Senate's healthcare double whammy: fewer jobs and less care. V Ginn & D Waldman. http://thehill.com/blogs/pundits-blog/healthcare/346291-the-senates-healthcare-double-whammy-fewer-jobs-and-less-care	8/12/17

Podcasts; Radio or TV Interviews; Public Forums

2008-2010

7/6/08, by JD Waldman: "Sound *process* rather than sound practice," aired at: www.soundpractice.net/article.cfm?id=335.

9/2/08 by JD Waldman: "Medical malpractice is really a ***mal***process," aired at: www.soundpractice.net/article.cfm?id=[pending]

3/12/10: JD Waldman interviewed by Kevin Dawson of Global Talk Radio, at: http://www.globaltalkradio.com/download/shows/inthenews/inthenews_2010mar15.mp3.

February-April 2010 Radio Interviews on: The Northwest Show; The Lars Larsen Show, Healthy, Wealthy & Wise; The Jim Bohannon Show; America in the Morning; Wealthy Lifestyle Show; The David Coursey Show.

August-December 2010 Radio Interviews on: "Unconventional Wisdom" (WSTC 1400 WNLK); "Socialism is Not an Option" (BlogTalkRadio); News Talk Radio (WCED, DuBois, PA); Money Matters News Talk 96.7FM (Boston); SuperTalkRadio (MS); Lifestyletalkradio; CaringForKC (710 KCMO Kansas City); "Dresser After Dark:" Fox News 1270AM; WCHE 1520AM (Westchester PA); WTMY (Sarasota FL); NewsTalkRadio (WHON 930); WTCH NewsTalk 580 (Traverse City, MI); Poppoff Radio 1389 (Sacramento, CA).

2011

February 24, 2011: Interview by Penny Sansivieri on "Fascinating Authors" Show. See: http://www.fascinatingauthors.com/interviews/fascinating-authors-interview-deane-waldman.

March 18, 2011: Interview by Karen for the McHale Report.

May 17, 2011: Interview by Dr. Veronica on "Wellness for the Real World."

December 8, 2011: Interview on Bob Clark Show, 770AM, KKOB, Albuquerque, NM.

December 8, 2011: Rio Grande Foundation town hall meeting on healthcare. Albuquerque Art Museum, Albuquerque, NM. Time: 1800-2000.

2012

March 11, 2012: Rio Grande Foundation town hall meeting on healthcare. First Calvary Church, Edgewood, NM. Time: 1500-1700.

March 15, 2012: Rio Grande Foundation town hall meeting on healthcare. Roswell Museum, Roswell, NM. Time: 1800-2000.

March 22, 2012: Interviewed on healthcare by Elaine Baumgartel, KUNM-FM

March 23, 2012: Bob Clark Show, Live debate on ACA, 770AM, KKOB, Albuquerque, NM.

March 25, 2012: Channel 5 KNME-TV, Focus on New Mexico hosted by Jene Grant.

March 29, 2012: TalkBackRadio, Richmond, IN, interviewed by Troy Derengowski.

July 12, 2012: Bob Clark Show, Live discussing SCOTUS decision and the ACA, 770AM, KKOB, Albuquerque, NM.

August 22, 2012: "Health Care and Freedom," Public panel discussion sponsored by *The Libre Initiative*. Michael Barrera, moderator.

August 30, 2012: Interviewed on Medicaid expansion by Elaine Baumgartel, KUNM-FM.

October 2, 2012: KLZ-Denver, 560AM. Interviewed by Angel Tuccy on "The Experience Pro's re: measuring employee retention versus turnover.

October 4, 2012: Forum on ACA before *Right To Life, New Mexico*. Dauneen Dolce, moderator.

2013

January 3, 2013: Presentation on New Mexico State Medicaid expansion before NM Chamber of Commerce.

January 11, 2013: Bob Clark Show (KKOB, 770AM, ABQ) discussing expansion of Medicaid program in New Mexico.

February 28, 2013: I_F Radio, Interviewed by JavaBob Schmalzbach about Obamacare

April 13, 2103: "Speak Out for Life" Forum sponsored by Right To Life, NM

May 21, 2013: "It's ObamaLaw, not Obamacare," delivered at New Mexico Republican Ward 27.

July 25, 2013: KKOB 770AM, Interviewed by Scott Siegler about Healthcare.

August 27, 2013: "Obamacare – A Doctor's Perspective," delivered for the Rio Rancho Rotary.

September 17, 2013: Speaker at "Santa Fe Panel on Healthcare," organized by The Policy Collective (Dot Ball, Chair)

September 26, 2013: KUNM, Interviewed by Deborah Martinez about recent changes in Obamacare.

October 19, 2013: Keynote Speech at NM State Convention of Republican Women.

November 19, 2013: 770AM, KKOB, Interviewed by Bob Clark about release of book, "The Cancer In Healthcare"

2014

January 9, 2014: 770AM - KKOB, Interviewed by Bob Clark, about beginning of implementation of Obamacare.

March 31, 2014: 770AM - KKOB, Interviewed by Bob Clark, with former State Senator Dede Feldman, about the end of Obamacare signup period.

July 8, 2014: 770AM – KKOB, Interviewed by Scott Steigler, regarding Obamacare

September 25, 2014: 1370AM – WOCA, Interviewed by Larry Whitler on Ocala Live AM.

September 30, 2014: 570AM-KLIF, Interviewed by Barry Curtis on the Curtis Report (TX)

October 1, 2014: Interviewed by Ric Franzi on his Critical Mass (business) Show

October 3, 2014: 770AM - KKOB, Interviewed by Bob Clark, about effects of Obamacare.

October 15, 2014: KVSF 101.5, Santa Fe. Interviewed by Richard Eeds' Morning Drive Show, about Healthcare, Obamacare, and ThinkNewMexico's proposals.

October 25, 2014: 770AM-KKOB, Interviewed by Rob Nicoleski on New Mexico Liberty Hour regarding Healthcare

November 19, 2014: Live podcast with Ric Franzi for Critical Mass (business) Radio Show

December 16, 2014: KSKY 660AM, interviewed by Barry Curtis on The Curtis Report

2015

February 13, 2015: BlogTalkRadio, Boomer & Babe Show, interviewed by Pete Peters & Deborah Brown

February 24, 2015:KKOB 770AM, Scott Steigler Show interviewed by Scott Steigler

March 2, 2015: KLIF 570AM, Grant Stinchfield Report, interviewed by Grant Stinchfield

2016

January 8, 2016: KKOB 770AM, Bob Clark Show interviewed by Bob Clark

March 17, 2016: 1320 AM WILS, Capital City Recap with Mike Cohen

March 25, 2016: KSEV Radio, Chris Salcedo Show, Blaze radio network for Latinos

April 13, 2016: Herman Cain Show, WSM radio, Atlanta metro area

June 29, 2016: Nightside with Dan Rhea, WBZ news radio 1030, Boston area

Sept 1, 2016: Fred Holland Show, POTUS Sirius XM radio, WTKI, Huntsville, AL

Sept 22, 2016: Maggie Linton show, Sirius XM Urban view, Chnl 126, D.C. metro

Oct 17, 2016: Interviewed by Roy Maynard, Editor of *Tyler Morning Telegraph*

Oct 19, 2016: Interviewed by Ashley Lopez of KUT-Austin (NPR affiliate)

Oct 27, 2016: Interviewed by Julie Chang, Austin American-Statesman newspaper

Oct 27, 2016: Interviewed by Neal Asbury, "Made In America" show

Oct 28, 2016: Interviewed by Ken Hedler for the Longview News-Journal newspaper

Nov 1, 2016: Interviewed by Gary Rathburn, "An Economy of One" show

Nov 3, 2016: Interviewed by Rusty Humphries, "Trending Today USA" show
Nov 29, 2016: Interviewed by Jim Bohannon of Jim Bohannon Show
Nov 30, 2016: Interviewed by Tim Constantine, of Capitol Hill Report
Dec 5, 2016: Interviewed by Darrel Day of Darrel Day Show (Florida)

2017

Jan. 24, 2017: Interviewed by Michael Hall, Texas Monthly
Jan. 24, 2017: Interviewed by Ashley Lopez, *KUT News*
Feb 6, 2017: Interviewed by Tim Farley, *Early AM Report* (Sirius News)
Feb. 9, 2017: TV interview on *NexStar News*
March 1, 2017: Radio interview on *American Family Radio News*
March 7, 2017: On Air interview on *Fred Holland Show*
March 7, 2017: Interview by Jenny Deam, *Houston Chronicle*
March 9, 2017: On Air interview on Derrel Day Show
March 9, 2017: Radio interview c Ashley Lopez, KUT (NPR affiliate)
March 9, 2017: TV interview with Max Gordon on Spectrum News
March 22, 2017: Telephone interview by Rich Daly, HC Financial Mgmt Assoc
March 30, 2017: Interview by Marwood Research Group re: Texas Medicaid
April 18, 2017: *Trending Today, USA*. Interview with Hal Nunn
April 19, 2017: Interviewed by Chris Woodward, *American Family News*
April 20, 2017: Interviewed by Bob Sechler, *The Statesman*
April 25, 2017: Radio interview with David Pratt
May 4, 2017: KUT News, interviewed by Ashley Lopez
May 4, 2017: KOGO-AM 600, interview with Carl De Maio
May 4, 2017: WGCH-AM 1490, interviewed on Lisa Wexler Show
May 8, 2017: Larry Schilling Show, Charlottesvile, VA
May 9, 2017: Andy Caldwell Show, Santa Maria, CA
May 16, 2017: Webcast interview with M Hamilton, *Health Care News* (Heartland)
May 18, 2019: Interview by R Rayasam, *Politico*
May 18, 2017: Radio interview by Chris Woodward, *OneNewsNow.com*
May 23, 2017: Radio interview, *Economy of One* by Gary Rathman
May 29, 2017: Telephone interview for *Politico*, with Renuka Rayasam
May 30, 2017: Telephone interview for *Dallas Morning News* with Katie Leslie
June 1, 2017: Radio interview by Chris Woodward, American Family News
June 1, 2017: Interview by Shefali Luthra for *Kaiser Health News*
June 19, 2017: Radio interview by Chris Woodward, *OneNewsNow.com*
June 22, 2017: Chris Woodward, *American Family News* (Radio and print)

June 22, 2017: *An Economy of One*, radio interview
June 22, 2017: *Chad Benson Show*, interviewed by Gary Rathburn
June 23, 2017: *Rick Roberts Show*, On Air radio interview
June 23, 2017: Chris Woodward, *American Family News* (Radio and print), again
June 27, 2017: Telephone interview with reporter John Austin
June 28, 2017: In-Studio TV interview with Karina Kling of *Capitol Tonight*
June 30, 2017: On Air radio interview, *Rick Roberts show* (again)
July 5, 2017: Background interview by Katie Lesley, *Dallas Morning News*
July 7, 2017: On Air interview, *Rob Schilling Show* re: GOP 5 Elements
July 7, 2017: Telephone interview by Brandon Best, *Health Care News*
July 11, 2017: On Air interview, *Michael Koolidge Show* (Illinois region)
July 11, 2017: In person interview with Phil Praxan, KXAN station
July 11, 2017: Radio interview with Chris Woodward, *American Family News*
July 12, 2017: Radio interview, KMOX, St. Louis, *Ryan Wrecker Show*
July 13, 2017: Interview by Madhumita Murgia of *Washington Post*
July 18, 2017: On Air interview, *Peter Kalinder Show*, Ashville, NC
July 28, 2017: Interview by Renu Rayasaram of *Politico*
July 29, 2017: On Air interview, *Rob Schilling Show*, WINA 1070, Charlottesville, NC
July 31, 2017: Interview (radio) by Chris Woodward, *American Family News*
August 15, 2017: Interview with Jenny Deam, *Houston Chronicle*

CURRICULUM VITAE

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PERSONAL DATA
(b) (6)

UNDERGRADUATE EDUCATION	1969	Colgate University, Hamilton, NY, B.A. Chemistry
MEDICAL EDUCATION	1973	Columbia University, New York, NY, M.D.
CLINICAL TRAINING	1973-1974	Internship - Mt. Sinai Hospital, New York, NY
	1974-1976	Residency - Mt. Sinai Hospital, New York, NY
POSTGRADUATE TRAINING	1976-1977	Neonatology Fellowship - Children's Hospital Medical Center, University of Cincinnati College of Medicine

ACADEMIC	2009	Executive Director, Perinatal Institute, CCHMC
	2003	Chief, Section of Neonatology, Perinatal and Pulmonary Biology, CCHMC
	1995	Director, Divisions of Neonatology and Pulmonary Biology, CCHMC
	1994	Vice Chairperson for Research, Department of Pediatrics, CCHMC
	1988	Director, Division of Pulmonary Biology, CCHMC
	1985	Professor of Pediatrics, and Pharmacology and Cell Biophysics, University of Cincinnati College of Medicine
	1984	Director Research, Newborn Division
	1981	Associate Professor of Pediatrics
	1981	Research Associate, Division of Cell Biology, Institute for Developmental Research
	1978	Assistant Professor of Pediatrics
	1977	Instructor in Research Pediatrics, University of Cincinnati

HONORS	1969	High Honors in Chemistry, Magna Cum Laude, Colgate University, Phi Beta Kappa
	1973	Community Medicine Award, Columbia University
	1979	Certified by American Board of Pediatric Examiners
	1979	Board Certified Neonatology
	1981	Sigma Zi Research Award, University of Cincinnati
	1986	American Society for Clinical Investigation
	1987-92	Member, NIH Study Section, Human Embryology and Development
	1988	E. Mead Johnson Award, Society for Pediatric Research
	1992	Council Member, Society for Pediatric Research
	1992-02	NIH Merit Award
	1993	Chair, North American Cystic Fibrosis Meeting
	1995	Amberson Lecture Award - American Thoracic Society
	1993-1996	Review Board - Basil O'Conner, March of Dimes
	1997	William Cooper Procter Award - Cincinnati Children's Hospital Medical Center
	1998	"Distinguished Professor" University of Cincinnati
	1998	Health Care Heroes Award, Cincinnati, OH
	2001	Cincinnati Pediatric Society Founder's Award
	2003	Daniel Drake Award - The University of Cincinnati
	2005	Institutes of Medicine of the National Academy of Sciences
		Rieveschl Award for Distinguished Scientific Research, University of Cincinnati

2006 Fellows of the Graduate School, University of Cincinnati
2007-11 Castle Connolly Top Doctor
2006-11 Selection Committee CAB and CAM Award, Burroughs-Wellcome Foundation
2011 Selection Committee for "Prematurity Research" Pilot grant program, Burroughs-Wellcome Foundation
2011 Co-Chair, Burroughs Wellcome Career Award Committee
2003-12 "Best Doctors"/"Top Doctors" – *Cincy Magazine* and *Cincinnati Magazine*
2012 Arvo Yippo Award – Finnish Award in Pediatrics
2012 Hamdan Award for Medical Sciences
2012 Cincinnati Children's Hospital Research Foundation Lifetime Achievement Award.
2013-16 NHLBI Council Member
2015 Mary Ellen Avery Neonatal Research Award
2015 Virginia Apgar Award

