Nancy Beth Beck PhD, DABT

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[redacted]

SCIENCE & REGULATORY POLICY EXPERT
Ph.D. Toxicologist with over eighteen years of applied public health experience. Specialized ability to provide a broad policy perspective as well as detailed technical input. Deep understanding of scientific issues, risk assessment, and U.S. regulatory process. Accomplished in bringing a scientific dialogue to the policy discussion to inform critical decision-making. Skilled in leading and directing interagency negotiations to improve policy. Successful collaborations have involved partnerships with senior staff and policy officials throughout the Executive Office of the President and Federal agencies.

Education & Certification:

Diplomat American Board of Toxicology (DABT), November 2002, recertified Aug 2016
Ph.D. Environmental Health, *University of Washington*, Seattle, WA, 1998
M.S. Environmental Health, *University of Washington*, Seattle, WA, 1992
B.S. Microbiology (minor economics), *Cornell University*, Ithaca, NY, 1988

APPLIED TOXICOLOGY & PUBLIC HEALTH EXPERIENCE:

American Chemistry Council (ACC), Washington DC

Senior Director of Regulatory Science Policy
January 2012- present

• Leading expert for ensuring sound implementation of risk assessment practices within the Frank R. Lautenberg Chemical Safety for the 21st Century Act (signed into law June 2016).
• Develop technical and policy materials to develop sound scientific policies on science and health critical for the government assessment of chemicals.
• Oversee funding and development of projects to advance risk assessment methodologies and practices.
• Review and provide comment on various scientific assessments including EPA IRIS assessments, OPPT Risk Assessments, Report on Carcinogens documents, and international assessments to inform industry engagement with Federal Agencies.
• Serve as an expert technical and strategy resource to committees and self-funded groups on the development and improvement of scientific documents related to specific chemical assessments.
• Analyze scientific documents to identify critical scientific issues relating to improving the scientific basis to support decisions making. Provide technical assistance in protocol development, monitoring, auditing and communication of results.
• Co-lead ACC panel on advancing risk assessment and science policy regarding issues related to characterizing uncertainty, systematic review, and weight of evidence evaluations.
• Work to resolve member company concerns and problems related to chemical assessments
• Monitor, analyze, and track emerging issues, developments and trends on science policy and chemical assessment and management.
• Serve as spokesperson on behalf of ACC in front of federal agencies, congressional staff, press, international groups, scientific societies and other organizations.

Executive Office of the President, Office of Management and Budget, Office of Information and Regulatory Affairs, Washington, DC
TOXICOLOGIST/RISK ASSESSOR/POLICY ANALYST
AUG. 2002-January 2012

• Utilized toxicology expertise to bridge the science and policy gap by framing and identifying scientific issues for an active policy debate.
• Led expert for international regulatory discussions with the EU, Canada and Mexico on risk assessment and nanotechnology policy.
• Managed and led the scientific review of the toxicological/scientific analyses and risk assessments upon which rulemakings, proposals, notices, guidance documents, and information collection requests rely as part of the review by the Executive Office of the President (EOP). Included review of IRIS assessments.
• Supervised the oversight of federal agency implementation of the Information Quality Law and OMB Information Quality Guidelines.
• Coordinated and led OMB risk assessment initiatives, including oversight, authorship, coordination of working group, shepherding of draft documents through peer review and public comment, and culmination into a final OMB/OSTP Memorandum on Risk Analysis.
• Monitored and analyzed human health, environmental and safety information which appears in legislative testimony through the legislative review clearance process within the EOP.
• Provided direct scientific, risk assessment, toxicological, and environmental health assistance and interpretation to White House political appointees and senior leaders. Prepared and conducted various briefing papers and talks.

US EPA CAREER DEVELOPMENT DETAIL
US EPA, Office of the Assistant Administrator for the Office of Research and Development, Washington DC. Feb.2006-May 2006

- Reviewed and provided comments on strategies and draft documents for the EPA Assistant Administrator
- Assessed differences and similarities of risk assessment procedures among different EPA program offices, with a specific emphasis on pesticides and the IRIS processes.
- Gained critical understanding of the Office of Research and Development and its role in regulations.

AAAS (American Association for the Advancement of Science) Science and Technology Policy Fellow, Washington DC ***FELLOW--US EPA, National Center for Environmental Assessment***
Sept. 2000-Aug. 2002

• Worked on toxicology projects focused on identifying health issues related to childhood susceptibilities, human variability, childrens toxicokinetics and toxicodynamics, and susceptible populations.

