

**Invitation for Public Comment on the List of Candidates for the  
EPA Clean Air Scientific Advisory Committee (CASAC)  
Lead Review Panel**

April 5, 2010

The U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announced in a *Federal Register* Notice (Volume 74, Number 207, Pages 55548-55549) published on October 28, 2009 that it was forming the CASAC Lead Review Panel to review and provide independent expert advice on EPA's technical and policy assessments that support the Agency's review of the National Ambient Air Quality Standard (NAAQS) for lead, including drafts of the Integrated Review Plan, Integrated Science Assessment, Risk/Exposure Assessment, Policy Assessment, and Rulemaking. To form the Panel, the SAB Staff Office sought public nominations of nationally recognized and qualified experts in one or more of the following areas, particularly with respect to lead: Atmospheric sciences; fate and transport; exposure assessment; toxicology; biokinetic modeling; epidemiology; risk assessment; biostatistics; ecology; and air quality.

The SAB Staff Office has identified 28 candidates based on their relevant expertise and willingness to serve.

The SAB Staff Office Director will make the final decision about who will serve on the Panel based on all relevant information. This will include a review of the confidential financial disclosure form (EPA Form 3110-48), relevant information gathered by staff, and public comments. For the EPA SAB Staff Office, a balanced Panel is characterized by inclusion of candidates who possess the necessary domains of knowledge, the relevant scientific perspectives (which, among other factors, can be influenced by work history and affiliation), and the collective breadth of experience to adequately address the general charge. Specific criteria to be used in evaluating a candidate include: a) scientific and/or technical expertise, knowledge, and experience; b) availability and willingness to serve; c) absence of financial conflicts of interest; d) absence of appearance of a lack of impartiality; e) skills working in advisory committees and panels; and f) for the panel as a whole, diversity of scientific expertise and viewpoints.

**We hereby invite comments on the attached List of Candidates for consideration by the SAB Staff Office in the formation of this Panel. Comments should be submitted to Mr. Aaron Yeow, Designated Federal Officer, no later than April 26, 2010. E-mailing comments ([yeow.aaron@epa.gov](mailto:yeow.aaron@epa.gov)) is the preferred mode of receipt.**

## CASAC Lead Review Panel

### Allen, Herbert

University of Delaware

Dr. Herbert E. Allen is Professor Emeritus of Environmental Engineering at the University of Delaware and Director of the Center for the Study of Metals in the Environment. Before joining the faculty of the University of Delaware in 1989 he was the Director of the Environmental Studies Institute and Professor of Chemistry at Drexel University and preceding that he was on the faculty of the Department of Environmental Engineering at the Illinois Institute of Technology. Dr. Allen received his Ph.D. and B.S. from the University of Michigan and his M.S. from Wayne State University. Dr. Allen's research has been primarily concerned with fate and effects of trace metals in aquatic and soil environments, specializing in metal speciation and bioavailability. He has authored more than 160 journal papers and book chapters and he has edited 8 books and has prepared numerous reports and proceedings papers. He is listed as a Highly Cited Researcher by the Institute for Scientific Information (ISI). He has been the Principal or Co-Principal Investigator for over 70 research projects funded by government and by industry. He headed a multi-university consortium, supported by EPA from 1994 until 2000 which conducted research on fate and effects of metals and organics in natural water systems and currently heads the multi-university EPA Center for the Study of Metals in the Environment. Dr. Allen was a member of the organizing committee for the 1993 EPA Annapolis workshop and of the 1996 Society of Environmental Toxicology and Chemistry (SETAC) Pellston conference to review Water Quality Criteria for metals. He served as the Chairman of the Organizing Committee for the Workshop on Metal Speciation that was held in Jekyll Island, Georgia every two years from 1987 through 1995. He has served as a consultant to a number of industrial companies, to government agencies, and to the World Health Organization.

### Canfield, Richard

Cornell University

Dr. Richard Canfield is a developmental psychologist who received his Bachelor's degree in Psychology from the University of Puget Sound in 1980 and his Ph.D. in Psychology from the University of Denver in 1986, specializing in perceptual and cognitive development in young infants. He conducted postdoctoral research in the Department of Human Development at Cornell University from 1988-1990, after which he joined the faculty at Cornell. In 1998, as Associate Professor of Human Development, Dr. Canfield took the position of Senior Research Associate in the Division of Nutritional Sciences where he conducts research on the possible effects of prenatal and postnatal exposure to environmental toxins and variations in the prenatal diet on cognitive functioning during infancy and childhood. His ongoing research projects include a study of the effects of low-level lead (Pb) exposure on children's intellectual and neuropsychological development. He has also conducted research on the risks and benefits of maternal fish consumption during pregnancy. This research questions, for example, whether a prenatal diet rich in fish oils can compensate for the possible neurotoxic effects of prenatal exposure to the methylmercury contained in the fish. Dr. Canfield has also studied the possible effects of prenatal exposure to phthalates on cognitive and behavioral functioning during childhood. Finally, Dr. Canfield is examining the development of infants exposed prenatally to a human herpes virus (HHV-6) to determine whether early infection with HHV-6 is related to neurobehavioral impairments during infancy and childhood. Similar viruses have this effect but it remains unknown whether HHV-6 infection is deleterious to later child development.

### Cory-Slechta, Deborah

University of Rochester

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 was appointed Chair of the Department of Environmental Medicine and Director of the NIEHS Environmental Health Sciences Center at the University of Rochester in 1998. 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. From 2003-2007 she served as Director of the Environmental and Occupational Health Sciences Institute (UMDNJ/Rutgers) and Chair of the Department of Environmental and Occupational Medicine at the Robert Wood Johnson Medical School (UMDNJ). In 2007, she returned to the Department of Environmental Medicine at the University of Rochester School of Medicine where she serves as Professor. Her research has focused largely on environmental neurotoxicants as risk factors for behavioral disorders and neurodegenerative 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. 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.