LICENSURE Ohio, Kentucky

SOCIETIES
Society for Pediatric Research, 1980
American Society of Cell Biologists, 1989
American Society for Clinical Investigation, 1986
American Thoracic Society, 1986-present
American Pediatric Society, 1995-present
Institute of Medicine of the National Academies, 2003
American Physiological Society, 2005
Association of American Physicians, 2006
American Society for Biochemistry and Molecular Biology, 2006
International Society of Differentiation, Board Member, 2014

EDITORIAL BOARDS (Past and Present)
Associate Editor, American Journal of Respiratory Cell and Molecular Biology, American Journal of Physiology Lung Cell and Molecular Physiology, 1996-2010
Journal of Clinical Investigation (Consulting Editor) 1994-2002
Journal of Biological Chemistry, 2007-2012
PLoS ONE, 2009-2013

CLINICAL APPOINTMENTS (all ended 7/12/2011)
Children's Hospital Medical Center, Cincinnati, OH, Director Neonatology
University Hospital, Cincinnati, OH
St. Elizabeth Hospital, Edgewood, KY
Christ Hospital, Cincinnati, OH
Mercy Hospital, Cincinnati, OH
Bethesda Hospital, Cincinnati, OH
Good Samaritan Hospital, Cincinnati, OH, Director, Tri-Health Neonatology

POSTDOCTORAL TRAINEES

Akihiko Noguchi, M.D.
John Moore, M.D.
Karen Kalenyak, M.D.
Thomas Korfhagen, M.D., Ph.D.
Lawrence Nogee, M.D.
Bryan Ohning, M.D., Ph.D.
Ward Rice, M.D., Ph.D.
Gary Ross, Ph.D.
Timothy Weaver, Ph.D.
Michael McMahan, M.D.
Rita Ryan, M.D.
Rashmin Savani, M.D.
Tara Burnette, M.D.
Melanie D'Amore, Ph.D.
Keith Kropp, Ph.D.
John Baatz, Ph.D.
Gloria Pryhuber, M.D.
Susan Wert, Ph.D.
Ronald Holtzman, M.D.
David Lattier, Ph.D.
Barry Stripp, Ph.D.
Anne Horowitz, Ph.D.
Carol Kerlakian, Ph.D.
Susan Kelly, Ph.D.
Jessica Shaw-White, Ph.D.
Cindy Bachurski, Ph.D.
Kazushige Ikeda, M.D.
Liqian Zhang, Ph.D.
Lan Zhou, M.D., Ph.D.
Cong Yan, Ph.D.
Zsuzsanna Zsengeller, M.D.
Zissis Chroneos, Ph.D.
Kevin Harrod, Ph.D.
Jay Tichelaar, Ph.D.
Shilpa Jain-Vora, Ph.D.
Keisuke Tokieda, M.D.
Shin-Ya Hayashida, M.D.
Mitsuhiro Yoshida, M.D.
Anne-Karina Perl, Ph.D.
Sarah Gebb, Ph.D.
Andreas Holzinger, M.D.
Jackie (Huffman) Reed, Ph.D.
Ann Marie LeVine, M.D.

Brian Hyatt, Ph.D.
Isamu Hokuto, M.D.
Valerie Besnard, Ph.D.
Yohei Matsuzaki, M.D.
Hiroshi Kida, M.D.
Yutaka Maeda, M.D.
Sheila Bell, Ph.D.
Alexander Lange, Ph.D.
Huajing Wan, Ph.D.
Paul Kingma, M.D.
Al Senft, Ph.D.
Vrushank Davé, Ph.D.
Hans-Michael Haitchi, M.D., Ph.D.
Malia Ray, M.D.
Xiaofang Tang, Ph.D.
Jason Gokey, Ph.D.
Tara Rindler, Ph.D.

GRADUATE STUDENTS

Michael A. O'Reilly, Ph.D. – Molecular and Developmental Biology
Stephan W. Glasser, Ph.D. – Molecular and Developmental Biology
Kathryn Wikenheiser, Ph.D./M.D. – Molecular and Developmental Biology
Diane Vorbroker – Molecular and Developmental Biology
Robert Bohinski, Ph.D./M.D. – Molecular and Developmental Biology
Jackie Huffman, Ph.D. – Molecular and Developmental Biology
Zvjezdana (Stella) Sever, Ph.D. – Cancer and Cell Biology
Xin Zeng - Ph.D. – Molecular and Developmental Biology
Cong Liu, Ph.D. – Molecular and Developmental Biology
Leigh-Anne Miller, Ph.D. – Molecular and Developmental Biology
Paul Reynolds, Ph.D. – Molecular and Developmental Biology
Huajing Wan, Ph.D. – Cancer and Cell Biology
Kwon-Sik Park, Ph.D. – Molecular and Developmental Biology
Gang Chen, Ph.D. – Molecular and Developmental Biology
David Tompkins, Ph.D. – Cancer and Cell Biology
Aria Attia, B.S. – Molecular and Developmental Biology

PATENTS

Surfactant Protein D for the Prevention and Diagnosis of Pulmonary Emphysema
- US Patent # 6,838,428
- Australia # 767774
- Hong Kong #1054247
- United Kingdom/France/Italy/Spain/Europe #1123383
- Germany Serial #69939179.2-08
- France/Spain #1278829
- Australia #2001257386

Surfactant protein-C for Surfactant Replacement
- US Patent # 5,013,720
- US Patent # 5,387,746

Nucleic Acid Sequences Controlling Lung Cell-Specific Gene Expression
- US Patent # 5,976,873

A Method for Diagnosis and Therapy of Pulmonary Disorders Associated with Lung Injury
- US Patent # 7,951,532

Surfactant Protein D for the Treatment of Disorders Associated with Lung Injury
- US Patent # 9,492,503

BIBLIOGRAPHY

ARTICLES

1. Whitsett, J.A. and Tsang, R.C.: *In vitro* effects of fatty acids on serum ionized calcium. J. Pediatr. 91:223-236, 1977.
2. Whitsett, J.A. and Lessard, J.: Characteristics of the microvillus brush border of human placenta insulin receptor localization in brush border membranes. Endocrinology 103:1458-1470, 1978.
3. Whitsett, J.A., Johnson, C. and Hawkins, K.: Differences in the localization of adenylate cyclase and insulin receptors in the human placenta. Am. J. Obstet. Gynecol. 133:204-207, 1979.
4. Whitsett, J.A. and Johnson, C.: Adenylate cyclase from human decidua parietalis. Am. J. Obstet. Gynecol. 133:479-483, 1979.
5. Whitsett, J.A. and Wallick, E.: Na-K-ATPase and [^{3}H]ouabain binding in human placental membranes. Am. J. Physiol. 238:E38-E45, 1980.
6. Whitsett, J.A. and Tsang, R.C.: Calcium uptake and binding by membrane fractions of human placenta: ATP-dependent calcium accumulation. Pediatr. Res. 14:769-775, 1980.
7. Whitsett, J.A.: Specializations in plasma membrane of the human placenta. J. Pediatr. 96:600-604, 1980.
8. Whitsett, J.A., Johnson, C.L., Noguchi, A., Darovec-Beckerman, C. and Costello, M.: ß-Adrenergic receptor and catecholamine sensitive adenylate cyclase in the human placenta. J. Clin. Endo. Metab. 50:27-32, 1980.
9. Johnson, D.R., Kleinman, L.I. and Whitsett, J.A.: Effects of lead on renal responsiveness to antidiuretic hormone in young rats. Toxicology and Applied Pharmacology 53:299-305, 1980.
10. Whitsett, J.A., Darovec-Beckerman, C., Adams, K., Pollinger, J. and Needleman, H.: Thyroid hormone mediates the development of pulmonary ß-adrenergic receptors in the rat. Biochem. Biophys. Res. Commun. 97:913-917, 1980.
11. Whitsett, J.A., Noguchi, A., Johnson, C. and Neely, J.: ß-Adrenergic receptors and catecholamine sensitive adenylate cyclase in human neuroblastoma. Brain Res. 216:73-87, 1981.
12. Moore, J.J. and Whitsett, J.A.: The ß-adrenergic receptor in human placenta: receptor subtype analysis ($ß_1$ and $ß_2$) and partial characterization of the solubilized receptor. Placenta 3:103-115, 1981.
13. Whitsett, J.A. and Darovec-Beckerman, C.: Developmental aspects of ß-Adrenergic receptors and catecholamine-sensitive adenylate cyclase in rat myocardium. Pediatr. Res. 15:1363-1369, 1981.
14. Whitsett, J.A., Manton, M.A., Darovec-Beckerman, C., Adams, K.G. and Moore, J.J.: Development of ß-adrenergic receptors in fetal rabbit lung. Am. J. Physiol. 240:E351-E357, 1981.
15. Whitsett, J.A., Manton, M.A., Darovec-Beckerman, C. and Adams, K.G.: ß-Adrenergic receptors and catecholamine sensitive adenylate cyclase in the developing rat lung. Life Sciences 28:339-345, 1981.
16. Whitsett, J.A., Noguchi, A. and Moore, J.: Developmental aspects of α- and ß-adrenergic receptors. Seminars in Perinatology 6:125-141, 1982.
17. Whitsett, J.A., Ho, M., Tsang, R.C., Norman, E. and Adams, K.: Synthesis of 1,25-dihydroxyvitamin D3 by human placenta *in vitro*. J. Clin. Endo. Metab. 53:484-488, 1981.
18. Noguchi, A., Whitsett, J.A. and Dickman, L.: Ontogeny of myocardial a1-adrenergic receptors in the rat. Dev. Pharmacol. Therap. 3:179-188, 1981.
19. Whitsett, J.A., Pollinger, J. and Matz, S.: ß-Adrenergic receptors and catecholamine sensitive adenylate cyclase in developing rat ventricular myocardium: effect of thyroid status. Pediatr. Res. 16:463-469, 1982.
20. Whitsett, J.A., Darovec-Beckerman, C. and Rice, W.R.: Ontogeny of adenylate cyclase activity in developing rat lung: guanine nucleotides and cytosolic factors. Pediatr. Res. 17:553-561, 1983.
21. Whitsett, J.A., Machulskis, A., Noguchi, A. and Burdsall, J.A.: Ontogeny of α_1 and ß-adrenergic receptors in rat lung. Life Sciences 30:139-145, 1982.
22. Moore, J.J. and Whitsett, J.A.: The ß-adrenergic receptor in mammalian placenta: species differences and ontogeny. Placenta 3:257-268, 1982.
23. Whitsett, J.A., Darovec-Beckerman, C., Pollinger, J. and Moore, J.J.: Ontogeny of ß-adrenergic receptors in the rat lung: effects of hypothyroidism. Pediatr. Res. 16:381-387, 1982.
24. Moore, J.J., Workman, L. and Whitsett, J.A.: Trophoblastic cells of the hydatidiform mole contain a $ß_1$-subtype adrenergic receptor. J. Clin. Endo. and Metab. 55:341-345, 1982.
25. Whitsett, J.A., Burdsall, J., Workman, L., Hollinger, B. and Neely, J.: ß-Adrenergic receptors in pediatric tumors: uncoupled $ß_1$-adrenergic receptor in Ewing's sarcoma. J. Natl. Cancer Institute 71:779-786, 1983.
26. Moore, J.J., Baker, J.V. and Whitsett, J.A.: cAMP-dependent protein kinase and cAMP, cGMP and calcium stimulated phosphorylation in human placenta: comparison of cytosol and membrane fractions. Trophoblast Research 1:185-196, 1983.
27. Whitsett, J.A., Matz, S. and Darovec-Beckerman, C.: cAMP dependent protein kinase and protein phosphorylation in developing rat lung. Pediatr. Res. 17:959-966, 1983.

28. Moore, J.J., Baker, J. and Whitsett, J.A.: Adenosine 3'5'-monophosphate (cAMP) binding protein and cAMP dependent protein kinase in human placenta. J. Clin. Endo. and Metab. 56:1035-1041, 1983.
29. Tsang, R.C., Venkataraman, P.S., Ho, M., Steichen, J.J., Whitsett, J.A. and Greer, F.: The development of pseudohypoparathyroidism. Involvement of progressively increasing serum parathyroid hormone level, increased 1,25-dihydroxyvitamin D levels and "migratory" subcutaneous calcifications. Am. J. Dis. Child. 138:654-658, 1984.
30. Noguchi, A. and Whitsett, J.A.: Ontogeny of α_1-adrenergic receptors in the rat myocardium: effects of hypothyroidism. Eur. J. Pharm. 86:43-50, 1982.
31. Whitsett, J.A. and Hollinger, B.: Muscarinic cholinergic receptors in developing rat lung. Pediatr. Res. 18:1136-1140, 1984.
32. Sawutz, D.G., Kalinyak, K., Whitsett, J.A. and Johnson, C.L.: Histamine H_2 receptor desensitization in HL-60 human promyelocytic leukemia cells. J. Pharm. Exp. Therap. 231:1-7, 1984.
33. Rice, W.R., Osterhoudt, K.C. and Whitsett, J.A.: Effects of cytochalasins on surfactant release in rat Type II cells. Biochim. Biophys. Acta 805:12-18, 1984.
34. Rice, W.R. and Whitsett, J.A.: Inhibition of surfactant release from isolated Type II cells by compound 48/80. Biochim. Biophys. Acta 805:261-267, 1984.
35. Weaver, T.E., Hull, W.M., Ross, G.F. and Whitsett, J.A.: Intracellular and oligomeric forms of surfactant-associated apolipoprotein(s) A in the rat. Biochim. Biophys. Acta 827:260-267, 1985.
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37. Workman, M., Soukup, S., Neely, J.E., Whitsett, J.A., Ballard E. and Lampkin, B.: Biologic characteristics of four Ewing's sarcomas. Cancer Genet. Cytogenet. 15:215-225, 1985.
38. Whitsett, J.A., Hull, W., Dion, C. and Lessard, J.: cAMP-dependent actin phosphorylation in developing rat lung and Type II epithelial cells. Exp. Lung Res. 9:191-209, 1985.
39. Whitsett, J.A., Weaver, T., Hull, W., Ross, G. and Dion, C.: Synthesis of surfactant-associated glycoprotein A by rat Type II epithelial cells. Primary translation products and post-translational modification. Biochim. Biophys. Acta 828:162-171, 1985.
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121. Whitsett, J.A.: Respiratory distress syndrome-hyaline membrane disease. In: Reference Module in Biomedical Sciences. Elsevier. In press.
122. Whitsett, J.A. and Xu, Y.: "Transcriptional Mechanisms Regulating Pulmonary Epithelial Maturation: A Systems Biology Approach." In: Fetal & Neonatal Lung Development. Chapter 4, pp. 58-76, 2016.
123. Whitsett, J.A. and Weaver, T.E.: Alveolar Development and Disease. Am. J. Respir. Cell Mol. Biol. 53: 1-7, 2015. Invited "Perspective."
124. Whitsett, J.A.: "Surfactant Homeostasis: Composition and Function of Pulmonary Surfactant Lipids and Proteins." In: Fetal & Neonatal Physiology, 5th edition. R.A. Polin, W.W. Fox, and S Abman (eds.). W.B. Saunders Co., Philadelphia, PA. Chapter 80, pp. 798-808.e1, 2017.
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127. Swarr, D.T., Wert, S.E. and Whitsett, J.A.: Molecular determinants of lung morphogenesis. In: Kendig & Chernick's Disorders of the Respiratory Tract in Children 9th ed. Wilmott, R.W., Bush, A., Ratjen, F., Deterding, R., Boat, T., and Chernick, V. (eds); Elsevier, Philadelphia, PA.
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LARRY I. WOLK, MD, MSPH

