U.S. Environmental Protection Agency
Clean Air Scientific Advisory Committee
Lead Review Panel
Biosketches

Henderson, Rogene Chair

Lovelace Respiratory Research Institute

Dr. Rogene Henderson is a Senior Scientist Emeritus at the Lovelace Respiratory Research Institute. Dr. Henderson earned her Ph.D. in chemistry from the University of Texas in 1960 and her B.S./B.A. in chemistry/biology from Texas Christian University in 1955. She was a Fulbright Scholar in physical chemistry in 1955-1956 and held fellowships at the Universities of Texas and Arkansas. Dr. Henderson's research interests are in three major areas: (1) biochemistry of the lung, particularly the surfactant lining layer — she has developed in vivo screening tests for pulmonary toxicants based on analysis of bronchoalveolar washings for biomarkers of lung injury and repair; (2) the mechanisms by which pulmonary inflammation leads to repair or to chronic disease (fibrosis, emphysema); and (3) the pharmacokinetics of inhaled xenobiotics (particularly vapors) and chemical-specific biomarkers of chemical exposure. She has recently conducted studies on the health effects of low-level sarin exposures in rats.Dr. Henderson is currently a member of: the U.S. Army Deployment Toxicology Science Working Group, a member and Vice-Chair of the Board of Scientific Councilors (BOSC) for the U.S. Environmental Protection Agency (EPA) Office of Research and Development; and a member of the American Cancer Society (ACS) Advisory Group on Cancer and the Environment. She is a former member of the NIEHS Advisory Council (1991-95), the Health Effects Institute Research Committee (1997-2005), and the National Research Council/National Academy of Sciences (NRC/NAS) Board on Environmental Studies and Toxicology (1998-2004). Other past advisory committee activities include: Member, NIH Toxicology Study Section (1982-86); Member, NRC/NAS Committee on Epidemiology of Air Pollution (1984-85); Member, New Mexico PCB Expert Advisory Panel (1985-86); Member, NAS/NRC Committee on Toxicology (1985-1991); Chair, NAS/NRC Committee on Toxicology (1992-1998); Chair, Panel on Hyperbarics and Mixtures, NAS/NRC Subcommittee on Submarine Air Quality (1986-88); Member, NAS/NRS Committee on Biological Markers (1986-89); Chair, NAS/NRC Subcommittee on Biological Markers in Pulmonary Toxicology (1986-89); Member, Advisory Committee for the Burroughs Wellcome Toxicology Scholar Award (1987-89); Member, Associated Western Universities Laboratory Advisory Board (1988-89); Member, NAS/NRC Committee on Risk Assessment Methodology (1989-91); Member, NAS/NRC Subcommittee on Spacecraft Maximum Allowable Concentrations for Space Station Contaminants (1989-94); Member, World Health Organization (WHO) Advisory Group on Use of Biological Markers in Risk Assessment (1989, 1992); Member, NAS/NRC Subcommittee on Guidelines for Estimating Acceptable Acute Exposures for Hazardous Substances (1990-92); Member, WHO Task Group on Benzene (1991); Member, EPA Science Advisory Board (SAB) Environmental Health Committee (1991-95); Chair, NAS/NRC Subcommittee on Permissible Exposure Levels for Military Jet Fuels (1992-96); Member, EPA/HERL Ad Hoc Advisory Group on Applications of Specimen Banking, Biological Monitoring and Biological Markers for Exposure Assessment (1993); Member, ILSI/EPA Committee on Dose Selection for Chronic Bioassays (1993); member, WHO Panel on Biomarkers in Australia (1993); Member, American Petroleum Institute (API) Advisory Panel on Benzene (1993); Member, EPA Advisory Panel on Revising the Ozone Criteria Document (1993); Member, NAS/NRC Subcommittee on Military Smokes and Obscurants (1994-98); Member, Scientific Advisory Panel of the Mickey Leland National Urban Air Toxics Research Center (1995-97); Invited Member of the January 1995 National Toxicology Program Workshop on "Mechanism-Based Toxicology in Cancer Risk Assessment: Implications for Research, Regulation, and Legislation;" Member of the Ad Hoc Advisory Group on Biologic Markers for EPA SAB, Environmental Health Committee (1989); Member, Naval Submarine Medical Research Laboratory Submarine Atmosphere Health Assessment Program (1995); Chair, NAS/NRC Subcommittee on Zinc Cadmium Sulfide (1995-98); Chair, NAS/NRC Committee on Risk-Based Criteria for Non-RCRA Hazardous Waste (1998-99); Member, IOM Committee to Assess Science Base for Tobacco Harm Reduction (1999-2001); Member, NAS/NRC Committee on Estimating the Public Health Benefits of Proposed Air Pollution Regulations (2000-2002); Chair, NAS/NRC Committee on Assessing Human Health Risks of Trichloroethylene ((2004-); Chair, BOSC Symposium on Risk Assessment Practices of the EPA (2004); Chair, Review Panel for the US EPA PM/O3 Research Program (2005); Co-Chair, WHO Task Group on Environmental Health Criteria for Bentonite, Kaolin and Selected Clay Minerals (2005); member, Institute of Medicine (IOM) Committee on Asbestos: Selected Health Effects (2005-). Dr. Henderson is a National Associate of the NAS. Since October 2004, she has served as the Chair of EPA's Clean Air Scientific Advisory Committee (CASAC).