Washington State Department of Health, Office of Environmental Assessments, Olympia, WA
TOXICOLOGIST/PUBLIC HEALTH ADVISOR Feb. 1999-July 2000

• Prepared health and exposure assessments, including site specific risk assessments, for ATSDR and the Washington State Department of Health.
• Evaluated human health risks using knowledge, risk assessment tools, air modeling programs, hydrogeology knowledge, and a strong understanding of the fate and transport of compounds in the environment and the body.
• Interacted regularly with other regulators and the general public at public meetings.

Publications, awards, and other leadership activities available upon request

Juberg DR, Knudsen TB, Sander M, **Beck NB**, Faustman EM, Mendrick DL, Fowle JR 3rd, Hartung T, Tice RR, Lemazurier E, Becker RA, Fitzpatrick SC, Daston GP, Harrill A, Hines RN, Keller DA, Lipscomb JC, Watson D, Bahadori T, Crofton KM., Future Tox III: Bridges for Translation, *Toxicol Sci*, Oct 25, 2016 epub ahead of print

Simon TW, Zhu Y, Dourson ML, **Beck NB**, Bayesian methods for uncertainty factor application for derivation of reference values, *Regul Toxicol Pharmacol*, Oct;80:9-24, 2016

Stephens ML, Betts K, **Beck NB**, Cogliano V, Dickersin K, Fitzpatrick S, Freeman J, Gray G, Hartung T, McPartland J, Rooney AA, Scherer RW, Verloo D, Hoffmann S., The emergence of systematic reviews in toxicology, *Toxicol Sci.* Jul;152(1):10-6, 2016.

Beck NB, Becker RA, Erraguntla N, Farland WH, Grant RL, Gray G, Kirman C, LaKind JS, Jeffrey Lewis R, Nance P, Pottenger LH, Santos SL, Shirley S, Simon T, Dourson ML., 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.* Apr-May;89-90:110-28, 2016.

Beck NB, Becker RA, Boobis A, Fergusson D, Fowle JR, Goodman J, Hoffmann S, Lalu M, Leist M, Stephens ML. Instruments for assessing risk of bias and other methodological criteria of animal studies: omission of well-established methods, *Environ Health Perspect*. Mar;122(3):A66-7, 2014.

Rhomberg LR, Goodman JE, Bailey LA, Prueitt RL, **Beck NB**, Bevan C, Honeycutt M, Kaminski NE, Paoli G, Pottenger LH, Scherer RW, Wise KC, Becker RA., A survey of frameworks for best practices in weight-of-evidence analyses, Crit Rev Toxicol. 2013 Oct;43(9):753-84, 2013.

Ylitalo GM, Krahn MM, Dickhoff WW, Stein JE, Walker CC, Lassitter CL, Garrett ES, Desfosse LL, Mitchell KM, Noble BT, Wilson S, **Beck NB**, Benner RA, Koufopoulos PN, Dickey RW., Federal Seafood Safety Response to the Deepwater Horizon Oil Spill, *Proc Natl Acad Sci USA*, Dec 11;109(50):20274-9, 2012.

Sonawane, B., **Beck, N.B.**, Threats to Children's Environmental Health In Developing Countries: An Overview of the Problem, book chapter in: **The Handbook of Pediatric Environmental Health 2nd Edition.** Amer. Academy of Pediatrics 2003.

Beck, N.B., Sidhu, J.S., Omiecinski, C.J. Baculovirus Vectors Repress Phenobarbital-Mediated Gene Induction and Stimulate Cytokine Expression in Primary Cultures of Rat Hepatocytes. *Gene Therapy* 7: 1274-1283, 2000.

Beck, N.B., Omiecinski, C.J. Lack of Involvement of cAMP/PKA Pathways in the Phenobarbital Mediated Induction of the Rat CYP2B Genes in Primary Hepatocyte Cultures. *Biochemical Pharmacology* 58:1109-1114, 1999.

Ramsden, R., **Beck, N.B.**, Sommer, K.M., Omiecinski, C.J. Phenobarbital Responsiveness Conferred by the 5'-Flanking Region of the Rat CYP2B2 Gene in Transgenic Mice. *Gene* 228:169-179, 1999.