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PROFESSIONAL HIGHLIGHTS

September 2013 – present **CDPHE** (Colorado Department of Public Health and Environment)
Denver, Colorado
Executive Director and State Chief Medical Officer

August 2012 – September 2013 **CORHIO** (Colorado Regional Health Information Organization)
Denver, Colorado
Chief Executive Officer

February 2007 to December 2011 **Correctional Healthcare Companies**,
Englewood, CO
President and Chief Operating Officer

November, 1992 to present **Rocky Mountain Youth MNC, Inc.**,
Denver, CO
Founder, Board member, prior CEO and pediatrician

August 2011 to present **The University of Colorado HSC Department of Pediatrics**
Denver, CO
Clinical Professor

September, 2008 to present **Rocky Vista University**
Parker, Colorado
Adjunct Clinical Professor

January 2005 to February 2007 **HMS Healthcare, Inc.**
Greenwood Village, CO
Chief Medical Officer and Division Head for their Medical Management Company

November 1999 through January 2005 **CIGNA HealthCare**
Denver, CO
Vice President and Senior Medical Executive, National Sales and Account Management
Vice President and Senior Medical Director

January 1999 to October 1999 **Prudential Healthcare of Colorado**
Denver, CO
Senior Medical Director (Prudential acquired by Aetna)

November 1997 to December 1998 **Blue Cross & Blue Shield of Colorado**
Denver, CO
Medical Director (BCBS acquired by Anthem)

November 1992 to November 1997 **Presbyterian/St. Luke's Medical Center**
Denver, CO
Medical Director, Ambulatory Pediatrics and Adolescent Medicine

December 1992 to November 1997 **Community Health Services**
Commerce City, CO
Medical Director, School-linked Clinics

QUALIFICATIONS

- ☑ Founder, CEO of Rocky Mountain Youth MNC (**Innovation**)
- ☑ Led and participated in multiple successful healthcare mergers and/or acquisitions (companies, references and multiples available on request) (**Business acumen**)
- ☑ Published author and content contributor to multiple local, regional and national publications, media outlets and journals (**Communications, Media Trained**)
- ☑ 2009 Outstanding Clinical Faculty Community Service Award, The University of Colorado Department of Pediatrics (**Teaching**)
- ☑ 2008 American Red Cross Mile High Chapter *Breakfast of Champions Healthcare Lifetime Achievement Award* (**Service**)
- ☑ 2006 Harold Williamson Award for Volunteer Medical Service, The COPIC Foundation
- ☑ 2004 National Philanthropy day Volunteer of the Year (**Philanthropy**)
- ☑ 2000 *Denver Business Journal Executive of the Year*, in the category of health care (**Leadership**)
- ☑ 2000 Terrell Davis Salute the Kids Foundation Honoree for community service
- ☑ 2000 - 2009 Best Doctors in America
- ☑ 1999 Savvy Award for volunteerism in the Denver community
- ☑ 1999 Channel 7 Every Day Hero Award
- ☑ The University of Vermont College of Medicine's Award for Service to Medicine and Community, 1998
- ☑ The American Hospital Association Recognition for Model Programs Serving Adolescents, 1998
- ☑ The University of Vermont College of Medicine's 1998 Commencement Speaker
- ☑ Colorado Pediatrician of the Year 1995-1996, awarded by the Colorado Rocky Mountain Chapter of the National Association of Pediatric Nurse Associates and Practitioners (**Collaboration**)
- ☑ National Young Investigator Award Nominee, The Society of Adolescent Medicine, 1993-1994
- ☑ The Joseph Collins Foundation Scholarship, for commitment to the arts and humanities throughout medical school
- ☑ The University of Pennsylvania Rosette Award, for outstanding service and performance in the University's Performing Arts

AFFILIATIONS

- **Member,** Board of Directors, Nextcare Urgent Care, 2010 - present
- **Member,** Board of Directors, Colorado Access, 2011 – 2013
- **Volunteer Physician**, United States Olympic Teams in residence, March,1996 and April, 2014
- **Coordinator/Chief Medical Consultant,** Anderman Smith International, the Nizhnevartovsk Medical Relief Project, 1991-1998
- **Member,** The National Society for Adolescent Medicine, 1994-present
- **Member and Fellow,** American College of Physician Executives, 1997-present
- **Member and Fellow,** American Academy of Pediatrics, 1989-present
- **Member,** Colorado Medical Society, 1992-present
- **Member,** Denver Medical Society, 1992-present
- **Member,** Board of Directors, Colorado Coalition for the Medically Underserved, 2003-2010
- **Member,** Board of Directors, Colorado Coalition for the Homeless, 1997-2003
- **Member,** Board of Directors, The Center for the People of Capitol Hill, 1993-1996
- **Member,** Board of Directors, The Rocky Mountain Center for Health Promotion and Education 1997-2007
- **Member,** Board of Directors, The Colorado Association of School-based Healthcare, 1999 - 2008
- **Member,** Advisory Council on Adolescent Health, Colorado Department of Public Health and Environment, 1996-2001
- **National Chairperson Ex-officio,** The American Academy of Pediatrics Resident Section, 1991-1992
- **National Chairperson,** The Academy of Pediatrics Resident Section, 1990-1991
- **National Vice-Chair,** The American Academy of Pediatrics Resident Section, 1989-1990
- **National Committee Member,** The Committee on Residency Scholarships, AAP, 1989-1992
- **National Council Member,** The Council on Sections, AAP, 1989-1991

EDUCATION

The University of Colorado Health Sciences Center, Denver, **Clinical Instructor/Fellow in the Section of Adolescent Medicine, Department of Pediatrics**; July 1991-November 1992

The University of Colorado Health Sciences Center, Denver, **Masters of Science degree in Public Health, Department of Preventive Medicine and Biometrics**; May 1993

The University of Colorado Health Sciences Center, Denver, **Internship and Residency in Pediatrics**; June 1988-June 1991

The University of Vermont College of Medicine, Burlington, VT, **Doctorate of Medicine degree**; May 1988

The University of Pennsylvania, Philadelphia, PA, **Bachelor of Arts degree in the Biological Basis of Behavior**; May 1984

National Board of Medical Examiners, Board Certified; 1989

American Board of Pediatrics, Board Certified; November 1992; Re-certified October 1999 and 2006

Young CV 2017

S. Stanley Young
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Current Position:
CEO CGStat LLC

Education
BS, MES, PhD, 1966, 1968, 1974, North Carolina State University, Raleigh, NC

Postions

1972-1987	Research Statistician, Eli Lilly&Co.
1987-2000	Principle Consultant, GlaxoWelcome
2000-2002	Director, Statistical Research, GlaxoSmithKline
1996-	Adjunct Professor of Statistics, NCSU
1998-	Adjunct Professor of Statistics, University of Waterloo
2002-	CEO, CGStat, LLC
2002-2015	Assistant Director for Bioinformatics, NISS
2004-	Adjunct Professor of Statistics, University of British Columbia
2015-	Adjunct Professor of Biostatistics, Georgia Southern University

Other Experience and Professional Memberships

1972-	American Statistical Association
1972-	Biometrics Society
2004	Program Chair, ASA's Section on SPES
2003	Program Chair, Midwest Biopharmaceutical Statistics Workshop

Honors

1980	Best Statistics Paper, SAS Users' Group International
1989	Best Statistics Paper, SAS Users' Group International
1990	Fellow of the American Statistics Association
1991	Best Statistics Application Paper, ASA
1998	Statistics in Chemistry Award, ASA
1999	Virtual Screening Conference, Marburg Germany
2000	Statistics in Chemistry Award, ASA
2000	Participant of "Biostatistics Workshop" at the Oberwolfach Institute in Germany
2000	Participant of "Computational Chemistry Workshop" Beilstein Institute of Germany
2006	Fellow of the American Association for the Advancement of Science
2006	Statistics in Chemistry Award, ASA

Book
Peter H. Westfall and S. Stanley Young (1993) *Resampling-based Multiple Testing*, John Wiley&Sons

Book Chapters
Young SS, Hawkins DM. (2004) Using recursive partitioning analysis to evaluate compound

selection methods. Chemoinformatics: Methods and Protocols Ed. J. Bajorath. The Humana Press Inc., Totowa, NJ 07512

Westfall, W.H., Zaykin, D.V. and Young, S.S. (2002) Multiple tests for genetic effects in association studies. Biostatistical Methods. S.W. Looney, Ed. Humana Press Inc., Totowa, NJ 07512

Lambert CG, Young SS. (2006) Pharmaceutical research and development productivity: Can software help? Computer Applications in pharmaceutical research and development, Ekins S, Wang B. Eds Wiley

Young SS, Obenchain RL, Lambert CG. (2016) A Problem of Bias and Response Heterogeneity. In Standing with Giants. Eds. Moghissi AA and Ross G. American Council on Science and Health.

Patents

Farmen MW, Lambert CG, Rusinko III AR, Young SS. Statistical deconvoluting of mixtures. US Patent 6,434,542. (1997).

Lam RLH, Welch WJ, Young SS. Cell based binning methods and cell coverage system for molecule selection. US Patent 6,850,876 (2000)

Young SS, Barrett, Jr. TH, Beecher CW. System, method, and computer program product for analyzing spectrometry data to identify and quantify individual components in a sample. US Patent 7,561,975 (2009)

Papers

Gries CL, Young SS. (1982) Positive correlation of body weight with pituitary tumor incidence in rats. *Fundamental and Applied Toxicology* 2:145-148.

Young SS. On the choice of experimental populations for research in neurobehavioral toxicology. *J Toxicol Environ Health.* 1983 Oct-Dec;12(4-6):841-842.

Young SS, Gries CL. (1984) Exploration of the negative correlation between proliferative hepatic lesions and lymphoma in rats and mice - establishment and implications. *Fundamental and Applied Toxicology* 4, 632-640.

Meyers DB, Young SS, Gries CL. (1985) Design of cancer assays for pharmaceutical agents. *J Natl Cancer Inst*. 74,1151-1152.

Young SS, Brannon DR. (1986) Dose selection for long-term rodent carcinogenicity studies. *Fundam Appl Toxicol.* 6, 185-188.

Tamura RN, Young SS. (1986) The incorporation of historical information in tests of proportions: Simulation study of Tarone's procedure. *Biometrics* 42, 343-349.

Tamura RN Young SS. (1987) A stabilized moment estimator for the beta-binomial distribution. *Biometrics* 43, 813-824.

Young SS. (1988) Evaluation of data from long-term rodent studies. *J Natl Cancer Inst.* 80,3-4.

Young SS. (1988) Do short-term tests predict rodent carcinogenicity? *Science.* 241,1232-3.

Westfall PH, Young SS. (1989) P-value adjustments for multiple tests in multivariate binomial models. *JASA* 84, 780-786.

Young SS. (1989) What is the proper experimental unit for long-term rodent studies? An examination of the NTP benzyl acetate study. *Toxicology.* 54, 233-9.

Young SS. (1989) A blind reanalysis of a random subset of NCI bioassay studies: agreement between rats and mice. *Fundam Appl Toxicol.* 12, 232-41.

Young, S.S. (1991) Drug Design: Examining Large Experimental Designs. Proceedings of the 23rd Computing Science and Statistics: Symposium on the Interface.

Young, S.S., and Hawkins, D.M. (1995) Analysis of a 2^9 full factorial chemical library. *J. Medicinal Chemistry* 38, 2784-2788.

Young S S, Farmen M., Rusinko A. III (1996) Random versus rational which is better for general compound screening? Network Sci. [Electronic Publication] 2(7), URL: http://www.awod.com/netsci/Issues/Aug96/feature3.html

Hawkins, D.M., Young, S.S., and Rusinko, A. III (1997) Analysis of a large structure-activity data set using recursive partitioning. *QSAR* 16: 296-302.

Young SS, Sheffield CF, Farmen, M. (1997) Optimum utilization of a compound collection or chemical library for drug discovery. *J. Chem. Info. Comp. Science* 37: 892-899.

Young, S.S. and Hawkins, D.M. (1998) Using recursive partitioning to analyze a large SAR data set. *SAR and QSAR in Environmental Research* 8: 183-193.

Chen X, Rusinko A III, Young SS. (1998) Recursive partitioning analysis of a large structure-activity data set using three-dimensional descriptors. *J. Chem. Info. Comp. Science* 38: 1054-1062.

Westfall PH, Krishen A, Young SS. (1998) Using prior information to allocate significance levels for multiple endpoints. *Stat Med.* 17, 2107-19.

Chen X, Rusinko A., Tropsha A, Young S S. (1999) Automated pharmacophore identification for large chemical data sets. *J. Chem. Info. Comp. Science* 39, 887–896.

Rusinko A, Farmen MW, Lambert CG, Brown PL, Young SS. (1999). Analysis of a large structure/biological activity data set using recursive partitioning, *J Chemical Inf Comp Sci*, 39, 1017-1026.

Jones-Hertzog DK, Mukhopadhyay P, Keefer CE, Young SS. (1999) Use of recursive partitioning in the sequential screening of G-protein-coupled receptors. *J Pharmacol Toxicol* 42, 207-215.

Drewry, D.H., Young, S.S. (1999) Approaches to the Design of Combinatorial Libraries. *Chemom. Intell. Lab. Syst.*, 48, 1-20.

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Young SS, Gombar VK, Emptage MR., Cariello NF, Lambert C, (2001) Mixture deconvolution and analysis of Ames mutagenicity data. *Chemometrics and Intelligent Laboratory Systems* 60, 5-11.