Cohen, Joshua

Tufts New England Medical Center

Dr. Joshua T. Cohen is a Senior Research Associate at the Center for Risk Analysis, Department of Health Policy and Management, School of Public Health, Harvard University. In that capacity, Dr. Cohen develops and conducts analyses, authors manuscripts and reports, develops health economic models and environmental risk assessments, provides expertise in Monte Carlo simulation, and is a guest lecturer on the use and design of simulation models in continuing education and graduate student courses. Prior to his current position at Harvard, Dr. Cohen was a Senior Associate at Gradient Corporation from 1994-1999. Dr. Cohen earned his Master's Degree in Applied Mathematics from Harvard University in 1990. He earned his Ph.D. in Decision Sciences from Harvard in 1994. Dr. Cohen's particular areas of expertise relative to the SAB CASAC Lead Review Panel include lead exposure modeling, risk assessment and uncertainty characterization, and evaluation of economic effects of lead. Dr. Cohen has published on several modeling issues relevant to the Review Panel, including several peer-reviewed articles on lead exposure modeling. In 2001, Dr. Cohen co-authored an article on trends in childhood blood lead levels, and another article on the development of a stochastic physiologically-based pharmacokinetic model for lead. In 1998, he published an article on blood lead slope factor models for adults. In 1995, he published an article on the use of Monte Carlo simulation techniques to predict population blood lead levels. Since 2004, Dr. Cohen has served as a member of the National Academies of Sciences Committee on EPA's Exposure and Human Health Reassessment of TCDD and Related Compounds.

Cory-Slechta, Deborah

University of Medicine and Dentistry of New Jersey and Rutgers University

Dr. Deborah Cory-Slechta received her Ph.D. degree from the University of Minnesota in 1977 and worked as a junior staff fellow of the National Center for Toxicological Research beginning in 1979. She was appointed to the faculty of the University of Rochester Medical School in 1982 and rose through the ranks. In 1998, she was appointed Chair of the Department of Environmental Medicine and Director of the NIEHS Environmental Health Sciences Center at the University of Rochester. From July 2000- July 2002, she was the Dean for Research and Director of the AAB Institute for Biomedical Sciences, a newly established post at the University and as such, became the first female dean in the history of the Medical School. Dr. Cory-Slechta has served on numerous national research review and advisory panels, including committees of the National Institutes of Health, the National Institute of Environmental Health Sciences, the Food and Drug Administration, the National Center for Toxicological Research, the Environmental Protection Agency, the National Academy of Sciences, the Institute of Medicine, and the Agency for Toxic Substances and Disease Registry, Centers for Disease Control. In addition, Dr. Cory-Slechta has served on the editorial boards of several journals including Neurotoxicology, Toxicology, Toxicological Sciences, Fundamental and Applied Toxicology, Neurotoxicology and Teratology, and American Journal of Mental Retardation. She has held the elected positions of President of the Neurotoxicology Specialty Section of the Society of Toxicology, President of the Behavioral Toxicology Society, and been named a Fellow of the American Psychological Association. Her research has focused largely on environmental neurotoxicants as risk factors for behavioral disorders and neurodegenerative disease. Specifically this has included work on the impact of lead on learning and attention and associated neurochemical mechanisms, and, more recently on the role of pesticides as risk factors for Parkinson's Disease. Currently she has also begun to examine mixtures of neurotoxic chemicals and risk modifiers for effects of neurotoxicants as well. These research efforts have resulted in over 100 papers and book chapters to date.

Cowling, Ellis B.

North Carolina State University

Dr. Ellis B. Cowling is a University Distinguished Professor At-Large, Colleges of Natural Resources and Agriculture and Life Sciences, North Carolina State University (NCSU). He received his B.S. (Wood Technology, 1954) and M.S. (Forest Pathology, 1956) from the State University College of Forestry at Syracuse University; his Ph.D. (Plant Pathology/Biochemistry, 1959) from the University of Wisconsin; and his Filosofie Licensiat (1960) and Filosofie Doktor (1970) in Physiological Botany from the Institute for Physiological Botany, University of Uppsala (Sweden). Since 1995, Dr. Cowling has been a Visiting Eminent Scholar, School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA. From 1978 to 1991, he served as Associate Dean for Graduate Education and Research in the College of Forest Resources at NCSU. Dr. Cowling held an appointment as an Adjunct Fellow, Kennedy School of Government, Harvard University, from 1993 to 2000.Dr. Cowling is regarded as a world leader in air pollution research. He was elected to membership in the National Academy of Sciences (NAS) in 1973. Dr. Cowling is currently Director of the Southern Oxidants Study, a strategic alliance of 490 scientists in 40 universities and 42 federal, state, and industrial organizations who investigate the chemistry, meteorology, biology, and management of ozone and particulate matter pollution and its public health and ecological effects in the southeastern United States. Dr. Cowling is the co-author of two books, and has 341 publications in referenced journals and other scientific contributions.

Crapo, James

National Jewish Medical and Research Center

Dr. James Crapo is Professor of Medicine at the National Jewish Medical and Research Center (NJMRC) in Denver, CO. Dr. Crapo is also a Professor of Medicine and the Director of Ph.D. Programs for Graduate Health Care Professionals at the University of Colorado Health Sciences Center. He received his B.S. in Chemistry from Brigham Young University (1967) and his M.D. from the University of Rochester (1971). Prior to coming to NJMRC in 1996, Dr. Crapo spent over 15 years as the Chief of the Pulmonary and Critical Care Medicine Division at Duke University Medical Center. Throughout his professional career, Dr. Crapo has been active in numerous professional societies, including service on the National Heart, Lung and Blood Institute (NHLBI) Advisory Council and serving as President of the American Thoracic Society and the Fleischner Society. He is also a member of the American Society for Clinical Investigation, the Association of American Physicians, and the Society of Toxicology. In addition, Dr. Crapo is a Fellow of the American College of Chest Physicians, the American College of Physicians, and the Royal College of Physicians, Edinburgh, Scotland. He was a Consultant to the Ozone Review Panel of EPA's Clean Air Scientific Advisory Committee (CASAC) from 1984-1990. Dr. Crapo is the holder of four U.S. Patents, with five other Patents pending, and has in excess of 200 publications.