## Davidson, Cliff

Carnegie Mellon University

Cliff Davidson received his B.S. in Electrical Engineering from Carnegie Mellon University, and his M.S. and Ph.D. degrees in Environmental Engineering Science from California Institute of Technology. Following his PhD, he joined the Carnegie Mellon faculty in the Department of Civil and Environmental Engineering and the Department of Engineering and Public Policy where he has served for the past 32 years. Davidson has written and edited a number of books, has over 100 articles in refereed journals, and was President of the American Association for Aerosol Research during 1999-2000. He is the founding director of the Center for Sustainable Engineering at CMU. He will be moving to Syracuse, New York in January 2010 as the Thomas and Colleen Wilmot Professor in the Center for Environmental and Energy Systems and the Department of Civil and Environmental Engineering at Syracuse University. Davidson's research interests include environmental exposure to heavy metals, especially lead, and atmospheric transport of particles from natural and anthropogenic sources. He has studied lead and other metals by leading field campaigns in regions such as the Himalaya Mountains of Nepal, the Greenland Ice Sheet, and U.S. National Parks, as well as in rural and urban areas within the U.S. He has also developed mathematical models for the transport of lead deposited on urban soil from the combustion of leaded gasoline over many decades. He is a co-author of chapters in both the 1977 and 2006 EPA criteria documents on airborne lead. His research funding has come from the Environmental Protection Agency, National Science Foundation, Department of Energy, National Park Service, National Oceanic and Atmospheric Administration, California Air Resources Board, Illinois State Water Survey, Allegheny County Health Department (Pennsylvania), Heinz Endowments, Mid-Atlantic Region Air Management Association, and Northeast States for Coordinated Air Use Management.

## Frey, H. Christopher

North Carolina State University

Dr. H. Christopher Frey is a professor of civil, construction, and environmental engineering at North Carolina State University in Raleigh, NC. He heads a multidisciplinary research program in the broad area of environmental systems analysis, including development and demonstration of quantitative methods for dealing with variability and uncertainty and with applications to risk assessment, technology evaluation, air pollutant emissions, and food safety. In the area of risk assessment, Dr. Frey's experience includes risk assessment methods for both human health and food safety, and development, application, review, and evaluation of risk assessment models and strategies. Dr. Frey currently serves on the EPA's Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Scientific Advisory Panel. He also served on an EPA Science Advisory Board Subcommittee that reviewed EPA's Report to Congress on Residual Risk Assessment. He continues to serve in various international advisory capacities, including expert meetings of the Intergovernmental Panel on Climate Change on the topic of uncertainty in emission inventories, a recent panel of the World Health Organization (WHO) and Food and Agricultural Organization (FAO) to develop guidance on risk characterization for microbial risk assessment, a current WHO panel on uncertainty in exposure assessment, a NARSTO effort between Mexico, Canada, and the U.S. to assess and provide recommendations regarding the practice of developing emission inventories, and a National Research Council panel that is assessing the effect of changes in New Source Review air pollution rules. Dr. Frey is co-author, with A.C. Cullen, of Probabilistic Techniques in Exposure Assessment: A Handbook for Dealing with Variability and Uncertainty in Models and Inputs (Plenum Press, 1999). Dr. Frey has authored or co-authored 36 journal papers, 3 book chapters, 87 conference papers, and 47 technical reports. Dr. Frey is active in the Society for Risk Analysis (SRA), Air & Waste Management Association (AWMA), and American Society of Civil Engineers (ASCE). He is currently President-Elect of SRA. Dr. Frey was a 1992 AAAS/EPA Environmental Science and Engineering Fellow, and received the 1992 AAAS Barnard Scholarship. Dr. Frey received a 1997 NSF CAREER award, which is one of the highest awards bestowed by NSF upon faculty. Dr. Frey received the 1999 Chauncey Starr Award of SRA for outstanding contributions to the field of risk analysis. Dr. Frey earned a B.S. in Mechanical Engineering in 1985 from the University of Virginia, a Master of Engineering in Mechanical Engineering in 1987 from Carnegie Mellon University, and a Ph.D. in Engineering and Public Policy in 1991 from CMU.

## Goodrum, Philip E.

ARCADIS BBL, ARCADIS of New York, Inc.

Dr. Philip Goodrum is a Principal Scientist with ARCADIS with 20 years of experience in environmental modeling and applications of probability and statistics to human health and ecological risk assessment, compliance monitoring, and natural resources damages assessment. He received a Ph.D. in Environmental Engineering from the State University of New York (SUNY) College of Environmental Science and Forestry (ESF) in 1999; an M.S. in Environmental Engineering from SUNY ESF in 1995; and a B.S. in Environmental Technology from Cornell University in 1989. Dr. Goodrum's Ph.D. dissertation was entitled, "Uncertainty Analysis of Childhood Lead Exposure Using the Integrated Stochastic Exposure Model." He developed and demonstrated applications of the Integrated Stochastic Exposure Model for lead, which uses Monte Carlo simulation to quantify variability and uncertainty in childhood blood lead concentrations based on variability and uncertainty in exposures. Dr. Goodrum specializes in quantitative uncertainty analysis and lead risk assessment, having served for approximately 10 years as a consultant for USEPA's Technical Review Workgroup for Lead. As a senior project manager for Syracuse Research Corporation from 1996 to 2006, he conducted and reviewed numerous lead risk assessments, managed EPA's "Lead Hotline" which assisted the public with applications of both the Integrated Exposure Uptake Biokinetic (IEUBK) model and the interim Adult Lead models, co-authored numerous platform presentations, technical white papers and guidance documents, and actively participated in the research and development of EPA's All Ages Model for lead. Dr. Goodrum has been an active member of community outreach and professional peer review panels. In 1998-1999, he served as the chair of the Syracuse Regional Lead Task Force, responsible for coordinating public outreach and educational programs for the Syracuse community on childhood lead exposure. Dr. Goodrum served on a peer review panel for U.S. EPA National Center for Exposure Assessment (NCEA) for the All-Ages Risk Model in 2000. He was an invited speaker by NCEA for the National Air Quality Criteria for Lead Workshop held in Chapel Hill, NC, Feb. 1-3, 2005. In 2006-2007, Dr. Goodrum served on the Clean Air Scientific Advisory Committee Panel as a member of EPA's Science Advisory Board charged with reviewing the Lead Renovation, Repair, and Painting (LRRP) report and Office of Pollution Prevention and Toxics Dust study. Currently he is a member of the Interstate Technology and Regulatory Council's technical workgroup on Incremental Sampling Methodology, charged with developing guidance on new sampling methodologies for use in risk assessment. Dr. Goodrum continues to assist USEPA's Office of Pesticide Programs in the development of probabilistic models for aquatic and terrestrial risk assessments for pesticides. He is a senior statistician for ARCADIS responsible for site investigation activities including sampling design and data analysis, regression and correlation analyses, multivariate analyses, hypothesis testing, trend analysis, outlier analysis, spatial statistics, hotspot identification (cluster analysis), and statistical methods for left-censored data. He teaches professional short courses on applied statistics and serves on the adjunct faculty at State University of New York College of Environmental Science and Forestry, where he teaches a graduate course on Environmental Modeling.