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EDUCATION

PhD	1982	Princeton University	Statistics
MS	1978	Drexel University	Mathematics
BA	1974	University of Pennsylvania	Biology

PROFESSIONAL EXPERIENCE

Co-Director for Data Science, Johns Hopkins Individualized Health Initiative (Hopkins *in*Health)
February, 2017-present

Director, Johns Hopkins Individualized Health Initiative (Hopkins *in*Health)
Vice Provost for Special Programs
The Johns Hopkins University
July 2013 – February, 2017

Interim Provost
The Johns Hopkins University
March-August, 2009

Vice Provost for Research
The Johns Hopkins University
2008-2013

Hurley-Dorrier Professor and Chair of Biostatistics
Johns Hopkins Bloomberg School of Public Health
2005-2008

Chair, Department of Biostatistics
Johns Hopkins Bloomberg School of Public Health
1996-2008

Senior Associate Dean for Academic Affairs
Johns Hopkins University School of Hygiene and Public Health
1991-1996

Professor, Department of Biostatistics
Johns Hopkins University School of Hygiene and Public Health
1991-present

Joint Appointment, Department of Medicine
Johns Hopkins School of Medicine
2016-present

Joint Appointment, Department of International Health
Johns Hopkins University Bloomberg School of Public Health
2014-present

Joint Appointment, Department of Epidemiology
Johns Hopkins University Bloomberg School of Public Health
1984-present

Associate Professor, Department of Biostatistics
Johns Hopkins University School of Hygiene and Public Health
1986-1991

Visiting Scholar, Department of Mathematics
Lancaster University (Lancaster, England)
Spring, 1989, Summer, 1999

Visiting Scholar, Department of Statistics
University of Chicago
Winter, 1989

Visiting Scholar, Institute of Statistics
Academia Sinica (Taipei, Taiwan)
Winter, 1987

Visiting Research Scientist, Division of Mathematics and Statistics
Commonwealth Scientific and Industrial Research Organization (CSIRO) (Victoria, Australia)
Summer, 1986

Academic Visitor, Department of Mathematics
Imperial College (London, England)
Fall, 1985

Assistant Professor, Department of Biostatistics
Johns Hopkins University School of Hygiene and Public Health
1982-1986

Biomathematician
Academy of Natural Sciences of Philadelphia
1974-1978

SELECTED PROFESSIONAL ACTIVITIES

External Advisory Committee, University of Rochester Department of Biostatistics Training Grant, Chair, 2016

Visiting Committee, Brown University School of Public Health, 2014

Visiting Committee, McGill University Department of Epidemiology, Biostatistics and Occupational Health, 2014

Member, University of Chicago Center for Environmental Statistics Advisory Board, 2001- 2006

Member, Dana Farber/Harvard Cancer Center External Advisory Board, 2001

Expert witness, United States Department of Justice, in civil suits against the tobacco companies, 1999-2001

Member, Institute of Medicine Panel on Risk Benefit Analyses, 2001-2003

Member, Institute of Medicine Panel on Gulf War Illness, 1999-2000

Expert witness, States of Minnesota, Wisconsin, and Maryland, in civil suits against the tobacco companies, 1998-1999

President, International Biometric Society Eastern North American Region (ENAR) 1996-1997

Member, Merck Research Laboratories Board of Scientific Advisors 1995-2007

Member, Board of Trustees of the National Institute of Statistical Sciences 1995-1996

Member, Scientific Advisory Board, University of Southern California Children's Health Study 1992-2003

Scientific Review Panel, Environmental Protection Agency 1985-1989

Membership in Professional Societies: American Association for the Advancement of Science, American Public Health Association, American Statistical Association, Association for Research in Vision and Ophthalmology, Institute of Mathematical Sciences, International Biometric Society, Royal Statistical Society

EDITORIAL ACTIVITIES

Editorial Board Membership:

Editorial Board, Springer Series in Statistics and Springer Lecture Notes in Statistics, Springer Press, 1995-present

Editorial Board, Royal Statistical Society and American Statistical Association, *Significance*, 2010-2015

Editorial Committee, *Annual Review of Public Health*, 2005-2009

Founding Co-Editor (with Peter Diggle), *Biostatistics*, Oxford University Press, 1998-2009

Statistical consultant to *Science*, 2001-2002

Associate Editor, *Journal of the American Statistical Association*, 1988-1997

Selected Peer-Review Activities:

Referee for: *American Journal of Epidemiology; American Journal of Public Health; American Review of Respiratory Disease; Applied Statistics*; *Archives of Ophthalmology; Biometrics; Biometrika; Canadian Journal of Statistics;* Chapman and Hall; *Controlled Clinical Trials; Epidemiology; Growth; International Review of Statistics; Journal of Biomechanical Engineering; Journal of Official Statistics; Journal of Statistical Computation and Simulation; Journal of the Air and Waste Management Association; Journal of the American Statistical Association; Journal of the Royal Statistical Society-B; Mathematical Biosciences; Multivariate Behavioral Research;* Oxford University Press; *Preventive Medicine; Scandinavian Journal of Statistics;* Springer-Verlag Press; *Statistics in Medicine; Technometrics;* John Wiley and Company

HONORS AND AWARDS

Honorary Doctoral Degree, Lancaster University, 2015

Karl Pearson Award (with Kung-Yee Liang), International Statistical Institute, 2015

Bradford Hill Medal, Royal Statistical Society, 2007

Marvin Zelen Leadership Award in Statistical Science, Harvard School of Public Health, 2007

Member, National Academy of Sciences' Institute of Medicine (now National Academy of Medicine), 2006-present

Inaugural Hurley-Dorrier Professor of Biostatistics, 2005

Golden Apple Award presented by The Johns Hopkins University Bloomberg School of Public Health Students for outstanding teaching 2006, 2002, 1988

Fellow, American Association of the Advancement of Science, 2001

Ernest Lyman Stebbins Medal, Johns Hopkins School of Public Health, in recognition of outstanding contributions to the educational programs of the School, 1996

Academic Category Award, Statistics Section of the American Public Health Association, 1995

Fellow, American Statistical Association, 1995

Bernard C. Greenberg Distinguished Lectureship, University of North Carolina Department of Biostatistics, 1995

Member, International Statistical Institute, 1993

Spiegelman Award from the Statistics Section of the American Public Health Association for the outstanding statistician under the age of 40, 1991

Snedecor Award from American Statistical Association (with Kung-Yee Liang) for best publication in Biometry for 1986, 1987

PUBLICATIONS

Books/Monographs:

Parmigiani G, Garrett ES, Irizarry RA, Zeger SL. *The Analysis of Gene Expression Data:* New York, NY: New York: Springer-Verlag, 2003.

Diggle PJ, Heagerty P, Liang KY, and Zeger SL. *The Analysis of Longitudinal Data*. Oxford, England: 2nd edition. Oxford University Press, 2002.

Diggle PJ, Liang KY, and Zeger SL. *The Analysis of Longitudinal Data*. Oxford, England: Oxford University Press, 1994.

Journal Articles (Statistical Methodology):

Charu, V., Zeger, S., Gog, J., Bjørnstad, O.N., Kissler, S., Simonsen, L., Grenfell, B.T. and Viboud, C., 2017. Human mobility and the spatial transmission of influenza in the United States. *PLoS Computational Biology*, *13*(2), p.e1005382.

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Coley, et al. Bayesian joint hierarchical model for prediction of latent health states with application to active surveillance of prostate cancer. *arXiv*:1508.0751[v] [stat.ME], to appear *Biometrics,* 2016.

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Wu Z, Deloria-Knoll M, Hammitt LL, Zeger SL for the PERCH Core Team. Partially-latent class models (pLCM) for case-control studies of childhood pneumonia etiology. *Journal of the Royal Statistical Society, Series C.* 65: 97-114, 2016.

Fisher, AJ., Coley, RY and Zeger, SL. "Fast Out-of-Sample Predictions for Bayesian Hierarchical Models of Latent Health States." *arXiv preprint arXiv:1510.08802*. 2015.

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Diggle PJ, Zeger SL. Embracing the concept of reproducible research. *Biostatistics.* 11(3):375. 2010

Janes J, Dominici F, and Zeger S. On quantifying the magnitude of confounding. *Biostatistics* 11:572-582, 2010.

Welty LJ, Peng RD, Zeger SL, Dominici F: Bayesian distributed lag models: estimating effects of particulate matter air pollution on daily mortality. *Biometrics* 65(1):282-91,2009.

Louis TA, Zeger SL: Effective communication of standard errors and confidence intervals. Biostatistics 10(1):1-2, 2009.

Lu Y, Symons JM, Geyh AS, Zeger SL: An approach to checking case-crossover analyses based on equivalence with time-series methods. *Epidemiology* 19(2):169-175, 2008.

Dominici F, Peng RD, Ebisu K, Zeger SL, Samet JM, Bell ML: Does the effect of PM(10) on mortality depend on PM nickel and vanadium content? A reanalysis of the NMMAPS data. *Environmental Health Perspectives* 115(12):1701-3, 2007.

Dominici F, Peng RD, Zeger SL, White RH, Samet JM: Particulate air pollution and mortality in the United States: did the risks change from 1987 to 2000? *American Journal of Epidemiology* 166(8):880-8, 2007.

Lu Y, Zeger SL: On the equivalence of case-crossover and time series methods in environmental epidemiology. *Biostatistics* 8(2):337-44, 2007.

Janes H, Dominici F, Zeger SL: Trends in air pollution and mortality: an approach to the assessment of unmeasured confounding. *Epidemiology* 18(4):416-23, 2007.

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Jerrett M, Kuenzli N, Louis TA, Dominici F, Zeger SL, Schwarz J, Burnett RT, Krewski D, Bates D: Bayesian model averaging in time-series studies of air pollution and mortality. *Journal of Toxicology and Environ Health Part A* 70(3-4):311-315, 2007.

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Dominici F, Zeger SL, Parmigiani G, Katz J, Christian P: Does the effect of micronutrient supplementation on neonatal survival vary with respect to the percentiles of the birth weight distribution? *Bayesian Analysis* 2(1):1-30, 2007.

Robinson JW, Zeger SL, Forrest CB: A hierarchical multivariate two-part model for profiling providers' effects on health care charges. *Journal of the American Statistical Association* 101(475):911-923, 2006.

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Johnson E, Dominici F, Griswold M, Zeger SL: Disease cases and their medical costs attributable to smoking: an analysis of the National Medical Expenditure Survey. *Journal of Econometrics* 112(1):135-151, 2003.

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Miglioretti DL, McCulloch C, Zeger SL: Combining images across multiple subjects: a study of direct cortical electrical interference. *Journal of the American Statistical Association* 97(457):125-135, 2002.

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Huang W, Zeger SL, Anthony JC, Garrett E: Latent variable model for joint analysis of multiple repeated measures and bivariate time events. *Journal of the American Statistical Association* 96(455):906-914, 2001.

Xu J, Zeger SL: Joint analysis of longitudinal data comprising repeated measures and times to events. *Applied Statistics* 50(3):375-387, 2001.

Biomarkers Definitions Working Group (includes Zeger SL): Biomarkers and surrogate endpoints: preferred definitions and conceptual framework. *Clinical Pharmacology and Therapeutics* 69(3):89-95, 2001.

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Heagerty PJ, Zeger SL: Multivariate continuation ratio models: connections and caveats. *Biometrics* 56(3):719-732, 2000.

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Zeger SL, Thomas D, Dominici F, Samet JM, Schwartz J, Dockery D, Cohen A: Exposure measurement error in time-series studies of air pollution: concepts and consequences. *Environmental Health Perspectives* 108(5):419-426, 2000.

Bandeen-Roche K, Hall CB, Stewart WF, Zeger SL: Modelling disease progression in terms of exposure history. *Statistics in Medicine* 18(21):2899-2916, 1999.

Zeger SL, Liang KY: Comment on: Estimation of the causal effect of a time-varying exposure on the marginal mean of a repeated binary outcome by Robins JM, Greenland S, and Hu FC. *Journal of the American Statistical Association* 94(447):706-707, 1999.

Kelsall JE, Zeger SL, Samet JM: Frequency domain log-linear models; air pollution and mortality. *Applied Statistics* 48(3):331-344, 1999.

Zeger SL, Dominici F, Samet J: Harvesting-resistant estimates of pollution effects on mortality. *Epidemiology* 10(2):171-175, 1999.

Heagerty PJ, Zeger SL: LORelogram: a regression approach to exploring dependence in longitudinal categorical responses. *Journal of the American Statistical Association* 93(441):150-162, 1998.

Rathouz PJ, Kasper JD, Zeger SL, Ferrucci L, Bandeen-Roche K, Miglioretti DL, Fried LP: Short-term consistency in self-reported physical functioning among elderly women: the Women's Health and Aging Study. *American Journal of Epidemiology* 147(8):764-773, 1998.

Lange N, Zeger SL: Non-linear Fourier time series analysis for human brain mapping by functional magnetic resonance imaging (with discussion). *Applied Statistics* 46:1-29, 1997.

Kelsall JE, Samet J, Zeger SL, Xu J: Air pollution and mortality in Philadelphia, 1974-1988. *American Journal of Epidemiology* 146(9):750-762, 1997.

Bandeen-Roche K, Miglioretti DL, Zeger SL, Rathouz PJ: Latent variable regression for multiple discrete outcomes. *Journal of the American Statistical Association* 92(440):1375-1386, 1997.

Hall CB, Zeger SL, Bandeen-Roche KJ: Adjusted variable plots for Cox's proportional hazards regression model. *Lifetime Data Analysis* 2:73-90, 1996.

Hilton S, Katz J, Zeger SL: Classifying visual field data. *Statistics in Medicine* 15:1349-1364, 1996.

Heagerty PJ, Zeger SL: Marginal regression models for clustered ordinal measurements. *Journal of the American Statistical Association* 91(435):1024-1036, 1996.

Magder LS, Zeger SL: A smooth nonparametric estimate of a mixing distribution using mixtures of Gaussians. *Journal of the American Statistical Association* 91(435):1141-1151, 1996.

Brookmeyer R, Zeger SL: Statistical issues in prevention and therapeutic trials of Alzheimer disease. *Alzheimer Disease and Associated Disorders* 10(Supp.1):27-30, 1996.

Liang KY, Zeger SL: Inference based on estimating functions in the presence of nuisance parameters. *Statistical Science* 10(2):158-172, 1995.

Liang KY, Self SG, Bandeen-Roche KJ, Zeger SL: Some recent developments for regression analysis of multivariate failure time data. *Lifetime Data Analysis* 1:403-415, 1995.

Katz J, Zeger SL, Liang K-Y: Appropriate statistical methods to account for similarities in binary outcomes between fellow eyes. *Investigative Ophthalmology and Visual Science* 35(5):2461-2465, 1994.

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Graham N, Zeger SL, Park L, Phair J, Detels R, Vermund S, Ho M, Saah A and MACS: Effect of zidovudine and Pneumocystis carinii pneumonia prophylaxis on progression of HIV-1 infection to AIDS. *Lancet* 338: 265-69, 1991.

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Chapters:

Zeger SL, Diggle PJ, Liang KY: Biostatistics: The near future. In: *Celebrating Statistics. Papers in Honour of Sir David Cox on His 80th Birthday*. Oxford, United Kingdom: Oxford University Press:167-184, 2005.

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Zeger SL, Diggle PJ, Huang W: Generalized linear models for longitudinal data. In: *Encyclopedia of Biostatistics*. P. Armitage and T. Colton, Editors. New York: John Wiley and Sons, 1998.

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Moulton L, Zeger SL, Liang K-Y: Generalized linear models for longitudinal data. In *Statistical Models for Longitudinal Studies of Health*, Dwyer, Feinleib, Lippert, Hoffmeister, Editors. Oxford, England: Oxford University Press: 198-214, 1992.

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Yin FCP, Zeger SL, Strumpf R, Demer L, Chew P, Maughan WL: Assessment of regional ventricular mechanics in *Numerical Methods for Non-Linear Problems*, Vol 2. Edited by C. Taylor, E. Hinton, D.R.J. Owen, E. Oñate, Swansea, Wales: Pineridge Press, 1984.