Crawford-Brown, Douglas

University of North Carolina at Chapel Hill

Dr. Douglas Crawford-Brown is Professor in Environmental Sciences and Engineering and in Public Policy, and Director of the campus-wide Carolina Environmental Program, at the University of North Carolina at Chapel Hill. Through the CEP, he coordinates environmental research, education and outreach on campus. He received his degrees in physics (BS, 1975; MS, 1977) and nuclear science (PhD, 1980) from the Georgia Institute of Technology. Dr. Crawford-Brown's His activities focus on the modeling of human health risks — primarily of carcinogens — the modeling of alternative policies to tackle a range of environmental problems, and development of tools of risk assessment for application in risk-cost-benefit assessments and uncertainty analyses. He is the author of 130 academic articles and five books on these topics. In November 2006, the EPA Administrator appointed Dr. Crawford-Brown as a member of the Clean Air Scientific Advisory Committee (CASAC). In addition, he has served on a wide variety of state, national and international commissions addressing environmental issues. These include EPA Federal advisory committees on endocrine disruptors, the National Pollution Prevention and Toxics Advisory Committee, and the National Drinking Water Advisory Committee (CCL subgroup).

Fowler, Bruce

U.S. Centers for Disease Control

Dr. Bruce A. Fowler, Fellow A.T.S., received a B.S. degree in Fisheries (Marine Biology) from the University of Washington in 1968 and a Ph.D. in Pathology from the University of Oregon Medical School in 1972. He was a staff scientist at the National Institute of Environmental Health Sciences from 1972 until 1987, when he became Director of the University of Maryland System-wide Program in Toxicology and Professor of Pathology at theUniversity of Maryland School of Medicine. In 2001, Dr. Fowler became Professor and Director of the Laboratory of Cellular and Molecular Toxicology in the Department of Epidemiology at the University of Maryland School of Medicine. From 2002-2003 he was a Senior Research Advisor to the Agency for Toxic Substances and Diseases Registry (ATSDR) in the Division of Toxicology. Dr. Fowler was appointed as the Assistant Director for Science in the Division of Toxicology and to the Senior Biomedical Research Service (PHS) at ATSDR in November 2003. Dr. Fowler, who is an internationally recognized expert on the toxicology of metals has served on a number of State, National and International Committees in his areas of expertise. These include the Maryland Governor's Council on Toxic Substances (Chair), National Academy of Sciences/National Research Council (NAS/NRC) Committees on Toxicology, Toxicology Information Committee, Committee on Women in Science and Engineering, Measuring Lead in Critical Populations (Chair), Biological Markers of Urinary Toxicology, Committee on the Evaluation of Augmenting Potable Water Supplies with Reclaimed Water, and the Subcommittee on Arsenic in Drinking Water of the Committee on Toxicology. He has also served as a temporary advisor to the World Health Organization (WHO) and the International Agency for Research Against Cancer (IARC). Dr Fowler has been honored as a Fellow of the Japanese Society for the Promotion of Science (1990), as a Fulbright Scholar and a Swedish Medical Research Council Visiting Professor at the Karolinska Insititute, Stockholm, Sweden (1994-995), and was elected as a Fellow of the Academy of Toxicological Sciences (2000). Dr Fowler was selected as Colgate-Palmolive Visiting Professor of In Vitro Toxicology at the University of Washington in 1998. He served as Chairman of the Scientific Committee on the Toxicology of Metals under the International Commission on Occupational Health (ICOH) 1996-2002, as a consultant to the U.S. EPA Science Advisory Board (SAB) and a member of the Fulbright Scholarship review committee for Scandinavia (1999-, Chair, 2000-2001). Dr Fowler has been a member of the AAAS Recruitment and Screening Committee for the Court-Appointed Scientific Experts (CASE) Demonstration Project since 2000. He is currently a member of the SAB Metals Risk Assessment Framework Panel. Dr Fowler is also a current member of the Council of the Society of Toxicology (2005-2007). Dr. Fowler is the author of over 200 research papers and book chapters dealing with molecular mechanisms of metal toxicity and biomarkers for early detection of metal-induced cell injury. He has been the editor or co-editor of 5 books or monographs on metal toxicology and mechanisms of chemical-induced cell injury. Dr Fowler's current research is focused on the toxicology of chemical mixtures involving metals, particularly in relation to semiconductors, lead, cadmium, arsenic mixtures and the role(s) of lead-binding proteins in mediating the toxicity of this ubiquitous metal to the kidney and brain. He serves on the editorial boards of a number of scientific journals in toxicology and environmental health. Dr. Fowler has previously received peer-reviewed research funding from the EPA STAR Grant Program and the National Institutes of Health.

Friedland, Andrew

Dartmouth College

Dr. Andrew J. Friedland is Professor and Chair of the Environmental Studies Program at Dartmouth College. He has B.A.s in Biology and Environmental Studies (double major) (1981) and a Ph.D. in Geology (1985), all from the University of Pennsylvania. Dr. Friedland's research has focused on understanding the effects of atmospheric deposition of pollutants on elemental cycling processes in high-elevation forests of New England and the Northeastern United States. He has examined the processes and behavior of trace elements such as lead, copper, zinc, nickel and cadmium and major elements such as nitrogen and calcium on vegetation, soils and water. Dr. Friedland's research on the lead has documented the changes in lead concentrations and amounts in forests of the Northeast over the past 25 years. In a number of related projects, he has described the decline of red spruce in the mountains of New England and has examined water relations in conifers during winter. More recently, Dr. Friedland has begun to explore the role of individual action and personal choice in relation to energy consumption and environmental impact. He has published 50 peer-reviewed articles on these topics and many more conference proceedings and other papers. Dr. Friedland has written one book, co-authored with biology professor Carol Folt, Writing Successful Science Proposals (Yale University Press, 2000). Dr. Friedland has taught introductory and advanced environmental science courses as well as soil science, forest biogeochemistry and an interdisciplinary course on science and literature. He was a member of the Citizens Advisory Panel of the Strategy for Vermont's Third Century, an environmental risk assessment program conducted by the State of Vermont and the U.S. Environmental Protection Agency (EPA). From 1995-1998, Dr. Friedland chaired the College Board Advanced Placement Environmental Science development committee. This committee designed the first Advanced Placement course in environmental science that was offered nationwide for the first time in 1998. Approximately 25,000 students took the most recent AP Environmental Science exam earlier in 2002. Dr. Friedland is a member of the Soil Science Society of America, the Ecological Society of America, and the American Association for the Advancement of Science. He is currently on the editorial board of the Journal of Sustainable Forestry and was a member of the editorial board of Science of the Total Environment from 1995 through 2002. In 2002 and 2003, Dr. Friedland was a member of the Metals Review Assessment Plan Review Panel of the EPA Scientific Advisory Board. In 2004 and 2005, he was a member of the Metals Risk Assessment Framework Review Panel of the EPA Science Advisory Board. Dr. Friedland has received funding from the National Science Foundation (NSF), the U.S. Forest Service, EPA, and private foundations. In the last two years, he has received funding for a project entitled "Determining Calcium, Lead and Organic Matter Changes in Forest Floors Across the Northern Forest" from the Northeast States Research Cooperative of the USDA Forest Service; and, for a project entitled "The Sustainable New England Landscape: Integrating Interdisciplinary Environmental Studies from the Undergraduate to the Post-Doctoral Level," from The Henry Luce Foundation, New York, NY.