## Hays, Sean

Summit Toxicology

Sean Hays is the President and founder of Summit Toxicology, a toxicology and risk assessment consulting firm headquartered in Colorado. Sean received a B.S. in biomedical engineering from Texas A&M University, an M.S. in Physiology from the University of Vermont, an M.S. in chemical engineering from Colorado State University, and a Ph.D. in Toxicology from the University of Utrecht. Sean has been a consultant since 1995, where he 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), and developing pharmacokinetic (PK), physiologically based pharmacokinetic (PBPK), and pharmacodynamic (PD) models for drugs and chemicals. Sean has developed PBPK models for a wide range of chemicals and metals, and has used PBPK models to answer real world public health issues. Sean has published numerous manuscripts on the topic of pharmacokinetics, co-authored one book chapter and has been an invited speaker to numerous venues to present his work on risk assessment, PK and PBPK modeling issues. Sean has served on EPA review panels for the All Ages Lead PBPK Model and the Clean Air Scientific Advisory Committee for lead and on similar review committees for Health Canada in their deliberations for how to perform risk assessments on lead.

## Hopke, Philip

Clarkson University

Dr. Philip K. Hopke is the Bayard D. Clarkson Distinguished Professor at Clarkson University and the Director of the Center for Air Resources Engineering and Science. Dr. Hopke is the past Chair of the CASAC, and also chaired the CASAC Ambient Air Monitoring and Methods (AAMM) Subcommittee. In addition, he has served as a Science Advisory Board (SAB) Member. Professor Hopke is a Past President of the American Association for Aerosol Research, and was a member of the National Research Council's Congressionally-mandated Committee on Research Priorities for Airborne Particulate Matter and the Committee on Air Quality Management in the United States. He has served on eight other NRC committees including the Committee on Risk Assessment of Exposure to Radon in Drinking Water. Professor Hopke received his B.S. in Chemistry from Trinity College (Hartford) and his M.A. and Ph.D. degrees in chemistry from Princeton University. After a post-doctoral appointment at M.I.T., he spent four years as an assistant professor at the State University College at Fredonia, NY. Dr. Hopke then joined the University of Illinois at Urbana-Champaign, rising to the rank of professor of environmental chemistry, and subsequently came to Clarkson in 1989 as the first Robert A. Plane Professor with a principal appointment in the Department of Chemistry. He has served as Dean of the Graduate School, Chair of the Department of Chemistry, and Head of the Division of Chemical and Physical Sciences before he moved his principal appointment to the Department of Chemical Engineering in 2000. In 2002, he was appointed to his current positions at Clarkson. During the 2008-09 academic year, he served as a Jefferson Science Fellow at the U.S. Department of State.

## Johnson, Chris

Syracuse University

Professor Chris Johnson has a variety of interests in the broad area of environmental chemistry. Much of his work involves the study of forest soil chemistry. He is active involved in research on the chemistry of natural organic matter, which plays an important role in soil fertility, trace metal transport, and the acid-base status of soils and natural waters. Professor Johnson is also involved in the interdisciplinary study of biogeochemical cycles at the Hubbard Brook Experimental Forest in the U.S. He has ongoing research interests in the fate of trace metals (Pb, Zn, Cu, Ni) in forest soils and landscapes; the effects of clear-cut logging on soils and drainage waters; and the changing acid-base chemistry of soils historically affected by acid rain. He is involved in an ambitious long-term project in which wollastonite, CaSiO<sub>3</sub>, was added to an entire watershed at Hubbard Brook in an attempt to replace Ca leached from the soil by acid rain. Chris Johnson holds bachelors (Civil Engineering), masters (Statistics), and Ph.D. (Geology) degrees, all from the University of Pennsylvania. He is a member of Phi Beta Kappa and Tau Beta Pi, and was a Fulbright Scholar in the Czech Republic in 1994. He has served as a visiting faculty member at Charles University in Prague and Griffith University in Brisbane, Australia. A full-time faculty member of the Department of Civil and Environmental Engineering at Syracuse University, Dr. Johnson teaches courses in environmental chemistry, soil chemistry, environmental data analysis, and surveying. He is currently serving as Interim Department Chair. He has been an associate editor for the Soil Science Society of America Journal and, currently, the Journal of Soils and Sediments.

## Kenney, Michael

KB Environmental Sciences, Inc.

Mr. Kenney is the co-founder of KB Environmental Sciences, Inc. (known as "KBE") ; a company that specializes in transportation-related environmental assessments. Mr. Kenney and the staff of KBE have been involved in the successful completion of over 100 environmental assessments for the Federal Aviation Administration (FAA) as well as large, medium and small airports throughout the U.S., and around the world – including Chicago O'Hare. Mr. Kenney has advanced degrees and training in environmental science, air quality, hazardous materials, and environmental toxicology. He is board-certified as a Qualified Environmental Professional, a Certified Hazardous Materials Manager and a Certified Industrial Hygienist. He is also the co-editor of the book Airport Air Quality: Approaches, Basics & Challenges published by the University of California at Berkeley. Other examples of his work include the preparation of guidance documents for assessing airport air quality impacts on behalf of the FAA; the development and implementation of air quality mitigation programs; air quality monitoring; health risk assessments; and greenhouse gas inventories.