ADDITIONAL INFORMATION

Personal Statement of Research Objectives

My research has been to develop and apply statistical regression models for discrete and continuous responses. These methods are useful in the design and analysis of data from longitudinal, time series, family and other public health studies. Areas of application include: environmental epidemiology, clinical trials, emergency services process control, and observational studies of cognitive loss after clinical interventions.

More recently, my statistical research has focused on Bayesian prediction using hierarchical latent variable models. This work is part of the Johns Hopkins Individualized Health Initiative, a collaboration of Johns Hopkins University, Medicine, and Applied Physics Laboratory that I direct.

Keywords:

Time series analysis	Regression analysis
Biostatistics	Generalized linear models
Statistics	Latent variable models
Longitudinal studies	Epidemiologic statistics
Longitudinal data analysis	Environmental epidemiology

Advisees

Shannon Wongvibulsin, MD/PhD student in Biomedical Engineering, 2017-present

Ji Soo Kim, 2016-present, PhD candidate

Sara Alcorn, MD, PhD candidate in Clinical Investigations, fellow in Radiation Oncology, 2015-present

Yates Coley, post-doctoral fellow (Biostatistics), 2015-2016

Jacob Konakoff, post-doctoral fellow (Biostatistics), 2015-2016

Zhenke Wu, post-doctoral fellow (Biostatistics), 2015-2016

Detian Deng, PhD, 2013-present
Thesis topic: *Models for multivariate binary data*

Wenyi Lin, MSc, 2016-2017
Thesis title: *Nepal respiratory infection analysis with latent variable models*

Hillary Robbins, PhD (Epidemiology)/MHS (Biostatistics), 2015-2017

Aohzu Wu, PhD (Epidemiology)/MHS (Biostatistics), 2015-2017

Francis Abreu, PhD, 2011-present, Biostatistics
Thesis topic*: Statistical methods for assessing gender bias in faculty rewards within academic medicine*

Martin Brodsky, PhD (Clinical Investigations), 2011-2014

Zhenke Wu, PhD , 2010-2015
Thesis topic: *Measurement error models for estimating the causal effects of multiple pathogens on the risk of pneumonia in African child populations*

Charu Vivek, MD/PhD, 2011-2017
Thesis topic: *Time series models of influenza epidemics*

Todd Fojo, MD, MHS, 2016-2017, fellow in General Internal Medicine
Thesis title: *A Precision Medicine Approach for Psychiatric Disease Based on Repeated Symptom Scores*

George Wang, MD, PhD candidate in Clinical Investigations, 2007-2011
Thesis topic: *Models of cytomegalovirus (CMV) infection and T-cell receptor diversity in the pathogenesis of frailty in older adults*

Xian Chong Zhou, MS, 2009-2011
Thesis Title: *Linear Mixed Effect Model Controlling for Missingness Due to Death: An Application to Longitudinal Data on Cognitive Scores.*

Meghan Arnold, MD, PhD (Clinical Investigation), 2005-2008

Kim Fai Kenny Shum, PhD, 2005-2008
Thesis title: *Estimating the Mean Cost in Small Samples*

Debra Bensen-Kennedy, MD, PhD (Clinical Investigation), 2001-2008

Yun Lu, PhD, 2005-2008
Thesis Title: *Detecting and Contending with the Influence of "Unmeasured" Confounders*

Elizabeth Johnson, PhD, 2002-2008
Thesis Title: *Topics in Causal Estimation for Public Health Research*

Philippe Huber, Postdoctoral Fellow, 2005

Leah Welty, Post-doctoral fellow, 2003-2005

Michael Griswold, PhD, 2001-2005
Thesis Title: *Complex Distributions, Hmmmm… Hierarchical Mixtures of Marginalized Multilevel Models*

Somchai Laowattana, MD, PhD (Clinical Investigation), 2001-2004
Thesis Title: *Left Insular Stroke and the Risk of Adverse Cardiac Outcome*

Carlo Colantuoni, Postdoctoral Fellow, 2001-2003

Tracey Hoke, MD, ScM (Clinical Investigation), 2000-2002
Thesis Title: *Oxygen Saturation as a Screening Test for Left Heart Obstructive Disease in Newborns*

Julie Lange, MD, ScM (Clinical Investigation), 1999-2000
Thesis Title: *The Sentinel Node as a Staging Tool in Early Breast Cancer*

John Robinson, MD, PhD (Biostatistics), 1996-2004
Thesis Title: *A Hierarchical Multivariate Two-Part Model for Profiling Providers' Effects on Healthcare Charges*

Elizabeth Garrett, PhD, 1996-2000
Thesis Title: *Graphical Diagnostic Tools for Standard Latent Class and Latent Class Regression Model Assessment with an Application in Describing Depression and Validating Diagnostic Criteria for Depression*

Diana Miglioretti, PhD, 1996-2000
Thesis Title: *Template Mixture Models for Functional Brain Mapping*

Jane Xu, PhD, 1996-1999
Thesis Title: *Surrogate Endpoints in the Analysis of Longitudinal Data*

Karlyn Heiner, ScM, 1996-1998
Thesis Title: *The Effects of Short-Term Weather Variations on US Mortality*

Julia Kelsall Crook, Postdoctoral Fellow, 1995-1996

William Checkley, ScM, 1995-1996
Thesis Title: *Longitudinal Analysis of Growth: On Estimating the Acute and Long-Term Effects of Infectious Agents on the Growth of Young Children*

Kiros Berhane, Postdoctoral Fellow, 1994-1995

Cristofer Price, ScM, 1994-1995
Thesis Title: *Analysis of Longitudinal Behavior Data: Use of Random Effects in Generalized Linear Mixed Models*

Patrick Heagerty, PhD, 1991-1995
Thesis Title: *Multivariate Multinomial Marginal Models*

Sterling Hilton, PhD, 1990-1996
Thesis Title: *Longitudinal Analysis of Visual Field Data*

Charles Hall, PhD, 1990-1995
Thesis Title: *Diagnostics for Dependent Data Regression Models*

Laurence Magder, PhD, 1988-1994
Thesis Title: *Estimating Mixing Distributions Using Mixtures of Gaussians*

Vincent Carey, PhD, 1987-1992
Thesis Title: *Regression Analysis for Large Binary Clusters*

M. Rezaul Karim, PhD, 1986-1991
Thesis Title: *Generalized Linear Models with Random Effects*

Lai-Chu See, ScM, 1986-1988
Thesis Title: *Statistical Methods for Monitoring the AIDS Epidemic*

Sharon Edelstein, ScM, 1986-1988
Thesis Title: *Poisson Regression with a Surrogate X -- An Analysis of the Effect of Vitamin A Supplementation on Children's Mortality*

Sarah Lowell, ScM, 1984-1986
Thesis Title: *Odds Ratio Regression for Serial Data*

Elizabeth Sheppard, ScM, 1984-1985
Thesis Title: *Analysis of Auditory Startle Response Data*

Lawrence Moulton, PhD, 1982-1986
Thesis Title: *Bootstrapping Generalized Linear Models with Application to Longitudinal Data*

Edward Salvo, ScM, 1982-1984
Thesis Title: *A Statistical Description of Nutrient Flux Rates of the Patuxent River in Maryland*

Preliminary Oral Participation

Karen Finegan	International Health	May, 2016
Detian Deng	Biostatistics	February, 2016
Deann Gavney	Health Policy	September, 2015
Vivek Charu	Biostatistics	November, 2014
Francis Abrea	Biostatistics	May, 2014
Zhenke Wu	Biostatistics	April, 2013
Peter Okebukola	Health Policy & Management	April, 2012
Melinda Munoz	International Health	April, 2011
Jacqueline Garonzik Wang	Clinical Investigation	January, 2011
Amy Desai	International Health	September, 2010
Daniel Roth, PhD	International Health	June, 2008
George Wang, PhD	Clinical Investigation	January, 2008
Jing Feng, PhD	Environmental Health Sciences	September, 2007
Benjamin Brooke, PhD	Clinical Investigation	December, 2006
Bianca Frogner, PhD	Health Policy and Management	October 2006
Rachel Derr, PhD	Clinical Investigation	October 2006
Rachel Chong, PhD	Clinical Investigation	November 2005
Rebecca Gottesman, PhD	Clinical Investigation	October, 2005
Meghan Arnold, PhD	Clinical Investigation	September, 2005
Jennifer Moisi, PhD	International Health	July 2005
Yun Lu, PhD	Biostatistics	May 2005
Kim Fai Kenny Shum, PhD	Biostatistics	April, 2005
Hsu-Tai Liu, PhD	Epidemiology	April, 2005
Elizabeth Johnson, PhD	Biostatistics	December 2004
Yong Li, PhD	Population & Family Health Sciences	June, 2004
Anne-Marie Guerguerian, PhD	Clinical Investigation	January, 2003
Zhijin Wu, PhD	Biostatistics	December, 2002

Alexander Agthe, PhD	Clinical Investigation	October, 2002
Meghan Weil, PhD	Environmental Health Sciences	May, 2002
Courtney Johnson, PhD	Population & Family Health Sciences	March, 2002
Lewis Rubinson, PhD	Clinical Investigation	February, 2002
Lionel Schachna, PhD	Clinical Investigation	December, 2001
David Newman-Toker, PhD	Clinical Investigation	July, 2001
Betty Chang, PhD	Clinical Investigation	September, 2000
Marcia Cruz-Correa, PhD	Clinical Investigation	August, 2000
Rebecca Spicer, PhD	Health Policy and Management	June, 2000
Paulo Chaves, PhD	Epidemiology	November, 1999
Felicity Boyd, PhD	Biostatistics	October, 1999
Melissa Hawkins, PhD	Maternal and Child Health	January, 1999
Terence Giovannini, PhD	Health Policy and Management	October, 1998
John Robinson, PhD	Biostatistics	September, 1998
Diana Miglioretti, PhD	Biostatistics	March, 1998
Mario Merialdi, PhD	International Health	January, 1998
Peter Pronovost, PhD	Clinical Investigation	December, 1997
Dalei Chen, PhD	Mathematical Sciences	November, 1997
Richard Guerin, PhD	Health Policy and Management	October, 1997
Allan Gelber, PhD	Clinical Investigation	September, 1997
Carolyn Masters, PhD	Epidemiology	July, 1997
Kenneth Petronis, ScD	Mental Hygiene	June, 1997
Maja Altarac, PhD	Maternal and Child Health	May, 1997
Kendra Rothert, PhD	Population Dynamics	May, 1997
Ravi Ram, PhD	International Health	May, 1996
Barbara Martin, PhD	Epidemiology	April, 1996
Charon Gwynn, PhD	Environmental Health Sciences (New York University)	February, 1996
Sara Pacqué-Margolis, PhD	Population Dynamics	July, 1995
Dominic Lee, PhD	Mathematical Sciences	January, 1995
Chao-Hsiun Tang, PhD	Health Policy and Management	July, 1993
Stephen Parente, PhD	Health Policy and Management	July, 1993
Thomas Perneger, DrPH	Epidemiology	July, 1990
Michael Fox, ScD	Health Policy and Management	March, 1990
Josef Coresh, PhD	Epidemiology	March, 1990
John Imready, PhD	Biomedical Engineering	March, 1990
Vincent Carey, PhD	Biostatistics	October, 1988
Sankara Sarma, PhD	Population Dynamics	September, 1988
Chun-Chung Law, PhD	Biostatistics	March, 1988
Krishna Rampal, PhD	Environmental Health Sciences	July, 1987
Ann Meadow, ScD	Health Policy and Management	July, 1987
Hassan Zaky, PhD	Population Dynamics	May, 1987
Arthur Andrews, PhD	Epidemiology	October, 1986
Thomas Hall, PhD	Environmental Health Sciences	October, 1986
Catherine Jackson, ScD	Health Policy and Management	September, 1986
Ruth Finkelstein, ScD	Health Policy and Management	May, 1986
Laura Altobelli, DrPH	Maternal and Child Health	January, 1986
Deborah Dawson, PhD	Population Dynamics	January, 1985
Deborah Helitzer, ScD	International Health	October, 1984
Linda Thompson, DrPH	Maternal and Child Health	August, 1984
Ann Riley, PhD	Population Dynamics	June, 1984
Sioban Harlow PhD	Epidemiology	April, 1984

Katherine Krasovec, ScD	International Health	March, 1984
Jaanna Myllyluoma, PhD	Population Dynamics	November, 1983
Timothy Jorgensen, PhD	Environmental Health Sciences	May, 1983
Kathy Galbraith, ScD	Maternal and Child Health	November, 1982

Final Oral Participation:

Francis Abreu	Biostatistics	April, 2016
Zhenke Wu	Biostatistics	August, 2014
Peter Okebukola	Health Policy and Management	July, 2012
Jacqueline Garonzik Wang	Clinical Investigation	March, 2012
George Wang	Clinical Investigation	February, 2012
David Murphy	Clinical Investigation	December, 2010
Lindsay Grant	International Health	January, 2010
Harjot Singh	Clinical Investigation	October, 2009
Anne-Marie Guerguerian	Clinical Investigation	March, 2009
Kim Fai (Kenny) Shum	Biostatistics	November, 2008
Jennifer Moisi, PhD	International Health	July, 2008
Rachel Derr, PhD	Clinical Investigation	May, 2008
Steven Lascher, PhD	Health Policy and Management	February, 2008
Yun Lu, PhD	Biostatistics	December, 2007
Elizabeth Johnson, PhD	Biostatistics	October, 2007
Rachel Chong	Clinical Investigation	June, 2007
David Newman-Toker, PhD	Clinical Investigation	March, 2007
Rebecca Gottesman, PhD	Clinical Investigation	February, 2007
Julia Rajaratnam, PhD	Population & Family Health Sciences	October, 2006
Yong Li, PhD	Population & Family Health Sciences	November, 2005
Hua-Ling Tsai, ScM	Biostatistics	November, 2005
Michael Griswold, PhD	Biostatistics	January, 2005
John Robinson, PhD	Biostatistics	October, 2004
Somchai Laowattana, PhD	Clinical Investigation	May, 2004
Lewis Rubinson, PhD	Clinical Investigation	February, 2004
Amanda Lapides Blackford, ScM	Biostatistics	December, 2003
Lionel Schachna, PhD	Clinical Investigation	June, 2003
Courtney Johnson, PhD	Population & Family Health Sciences	February, 2003
Marcia Cruz-Correa, PhD	Clinical Investigation	September, 2002
Tracey Hoke, ScM	Clinical Investigation	April, 2002
Kenneth Petronis, PhD	Mental Hygiene	March, 2002
Rebecca Spicer, PhD	Health Policy and Management	February, 2002
Tomasz Burzykowski, ScD	Mathematics (University of Limburg)	September, 2001
Bircan Erbas, PhD	General Practice and Public Health (University of Melbourne)	August, 2001
Julie Lange, ScM	Clinical Investigation	November, 2000
Paulo Chaves, PhD	Epidemiology	June, 2000
Guan-Hua Huang, PhD	Biostatistics	June, 2000
Elizabeth Garrett, PhD	Biostatistics	February, 2000
Diana Miglioretti, PhD	Biostatistics	January, 2000
Susan Furth, PhD	Clinical Investigation	October, 1999
Sarah Polk, ScM	Epidemiology	September, 1999
Jane Xu, PhD	Biostatistics	August, 1999