Goyer, Robert

University of Western Ontario

Dr Robert Goyer is a Clinical Pathologist with special interests in pediatric pathology, toxicology and research in health effects of toxic metals. After serving in the U.S. Navy at the end of World War II, Dr. Goyer graduated from the College of the Holy Cross (B.S., 1950) and the St. Louis University School of Medicine (1955). He interned at St. Francis Hospital in Hartford Connecticut and completed a residency in Pathology at the St. Louis University Hospitals. Dr. Goyer held a National Foundation Research Fellowship and was a postdoctoral research fellow in the Medical Unit of University College Hospital Medical School, London, England. Professional appointments included Director of Laboratories at the Cardinal Glennon Hospital for Children in St. Louis; Professor of Pathology at the University of North Carolina at Chapel Hill; and Deputy Director of the National Institute of Environmental Health Sciences (NIEHS) at Research Triangle Park NC. He also served two terms as Professor and Chairman of the Department of Pathology at the University of Western Ontario, London, Canada. Dr. Goyer has published over 175 research papers, reviews and book chapters on toxicity of metals and interactions of toxic metals with nutritionally-essential metals. He has co-edited three books on the toxicology of metals. Dr. Goyer is an internationally-recognized expert in health effects of toxic and nutritionally-essential metals, and has served on number of committees for U.S. and international health agencies, including: the National Institutes of Health (NIH), the Environmental Protection Agency (EPA), the National Research Council (NRC) of the National Academy of Sciences (NAS), and the World Health Organization (WHO) International Programme for Chemical Safety. Dr Goyer was recognized at an International Conference on Metal-Binding proteins in 1998 “for his outstanding lifetime contribution to the understanding of the actions and effects of metals on living organisms.” In 2001, he was recognized by the NAS “for extraordinary service to the National Academies as advisor to the nation in matters of science, engineering and health.” Dr. Goyer was also awarded the 2003 Merit Award from Society of Toxicology for “in recognition of a distinguished career in toxicology.” Dr. Goyer is retired as Professor Emeritus of Pathology, University of Western Ontario, Canada, but continues to contribute to various national and international agencies on matters of environmental health and toxicology. He currently resides in Chapel Hill, NC. Dr. Goyer receives no outside contract or grant support funding.

Hays, Sean

Summit Toxicology

Mr. Sean Hays is the President and founder of Summit Toxicology, a toxicology and risk assessment consulting firm. Mr. Hays received his B.S. in Biomedical Engineering from Texas A&M University in 1989, a M.S. in Physiology from the University of Vermont in 1992, and a M.S. in Chemical Engineering from Colorado State University in 1997. Mr. Hays specializes in conducting exposure assessments, deriving acceptable exposure limits (i.e., reference doses and reference concentrations, cancer slope factors, permissible exposure limits, and minimal risk levels), developing pharmacokinetic (PK) and physiologically based pharmacokinetic (PBPK) models, and in developing methods for interpreting biomonitoring data in a health risk context. Mr. Hays has developed PBPK models for a wide range of chemicals and metals (including collaborating with Dr. Ellen O'Flaherty to develop a PBPK model for chromium), and has specialized in developing models for pregnancy and the developing child. He has over nine years of experience performing pharmacokinetic modeling of lead in humans and in using the O'Flaherty lead PBPK and IEUBK models to assess potential health risks for a wide range of potential exposure scenarios. Mr. Hays has used the lead PBPK model to set site-specific clean-up goals for numerous lead impacted properties, to model the potential for elevated blood lead levels among children exposed to elevated levels of lead in school drinking water supplies, and for modeling the likely changes in blood lead levels among astronauts who experience rapid and substantial bone loss while on extended space travel. Mr. Hays has experience using U.S. EPA's IEUBK model for risk assessment purposes and has performed detailed analyses to evaluate the scientific differences between the various lead pharmacokinetic models and to evaluate in which risk assessment scenarios each lead model is scientifically valid for predicting changes in blood lead levels. Mr. Hays is a member of the Society of Toxicology, the International Society of Regulatory Toxicology and Pharmacology, the American Conference of Governmental Industrial Hygienists, the International Society of Exposure Analysis, and the Society of Risk Analysis. He is currently serving as the Vice President-Elect of the Biological Modeling Section of the Society of Toxicology. Over the past two years, Mr. Hays has received funding related to lead from Wyle Laboratories (a subcontractor to NASA) to develop a lead PBPK to predict the potential impact that extended periods of exposure to microgravity would have on the blood lead levels of astronauts. He has also received funding from a large school district in the Pacific Northwest to help model the likely blood lead levels of children who had been exposed to elevated levels of lead in their school drinking water. In Mr. Hays' other consulting efforts, he has received funding from the U.S. EPA to develop PBPK models, from private industry to develop PBPK models and exposure and risk assessments for a variety of chemicals and to develop methods for interpreting biomonitoring data.