Beck, N.B. Phenobarbital Mediated Induction of the Cytochrome P450 2B Genes: Mechanistic Investigations. Doctoral Dissertation. 1998.

Hassett, C, Robinson, K.B., **Beck, N.B.**, Omiecinski, C.J. The Human Microsomal Epoxide Hydrolase Gene (EPHX1): Complete Nucleotide Sequence and Structural Characterization. *Genomics* 23:433-442, 1994.

Beck, N.B., Koenig, J.Q., Luchtel, D.L., Altman, L.C., Orsborn, M.T., Kenney, J.S. Ozone Can Increase the Expression of Intercellular Adhesion Molecule-1 and the Synthesis of Cytokines by Human Nasal Epithelial Cells. *Inhalation Toxicology* 6:345-357, 1994.

Beck, N.B. The Effects of Ozone on Intercellular Adhesion Molecule 1 Expression in Human Nasal Epithelial cells. Masters Thesis. 1992.

PUBLISHED ABSTRACTS, PRESENTATIONS, POSTERS, and other Reports:

Beck, N.B., Pottenger, L, Workshop: Understanding and Communicating Uncertainty in Hazard Assessment and Dose Response. March 2015 Society of Toxicology Annual Meeting, serving as workshop organizer and chairperson.

Beck, N.B., Symposium: Understanding the Elements of Systematic Review and Evidence Integration. December 2014 Society of Risk Analysis Annual Meeting.

Lewis, R.J., **Beck, N.B.,** Symposium: EPA's Framework for Human Health Risk Assessment to Inform Decision Making: An Industry Perspective. December 2014 Society of Risk Analysis Annual Meeting.

Beck, N.B., Dose-Response: Current Challenges and Opportunities for Improvement. Presented at the October 2014 Society of Toxicology Environmental Toxicology and Chemistry Annual meeting as part of a workshop on Challenges Facing the Next Generation of Risk assessment.

Beck, N.B., Goodman, J.E., Continuing Education Course: Epidemiology for Toxicologists: What the Numbers Really Mean. March 2014 Society of Toxicology Annual Meeting, served as course organizer and chairperson.

Beck, N.B., Goodman, J.E., Workshop: Understanding Weight of Evidence: Exploring Different Approaches to Integrating Evidence From Diverse Data Streams. Presented at the 2014 Society of Toxicology Annual Meeting, served as workshop organizer and chairperson.

Beck, N.B., Dose-Response: Current Challenges and Opportunities for Improvement. Presented at the 2014 Society of Toxicology Annual Meeting as part of a workshop on Challenges Facing the Next Generation of Risk assessment.

Beck, N.B., Symposium: Modernizing the Tools & Approaches to Improve Data Availability & Transparency, 2013 Society of Risk Analysis Meeting, symposium chair and organizer.

Wise K, **Beck N.B.,** Fischer D, Pottenger L.H., Beatty P, Cruzan G, Becker R.A., Getting the Science Right on Mode of Action: An Essential Element for IRIS Improvement. 2013 Society of Risk Analysis Meeting, Symposium on EPA's IRIS. Presentation to be given by Rick Becker.

Beck, N.B., Discussion: Pulling the Pieces Together. 2013 Society of Risk Analysis Meeting, Symposium on Integrating Evidence. Symposium Presentation.

Beck, N.B., Becker, R.A., Twardowski, A, Is there Overlap in U.S. Hazard Characterization Programs that Focus on Environmental Exposure? An Evaluation of the Data, Presented at the 2013 Society of Toxicology Annual Meeting, March 2013. Poster Presentation.

Beck, N.B., Becker, R.A., Twardowski, A, Is there Overlap in U.S. Hazard Characterization Programs that Focus on Environmental Exposure? An Evaluation of the Data, Presented at the 2012 Society of Risk Analysis Annual Meeting, December 2012. Poster Presentation.

Mercado-Feliciano, M., **Beck, N.B.**, Refining Your Science Communication Skills: The Art of the One Pager; Session Chair and Presenter, Annual Society of Toxicology Meeting March 2012. Education Career Development Session.

Memorandum on Policy Principles for the U.S. Decision-Making Concerning Regulation and Oversight of Applications of Nanotechnology and Nanomaterials, co-lead staff author, released June 9 2011, available at: http://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/nanotechnology-regulation-and-oversight-principles.pdf.