Janet Hammond, ScM	Clinical Investigation	April, 1999
Allan Gelber, PhD	Clinical Investigation	March, 1999
José A. Escamilla-Cejudo, PhD	Epidemiology	March, 1999
Margarita Hurtado, PhD	Health Policy and Management	March, 1999
Peter Pronovost, PhD	Clinical Investigation	March, 1999
Charon Gwynn, PhD	Environmental Health Sciences (New York University)	January, 1999
Kendra Rothert, PhD	Population Dynamics	December, 1998
Wenzheng Huang, PhD	Biostatistics	August, 1998
Marguerite Ro, DrPH	Health Policy and Management	July, 1998
Karlyn Heiner, ScM	Biostatistics	April, 1998
Ming-xiu Hu, PhD	Statistics (George Washington University)	December, 1997
Shams El-Arifeen, DrPH	International Health	September, 1997
Lawrence Geiter, PhD	Epidemiology	January, 1997
Seamus O'Reilly, PhD	Clinical Investigations	October, 1996
Peter X-K Song, PhD	Statistics (University of BritishColumbia)	September, 1996
Sterling Hilton, PhD	Biostatistics	August, 1996
William Checkley, ScM	Biostatistics	April, 1996
Laura Cramer, ScM	Biostatistics	March, 1996
Diana Miglioretti, ScM	Biostatistics	February, 1996
Patrick Heagerty, PhD	Biostatistics	August, 1995
Charles Hall, PhD	Biostatistics	July, 1995
Stacey Ackerman, PhD	Health Policy and Management	June, 1995
Sunil Sazawal, DrPH	International Health	April, 1995
Stephen Parente, PhD	Health Policy and Management	December, 1994
Kiros Berhane, PhD	Biostatistics (University of Toronto)	September, 1994
Beverly Banks, PhD	Epidemiology	July, 1994
Laurence Magder, PhD	Biostatistics	March, 1994
Warren Strauss, ScM	Biostatistics	April, 1993
Vincent Carey, PhD	Biostatistics	July, 1992
Elizabeth Zenger, PhD	Population Dynamics	March, 1991
M. Rezaul Karim, PhD	Biostatistics	March, 1991
Christina Hecht, PhD	Population Dynamics	October, 1990
Alison Jones, PhD	Health Policy and Management	August, 1990
Mary Lou Rorabaugh, ScD	Maternal and Child Health	May, 1990
Bahjat Qaqish, PhD	Biostatistics	January, 1990
Gloria Yuen Fun Ho, PhD	Epidemiology	January, 1990
Lai-Chu See, ScM	Biostatistics	September, 1988
Carlos Santos-Burgoa, PhD	Epidemiology	April, 1988
Sharon Edelstein, ScM	Biostatistics	April, 1988
Raeda Al-Qutob, DrPH	Maternal and Child Health	March, 1988
Jaana Myllyluoma, PhD	Population Dynamics	March, 1988
Kathy Hunting, PhD	Epidemiology	January, 1988
Oona Campbell, PhD	opulation Dynamics	October, 1987
Beryl Koblin, PhD	Epidemiology	August, 1987
Arlene Butz, ScD	Maternal and Child Health	July, 1987
Karen Reilly, ScD	Health Policy and Management	May, 1987
Brett Simon, PhD	Biomedical Engineering	April, 1987
Ann Riley, PhD	Population Dynamics	February, 1987

Lawrence Moulton, PhD	Biostatistics	June, 1986
Linda Thompson, DrPH	Maternal and Child Health	September, 1985
Kathy Galbraith, ScD	Maternal and Child Health	September, 1985
Sarah Lowell, ScM	Biostatistics	August, 1985
Omar Hottenstein, PhD	Environmental Health Sciences	January 1985
Elizabeth Sheppard, ScM	Biostatistics	January, 1985
Janet Gailey-Phipps, PhD	Immunology & Infectious Diseases	September, 1984
Tung-Liang Chiang, ScD	Health Policy and Management	April, 1984
Edward Salvo, ScM	Biostatistics	January, 1984
Karen Hulebak, PhD	Maternal and Child Health	August, 1983
Linda Cocciarella, ScM	Epidemiology	June, 1983

Classroom Instruction:

Biostatistics 140.653 –Methods in Biostatistics III
Enrollment ~ 30, 2016

Biostatistics 140.654 – Methods in Biostatistics IV
Enrollment ~ 30, 2016

Biostatistics 140.653 –Methods in Biostatistics III
Enrollment ~ 60, 2015

Biostatistics 140.654 – Methods in Biostatistics IV
Enrollment ~ 60, 2015

Public Health Biostatistics AS. 280.345
Enrollment ~ 130 (undergraduates), 2013-14

Public Health Data Analysis Practicum AS.280.347
Enrollment ~ 10, 2014

Public Health Biostatistics AS. 280.345
Enrollment ~ 130 (undergraduates), 2012-13

Public Health Data Analysis Practicum AS.280.347
Enrollment ~ 10, 2014

Public Health Biostatistics AS. 280.345
Enrollment ~ 170 (undergraduates), 2011-12

Biostatistics 140.642 – Design of Clinical Experiments
Enrollment ~25; 2010-11

Biostatistics 140.642 – Design of Clinical Experiments
Enrollment: ~40; 2009-10 (with Professor James Tonascia)

Biostatistics 140.642 – Design of Clinical Experiments
Enrollment: ~40; 2008-9 (with Professor James Tonascia)

Biostatistics 140.623 – Statistical Methods in Public Health III

Enrollment: ~150; 2007-2008

Biostatistics 140.622 – Statistical Methods in Public Health II
Enrollment: ~150; 2007-2008

Biostatistics 140.621 – Statistical Methods in Public Health I
Enrollment: ~150; 2007-2008

Biostatistics 140.623 – Statistical Methods in Public Health III
Enrollment: ~150; 2006-2007

Biostatistics 140.622 – Statistical Methods in Public Health II
Enrollment: ~150; 2006-2007

Biostatistics 140.621 – Statistical Methods in Public Health I
Enrollment: ~150; 2006-2007

Epidemiology 340.863 – Doctoral Seminars in Epidemiology (6 hours)
Enrollment: 40 (2006-2007

Biostatistics 140.623 – Statistical Methods in Public Health III
Enrollment: 133; 2005-2006

Biostatistics 140.622 – Statistical Methods in Public Health II
Enrollment: 164; 2005-2006

Biostatistics 140.621 – Statistical Methods in Public Health I
Enrollment: 186; 2005-2006

Epidemiology 340.863 – Doctoral Seminars in Epidermiology
Enrollment: 45; 2005-2006

Biostatistics 140.654 – Methods in Biostatistics IV
Enrollment: 70; 2004-2005

Biostatistics 140.653 – Methods in Biostatistics III
Enrollment: 70; 2004-2005

Clinical Investigation 390.672 - Quantitative Analysis of Clinical Data
Enrollment: 21; 2004-2005

Epidemiology 340.656 – Clinical Research: An Introduction to Design and Analysis (co-instructor)
Enrollment: 25; 2003-2004

Biostatistics 140.654 – Methods in Biostatistics IV
Enrollment: 58; 2003-2004

Biostatistics 140.653 – Methods in Biostatistics III
Enrollment: 59; 2003-2004

Clinical Investigation 390.615 – Quantitative Analysis of Clinical Data
Enrollment: 33; 2003-2004

Epidemiology 340.656 – Clinical Research: An Introduction to Design and Analysis (co-instructor
Enrollment: 39; 2002-2003

Clinical Investigation 390.615 – Quantitative Analysis of Clinical Data
Enrollment: 25; 2002-2003

Biostatistics 140.654 – Methods in Biostatistics IV
Enrollment: 58; 2002-2003

Biostatistics 140.653 – Methods in Biostatistics III
Enrollment: 61; 2002-2003

Biostatistics 140.614 – Data Analysis Workshop II
Enrollment: 17; 2002-2003

Biostatistics 140.613 – Data Analysis Workshop I
Enrollment: 20; 2002-2003

Biostatistics 140.623 – Statistical Methods in Public Health III
Enrollment: 123; 2001-2002

Clinical Investigation 390.615 – Quantitative Analysis of Clinical Data
Enrollment: 29; 2001-2002

Biostatistics 140.622 – Statistical Methods in Public Health II
Enrollment: 162; 2001-2002

Biostatistics 140.621 – Statistical Methods in Public Health I
Enrollment: 226; 2001-2002

Clinical Investigation 390.615 – Quantitative Analysis of Clinical Data
Enrollment: 34; 2000-2001

Biostatistics 140.623 – Statistical Methods in Public Health III
Enrollment: 120; 2000-2001

Biostatistics 140.622 – Statistical Methods in Public Health II
Enrollment: 181; 2000-2001

Biostatistics 140.621 – Statistical Methods in Public Health I
Enrollment: 212; 2000-2001
Clinical Investigation 390.615 – Quantitative Analysis of Clinical Data
Enrollment: 38; 1999-2000

Clinical Investigation 390.614 – Design of Clinical Studies (co-instructor)
Enrollment: 43; 1999-2000

Biostatistics 140.623 – Statistical Methods in Public Health III
Enrollment: 140; 1999-2000

Biostatistics 140.622 – Statistical Methods in Public Health II

Enrollment: 135; 1999-2000

Biostatistics 140.621 – Statistical Methods in Public Health I
Enrollment: 175; 1999-2000

Clinical Investigation 390.615 – Quantitative Analysis of Clinical Data
Enrollment: 26; 1998-99

Clinical Investigation 390.614 – Design of Clinical Studies (co-instructor)
Enrollment: 29; 1998-99

Biostatistics 140.623 – Statistical Methods in Public Health III
Enrollment: 143; 1998-99

Biostatistics 140.622 – Statistical Methods in Public Health II
Enrollment: 191; 1998-99

Biostatistics 140.621 – Statistical Methods in Public Health I
Enrollment: 221; 1998-99

Epidemiology 340.841.01 - Analysis of Longitudinal Data
Enrollment: 36; 1998-99

Clinical Investigation 390.615 – Quantitative Analysis of Clinical Data
Enrollment: 30; 1997-98

Biostatistics 140.655 – Analysis of Longitudinal Data
Enrollment: 37; 1997-98

Clinical Investigation 390.614 – Design of Clinical Studies (co-instructor)
Enrollment: 26; 1997-98

Health Policy and Management 300.871 – The Research and Proposal Writing Process II
(1 lecture on statistical modeling) 1997-98

Biostatistics 140.603 – Basic Biostatistics – Statistical Modeling
Enrollment: 102; 1997-98

Epidemiology 340.841.01 - Analysis of Longitudinal Data
Enrollment: 44; 1997-98

Biostatistics 140.604 - Basic Biostatistics - Observational Studies
Enrollment: 72; 1996-1997

Biostatistics 140.655 - Analysis of Longitudinal Data
Enrollment: 42; 1996-97

Epidemiology 340.616 - Epidemiology of Aging
(1 lecture on introduction to longitudinal data); 1996-1997

Biostatistics 140.603 - Basic Biostatistics - Statistical Modeling

Enrollment: 84; 1996-1997

Epidemiology 340.627.11 - Infectious Disease Epidemiology
(1 lecture on the analysis of longitudinal data); 1996-1997

Epidemiology 340.841.11 - Updates on the Analysis of Longitudinal Data
Enrollment: 50; 1996-1997

Adjunct Studies 550.865 - Public Health Perspectives on Doctoral Research
(1 discussion session); 1995-1996

Epidemiology 340.845 - Current Issues in Clinical Trials
(1 lecture on accounting for treatment compliance in analysis); 1995-1996

Biostatistics 140.655 - Analysis of Longitudinal Data
Enrollment: 34; 1995-1996

Clinical Investigations 390.651 - Topics in Clinical Investigations
(1 lecture on evaluating safety and efficacy of medical devices); 1995-1996

Adjunct Studies 550.601 - Managing Your Career to Advance the Public's Health Enrollment: 24; 1995-1996

Public Health 280.301 (Arts and Sciences) - Careers in Public Health
(1 lecture on career options in public health); 1994-1995

Epidemiology 340.603 - Epidemiologic Methods: Design and Analytic Considerations
(1 lecture on analysis of cohort data); 1994-1995

Clinical Investigations 390.651 - Topics in Clinical Investigations
(1 lecture on evaluating safety and efficacy of medical devices); 1994-1995

Biostatistics 140.840 - Special Studies - Analysis of Longitudinal Data
Enrollment: 7; 1994-1995

Biostatistics 140.655 - Analysis of Longitudinal Data
Enrollment: 53; 1994-1995

Maternal and Child Health 280.627 - Issues in Survey Research
(1 lecture on the analysis of longitudinal data); 1993-1994

Epidemiology 340.627 - Epidemiology of Infectious Diseases
(1 lecture on AIDS research); 1993-1994

Epidemiology 340.603 - Epidemiologic Methods: Design and Analytic Considerations
(1 lecture on analysis of cohort data); 1993-1994

Clinical Investigations 390.651 - Topics in Clinical Investigations
(1 lecture on evaluating safety and efficacy of medical devices); 1993-1994

Biostatistics 140.753 - Advanced Generalized Linear Models II
Enrollment: 4; 1993-1994

Biostatistics 140.752 - Advanced Generalized Linear Models I
Enrollment: 1; 1993-1994

Public Health 280.301 (Arts and Sciences) - Careers in Public Health
(1 lecture on careers in international health); 1992-1993

MPH 550.608 - Problem-Solving in Public Health
(1 lecture on measuring health); 1992-1993

Maternal and Child Health 280.627 - Issues in Survey Research
(1 lecture on the analysis of longitudinal data); 1992-1993

Health Policy and Management 304.693 - Tobacco: Public Health Perspectives
(1 lecture on smoking behavior and state excise taxes); 1992-1993

Health Policy and Management 303.745 - Research Analyses in the Health Services and Social Sciences
(1 lecture on design and analysis of longitudinal studies); 1992-1993

Epidemiology 340.603 - Epidemiologic Methods: Design and Analytic Considerations
(1 lecture on analysis of cohort data); 1992-1993

Biostatistics 140.603 - Basic Biostatistics - Statistical Modeling
(1 lecture on ANOVA); 1991-1992

Biostatistics 140.652 - Statistical Methods - Applied Linear Models
Enrollment: 54; 1990-1991

Biostatistics 140.650 - Statistical Methods - Exploratory Data Analysis
Enrollment: 68; 1990-1991

Epidemiology 340.602 - Epidemiologic Methods: Design and Analytic Consideration
(2 lectures on longitudinal data analysis); 1989-1990

Biostatistics 140.655 - The Analysis of Serial Data
1989-1990

Biostatistics 140.652 - Statistical Methods - Applied Linear Models
1989-1990

Biostatistics 140.650 - Statistical Methods - Exploratory Data Analysis
1989-1990

Biostatistics 612.02 - Fundamentals of Biostatistical Methods
1988-1989

Biostatistics 612.01 - Exploratory Data Analysis
1988-1989

Epidemiology 602.02 - Design Considerations in Cohort Studies
(2 lectures on longitudinal studies); 1987-1988