Lanphear, Bruce

University of Cincinnati

Dr. Bruce P. Lanphear, M.D., M.P.H., is the Sloan Professor of Children's Environmental Health and the Director of the Cincinnati Children's Environmental Health Center at Cincinnati Children's Hospital Medical Center and the University of Cincinnati. He received a B.A. in Biology (1985) and his Doctor of Medicine degree (1986) from the University of Missouri at Kansas City. Following his transitional internship at the University of Arkansas for Medical Sciences, Little Rock, AK, he attended the Tulane School of Public Health & Tropical Medicine, which he received his Masters in Public Health & Tropical Medicine (1988). Dr. Lanphear is currently the principal investigator (PI) for a five-year Children's Environmental Health Center study funded by the National Institute of Environmental Health Sciences (NIEHS) and the U.S. Environmental Protection Agency (EPA) to examine fetal and early childhood exposures to prevalent environmental neurotoxins, including lead, alcohol, environmental tobacco smoke, pesticides mercury and PCBs, and to evaluate their impact on children's behaviors, learning disabilities and asthma. He is also conducting a trial to test the safety and efficacy of housing repairs to reduce childhood lead exposure and residential injuries in 400 children followed from birth. Dr. Lanphear has conducted numerous epidemiologic studies of lead-contaminated house dust and residential soil, and has directed studies to identify standardized dust-sampling methods for lead-contaminated house dust and indoor allergens. In addition, he was the principal investigator of two randomized trials to test the effect of dust control on children's blood lead levels and of a U.S. Department of Housing and Urban Development (HUD)-funded study to develop screening criteria to identify residential lead hazards.From 1998 to 2001, Dr. Lanphear served as a member of the Science and Research Work Group of EPA's Office of Children's Health Protection Advisory Committee. From 2001 to 2003, he was a member of the Expert Panel on Children's Health and the Environment for the North American Commission for Environmental Cooperation; and in May 2003 he served as a member of the "Herculaneum Health Study Workshop" sponsored by the Agency for Toxic Substance Diseases Registry (ATSDR). In 2003-2004, Dr. Lanphear was a Panel Member for "Lead Poisoning in Pregnant Women," at the Center for Children's Health and the Environment (CCHE) of the Mount Sinai School of Medicine, New York, NY. Most recently, in 2004, he was a member of the committee on "Ethical Consideration for Research on Housing-Related Health-Hazards involving Children" sponsored by the National Research Council (NRC) and the Institute of Medicine (IOM) of the National Academy of Sciences (NAS).Dr. Lanphear's sources of recent grant or other contract support include: (1) PI, "A Randomized Trial to Reduce ETS in Children with Asthma," National Heart, Lung and Blood Institute (NHLBI), National Institutes of Health (NIH); (2) PI (Subcontract), "A Longitudinal Study of Lead Exposure and Dental Caries," National Institute of Dental and Craniofacial Research (NIDCR), NIH; and (3) Co-Investigator (CI), "ADHD Phenotype Network: Animal Model to Clinical Trial," National Institute of Neurological Disorders and Stroke (NINDS). His sources of current grant or other contract support include: (1) PI, "Prevalent Neurotoxicants in Children," NIEHS & EPA; (2) PI, supplement to "Prevalent Neurotoxicants in Children," NIEHS; (3) PI, "Linkage of ADHD and Lead Exposure," Springfield, OH Department of Health; (4) CI, "Explorations of ETS Exposure on Child Behavior and Sleep," NIEHS; (5) CI, "Childhood Asthma in an Era of Genomics: Will the Generalist's Role be Recast?," Robert Wood Johnson Generalist Physician Faculty Scholars Program; (6) CI, "MRI as a Biomarker of Manganese Exposure," NIEHS; (7) CI, "Childhood Residential Injury and Caregiver Supervision", National Institute for Child Health and Human Development (NICHD); (8) CI, "Development of a Standardized Housing Assessment for Asthma,", HUD; and (9) PI, "National Research Service Award – Fellowship Training in Primary Care Research," U.S. Department of Health and Human Services (HHS).

Luoma, Samuel N.

U.S. Geological Survey

Dr. Samuel N. Luoma is a Senior Research Hydrologist with the US Geological Survey and served as the first Lead Scientist for the CALFED Bay-Delta program between August 2000 and November 2003. As Lead Scientist he helped establish peer review, approaches to using scientific experts as advisors, a broad system of new studies relevant to CALFED, and improved the credibility and clarity of the science CALFED uses in its decisions. He is broadly interested in California water issues, ecosystem restoration and in improving uses of science in water policy decisions. His research interests include the effects of pollutants in aquatic environments, with special emphasis on metals. The studies he and his project have conducted are available in leading publications and recognized as among the leaders in fields such as metal bioavailability, dietary exposure of aquatic organisms to metals, determination of metal effects at the individual, population and community level in field studies; evaluation of methods like AVS/SEM for their useful in regulatory arenas; tolerance of aquatic organisms to metals and fundamental aspects of metal effects in nature. He has worked in San Francisco Bay since 1974 and has authored more than 180 peer-reviewed publications. He wrote the textbook, Introduction to Environmental Issues, in 1984. He was editor of Marine Environmental Research from 1996 – 2003 and is an editorial advisor for the Marine Ecology Progress Series. He is a Fellow in the American Association for the Advancement of Science and was awarded the U. S. Department of Interior's Distinguished Service Award in 1986. He has participated nationally and internationally as an expert or advisor, including advising the USEPA's Science Advisory Board on sediment quality criteria and the NAS/National Research Council's Committee on the Bioavailability of Contaminants in Soils and Sediments. He was one of four people who originally designed USGS' successful National Water Quality Monitoring Assessment. He has advised and mentored students and postdoctoral associates from Asia, Europe, Latin America and North America. He is presently serving as a William J. Fulbright Distinguished Scholar studying "International approaches to applying best available science in water pollution issues" in collaboration with colleagues at the Natural History Museum in London.

Miller, Frederick J.