## Kleinman, Michael T.

University of California, Irvine

Michael T. Kleinman has been studying the health effects of exposures to environmental contaminants found in ambient air for more than 30 years. He holds a B.S. in Chemistry from Brooklyn College/City University of New York, an M.S. in Chemistry from the Polytechnic Institute of Brooklyn and a Ph.D. in Environmental Health Sciences from New York University. He is a Professor and Co-Director of the Air Pollution Health Effects Laboratory in the Department of Community and Environmental Medicine at University of California, Irvine. Prior to joining the faculty at U.C.I. in 1982, he directed the Aerosol Exposure and Analytical Laboratory at Rancho Los Amigos Hospital in Downey, CA. He has published more than 100 articles in peer-reviewed journals dealing with the uptake and dosimetry of inhaled pollutants in humans and laboratory animals, and effects on cardiopulmonary and immunological systems after controlled exposures to ozone and other photochemical oxidants, carbon monoxide and ambient or laboratory-generated aerosols. He chaired a National Academy committee to examine issues in protecting deployed US Forces from the effects of chemical and biological weapons. Dr. Kleinman's current studies focus on cardiopulmonary effects of concentrated ambient ultrafine, fine and coarse particles. Dr. Kleinman uses animal models (mice that are genetically predisposed to cardiopulmonary disease, aged rats as a model of aging human populations and a mouse model of allergic airways disease) to examine biological mechanisms of effects of inhaled air contaminants on the lungs and heart of normal and diseased individuals. Current studies have also addressed mechanisms by which inhaled particles can induce inflammation in the central nervous system. Dr. Kleinman is a consultant to the U.S. Environmental Protection Agency Science Advisory Board and is the Chair of the California Air Quality Advisory Committee, which reviews the scientific basis and recommendations for California's air quality criteria.

## Korrick, Susan

Harvard Medical School

Dr. Susan Korrick is an Environmental Epidemiologist with particular expertise in studies of the relation of exposure to environmental chemicals (from multiple sources) with cognitive and behavioral function and with reproductive health and development. She is an Assistant Professor of Medicine at the Channing Laboratory, Harvard Medical School, and Assistant Professor in the Department of Environmental Health at the Harvard School of Public Health, Boston, MA. In addition, she is a physician with specialty training in Environmental and Occupational Medicine and an Associate Physician in the Department of Medicine at Brigham and Women's Hospital, Boston, MA. She received her B.A. from Harvard University, her M.D. from Yale University School of Medicine, and her M.P.H. from Harvard University School of Public Health. Dr. Korrick is responsible for the training and supervision of doctoral students and post-doctoral trainees in environmental and occupational epidemiology and taught for many years as an invited lecturer in public health graduate courses in toxicology and environmental and occupational epidemiology. Her research spans studies of the toxicities of a range of environmental contaminants including metals (lead, mercury, manganese, and arsenic), organochlorine pesticides, PCBs, and dioxins among populations ranging in age from newborns to elderly adults. Dr. Korrick has been an invited speaker and/or expert panelist on a number of panels important to environmental health. She has been an invited expert panelist in several Centers for Disease Control (CDC) / Agency for Toxic Substances and Disease Registry (ATSDR) workshops concerning prenatal chemical exposure hazards and an invited speaker at various NIEHS and EPA-sponsored forums. She has been asked to participate in special emphasis NIH peer review panels. Over the past year, she served on an Institute of Medicine, National Academy of Sciences panel assessing an ATSDR report on contaminants in the Great Lakes.

## Kosnett, Michael

University of Colorado Health Sciences Center

Dr. Kosnett is a medical toxicologist with a clinical and research interest in the toxicology of lead and other heavy metals. Dr. Kosnett received his B.S. degree in Molecular Biophysics & Biochemistry from Yale University in 1979, his M.D. degree from the University of California, San Francisco in 1983, and his M.P.H. degree in Environmental Health Sciences from the University of California, Berkeley, in 1988. Dr. Kosnett is a Diplomate of the American Board of Internal Medicine, the American Board of Medical Toxicology, and the American Board of Preventive Medicine (Occupational Medicine). He is an Associate Clinical Professor in the Division of Clinical Pharmacology and Toxicology at the University of Colorado Health Sciences Center, and an Attending Physician at the Rocky Mountain Poison and Drug Center. Dr. Kosnett currently serves as the Chair of the Work Group on Lead in Consumer Products of the CDC Advisory Committee on Childhood Lead Poisoning Prevention. He is Past-President of the American College of Medical Toxicology (2002-2004), the national organization of physicians specializing in the field of medical toxicology. In 2005, he completed three years of service on the National Institute for Occupational Safety and Health (NIOSH) - funded Expert Panel on Medical Management Guidelines for Lead Exposed Adults convened by the Association of Occupational and Environmental Clinics. He is a past member of the Committee on Toxicology of the National Research Council, and of the US EPA Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Scientific Advisory Panel on Copper-Chromated-Arsenic Treated Wood. He has served on the Subcommittee on Arsenic in Drinking Water of the National Research Council (1999 and 2001 reports). He is currently a member of the World Health Organization's Antidote Monograph Peer Review Committee, and he has been a Temporary Advisor to the World Health Organization regarding human arsenic exposure from drinking water in India and SE Asia. Between 1997 to 2000, Dr. Kosnett served on four expert workshop panels convened by the Agency for Toxic Substances and Disease Registry (ATSDR) to develop recommendations on medical monitoring for residents impacted by the Bunker Hill, Idaho Superfund Site, the largest lead-contaminated site in the United States. Dr. Kosnett has been a recent consultant to the CDC's National Center for Environmental Health on selected sections on metals (including lead) contained within the Second and Third National Report on Human Exposure to Environmental Chemicals. In 2003, Dr. Kosnett was recipient of the Assistant Administrator's Award for Special Service to the Agency for Toxic Substances and Disease Registry. Dr. Kosnett has conducted research and authored several papers and book chapters on the clinical toxicology of human lead exposure, including the use of noninvasive K x-ray fluorescence as a biomarker of cumulative lead exposure. He has served as a clinical consultant to the Occupational Lead Poisoning Prevention Program of the California Department of Health Services for more than 15 years, and also serves as an advisor on childhood lead screening and prevention for the Colorado Department of Public Health and Environment. In Denver, Dr. Kosnett was an EPA funded Technical Advisor to a community group regarding the VB/I-70 Superfund site, a large residential area impacted by arsenic and lead in residential soil, and he was a technical consultant to the ATSDR funded "Kids At Play" study of childhood pica behavior conducted in that venue.