Biostatistics 621 - Analysis of Serial Measurements
1987-1988

Biostatistics 612.03 - Applied Linear Models
1987-1988

Biostatistics 612.01 - Exploratory Data Analysis
1987-1988

Epidemiology 34B02 - Design Considerations in Cohort Studies
(2 lectures on longitudinal studies); 1986-1987

Biostatistics 14A21 - Analysis of Serial Measurements
1986-1987

Biostatistics 14C12 - Applied Linear Models
1986-1987

Biostatistics 14A12 - Exploratory Data Analysis
1986-1987

Epidemiology 34B02 - Design Considerations in Cohort Studies
(2 lectures on longitudinal studies); 1985-1986

Biostatistics 14A21 - Time Series Data Analysis
1985-1986

Biostatistics 14C12 - Applied Linear Models
1985-1986

Biostatistics 14A21 - Time Series Data Analysis
1984-1985

Biostatistics 14C12 - Applied Linear Models
1984-1985

Biostatistics 14A12 - Exploratory Data Analysis
1984-1985

Biostatistics 14A21 - Time Series Data Analysis
1983-1984

Biostatistics 14A12 - Exploratory Data Analysis
1983-1984

Biostatistics 14A21 - Time Series Data Analysis
1982-1983

SELECTED ACADEMIC SERVICE

Department of Biostatistics:

Admissions	1985-1990
Microlab Development	1983
Seminars	1985, 1987, 1988, 1990
Student Exams	1986-1989
Faculty Search	2014- 2015
Faculty Search	2015-2016

Bloomberg School of Public Health:

Academic Computing	1982-1991
Academic Standards	1993-1996
Ad Hoc on Behavior and Health	2002 (chair)
Admissions and Credentials	1991-1993
Advisory Board	1991-present
Affirmative Action	1984-1989 (chair, 1986-1989), 1991-1996
Behavior and Health Search	2003-present (chair)
Biomedical Research Support Grant	1985-1986
Committee of the Whole	1991-present
Curriculum	1991-1993
Ad Hoc on Educational Innovation and Distance Learning	1994-1996
Environmental Health Sciences Review and Search	1991-1992
Epidemiology Review & Search	1992-1993
Faculty Assembly Executive	1985-1987
Finance	1988-1990, 1991-1999
Health Policy & Management Review and Search	1993
Immunology & Infectious Diseases Review and Search	1993
Information Technology	1993-2003
Library Services	1991-1993
Mental Hygiene Review	1995-1996
Mental Hygiene Search	1996-1997 (chair)
MPH Academic	1991-1996
MPH Admissions	1991-1996
MPH Policy and Oversight	1991-1996 (chair)
Professional Education Academic	1996-1997
Residency Programs	1991-1992
Ad Hoc on Scholarships	1987
Society of Alumni Awards	1985-1986
Space	1985
Steering	1991-1996
Ad Hoc on Teaching Evaluation	1987
Ad Hoc on Tenure Retirement	1988
Welch Center Review	2005-2006
Welch Center Search Committee	2009 (chair)
Sommer Scholars Steering Committee	2010-present

Johns Hopkins University:

Accreditation 1992-93
Affirmative Action 1986-90
Global Dimensions 1995-96
Graduate Training Program in Clinical
Investigations Advisory Council, 1992-present
Information Systems Coordinating Council,
Subcommittee on Telecommunications
Infrastructure 1994-96
Joint Committee on Welch
Information Services 1991-96
Public Health Dean Search Ctte 2004-present
Public Interest Investment
Advisory Committee 1989-1990
21st Century 1993-1994
21st Century, Strategic Study Group on
International Dimensions 1993-1994 (chair)
Health Informatics 2007-2008 (chair)
Institutional Compliance Oversight
Committee (ICOC) 2008-present (chair)
Research Oversight Committee 2008-present (chair)
Deans Council 2009, March-August (chair)
9 School Advisory Councils 2009, March-August (chair)
Framework for the Future Ways and Means Committee
2008 (facilitator)
Board of Trustees Committee on Academic Affairs
2009, March-August (secretary)
Board of Trustees Committee on Audits, Compliance, and Insurance
(2008-9, ex-officio)
High Performance Research Computing Faculty Steering Committee (chair), 2009-present
Institutional Risk Management Committee, 2010-2013
Military and Veterans Health Steering Committee, 2011-present
Provost's Undergraduate Research Awards Selection Committee (chair), 2009-2013
Vice Provost for Institutional Research Search Committee (chair), 2012

Selected Invited Lectures

June 17, 2016	ASTRO Workshop on Precision Medicine in Radiation Oncology, keynote lecture: Population and Indiviudalized health; Two Sides of the Same Coin"
April 23, 2016	New England Statistics Symposium, Yale University. "Population and Individualized Health; Two Sides of the Same Coin"
July 31, 2015	International Statistical Institute Annual Meeting, Rio de Janeiro, Brazil Karl Pearson Invited Lecture and Award (with Kung-Yee Liang): Statistical Estimating Functions (GEE) and Their Biomedical Applications; Influence of Karl Pearson
July 15, 2015	Lancaster University School of Medicine, England "A Statistical Framework for Individualizing Health"
March 27, 2015	Stanford University School of Medicine "Individualized and Population Health; Two Sides of the Same Coin
March 25, 2015	Stanford Biostatistics Workshop Seminar "Statistical Methods for Estimating Disease Etiology with Application to Children's Pneumonia"
November, 2014	Mayo Clinic Department of Health Sciences "A Quantitative Framework for Individualizing Health"
September, 2014	University of Washington and Group Health, Seattle "A Quantitative Framework for Individualizing Health
August, 2014	All Children's Hospital of St Petersburg, Florida "Methods for Individualized Health"
April, 2009	Sir Austin Bradford Hill Lecture London School of Hygiene and Tropical Medicine "Randomized Consumer Trials"
April, 2009	University of Lancaster School of Medicine "Assessing the Health Effects of Air Pollution; Scientific and Statistical Challenges"
February, 2009	University of Texas, Houston School of Public Health Leadership Seminar. "Quantitative Thinking to Advance the Public's Health"
October, 2008	J&J Biostatistics Annual Conference Lecturer "Large, Simple Trials – Revisited"
November, 2007	Lowell Reed Lecture, American Public Health Association Washington, DC. "Biostatistics: What **Might** *Lowell Reed* Have Thought About Where it is and Where it is Headed?"
June, 2007	Marvin Zelen Leadership Award and Invited Lecture

	Harvard University Department of Biostatistics "The Symbiosis of Statistics and Biomedicine: Recent Past - Near Future"
May, 2007	Milton Sobel Lecture, University of California at Santa Barbara "Percentile-specific Treatment Effects: Micronutrient Supplementation, Birth Weight and Infant Mortality in Nepal"
May, 2007	First Annual Student Invited Lecturer, Department of Biostatistics, The University of Washington. "Counting the Civilian Deaths *Caused by* the 2003 U.S. Invasion of Iraq"
December, 2006	University of Lancaster Department of Mathematics Lancaster, England. "On Quantifying Smoking Attributable: Disease, Death and Dollars"
May, 2006	Harvard University Department of Biostatistics "Percentile-specific Treatment Effects: Micronutrient Supplementation, Birth Weight and Infant Mortality in Nepal"
April, 2006	Emory University Department of Biostatistics First Annual Brogan Lecture "On Quantifying Smoking Attributable: Disease, Death and Dollars"
March, 2006	Presidential Invited Address International Biometrics Society, Easter North American Region Tampa, Florida. "Statistical Science; Knowledge from Information"
March, 2006	Brown University Center for Statistical Sciences "On the (*Near*) Future of Biostatistics"
September, 2005	Case Studies in Bayesian Statistics, Workshop 8 - 2005 Carnegie Mellon University, Pittsburgh, PA "Micronutrient Supplementation, Birth Weight and Infant Mortality; On Estimation of Percentile-Specific, Mediated Intervention Effects" (with F Dominici, J Katz, G Parmigiani, C Parul)
August, 2005	National Cancer Institute Workshop: Designing the National Longitudinal Study of Tobacco Use, Bethesda, MD "Design and Analysis Issues For the National Longitudinal Study of Tobacco Use and Quitting (NLSTUQ) (with J Samet)
May, 2005	Johns Hopkins University Bloomberg School of Public Health "Millions at a Time?"
March, 2005	Cornell University, Ithaca, NY "Quantifying Smoking Attributable Disease, Death, and Dollars "
March, 2005	University of Miami, Miami, FL "Quantitative Analysis of Clinical Data"

October, 2004	University of Wisconsin, Madison, WI "Smooth Quantile Ratio Estimation (SQUARE); Methods and Application to Costs of Smoking-Caused Diseases"
October, 2004	University of Chicago Center for Environmental Statistics Meeting, Chicago, IL "Assessing the Health Effects of Air Pollution; Statistical and Computational Challenges"
July, 2004	On the Cox Model for Biostatistics University of Neuchatel "Celebrating Statistics in Honor of Professor Sir David Cox"
June, 2004	CDC Statistical Awards Ceremony, Atlanta, GA "Does the Air We Breathe Kill?"
March, 2004	International Biometrics Society Eastern North American Region 2004 Spring Meeting, Pittsburg, PA Latent Variable Models; Estimation, Extrapolation, Speculation" Workshop for Young Statistical Scientists "On Promotion"
January, 2004	National Cancer Institute Cancer Prevention and Control Colloquium Bethesda, Maryland "Smooth Quantile Regression Estimation (SQUARE): Methods and Application to Estimating the Costs of Smoking-Caused Diseases in the US"
October, 2003	Rush University Medical Center, Chicago, Illinois "On Quantifying Smoking-Attributable Disease, Dollars and Death"
October, 2003	Johns Hopkins Bloomberg School of Public Health Public Health Perspectives Guest Lecturer Baltimore, Maryland "Science amidst Public Policy: Lessons from the National Mortality Air Pollution Study (NMMAPS)" (with F Dominici, J Samet, A McDermott)
September, 2003	Keynote Speaker: International Biometric Society, British Region Conference, Reading University, Reading, England "Does the Air We Breathe Kill? Evidence from Spatial Time Series Analyses of the National Morbidity and Mortality Air Pollution Study (NMMAPS)"
April, 2003	Emory University School of Public Health Department of Biostatistics Atlanta, Georgia "Smooth Quantile Ratio Estimation (SQUARE): Methods and Application to Costs of Smoking-Caused Diseases"
November, 2002	10th Merck-Temple Conference

	Plymouth Meeting, Pennsylvania “Spatial Time Series Models for Air Pollution Research: Estimating Chronic and Acute Effects of Particulate Pollution on Mortality” “Longitudinal Data Analysis in Pharmaceutical Research”
April, 2002	Brown University Center for Statistical Sciences Providence, Rhode Island “Spatial Time Series Models for Air Pollution Research: Estimating Chronic and Acute Effects of Particulate Pollution on Mortality”
March, 2002	International Biometric Society Eastern North American Region 2002 Spring Meeting Crystal City, Virginia "Mapping the Mortality-Particulate Air Pollution Relative Rate of Mortality: A Hierarchical Spatial Time Series Model" (with F Dominici, A McDermott, and JM Samet) Workshop for Young Statistical Scientists “Publishing, the *Biostatistics* Perspective”
June, 2001	Perspectives on the Biostatistical Sciences: A Symposium in Memory of Sam Greenhouse Washington, DC "Challenges in Statistical Consulting"
September, 2000	Janssen Pharmaceutica-Johns Hopkins Department of Biostatistics Cooperative Program. Fourth Annual Statistics Short Course Titusville, New Jersey. "Ten Commandments for Clinical Investigators" (with NF Adkinson, Jr)
July, 2000	XXth Annual International Biometric Conference Berkeley, California "Analysis of Data from Longitudinal Studies: Current Topics" (with KY Liang)
June, 2000	Princeton-Trenton Chapter of the American Statistical Association Statistical Workshop in Honor of John W. Tukey's 85th Year Princeton, New Jersey "Statistical Models of Air Pollution Effects on Mortality in Urban America"
March, 2000	International Biometric Society Eastern North American Region 2000 Spring Meeting Chicago, Illinois "Past and Present Trends in Regression Models for Correlated Responses"
September, 1999	Janssen Pharmaceutica-Johns Hopkins Department of Biostatistics Cooperative Program Third Annual Statistics Short Course Titusville, New Jersey “Some Modern Developments of Survival Data Analysis” (with D Scharfstein, MC Wang, and KY Liang)

August, 1999	American Statistical Association Joint Statistical Meetings Baltimore, Maryland "Regression Models with Correlated Responses – Watson's Legacy"
March, 1999	International Biometric Society Eastern North American Region 1999 Spring Meeting Atlanta, Georgia "Determining Damages in State Suits against the Tobacco Industry" (with T. Wyant) "On the Analysis of Longitudinal Data" (with J. Xu)
December, 1998	National Institutes of Health Workshop on Research Needs for the Design and Analysis of Surrogate Endpoints in Clinical Trials Potomac, Maryland "Schizophrenia Clinical Trials" (with P. Diggle and J. Xu)
September, 1998	Johns Hopkins University School of Public Health Special Symposium Baltimore, Maryland "Minnesota vs. the Tobacco Industry: A Case Study of Science, Law and Public Health" (with M. Ciresi, T. Hamlin, R. Walburn, T. Gilde, T. Wyant, and J. Samet)
August, 1998	American Statistical Association Joint Statistical Meetings Dallas, Texas "Longitudinal Data Analysis: An Expanded Perspective" (with J. Xu)
June, 1998	Johns Hopkins Center for Clinical Trials Short Course: Clinical Trials: Design, Analysis, and Dissemination of Results Baltimore, Maryland "Analysis of Clustered Data"
May, 1998	Johns Hopkins University Department of Mental Hygiene Prevention Research Center Baltimore, Maryland "Marginal and Random Effects Models in Prevention Research"
May, 1998	Merck Research Laboratories Board of Scientific Advisors Annual Meeting Somerville, New Jersey "On Medical Evidence"
May, 1998	Johns Hopkins Center for Epidemiology and Policy Seminar Series Baltimore, Maryland "Minnesota v. Tobacco Industry: Assessing Smoking Attributable Expenditures"

April, 1998	Washington University School of Medicine Division of Biostatistics Seminar Series St. Louis, Missouri “Chipping Away at the Barriers between Longitudinal and Survival Analyses: Tracking the Development of Psychiatric Distress”
March, 1998	International Biometric Society Eastern North American Region 1998 Spring Meeting Pittsburgh, Pennsylvania “Updates on Statistical Methods for Longitudinal Studies” (with KY Liang)
March, 1998	American Heart Association Remington Methodology Lecture 38th Annual Conference on Cardiovascular Disease Epidemiology and Prevention Santa Fe, New Mexico “Regression with Repeated Measures”
March, 1998	Swiss Statistical Society Symposium on Statistics and Applied Probability Villars-sur-Ollon, Switzerland “On Estimating Functions and Nuisance Parameters” “Frequency Domain Log-Linear Regressions: Does the Philadelphia Air Kill?” “Tracking the Development of Psychiatric Distress: Chipping Away at the Barriers between Longitudinal and Survival Analysis”
February, 1998	Janssen Pharmaceutica Titusville, New Jersey “Dose-Response Modelling in the Evaluation of New Drugs” (with KY Liang, SJ Gange, and DO Scharfstein)
November, 1997	University of Pennsylvania, Wharton School, Department of Statistics Philadelphia, Pennsylvania “Frequency Domain Log-Linear Models: Air Pollution and Mortality”
September, 1997	American Statistical Association Biopharmaceutical Section Baltimore, Maryland "The Unification of Survival and Longitudinal Data Analysis"
August, 1997	American Statistical Association Joint Statistical Meetings Anaheim, California "Marginal and Random Effects Models for Time-to-Event Data"
May, 1997	International Agency for Research on Cancer, World Health Organization