Consultant

Fred J. Miller, Ph.D. is currently an independent consultant in dosimetry and inhalation toxicology. From February, 1991 until April, 2005 he was employed in various capacities at the CIIT Centers for Health Research (CIIT) and its predecessor organization, the Chemical Industry Institute of Toxicology, serving most recently as Vice President for Research. Dr. Miller received a B.A. and M.S. in Statistics from the University of Wyoming. In 1968, he began a career as a commissioned officer in the U.S. Public Health Service (PHS). As a mathematical statistician involved with the design and analysis of studies on the effects of air pollutants on animals, Dr. Miller became interested in the use of such studies for assessing human health risks. He was assigned to the U.S. Environmental Protection Agency (EPA) when it was created in 1970. In 1971, he received an EPA long-term training award, which led to his doctoral research on the transport and removal of ozone in the lungs of animals and man. He received a Ph.D. in Statistics from North Carolina State University in 1977.Dr. Miller is interested in developing and implementing research strategies and projects that permit increased utilization of animal toxicological results to evaluate the likelihood of human risk from exposure to inhaled chemicals. His primary research interests include pulmonary toxicology, respiratory tract dosimetry of gases and particles, lung physiology and anatomy, extrapolation modeling, and risk assessment. He is internationally recognized for his research on the dosimetry of reactive gases. Dr. Miller is active in professional societies and consulting on environmental health issues. The author or co-author of more than 150 publications, Dr. Miller received a number of Scientific and Technical Achievement awards from EPA and is the recipient of the PHS' Outstanding Service Medal.

Mushak, Paul

PB Associates

Dr. Paul Mushak is a principal in PB Associates, Durham, N.C., a consulting partnership in toxicology and health risk assessment. He specializes in the exposure and health risk assessment of elements such as lead, arsenic, cadmium and mercury. Dr. Mushak holds a Ph.D. in metal chemistry and biochemistry (1970), University of Florida (UF)-Gainesville, FL with extensive training in metal toxicology at the UF School of Medicine. His post-doctoral training was in nutrient and toxic metal enzymology, Department of Molecular Biophysics and Biochemistry, Yale University. Dr. Mushak was formerly a full-time member of the faculty at the University of North Carolina-Chapel Hill School of Medicine, Department of Pathology (1971-1985) and adjunct full professor in that department (1986 through 1993). Dr. Mushak currently has an affiliation with the Albert Einstein College of Medicine as an unsalaried visiting professor in the Department of Pediatrics. Research interests include measurement and predictive modeling of toxic metal exposure biomarkers in humans and the factors affecting them. He has authored or coauthored about 175 papers, book chapters, conference abstracts. Dr. Mushak was a principal coauthor of many expert consensus documents for Federal, National Academy of Sciences, and international health agencies. He has served on numerous peer-review panels, and chaired two peer review panels for U.S. EPA reports to Congress on mercury emissions. Dr. Mushak has testified on several occasions before the U.S. Congress regarding childhood lead exposures. He has been qualified in a number of Federal and state courts as an expert in the toxicology and health risk assessment of lead and other metals. Dr. Mushak has served on a number of SAB panels in the past, including two panels dealing with peer evaluation of EPA's Integrated Exposure-Uptake Biokinetic Model for use in assessing lead exposures around point source lead emissions and Superfund sites and a panel evaluating risk posed by chromated copper arsenate-treated lumber to young children. In addition, he served on an ad hoc EPA committee examining the first version of the all-ages lead model. Dr. Mushak has no outside contract or grant support related to the IEUBK or All-Ages Lead Model.

Newman, Michael C.

College of William & Mary

Dr. Michael Newman is Professor of Marine Science at the College of William and Mary, Virginia Institute of Marine Science. He received degrees in zoology from the University of Connecticut (B.A., 1974; M.S., 1978) and environmental sciences from Rutgers University (M.S., 1980; Ph.D., 1981). After his postdoctoral studies, Dr. Newman was a research ecologist at the University of Georgia's Savannah River Ecology laboratory. He now holds a Professor of Marine Science position at the College of William and Mary's School of Marine Science after ending a three-year term as Dean of Graduate Studies of the School of Marine Science. Dr. Newman's research emphasizes quantitative methods in ecotoxicology with topics of interest ranging from chemical measurement statistics to QSAR-like models for predicting metal ion effects to contaminant effects on population genetics to methods of predicting community level effects. He has authored approximately 100 publications on these topics including four books, Quantitative Methods in Aquatic Ecotoxicology, Fundamentals of Ecotoxicology, Population Ecotoxicology, and Community Ecotoxicology. He also edited several books, Metal Ecotoxicology, Hierarchical Ecotoxicology, Risk Assessment: Logic and Measurement, Coastal and Estuarine Risk Assessment, and Risk Assessment with Time-to-Event Models. Dr. Newman is active in advisory service. He served on Organisation for Economic Co-operation and Development (OECD), U.S. Environmental Protection Agency (EPA), U.S. Department of Energy (DOE), National Academy of Sciences (NAS), and state environmental regulatory and risk assessment committees and panels. Dr. Newman was one of two U.S. members of an OECD team charged with assessing statistical methods for analyzing toxicity data. Work with DOE involved complex-wide consideration of data quality objectives for risk assessment activities, and various site-specific advisory services to the Savannah River and Hanford sites. He has been a member of numerous EPA teams including the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) ECOFRAM working group, two FIFRA science advisory panels, the Chesapeake Bay Office science advisory board, a Food Quality Protection Act (FQPA) scientific review board, and a joint U.S. EPA-Israeli Water Agency working group. Dr. Newman has reviewed numerous risk assessment documents for EPA and was a consultant to the NAS (Everglades Ecosystem Assessment). He continues to work actively with various Virginia Department of Environmental Quality (DEQ) teams and panels.

Poirot, Richard L.

Vermont Agency of Natural Resources

Mr. Richard L. Poirot has worked as an environmental analyst in the Air Quality Planning section of the Vermont Department of Environmental Conservation since 1978. His responsibilities include developing the technical support for State Implementation Plans (SIPs) to ensure attainment and maintenance of Federal and State standards for ozone, particulate matter, and regional haze. Mr. Poirot has also developed interests in drawing inference on the nature of pollution sources from analysis of ambient measurement data, and in working in collaborative regional scientific of science/policy forums. For example, he is or has been a participant on Ambient Monitoring and Assessment Committee for the Northeast States for Coordinated Air Use Management, the Data Analysis workgroup for the Ozone Transport Assessment Group, the Science and Technical Support Workgroup for the FACA Subcommittee on Ozone, Particulate Matter and Regional Haze, the Monitoring and Data Analysis Workgroup for the Mid Atlantic/Northeast Visibility Union (MANE-VU), the EPA PM-2.5 Data Analysis workgroup, the Steering Committee for the Interagency Monitoring of Protected Visual Environments, and the US/Canada (Air Quality Agreement) Subcommittee on Scientific Cooperation. Mr. Poirot holds a B.A. degree from Dartmouth College, where he majored in geography and environmental studies.