Beck, N.B., Mercado-Feliciano, M., Bringing Toxicology to the Decision-Makers Table: Opportunities for Science Policy Positions in Washington DC; Session Chair at the 50th Annual Society of Toxicology Meeting March 2011. Education Career Development Session.

2011 Report to Congress on the Costs and Benefits of Federal Regulation. OMB report to Congress. lead author of Chapter 3 on Information Quality, released June 2011: available at: http://www.whitehouse.gov/sites/default/files/omb/inforeg/2011_cb/2011_cba_report.pdf

2010 Report to Congress on the Costs and Benefits of Federal Regulation. OMB report to Congress. lead author of Chapter 3 on Information Quality, released January 2009: available at: http://www.whitehouse.gov/sites/default/files/omb/legislative/reports/2010_Benefit_Cost_Report.pdf

2009 Report to Congress on the Costs and Benefits of Federal Regulation. OMB report to Congress. lead author of Chapter 4 on Information Quality, released January 2009: available at: http://www.whitehouse.gov/sites/default/files/omb/assets/legislative_reports/2009_final_BC_Report_01272010.pdf

2008 Report to Congress on the Costs and Benefits of Federal Regulation. OMB report to Congress. lead author of Chapter 3 on Information Quality, released January 2009: available at: http://www.whitehouse.gov/omb/assets/information_and_regulatory_affairs/2008_cb_final.pdf

2007 Report to Congress on the Costs and Benefits of Federal Regulation. OMB report to Congress. lead author of Chapter 3 on Information Quality, released June 2008: available at: http://www.whitehouse.gov/omb/assets/omb/inforeg/2007_cb/2007_cb_final_report.pdf.

OMB/OSTP Principles for Risk Analysis, M-07-24, lead author, released September 19, 2007, available at: http://www.whitehouse.gov/omb/assets/regulatory_matters_pdf/m07-24.pdf.

2006 Report to Congress on the Costs and Benefits of Federal Regulation. OMB report to Congress. lead author of Chapter 4 on Information Quality, released January 2007: available at: http://www.whitehouse.gov/omb/inforeg/2006_cb/2006_cb_final_report.pdf.

OMB Proposed Bulletin on Risk Assessment. lead staff author, released January 2006: available at: http://www.whitehouse.gov/omb/inforeg/proposed_risk_assessment_bulletin_010906.pdf.

2005 Report to Congress on the Costs and Benefits of Federal Regulation. OMB report to Congress. lead author of Chapter 4 on Information Quality, released December 2005: available at: http://www.whitehouse.gov/omb/inforeg/2005_cb/final_2005_cb_report.pdf.

Information Quality: A Report to Congress Fiscal Year 2003. OMB Report to congress. lead author, April 2004; available at: http://www.whitehouse.gov/omb/inforeg/fy03_info_quality_rpt.pdf.

Beck, N.B., Sonawane B. Chilren's Health Risk Characterization from Exposure to Tetrachloroethylene. Presented at the 42nd Annual Society of Toxicology Meeting by B. Sonawane, March 2003. Poster Presentation.

Beck, N.B., Rice, D, Sonawane B. The National Survey of Mercury Concentrations in Fish, Fish Consumption Patterns, and Major Sources of Mercury Throughout the United States. Presented at the WHO International Conference on Environmental Threats to the Health of Children, Bangkok, Thailand, March 2002. Session Talk.

Beck, N.B., Sonawane B. Are the Data Available to Protect the Children: Recent U.S. EPA Risk Assessments and Childrens Health. Presented at the WHO International Conference on Environmental Threats to the Health of Children, Bangkok, Thailand, March 2002. Poster Presentation.

Beck, N.B., Sonawane B. Children's Health and Air Toxics: How Recent Risk Assessments are Addressing the Issues. Presented at 9th International Congress of Toxicology Meeting, Brisbane, Australia, July 2001. Poster presentation.

Ginsberg G.L., Hattis D.B., Smolenski S., Russ A., Kozlak M., Goble, R.L, **Beck, N.B.**, Sonawane B. Assessing Pharmacokinetic Differences Between Children and Adults: Implications for Chemical Risk Assessment. Presented at 9th International Congress of Toxicology Meeting, Brisbane, Australia, July 2001. Poster presentation.

Sonawane B. **Beck, N.B.** Health Risk Assessment of Benzene, an Update. Presented at 9th International Congress of Toxicology Meeting (by B. Sonawane), Brisbane, Australia, July 2001. Poster presentation.