## Lanno, Roman

Ohio State University

Roman Lanno is Associate Professor in the Department of Evolution, Ecology, and Organismal Biology at Ohio State University. Prior to that, he was Associate Professor and Director of the Ecotoxicology and Water Quality Research Laboratory, Department of Zoology, Oklahoma State University. He received his Ph.D. in 1991 from the Department of Biology at the University of Waterloo in Canada and his M.Sc. in 1984 from the Department of Nutrition at the University of Guelph in Canada. The primary focus of research in Dr. Lanno's laboratory lies in applied and theoretical aspects of determining the bioavailability of chemicals in the environment, particularly in soil systems. We strive to understand and interpret bioavailability as it relates to 1) soil-chemical interactions; 2) interaction, uptake, and distribution within organisms; 3) toxicity and bioaccumulation at the organism, population, and community levels; 4) development of models to describe relationships between chemicals, environmental matrices, bioaccumulation, and toxicity; 5) in vivo and in vitro techniques for measuring dietary bioavailability; 6) development of environmental quality guidelines; 7) ecological risk assessment. Specifically, research examines the relationship between the uptake, kinetics, and body residues of chemicals and toxicity endpoints such as lethality, growth, reproduction, or biomarkers in both aquatic and terrestrial systems. Organisms that have been used as models in examining bioavailability include terrestrial and aquatic oligochaetes, soil arthropods (Collembola, isopods), freshwater mussels, and fish. The major contributions of Dr. Lanno and his students have been focused in two areas: 1) Examining the toxicokinetics and toxicodynamics of metals in soil invertebrates; 2) Developing solid-phase microextraction (SPME) techniques to measure the chemical activity of organic chemicals (chlorobenzenes, PCBs) in environmental matrices and relating these measure to body residues. Dr. Lanno has maintained an active research program for over 15 years and has graduated three PhD and 13 MS students. He has received grants and contracts from funding agencies and programs such as SERDP, ESTCP, US EPA, Integrated Petroleum Environmental Consortium, Gas Research Institute, National Fish and Wildlife Foundation, Ohio Sea Grant, and Lake Erie Protection Fund (Total research funds as PI or Co-PI - \$3.67M). Dr. Lanno has been a member of SETAC since 1988, serving two terms on the Editorial Board for Environmental Toxicology and Chemistry, organizing and presenting short courses in soil ecotoxicology and nutritional considerations in toxicity testing, and has served as an ad hoc member of a number of SETAC committees at the national and regional level. He has authored or co-authored 82 refereed journal articles and technical publications, 7 book chapters, and edited one book. He has also been active in the peer review process and has reviewed numerous proposals at the national and international level (SERDP, National Sciences and Engineering Research Council of Canada (NSERC), National Research Council of Canada (NRCC), U.S. Army Corps of Engineers - ERDC, National Environmental Research Council - UK, New South Wales Environmental Trust Research Grant, Australia) and journal articles as an Editorial Board Member for Environmental Toxicology & Chemistry (2003-2005, 1998-2000), Associate Editor for J. Environmental Quality (2002-2003) and as an ad hoc reviewer for 16 other journals, including Environ. Sci. Technol. He has also served as a consultant for Environment Canada and US EPA technical documents. Selected Advisory Groups, Project Subcommittees, and Expert Panels US EPA Framework for Metals Risk Assessment; US EPA Metals Assessment Issue Paper Committee - Bioavailability of Metals; Water Environment Research Foundation (WERF) - Development of a Biotic Ligand Model for Silver, Bioavailability and Effects of Ingested Metals on Aquatic Organisms, Assessment of Bioassay Procedures for Biosolids; US EPA Working Group on the Development of Ecological Soil Screening Criteria

## Lanphear, Bruce

Simon Fraser University

Bruce P. Lanphear, MD, MPH, is a Professor of Children's Environmental Health at Simon Fraser University and a Senior Scientist at the Child & Family Research Institute, BC Children's Hospital, both in Vancouver, British Columbia. He received his Medical Degree from the University of Missouri at Kansas City and his Masters in Public Health from the Tulane School of Public Health & Tropical Medicine. He completed a residency in Preventive Medicine and Public Health at Tulane University and is board certified in Preventive Medicine and Public Health. Dr. Lanphear completed a 3-year NIH-funded postdoctoral training program in pediatric research at the University of Rochester School of Medicine. He has conducted numerous epidemiologic studies and several randomized controlled trials to reduce children's exposure to environmental hazards, including those implicating low-level lead exposure as a risk factor for intellectual deficits and behavioral problems in children. Dr. Lanphear also conducted several studies examining the relationship of lead-contaminated house dust with children's blood lead levels. Dr. Lanphear is currently the principal investigator for an NIH-funded study to examine the associations of prenatal and early childhood exposures to prevalent environmental neurotoxins, including lead, pesticides, mercury, PCBs, and environmental tobacco smoke with the development of learning and behavioral problems. He has served on the Children's Environmental Health Expert Advisory Panel of the Commission on Environmental Cooperation (2000-2003) and as a member of the US EPA's Clean Air Scientific Advisory Committee on Lead Review Panel (2006-2008).

## Markowitz, Gerald

City University of New York

Gerald Markowitz is Distinguished Professor of History at John Jay College of Criminal Justice and the Graduate Center, City University of New York. He received his doctorate from the Department of History of the University of Wisconsin. He is the recipient of numerous grants from private and federal agencies, including the Milbank Memorial Fund, National Endowment for the Humanities and the National Science Foundation. He has been awarded the Viseltear Prize for Outstanding Work in the History of the Public Health from the American Public Health Association in 2000, as well as awards from the American Industrial Hygiene Association, and the New York Committee on Occupational Safety and Health. Together with David Rosner he has authored and edited books and articles on public health, occupational safety and health, and environmental health, including *The Contested Boundaries of American Public Health* published by Rutgers University Press in Spring, 2008, *Are We Ready? The Public Health Response to 9/11*, (University of California Press, 2006), *Deceit and Denial: The Deadly Politics of Industrial Pollution* (University of California Press and Milbank Memorial Fund, 2002, paper 2003), *Deadly Dust: Silicosis and the Politics of Occupational Disease in Twentieth Century America*, (Princeton University Press, 2002) *Dying for Work* (Indiana University Press, 1987), and "Slaves of the Depression": Workers' Letters about Life on the Job (Cornell University Press, 1987), "J. Lockhart Gibson and the Discovery of the Impact of Lead Pigments on Children's Health: A Review of a Century of Knowledge," *Public Health Reports*, 120 (May-June 2005), 296-300. (With B. Lanphear); "Politicizing Science: The Case of the Bush Administration's Influence on the Lead Advisory Panel at the Centers for Disease Control," *Journal of Public Health Policy*, 24 (2003), 105-129, "A 'Gift of God'? The Public Health Controversy over Leaded Gasoline During the 1920s," *American Journal of Public Health*, 75 (April 1985), 344-352. (with D. Rosner). "Cater to the Children' The Role of the Lead Industry in a Public Health Tragedy, 1900-1955," (with D Rosner), *American Journal of Public Health*, 90 (January, 2000), 36-46, "The Reawakening of National Concern about Silicosis," *Public Health Reports* 113 (July/August 1998), 302-311. His current research project (with David Rosner) is a history of lead research in the last third of the 20th century.