Rabinowitz, Michael

Harvard University

Dr. Michael Rabinowitz is a geochemist with over 20 years of experience with lead. He holds an S.B. in Physics (1968) from the Massachusetts Institute of Technology; an M.S. in Planetary Sciences (1970) from the University of California, Los Angeles; and a Ph.D. in Geochemistry (1975) from UCLA. From 1974-1975, he was a NIEHS Post-Doctoral Fellow in Nephrology at the UCLA-Wadsworth VA Hospital. His current positions are: Clinical Instructor in Neurology, Harvard Medical School, Boston; Library Reader, Marine Biological Laboratory, Woods Hole; and Assistant Dockmaster, Herreshoff Maritime Museum. Dr. Rabinowitz conducted several pioneering research projects on the environmental sources and pathways of lead contamination and the movement of lead within human body compartments by feeding stable isotope tracers to adult human volunteers in a metabolic balance ward. He is familiar with paint, rock, soil, vegetation, air, water, and tissue sampling in urban, rural and remote settings. Dr. Rabinowitz has established several clean-room laboratories for trace lead determinations in Massachusetts and Taiwan. He has experience with statistical analysis and data interpretation, including work on sources of lead to children and lead's effects on child development, and he is familiar with the factors which influence environmental uptake and absorption of lead. Dr. Rabinowitz has studied the history of the American lead paint industry, visited most of the production sites and analyzed available soil, metal, and paint samples to document this anthropogenic flow of lead. Dr. Rabinowitz has not served on other advisory committees or professional societies. He participated in a U.S. EPA workshop on modeling lead exposure and bioavailability in 1998 and a more recent review of an uptake and distribution model (so-called LEAD5). His sources of recent grant and/or contract support include Westat, Syracuse Research Corporation, Battelle, and the Eagle Picher Personal Settlement Injury Trust.

Russell, Armistead

Georgia Institute of Technology

Dr. Armistead (Ted) Russell is the Georgia Power Distinguished Professor and Coordinator of Environmental Engineering at the Georgia Institute of Technology. Professor Russell arrived at Georgia Tech in 1996 from Carnegie Mellon University, and has expertise in air quality engineering, with particular emphasis in air quality modeling, air quality monitoring and analysis. He earned his M.S. and Ph.D. degrees in Mechanical Engineering at the California Institute of Technology in 1980 and 1985, conducting his research at Caltech's Environmental Quality Laboratory. His B.S. is from Washington State University (1979). Dr. Russell is currently on the National Research Council's Board of Environmental Studies and Toxicology, and has been a member of a number of the NRC committees, including chairing the Committee to Review EPA's Mobile Model and chairing the committee on Carbon Monoxide Episodes in Meteorological and Topographical Problem Areas, and serving on the committee on Tropospheric Ozone Formation and Measurement, the committee on ozone forming potential of reformulated fuels and the committee on Risk Assessment of Hazardous Air Pollutants. In November 2006, the EPA Administrator appointed Dr. Russell as a member of the Clean Air Scientific Advisory Committee (CASAC). Dr. Russell also serves as an expert panel member on both the CASAC Ozone Review Panel and the CASAC Ambient Air Monitoring and Methods (AAMM) Subcommittee. He previously served on three other EPA Science Advisory Board (SAB) or CASAC subcommittees: the SAB Workgroup on Air Monitoring Plan related to Hurricane Katrina (Chair); the CASAC National Ambient Air Monitoring Strategy (NAAMS) Subcommittee; and the Subcommittee on Air Quality Modeling of the Advisory Council on Clean Air Compliance Analysis. In addition, Dr. Russell served on EPA's Clean Air Act Advisory Committee (CAAAC) Subcommittee on Ozone, Particulate Matter and Regional Haze Implementation Programs. He was also a member of the North American Research Strategy for Tropospheric Ozone (NARSTO) and California's Reactivity Science Advisory Committee. Previously he was on the EPA Office of Science, Technology and Policy's Oxygenated Fuels Program Review and various National Research Council program reviews, and a committee to review a Canadian NRC program. Dr. Russell is a member of the Air and Waste Management Association (AWMA), the American Association for the Advancement of Science (AAAS), the American Society of Mechanical Engineering (ASME), Tau Beta Pi, Sigma Xi, and the American Association for Aerosol Research (AAAR). He is Associate Editor of Environmental Science and Technology. Dr. Russell has won a variety of competitions for animations he has developed that depict the dynamics of pollutants have won a variety of prizes here and abroad, and his work was selected as a finalist for the prestigious Smithsonian Award for Computing in the Environmental Sciences. Recently, Professor Russell led a multi-institutional effort to conduct air quality modeling of ozone, particulate matter and acid deposition to assist the Southern Appalachians Mountains Initiative to identify effective control strategies to improve air quality in Class I areas in the southern Appalachians. This work has been extended to detailed analysis of air quality strategies in Georgia, particulate matter modeling in the Southeast and Northeast, and development of a number of advanced numerical techniques for environmental modeling. For his service to National Research Council committees, he was recently selected as a National Associate of the National Academies.