Sonawane B. Ginsberg G.L., Goldstein, D.A., **Beck, N.B.** A Conceptual Framework to Evaluate the Risks of Environmental Chemical Exposures to Children: Issues for Consideration. Presented at 9th International Congress of Toxicology Meeting (by D. Goldstein), Brisbane, Australia, July 2001. Poster presentation.

Beck, N.B., Omiecinski, C.J. Lack of Involvement of cAMP and PKA in the Phenobarbital (PB) Mediated Induction of the Rat Cytochrome P450 (CYP) CYP2B Genes in Primary Hepatocyte Cultures. Toxicological Sciences 48(1-S) 405 abstr. 1999. Presented at the Society of Toxicology Annual Meeting, New Orleans, LA, March, 1999. Poster presentation.

Beck, N.B., Omiecinski, C.J. Phenobarbital Mediated Induction of the Rat CYP2B Genes in Primary Hepatocyte Cultures. Presented at the Pacific Northwest Chapter of the Society of Toxicology, 15th Annual Meeting, Leavenworth, Washington, September 1998. Platform talk.

Beck, N.B., Ramsden, R., Sommer, K.M., Omiecinski, C.J. Transcription Factor Binding to the Phenobarbital Responsive Element (PBRE) in the P450 2B2 Gene. Toxicological Sciences 42(1-S) 22 abstr. 1998. Presented at Society of Toxicology Annual Meeting, Seattle, Washington, 1998. Poster session.

Beck, N.B., Ramsden, R., Sommer, K.M., Omiecinski, C.J. Characterization of the Phenobarbital Responsive Element (PBRE) in the P450 2B2 Gene. Presented at the Pacific Northwest Chapter of the Society of Toxicology, 14th Annual Meeting, Ocean Shores, Washington, September 1997. Platform talk.

Beck, N.B., Omiecinski, C.J. Cooperative Interactions of Nuclear Proteins with the 5' Upstream Region of the Rat Cytochrome CYP2B2 Gene. *International Toxicologist* 7(1) abstr. 1995. Presented at the meeting of the International Congress of Toxicology, Seattle, WA, 1995. Poster Discussion session.

Beck, N.B., Altman, L.C., Koenig, J.Q., Luchtel, D.L., Orsborn, M.T., Costa, L.G., Reilly, M.T., Kavanagh, T.J. Development of a Quantitative Morphometric Approach to Examine the Effects of Ozone on Intercellular Adhesion Molecule-1 on Human Nasal Epithelial Cells. *Toxicologist*. 13(1):298 abstr. 1993. Presented at Society of Toxicology Annual Meeting, New Orleans, LA, 1993. Poster discussion session.

Beck, N.B., Altman, L.C., Luchtel, D.L., Koenig, J.Q., Orsborn, M.T., Kavanagh, T.J., Baker, C., Welch, M., Kinney, J.S. Ozone Stimulates ICAM-1 Expression and Cytokine Release from Cultured Human Nasal Epithelial Cells. *J Allergy Clin*

Immunol. 91:254 abstr. 1993. Presented (by L.C. Altman) at Society of Allergy and Clinical Immunology Annual Meeting, Chicago, IL, 1993. Poster session.

SELECTED INVITED EVENTS:

Transatlantic Week, July 23, 2015, *Invited speaker* at session on Transatlantic Dialogue on Science and Public Policy, Washington DC.

Alliance for Risk Assessment, May 21, 2014, *Invited Speaker* at workshop on problem formulation and dose response, Austin TX.

US Risk Assessment and Regulatory Policy, 2012-2015, multiple presentations to various ACC member companies in the US.

OPM Course on Federal Regulatory Policy, May 22, 2013, *Invited Speaker* on Information Quality and Risk Analysis in the Federal Government, Shepardstown, WV

OECD/Mexico Workshop 'New Ideas for Risk Based Regulation and Regulatory Governance in Mexico, July 13, 2011, *Invited Speaker* on US Risk Guidance and International Cooperation in Evaluating and Improving the Quality of Domestic Policies and Regulations, Mexico City, Mexico.

OPM Course on Federal Regulatory Policy, June 29, 2011, *Invited Speaker* on Information Quality and Risk Analysis in the Federal Government, Shepardstown, WV

2nd International Conference on Risk Assessment, Jan. 25-25, 2011, *Lead of US delegation, Invited Speaker, Uncertainty Working Group Session Chair,* Brussels Belgium.