## Mushak, Paul

PB Associates

Dr. Paul Mushak is a toxicologist and human health risk assessor, working as a partner in PB Associates, a consulting practice in Durham, N.C. He is also a visiting professor, Albert Einstein College of Medicine, Bronx, N.Y. Earlier, he was a faculty member from 1971 to 1993 at the University of North Carolina - Chapel Hill School of Medicine, Pathology Department. He works in the area of contaminant/toxic metals, metalloids and organometals. His doctoral (University of Florida, Gainesville) and postdoctoral (Yale University Department of Molecular Biophysics and Biochemistry) training were in the areas of metal chemistry, biochemistry, enzymology and toxicology. He has more than 42 years of widely published research and advisory expertise in the areas of exposures and their determinants, analytical pediatric toxicology, toxicokinetics, modeling and health risk assessments. He is the author or co-author of more than 175 research papers, book chapters, proceedings papers, and abstracts, many on lead. He has served on numerous peer/advisory committees of Federal (Environmental Protection Agency, Department of Justice, Consumer Product Safety Commission, Occupational Safety and Health Administration, Centers for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry), state, international (World Health Organization, Health Canada, Ontario Ministry of Environment) and National Academy of Sciences/National Research Council bodies, and chaired several U.S. Environmental Protection Agency review panels for reports to Congress. He has been qualified as a testifying expert in the above areas by a number of U.S. Federal and state courts and has testified before Congress on lead and child health.

## **Nriagu, Jerome**

University of Michigan

Jerome Nriagu is currently Professor in the Department of Environmental Health Sciences, School of Public Health and Research Professor in the Center for Human Growth & Development, University of Michigan. He was trained in environmental chemistry and earned his degrees from the University of Ibadan (BSC Honors), University of Wisconsin, Madison (MS) and University of Toronto (PhD) and meritorious DSc from the University of Ibadan. Before he joined the faculty at the University of Michigan in 1993, he was a Senior Research Scientist with the Canadian Department of the Environment. Professor Nriagu's research interests include exposure assessment, environmental epidemiology and environmental chemistry focused on metals in the environment. He is listed as one of the most cited researchers in the fields of Environmental Studies and Ecology according to the Institute for Scientific Information (ISI). Dr. Nriagu is the Editor-in-Chief of Science of the Total Environment, a major international journal in the field, and Editor-in-Chief of Encyclopedia of Environmental Health (in 7 volumes). He has served as a consultant to many governments and international organizations including the World Health Organization, North Atlantic Treaty Organization (NATO), World Bank, etc. He is a Fellow of the Royal Society of Canada and has received a number of awards for his work including the Alexander von Humboldt Distinguished Research Award in 2009.

## **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/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 Federal Advisory Committee Act (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 Clean Air Scientific Advisory Committee, 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.

## **Pounds, Joel**

Battelle Pacific Northwest National Laboratory

Dr. Joel Pounds is a Senior Staff Scientist in Cell Biology & Biochemistry, Biological Sciences Division and Science Advisor to the Environmental Biomarkers Initiative at Battelle – Pacific Northwest National Laboratory in Richland, WA. He received his B.A. in Zoology and Chemistry from Olivet Nazarene College (1971), his M.S. in Environmental Toxicology from the University of Wisconsin (1973), and a Ph.D. in Toxicology (1977) from the University of Wisconsin. Dr. Pounds has directed research programs in Government (National Center for Toxicological Research, 1977-1985); National Laboratories (Brookhaven National Laboratory, 1985-1990), and Academia (Wayne State University, 1990-1999). He has focused his research on the cellular and molecular toxicity of lead and other metals, metal-metal interaction, and mathematical modeling of the response to metal mixtures. Dr. Pounds' current research includes use of mass-spectrometry based proteomic and NMR-based metabolomic instrumentation for characterization of biological responses to nanomaterials and other airborne toxicants. Dr. Pounds has served on numerous NIH, ATSDR, and EPA advisory committees related to toxicology of lead, metals, mixtures, and risk assessment. In addition, he has many peer-reviewed publications, abstracts, and proceedings; edited volumes; and invited lectures, seminars and symposia in which he participated. Dr. Pounds' current active and pending research support pertains to proteomics, biomarkers, and systems toxicology, and includes: Battelle Memorial Institute (Implementation of Systems Toxicology for an Animal Model of Emphysema; Proteomic Characterization of Human Blood plasma); the Agency for Toxic Substances and Disease Registry (ATSDR) (Methods for Joint Toxicity Assessment of Environmental Mixtures); PNNL (Environmental Biomarker Initiative, Particulate Matter Impacts on Respiratory Health); and several private sector research contracts (Protein Biomarkers for Chronic Obstructive Pulmonary Disease; Proteomic Analysis of Plasma Proteins for Biomarkers of Stress).

## **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 (1974) from UCLA. He was a NIEHS Post-Doctoral Fellow in the UCLA Department of Planetary and Space Science and Nephrology at the UCLA-Wadsworth VA Hospital. His current positions are Clinical Instructor in Neurology, Harvard Medical School and Library Reader, Marine Biological Laboratory, Woods Hole. 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 chemical, physical, and personal 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. He has published about 80 articles on lead. 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).