Schwartz, Joel

Harvard University

Dr. Joel Schwartz is a Professor in the Departments of Epidemiology and Environmental Health at the Harvard School of Public Health, and in the Department of Medicine at Harvard Medical School. He is also a faculty member in the Environmental Biostatistics Program at the School of Public Health. Dr. Schwartz received his B.A. (1969) and Ph.D. (1980) from Brandeis University. He is a member of the International Society for Environmental Epidemiology, and the American Thoracic Society. Dr. Schwartz served as a member of the Center for Disease Control's Committee on Preventing Childhood Lead Poisoning from 1994 to 2002, and as a member of two National Research Council Committees (Committee on Assessing Lead Exposure in Critical Populations, Committee on Environmental Epidemiology). Dr. Schwartz was a recipient of a John D. and Catherine T. MacArthur Fellowship, and a World Congress Award from the International Union of Environmental Protection Associations. His expertise is in epidemiology, biostatistics, and cost benefit analysis. Dr. Schwartz's major subject matters include air pollution and lead. His research has involved cross-sectional, time-series, cohort and panel studies of the acute and chronic health effects of air pollution, including both respiratory and cardiovascular endpoints, and he has a particular interest in questions of susceptibility. In the last two years, Dr. Schwartz received funding from the National Institutes for Health (NIH) for environmental biostatistics, for studies of aeroallergen exposure and asthma, for studies of lead, for a study of the association between particulate air pollution and heart attacks, and for a study of socioeconomic gradients in breast cancer. He has received funding from EPA as the PI for Epidemiology of the Harvard PM Research Center, and from the Health Effects Institute (HEI) for the APHENA project, which aims to combine North American and European time series analyses of air pollution, morbidity, and mortality.

Speizer, Frank

Harvard Medical School

Dr. Frank E. Speizer is currently Edward H. Kass Professor of Medicine at the Channing Laboratory of the Harvard Medical School, Boston, MA. From 1988 to 2005, he served as Co-Director of the Channing Laboratory. Dr. Speizer also holds hospital appointments as a senior physician in the Department of Medicine at Brigham and Women's Hospital, Boston; MA and as senior physician in the Department of Medicine at Beth Israel Deaconess Medical Center, Boston. Dr. Speizer received his Bachelor of Arts (A.B.) degree from Stanford University in 1957, and his Doctor of Medicine (M.D.) from the Stanford University Medical School in 1960. He also holds an honorary Master of Arts (A.M.) degree from Harvard University, which was awarded in 1989. Prior to his current appointment at the Channing Laboratory, Dr. Speizer served as Associate Professor of Epidemiology (Physiology) at the Harvard School of Public Health, Boston (1978-1986), and as Associate Professor of Medicine, Harvard Medical School (1978-1986). Since 1986, he has served as both Professor of Medicine at the Harvard Medical School and as Professor of Environmental Sciences at the Harvard School of Public Health. His major professional society involvement includes serving as a Member of the International Society for Infectious Diseases and the American Thoracic Society, National Asthma Research Committee; and as Associate Editor for Environmental Research. An epidemiologist, Dr. Speizer's major research interests are environmentally- and occupationally-related acute and chronic diseases; the natural history of chronic obstructive lung disease; and epidemiologic studies of risk factors for cancer, heart disease and diabetes. He is extensively published in his disciplinary field of expertise.

von Lindern, Ian

TerraGraphics Environmental Engineering, Inc.

Dr. Ian von Lindern is Chairman and CEO of TerraGraphics. He received his B.S. in Chemical Engineering (1971) from Carnegie-Mellon University, Pittsburgh, PA; and his M.S. in Biometeorology and Atmospheric Studies (1973) and Ph.D. in Environmental Science and Engineering (1980) from Yale University, New Haven , CT. Dr. von Lindern has 30 years of environmental engineering and science experience in Idaho. He has directed over 30 major environmental investigations, involving solvent contamination of groundwater in the Southwest, an abandoned petroleum refinery, secondary smelters and battery processors, landfills, uranium mill tailings, and several major lead sites including: Dallas, TX; the Niagara and Riverdale Projects in Toronto, Canada; the Marjol Battery Site in Throop, PA; ASARCO/Tacoma, WA; East Helena and Butte/Anaconda in MT; Anzon Industries in Philadelphia, PA and the Rudnaya Pristan-Dalnegorsk Mining District, Russian Far East. Through TerraGraphics, Dr. von Lindern has worked continually for Idaho Department of Environmental Quality on various projects since the company's inception in 1984. He has been the lead Risk Assessor for the Bunker Hill Superfund Site in north Idaho, communicating associated risk issues at many public meetings in the community. In the last few years, Dr. von Lindern directed and completed the Union Pacific Railroad "Rails-to-Trails Risk Assessment;" the exhaustive Five-Year Review of the Populated Areas of the BHSS; the Human Health Risk Assessment for the Basin; and several other technical tasks. Dr. von Lindern has served as a U.S. EPA Science Advisory Board (SAB) Member on three occasions: the Review Subcommittee for Urban Soil Lead Abatement Demonstration Project, 1993; the Subcommittee Assessing the Consistency of Lead Health Regulations in U.S. EPA Programs, Special Report to the Administrator, 1992; and the Review Subcommittee Assessing the Use of the Biokinetic Model for Lead Absorption in Children at RCRA/CERCLA Sites, 1988. He also served on the U.S. EPA Clean Air Scientific Advisory Committee (CASAC) Subcommittee on Exposure Assessment Methodology, 1988; and was a member of U.S. EPA Criteria Assessment Committee for Lead in the Ambient Air from 1975-1986.

Zielinska, Barbara

Desert Research Institute

Dr. Barbara Zielinska currently holds the position as Research Professor and Director of the Organic Analytical Laboratory at the Division of Atmospheric Sciences of the Desert Research Institute (DRI) in Reno, Nevada. The DRI is an autonomous research division of the University and Community College System of Nevada (UCCSN). DRI was created in 1959 by a special act of the Nevada State Legislature. Under the act and subsequent actions of the University Board of Regents, DRI is charged with conducting basic and applied research in environmental science. Dr. Zielinska has been active in the air pollution field for more than 20 years and specializes in the analysis of organic compounds in ambient air and in emission sources. Her list of publications includes over 80 papers concerning the analysis of ambient and source samples for polycylic organic hydrocarbons (PAH), nitro-PAH and other toxic air pollutants. Dr. Zielinska received her M.Sc. degree from the Lodz University of Technology, Poland, and her Ph.D. degree from the Polish Academy of Sciences, both in Chemistry.