Treasury Board of Canada Conference on Risk and Transatlantic Risk Dialogue meeting, June 2-4, 2010, *Invited Speaker* on US Risk Analysis Guidelines and *Session Lead* for Working Group on Uncertainty, Ottowa, Canada.

OPM Course on Federal Regulatory Policy, June 17, 2009, *Invited Speaker* on Information Quality and Risk Analysis in the Federal Government.

Transatlantic Risk Dialogue, July 10-11, 2008, *Speaker and Organizer,* Washington DC; Nov. 12-14, 2008, *Speaker and Co-organizer*, Brussels, Belgium.

Bertelsmann International Risk Governance Conference, Nov. 16, 2008, *invited co-chair of session,* Berlin, Germany.

Workshop on the Regulatory Risk Assessment Guidelines for the Government of Canada. Feb 20 2008, *Invited Participant and Speaker,* Ottawa, Canada.

Society of Risk Analysis, Workshop on Quantitative Risk Assessment and Cost Benefit Analysis, Dec 9, 2007, *Invited Speaker* on Updated Principles for Risk Analysis and OMB Quality Initiatives, San Antonio, Texas.

Global Approaches to Risk and Regulation: A high level policy seminar. Feb 20th and 21st 2007, *Invited Participant and Speaker*, Ditchley Park, Oxfordshire, UK.

United Kingdom, Better Regulation Executive, *Invited Speaker* on Regulatory Review, Feb 19 2007, Whitehall St., London, UK.

Toxicology Forum, 32nd Annual Summer Meeting, Aspen, Colorado, July 10-13, 2006 *Invited Speaker* on Proposed Risk Assessment Bulletin. Sponsored by the Toxicology Forum.

House Science Briefing on the Proposed Risk Assessment Bulletin, *Invited Lead Speaker,* June 23, 2006, Washington DC.

Society of Risk Analysis Symposium, May 23, 2006, *Invited Speaker* on Proposed Risk Assessment Bulletin, representing OMB. 90 minute talk. Washington DC.

National Academy of Sciences, May 22, 2006, *Invited Speaker* on Proposed Risk Assessment Bulletin, representing OMB. Washington DC.

Society of Toxicology, Risk Assessment Specialty Section Annual Meeting, San Diego, California, March 6-9, 2006, *Invited Speaker* on OMB Proposed Bulletin on Risk Assessment. Sponsored by the US EPA.

Toxicology Forum 31st Annual Summer Meeting, Aspen, Colorado, July 10-14, 2005, *Invited Speaker* on Peer Review. Sponsored by the Toxicology Forum.

EPA National Conference on Managing Environmental Quality Systems, San Diego, California, April 11-13, 2004, *Invited Speaker* on Information Quality at plenary panel. Sponsored by the US EPA.

University of Washington, School of Public Health and Community Medicine, Seattle, Washington October 14, 2004, *Invited Speaker* for Departmental Seminar Series. Sponsored by the University of Washington.

WHO IPCS Uncertainty in Exposure Assessment Working Group and Scoping Discussion on Data Quality, Geneva Switzerland, Aug 19-20 2004, *Invited Participant and document preparer,* Sponsored by the World Health Organization.

European Union-United States Meeting on Precaution, Berlin Germany, June 19-21 2003, *invited participant*, Sponsored by the US State Department and the European Policy Center.

Chemical Control Policy Dialogue Meeting, Stockholm Sweden, Sept 15-17 2003, *Invited participant,* Sponsored by the US State Department and the European Policy Center.

Association of Government Toxicologists, Washington DC, Sept 11 2003, *invited speaker*, topic: the Role of Science at OMB: Risk Assessment and Regulations.

National Science Board, National Science Foundation, Oct 16, 2003, *invited speaker,* topic: peer review.

National Center for Dissemination of Disability Research, Knowledge, Dissemination and Utilization Program meeting, Aug 26, 2003, *invited speaker,* topic: Information Quality Guidelines.

EPA/AFS/AAP/ACOG/AOEC Mercury Medical Symposium, Burlington, Vermont, Nov 19-20, 2002. Invited attendee.

Allegheny-Erie Society of Toxicology (AESOT) Meeting, Pittsburgh PA, May 2001. Led interactive lecture/training on toxicology outreach using the Tox-in-the-Box Toolkit.