## Rosen, John

Children's Hospital at Montefiore

Dr. John Rosen is a Professor of Pediatrics and Head of the Division of Environmental Sciences at the Children's Hospital at Montefiore Medical Center and the Albert Einstein College of Medicine. In this position, he has supervised the treatment of over 30,000 lead poisoned children over the past three decades. Dr. Rosen has also assessed the health of over 5,000 adults, who were excessively exposed to lead in a community-wide environment. His group of 8 health professionals is primarily focused on the treatment, management, diagnosis and prevention of childhood lead poisoning. His group has published about 80 peer-reviewed articles on this subject. In 1986, Dr. Rosen received a MERIT AWARD from the National Institutes of Health. In 1986, he received the Arnold J. Lehman Award, given annually by the Society of Toxicology to an individual clinician scientist who has employed toxicological principals to directly enhance the public's health from excessive exposure to toxic chemicals. In 2000, he received an Award from the U.S. EPA for the Model Lead Program at the Children's Hospital at Montefiore.

## Schwartz, Brian

Johns Hopkins University

Dr. Schwartz is a Professor in the Division of Occupational and Environmental Health in the Department of Environmental Health Sciences in the Johns Hopkins Bloomberg School of Public Health. He is jointly appointed in the Department of Epidemiology in the School of Public Health and in the Department of Medicine in the School of Medicine. He served as Director of the Division of Occupational and Environmental Health from 1996 to 2006 and as Director of the Occupational and Environmental Medicine Residency from 1993 to 1998. Dr. Schwartz received a B.S. degree in chemistry from Tufts University in 1979; an M.D. degree from Northwestern University Medical School in 1984; and an M.S. degree in clinical epidemiology from the University of Pennsylvania School of Medicine in 1989. He completed a residency in internal medicine at the Hospital of the University of Pennsylvania from 1984 to 1987, and then was a Mellon Foundation Scholar in Clinical Epidemiology and a fellow in General Medicine there from 1987 to 1989. He completed a fellowship in occupational and environmental medicine from 1989 to 1990 at the Johns Hopkins School of Hygiene and Public Health, then joined the faculty there as an Assistant Professor in July 1990. Dr. Schwartz's research interests concern the role of neurotoxicants in cognitive dysfunction with aging, and more generally, occupational, environmental and molecular epidemiologic studies of the health effects of chemicals. Over the past 20 years, he has been engaged in three large, population-based longitudinal studies funded by the NIH of the central nervous system effects of lead in adults. Measures in these studies included blood and bone lead, cognitive function, and structural MRI of the brain. This work has identified a number of new health concerns of lead exposure in adults, including possible progressive functional effects with persistent structural lesions; and that a portion of what had previously been described as "normal cognitive aging" may be due, in part, to ubiquitous neurotoxicants such as lead.

## Schwartz, Joel

Harvard University

Joel Schwartz is a professor in the Departments of Environmental Health and Epidemiology at the Harvard School of Public Health, and Director of the Harvard Center for Risk Analysis. He has been on the faculty at Harvard since 1994. He has served on two National Academy of Sciences panels, on the Health Subcommittee of EPA's Board of Scientific Counselors, and was the longest serving member of the CDC's committee on Childhood Lead Poisoning Prevention (1994-2005), and as a member of EPA's Clean Air Scientific Advisory Committee Lead panel. He is a member of the steering committee of Harvard's Center for the Environment. Dr. Schwartz has been the co-director of the Biostatistics core of Harvard's National Institute of Environmental Health Sciences (NIEHS) Center, and the director of the Statistics Core of its Children's Environmental Health Center. His research has focused on health effects of environmental contaminants, including heavy metals, organic chemicals, and air pollution. More recent work has included effects of temperature. Much of his recent work has involved identification of factors conveying susceptibility, including genetic polymorphisms, epigenetic changes, disease status, and social factors. Dr. Schwartz has done much to spread more sophisticated methods to examine the shape of dose-response curves for environmental ages, including studies of lead and children's IQ in the mid 1990s. He has recently been involved in studies of effects of heavy metals, including lead, on cognitive function in the elderly. He has 400 publications in environmental health, including studies of exposure, health effects, biomarkers, and methods.

## Stubblefield, William

Oregon State University

Dr. William Stubblefield is a senior research professor in the Department of Molecular and Environmental Toxicology at Oregon State University. Dr. Stubblefield has more than 25 years of experience in environmental toxicology, human and environmental risk assessment, derivation of water, sediment and soil criteria, and aquatic and wildlife toxicology studies. He has authored more than 50 peer-reviewed publications and technical presentations in the areas of aquatic and wildlife toxicology and risk assessment. He has conducted a variety of research programs aimed at the evaluation of the toxicity of metals and hydrocarbons in the environment. Dr. Stubblefield's research has examined acclimation induced changes in the responses of aquatic organisms to copper, zinc, and cadmium; evaluated the acute and chronic toxicity of manganese, cobalt, methyl tert-butyl ether, petroleum hydrocarbon mixtures and a variety of other compounds; quantified the effects of water quality characteristics, e.g., hardness, alkalinity, dissolved organic carbon, on the toxicity of several metals (e.g., nickel, lead, and silver). His recent research examines methods/models that can be used to predict the toxicity of metal and hydrocarbon mixtures to aquatic organisms. Funding for the majority of Dr. Stubblefield's research program comes from a variety of government, industrial trade associations, or not-for-profit research organizations. Dr. Stubblefield is an active member of the Society of Environmental Toxicology and Chemistry (SETAC), where he served as President of the Society, member of the Society's Board of Directors, chairman of the SETAC's Metals Advisory Group, and member of the Editorial Board for Environmental Toxicology and Chemistry. He has been an invited participant at a number of national and international scientific and regulatory conferences, served on U.S. EPA and National Institute of Environmental Health Sciences (NIEHS) peer-review panels, and frequently acts as a technical reviewer for a number of scientific publications. Dr. Stubblefield has a Ph.D. in Zoology and Physiology (emphasis in Environmental Toxicology) from the University of Wyoming, a M.S. degree in Toxicology/Toxicodynamics from the University of Kentucky, and a B.S. in Biology from Eastern Kentucky University.

## von Lindern, Ian

TerraGraphics Environmental Engineering, Inc.