	Advanced Course on Statistical Methods: Recent Developments in Biostatistics with Potential Applications in Cancer Research Annecy, France "On Estimating Functions and Nuisance Parameters" "Regression for Multivariate Responses" "Frequency Domain Log-Linear Regression: Does the Air We Breathe Kill Us? "Regression Models for Correlated Data" "Analysis of Longitudinal Data"
May, 1997	Division of Cancer Prevention and Control Colloquium National Cancer Institute Bethesda, Maryland "Frequency Domain Log-Linear Regression: Does the Air We Breathe Kill Us?"
May, 1997	Health Effects Institute Annual Conference Annapolis, Maryland "Analyses of Air Pollution and Mortality: Results of the Particle Epidemiology Evaluation Project and Plans for the National Morbidity, Mortality, and Air Pollution Study" (with J. Samet)
April, 1997	Workshop on the Design and Analysis of Prevention Trials for the Future Johns Hopkins University Prevention Research Center Baltimore, Maryland "Tracking the Development of Psychiatric Distress: Chipping Away at the Barriers between Longitudinal and Survival Analyses" (with W. Huang and E. Garrett)
February, 1997	Janssen Pharmaceutica Titusville, New Jersey "Analysis of Longitudinal Data" (with K-Y Liang)
November, 1996	Gerontological Society of America Annual Meeting Washington, DC "Marginal Regression Models of Multiple Measures of Task Difficulty" (with P. Rathouz, K. Bandeen-Roche, and L. Fried)
October, 1996	University of Connecticut Department of Statistics Storrs, Connecticut "Frequency-Domain Log-Linear Modelling: Does the Air We Breathe Kill Us?"
September, 1996	Opening Meeting of the "Three Country Corner" □ Royal Statistical Society Maastricht University Maastricht, Netherlands "Is the Air We Breathe Killing Us?"
August, 1996	American Statistical Association Joint Statistical Meetings Chicago, Illinois "Is the Air We Breathe Killing Us?" (with J. Kelsall)

June, 1996	Combined Health Agencies Health Awareness Week Baltimore, Maryland "The Future of Health Care and Disease Prevention in the 21st Century"
April, 1996	American Statistical Association-Johns Hopkins University Washington, DC "Analysis of Longitudinal Data"
April, 1996	Federal Drug Administration Rockville, Maryland "Analysis of Longitudinal Data" (with K-Y Liang)
February, 1996	New York University School of Medicine Department of Environmental Health Sciences Tuxedo, New York "Is the Air We Breathe Killing Us? A Statistician's Perspective"
February, 1996	Washington Statistical Society Washington, DC "Marginal Regression Models for Ordered Categorical Item Responses"
December, 1995	American Statistical Association, Biopharmaceutical Section 51st Annual Deming Conference on Applied Statistics Atlantic City, New Jersey "Analysis of Longitudinal Data" (with K-Y Liang)
November, 1995	Yale University Biostatistics and Statistics Joint Seminar New Haven, Connecticut "Marginal Regression Models for Ordered Categorical Item Responses"
October, 1995	University of Michigan Department of Biostatistics Ann Arbor, Michigan "Marginal Regression Models for Ordered Categorical Item Responses"
September, 1995	European Courses in Advanced Statistics Longitudinal Data Analysis and Repeated Measures Open University, Milton Keynes, England "Generalized Linear Models"
September, 1995	Research Workshop on Longitudinal Data Analysis in the Natural and Social Sciences Lancaster University Lancaster, England "Generalized Linear Models for Longitudinal Data"
August, 1995	American Statistical Association Joint Statistical Meetings Orlando, Florida "Analysis of Longitudinal Data" (with K-Y Liang)
June, 1995	Combined Health Systems Board Meeting Baltimore, Maryland

	"The Future of Health Care and Disease Prevention"
June, 1995	National Heart, Lung, and Blood Institute Growth Health and Study Workshop Bethesda, Maryland "Principles of Generalized Estimating Equations"
April, 1995	University of Maryland at College Park Department of Mathematics College Park, Maryland "Marginal Regression Models for Ordinal Item Responses"
April, 1995	INSERM (Institut National de la Santé et de la Recherche Médicale) Workshop, Phase 2 Lancaster, England "Analysis of Correlated Data in Biomedical Research"
March, 1995	Spring Meeting, International Biometric Society, Eastern North American Region Birmingham, Alabama "Marginal Regression Models for Ordinal Item Responses"
February, 1995	Hoechst-Roussel Pharmaceuticals Somerville, New Jersey "Principles for Longitudinal Clinical Trials" and "The Use of Generalized Estimating Equations in Biomedical Research"
December, 1994	Zachary and Elizabeth M. Fisher Medical Foundation and the National Institute on Aging Alzheimer's Disease Research Planning Meeting III Washington, DC "Statistical Issues for Preventive and Therapeutic Trials on Alzheimer's Dementia" (with R. Brookmeyer)
September, 1994	University of Toronto Department of Statistics Toronto, Ontario, Canada "Marginal Regression Models for Clustered Categorical Measurements"
June, 1994	INSERM (Institut National de la Santé et de la Recherche Médicale) Workshop Le Vesinet, France "Analysis of Correlated Data in Biomedical Research"
May, 1994	American Statistical Association, Northern New Jersey Chapter New Brunswick, New Jersey "Missing Data in Longitudinal Research"
May, 1994	National Cancer Institute Workshop on Compliance in Clinical Trials Bethesda, Maryland "Estimating Efficacy in Clinical Trials"
January, 1994	Academia Sinica Institute of Statistical Science Taipei, Taiwan "Marginal Models for Correlated Discrete Responses"

January, 1994	National Tsing Hua University Institute of Statistics Hsinchu, Taiwan "Regression Analysis of Clustered Data"
November, 1993	Memorial Sloan Kettering Cancer Center New York, New York "Regression Analysis for Clustered Data"
August, 1993	American Statistical Association Joint Statistical Meetings San Francisco, California "On Visual Field Data"
July, 1993	Wyeth-Ayerst Research Workshop Philadelphia, Pennsylvania "Regression Analysis for Correlated Data"
June, 1993	Statistical Society of Canada Biostatistics Workshop Wolfville, Nova Scotia, Canada "The Analysis of Longitudinal Data; Focus on Generalized Linear Models" (with K-Y Liang)
April, 1993	Burroughs-Wellcome Research Triangle Park, North Carolina "The Analysis of Longitudinal Data; Focus on Generalized Linear Models" (with K-Y Liang)
January, 1993	Centers for Disease Control and Prevention Workshop Atlanta, Georgia "The Analysis of Longitudinal Data; Focus on Generalized Linear Models" (with K-Y Liang)
November, 1992	Janssen Pharmaceutical Research Foundation Workshop Titusville, New Jersey "Regression Analysis for Dependent Responses" (with K-Y Liang)
September, 1992	Royal Statistical Society Conference Workshop Sheffield, England "Analysis of Longitudinal Data" (with P. Diggle and K-Y Liang)
August, 1992	American Statistical Association Joint Meeting Boston, Massachusetts "Semi-Parametric Models for Longitudinal Data; Trends in CD4 Cell Numbers"
June, 1992	National Public Health Institute Workshop Helsinki, Finland "New Regression Techniques for Modeling Mean and Dispersion Structures; Application to Continuous and Categorical Data" (with N. Laird and G. Arminger)
October, 1991	Pharmaceutical Manufacturers Association Biostatistics

	Subsection and Clinical Data Management Group Joint Annual Meeting Alexandria, Virginia "New Statistical Methods and Opportunities for Biostatisticians in Clinical Research"
October, 1991	National Academy of Science Committee on Environmental Epidemiology Washington, DC "Statistical Science and Environmental Epidemiology"
June, 1991	American Statistical Association Conference on Longitudinal Data Analysis Ft. Lauderdale, Florida "Analysis of Discrete Longitudinal Data" (with K-Y Liang)
May, 1991	Cleveland Clinic Foundation Departments of Biostatistics and Epidemiology Cleveland, Ohio "Generalized Linear Models with Random Effects; Salamander Mating Revised;" and "Longitudinal Studies as Tools for Biomedical Research"
April, 1990	Rutgers University Department of Statistics New Brunswick, New Jersey "Gibb's Sampling for Random Effects Models"
February, 1990	NIH, Heart, Lung and Blood Institute Bethesda, Maryland "Longitudinal Data Analysis"
December, 1989	University of Toronto Department of Statistics Toronto, Ontario, Canada "Random Effects GLMs via the Gibb's Sampler"
October, 1989	Queen's University Department of Mathematics Kingston, Ontario, Canada "Gibb's Sampling for Random Effects Generalized Linear Models"
October, 1989	Bell Laboratories Murray Hill, New Jersey "Generalized Linear Models with Random Effects via Gibb's Sampling"
October, 1989	Columbia University Department of Biostatistics New York, New York "Random Effects GLMs"
October, 1989	American Statistical Association, Delaware Chapter "Salamander Mating and the Gibb's Sampler"
October, 1989	Bureau of Census Statistical Research Division Washington, DC "Gibb's Sampling in GLM's with Random Coefficients"

October, 1989	Educational Testing Service Princeton, New Jersey "Random Effects GLMs"
September, 1989	University of Rochester Departments of Statistics and Biostatistics Rochester, New York "Random Effects GLM's; Salamander Mating Revisited"
September, 1989	Carnegie-Mellon University Department of Statistics Pittsburgh, Pennsylvania "Generalized Linear Models with Random Effects"
September, 1989	Johns Hopkins School of Medicine Lecture Series on Clinical Epidemiology Baltimore, Maryland "Randomized Clinical Trials - Intellectual Tyranny?"
August, 1989	American Statistical Association Annual Meetings Washington, DC "Regression Analysis with Generalized Estimating Equations" General Methodology Lecture
August, 1989	American Statistical Association Annual Meetings Anaheim, California "Random Effects GLMs; Salamander Mating Revisited"
July, 1989	Institute of Applied Mathematics Minneapolis, Minnesota "Time Series Models for Binary Data"
June, 1989	Statistical Society of Canada St. John's, Newfoundland, Canada "Gibb's Sampling for Random Effects GLMs"
May, 1989	American Statistical Association, New Jersey Chapter "Marginal Models for Multivariate Discrete Data"
May, 1989	Oxford University Department of Statistics Oxford, England "Time Series Models for Biomedical Problems"
May, 1989	Lancaster University Department of Mathematics Lancaster, England "Regression Methods for Dependent Responses" Three lectures
May, 1989	London University Lecture Series in Statistics London, England "Generalized Linear Models for Dependent Responses"
May, 1989	University of Reading Department of Applied Statistics Reading, England

	"Longitudinal Data Analysis"
April, 1989	NCHS Statistics Group Bethesda, Maryland "Longitudinal Data Analysis"
April, 1989	Lancaster University Department of Mathematics Lancaster, England "Time Series Analysis for Biomedical Research" Two lectures
March, 1989	Prince George's County Hospital Cheverly, Maryland "An Introduction to Biostatistics" (Lecture to Medical Residency Program)
February, 1989	University of Iowa Departments of Statistics and Biostatistics Iowa City, Iowa "The Analysis of Longitudinal Data"
February, 1989	University of Chicago Department of Statistics Chicago, Illinois "Regression Methods for Time-Dependent Data"
December, 1988	University of Massachusetts Department of Epidemiology and Mathematics Amherst, Massachusetts "Regression with Time-Dependent Data"
October, 1988	American Public Health Association Annual Meetings Boston, Massachusetts "Analyzing Epidemiologic Data Collected over Time: Old Questions and New Answers" (with L. Moulton)
October, 1988	Cornell University Lecture Series in Statistics Ithaca, New York "Regression Analysis with Time-Dependent Data"
July, 1988	XIV International Biometrics Conference Namur, Belgium "Longitudinal Data Analysis"
March, 1988	Spring Meeting, International Biometric Society, Eastern North American Region Boston, Massachusetts "Markov Models for Multivariate Binary Time Series with Application to AIDS Data" (with K-Y Liang)
March, 1988	University of Pittsburgh Department of Biostatistics Pittsburgh, Pennsylvania "Poisson Regression with a Surrogate X; Vitamin A and Children's Mortality"

December, 1987	Pennsylvania State University Department of Statistics University Park, Pennsylvania "Markov Models for Time Series; a Quasi-Likelihood Approach"
November, 1987	University of Michigan Department of Biostatistics Ann Arbor, Michigan "Markov Regression Models; a Quasi-Likelihood Approach"
November, 1987	Johns Hopkins University Conference on Modelling AIDS Epidemic (with L-C See, P.Diggle) Baltimore, Maryland "Statistical Issues in Monitoring the AIDS Epidemic
November, 1987	University of Wisconsin, Madison, Department of Statistics Madison, Wisconsin "Regression Analysis with Time-Dependent Data"
October, 1987	North Carolina State University Department of Statistics Raleigh, North Carolina "Analysis of Longitudinal Data: An Overview"
October, 1987	Johns Hopkins University Department of Mathematical Sciences Baltimore, Maryland "Observation-Driven Models for Time Series; A Quasi-Likelihood Approach"
March, 1987	University of Maryland Department of Epidemiology Baltimore, Maryland "Regression Analysis with Time-Dependent Data"
September, 1986	NIH/NHLBI Workshop on Methods for Longitudinal Data Analysis in Epidemiologic Studies
August, 1986	ASA Annual Meetings Chicago, Illinois "Analysis of Longitudinal Categorical Data"
June, 1986	American Statistical Association Summer Research Conference (with K-Y Liang) Mobile, Alabama "An Extension of Generalized Linear Models with Application to Longitudinal Data"
October, 1985	Institut Gustav Roussy Paris, France "Regression with Clustered Data"
October, 1985	Southampton University Southampton, England "Longitudinal Data Analysis Using Generalized Linear Models" (with K-Y Liang)

October, 1985	Imperial College Department of Mathematics London, England "Regression with Clustered Data"
October, 1985	Imperial College Department of Mathematics London, England "Ozone Hockey-Stick, Fact or Fiction"
September, 1985	Durham University Department of Mathematics Durham, England "Longitudinal data analysis"
December, 1983	Yale University Department of Public Health & Epidemiology New Haven, Connecticut "Statistical Analysis of Binary Longitudinal Data"
August, 1982	American Statistical Association Annual Meetings Cincinnati, Ohio "Looking for Man-Made Trends in Ozone Data"
Fall, 1981	Harvard University Department of Statistics Boston, Massachusetts "Stratospheric Ozone Trend Analysis