Dr. Ian von Lindern is Chairman and Chief Executive Officer of TerraGraphics Environmental Engineering in Moscow, Idaho. He holds a B.S. in Chemical Engineering from Carnegie-Mellon University and M.S. and Ph.D. degrees in Environmental Science and Engineering from Yale University. Dr. von Lindern has 35 years of national and international environmental engineering/science experience. He has directed over 40 major health/environmental investigations involving primary and secondary smelters and battery processors, landfills, uranium mill tailings, at several major mining/smeltering sites in the U.S. including: ASARCO/Tacoma, WA; East Helena and Butte/Anaconda in MT; and internationally in North America, Asia, Africa, Australia and Latin America. Dr. von Lindern has worked for the State of Idaho on various projects involving the Bunker Hill/Coeur d'Alene Basin Hill Superfund Site for over thirty years as the lead Risk Assessor. In that capacity he had extensive experience in applying exposure and bio-kinetic lead modeling in assessing human health risk, developing cleanup criteria and remedial design. He is currently the Senior Project Manager implementing the human health cleanup at the Idaho Superfund Site. He is currently involved in an International Initiative with the University of Idaho and non-government organizations to adapt the lead health response lessons learned in the U.S. to developing countries. Four international cleanup projects are underway including China, Russia, the Dominican Republic and Dakar, Senegal, where severe mortality and morbidity effects occurred in recent years. Dr. von Lindern has served as a U.S. EPA Science Advisory Board (SAB) Member on five occasions: (1) Review Subcommittee for Urban Soil Lead Abatement Demonstration Project, 1993; (2) Subcommittee Assessing the Consistency of Lead Health Regulations in U.S. EPA Programs, 1992; (3) Review Subcommittee Assessing the Use of the Biokinetic Model for Lead Absorption in Children at Resource Conservation and Recovery Act (RCRA) / Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sites, 1988; (4) the Ad Hoc All-Ages Lead Model (AALM) Review; (5) National Ambient Air Quality Standard for Lead Panel (2006-2008). He also served on the EPA Clean Air Scientific Advisory Committee (CASAC) Subcommittee on Exposure Assessment Methodology, 1988; and was a member of EPA Criteria Assessment Committee for Lead in the Ambient Air from 1975-1986 and 2006-2008.

## Wasserman, Gail

Columbia University

Dr. Gail A. Wasserman is a Professor of Clinical Psychology in Child Psychiatry in the Division of Child and Adolescent Psychiatry at the College of Physicians and Surgeons at Columbia University. She has been conducting research on developmental psychopathology for 30 years. Earlier research focused on descriptive models of family/individual/social risks for children; recent work focuses on identification and management of mental health concerns in antisocial and juvenile-involved youths. Dr. Wasserman has authored or co-authored approximately one hundred papers for academic and practitioner audiences. Her work has been supported by a number of federal agencies, private foundations, and by state agencies. In a series of collaborations with colleagues at Columbia University's School of Public Health, Dr. Wasserman has investigated the developmental impact of early toxic exposures, primarily to metals. That collaboration resulted in a series of papers related to lead exposure in a cohort of children in Kosovo. More recently, and with the same team of collaborators, energy has focuses on assessment of consequences of exposure to well-water arsenic and manganese in children and young adults in Bangladesh. In both these efforts, her role was in the development of an assessment protocol, training and monitoring its fidelity in distant field locations, and interpreting ongoing results on intellectual, behavioral and motor development. Dr. Wasserman has a long history of application of research findings for public health policy, as witnessed by her participation in panels convened by United Nations Children's Fund (UNICEF) to pinpoint risks for young children in developing nations and by the Office of Juvenile Justice and Delinquency Prevention in identifying policy targets for violent juveniles and for child offenders.

## Weitzman, Michael

New York University School of Medicine

Dr. Michael Weitzman is a professor of Pediatrics and of Psychiatry at the New York University School of Medicine where he previously served as the Chair of the Department of Pediatrics. Prior to this, he was the Executive Director of the American Academy of Pediatrics' Center for Child Health Research and Professor and Associate Chair of Pediatrics at the University of Rochester. Before that he was Director of Maternal and Child Health for the City of Boston (in which capacity he ran both the City's Lead Poisoning Prevention and Treatment Programs) and Director of General Pediatrics at Boston City Hospital and Boston University. Dr. Weitzman has published close to 300 peer-reviewed articles, chapters, books and abstracts of scholarly work. Most of his scientific work involves extensive collaboration with scientists from other fields. His work has focused on the epidemiology of child physical and mental health and health disparities at the boundaries of Pediatrics, the behavioral sciences, and Environmental, Public and Community Health. Much of it has dealt with environmental influences, such as lead and secondhand smoke exposure, as well as social influences on child physical and mental health and development. He has been the Principal or Co-Investigator on more than \$10 million dollars of lead-related research. He currently is the principal investigator on an NIEHS ARRA funded grant entitled Preventing Childhood Lead Exposure By Window Replacement (1RCES018558-01). Dr. Weitzman has more than 35 years of experience treating children with lead poisoning, running lead poisoning prevention programs, researching ways to achieve primary prevention, writing peer-reviewed papers and speaking around the globe about childhood lead exposure. He has served on the New York State Governor's Advisory Committee on Childhood Lead Poisoning; on the CDC's Lead Poisoning Prevention Committee, and chaired its Workgroup on Blood Lead Levels less than 10 ug/dl from 2002-2006 (in which capacity he was the lead author of the CDC Report on Blood Lead Levels Less than 10 ug/dl). Both his work leading the CDC efforts to understand the effects of low level lead exposure, and his serving as an expert witness in the Department of Justice's Federal Racketeering Case against the Tobacco Industry from 2000-2006 (DOJ vs Phillip Morris, Inc. et al, Civil No. 99-2496, D.D.C.), where he offered expert witness testimony on the causal nature of the relationship between prenatal tobacco and postnatal secondhand smoke and child development, recurrent ear infections, and Sudden Infant Death Syndrome have provided him with extensive experience in evaluating epidemiologic data for causal relations, and also demonstrates that both the CDC and the Department of Justice have relied on his expertise in these areas. He also served on the EPA's child scientific advisory committee and received that agency's first ever child environmental health advocacy award.