

**Invitation for Public Comment on the List of Candidates for the  
EPA Science Advisory Board (SAB)  
Perchlorate Maximum Contaminant Level Goals Approaches Review Panel  
March 9, 2012**

The U.S. Environmental Protection Agency (EPA) requested the Science Advisory Board (SAB) to form an SAB panel to review the scientific and technical bases for the approaches being considered to derive a maximum contaminant level goal (MCLG) for perchlorate. In 2011, EPA announced its decision (76 FR 7762–7767) to regulate perchlorate under the Safe Drinking Water Act (SDWA) and publish a proposal no later than February 2013. SDWA requires EPA to request comments from the SAB prior to proposal of an MCLG and national primary drinking water regulation. Therefore, the Office of Water requested an SAB review of the approaches, supporting data and information to derive an MCLG for perchlorate.

The SAB Staff Office announced in a *Federal Register* Notice (76 FR 78256-78257) published on December 16, 2011 that it was forming the SAB panel to review the agency's approaches for a deriving maximum contaminant level goal (MCLG) for perchlorate. To form the panel, the EPA SAB Staff Office sought public nominations of nationally recognized and qualified experts in one or more of the following areas; drinking water, public health, epidemiology, toxicology, endocrinology, requirements and approaches to derive MCLGs, PBPK models, and health implications of perchlorate ingestion.

The SAB Staff Office identified **49** candidates based on their relevant expertise and willingness to serve on the panel. Biosketches of these candidates are provided below

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. Please be advised that comments received are subject to release under the Freedom of Information Act. Comments should be submitted to Mr. Thomas Carpenter, Designated Federal Officer, no later than March 30, 2012. E-mailing comments to Mr. Carpenter at [carpenter.thomas@epa.gov](mailto:carpenter.thomas@epa.gov) is the preferred mode of receipt.**

## Perchlorate Maximum Contaminant Level Goal Approaches Review Panel

### Alexeeff, George

#### California Environmental Protection Agency

Dr. George Alexeeff, Ph.D. is Acting Director of the Office of Environmental Health Hazard Assessment (OEHHA) in the California Environmental Protection Agency. He provides scientific and policy input on the medical, scientific, and public health risks posed by hazardous substances and act as a scientific expert on health effects of various contaminants. He oversees a staff of 125 including over 80 scientists in multidisciplinary evaluations of the health impacts of pollutants and toxicants in air, water, soil and other media. He is also an adjunct Professor in the Department of Environmental Toxicology at the University of California at Davis. He earned his Ph.D. in Pharmacology and Toxicology from the University of California at Davis and has been certified as a Diplomat of the American Board of Toxicology, Inc. (DABT) since 1986. He has reviewed over 140 documents evaluating human epidemiological or animal toxicological evidence for OEHHA or other agencies such as U.S. EPA. Dr. Alexeeff has recently served on three National Academy of Sciences' Committees, and is a current member of the U.S. EPA Science Advisory Board's Drinking Water Committee, and EPA's Science Advisory Board. Dr. Alexeeff's professional activities include: past President of the Northern California Chapter of the Society of Toxicology, the past President Genetic and Environmental Toxicology Association of Northern California, member of the Society of Toxicology, and charter member of the Society for Risk Analysis.

### Anderson, Grant W.

#### University of Minnesota

Dr. Grant W. Anderson is an Associate Professor of Pharmacy Practice and Pharmaceutical Sciences in the University of Minnesota College of Pharmacy. He received a BS in Microbiology and Genetics and Cell Biology from the University of Minnesota and a PhD in Microbiology at the University of Minnesota. After completing his doctorate, Dr. Anderson received post-doctoral training in the laboratory of Dr. Jack H. Oppenheimer in the University of Minnesota Medical School whose research group studied the biological function and molecular mechanism of action of thyroid hormone. Dr. Anderson subsequently received academic appointments in the University of Minnesota Department of Medicine and the College of Pharmacy. Dr. Anderson's thyroid hormone-related research program has focused on studying the molecular basis of thyroid hormone action in the developing brain and lung, and the role of thyroid hormone in de novo lipid synthesis. Currently, Dr. Anderson studies the role of micronutrient deficiencies on thyroid hormone production and action during mammalian brain development, and the biochemical characterization of the blood-brain barrier thyroid hormone transporter Oatp1c1. His recent research directions include assessing the combinatorial effects of mild thyroidal perturbations, including dietary deficiencies and exposure to goitrogenic chemicals, on the production and action of thyroid hormones during mammalian development. Dr. Anderson currently serves on the Editorial Board of the journal Endocrinology and is a member of the Endocrine Society and American Thyroid Association. He has served as an ad hoc member of NIH study sections including the Integrative and Clinical Endocrinology and Reproduction, and Developmental Biology study sections, and on an NIEHS Special Emphasis Panel.

### Anderson, Henry

#### Wisconsin Division of Public Health

Dr. Henry A. Anderson holds positions as the State Health Official, State Environmental and Occupational Disease Epidemiologist, and Chief Medical Officer in the Wisconsin Division of Public Health, Department of Health Services, and adjunct professorships at the University of Wisconsin-

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Madison, Department of Population Health Sciences, and the University of Wisconsin Institute for Environmental Studies, Center for Human Studies. His expertise includes public health; preventive, environmental, and occupational medicine; respiratory diseases; epidemiology; human health risk assessment; and risk communication. Active research interests include: environmental health indicators and disease surveillance, childhood asthma, lead poisoning, reproductive and endocrine health hazards of PCB and other POPs via sport fish consumption, arsenic in drinking water, chemical and nuclear terrorism, occupational and environmental respiratory disease, occupational fatalities, and occupational injuries to youth. Dr. Anderson currently serves on the U.S. EPA National Advisory Committee for Acute Exposure Guideline Levels for Hazardous Substances and on the Presidential Advisory Board on Radiation Worker Compensation, He was chair of the Environmental Health Committee of the U.S. EPA Science Advisory Board, served on the U.S. EPA Science Advisory Board Executive Committee and is past Chair of the Board of Scientific Counselors for the National Institute of Occupational Safety and Health. He currently serves on the National Academy of Sciences Committee on the Assessment of Water Reuse and has served on four other NAS committees including the Committee for Toxicity Testing for Assessment of Environmental Agents. He was a founding member of the Agency for Toxic Substances and Disease Registry Board of Scientific Counselors (1988-1992). He served on the Armed Forces Epidemiology Board, the Hanford Human Health Effects Subcommittee, and the Centers for Disease Control and Prevention (CDC)/ National Center for Environmental Health Director's Advisory Committee. He is a fellow of the Collegium Ramazzini and the American Association for the Advancement of Science. He is associate editor of the American Journal of Industrial Medicine. Dr. Anderson received his M.D. degree in 1972 from the University of Wisconsin-Madison. He was certified in 1977 by the American Board of Preventive Medicine with a sub-specialty in occupational and environmental medicine and in 1983 became a fellow of the American College of Epidemiology.

**Aylward, Lesa L.**

**Summit Toxicology, LLP**

Lesla L. Aylward, Ph.D., is a Principal at Summit Toxicology, LLP, located in Falls Church, Virginia, USA. She has more than 25 years of experience in chemical risk assessment and hazard communication. She specializes in applying pharmacokinetic modeling and data in the assessment of toxicology, exposure, and risk, including the interpretation of biomonitoring data for assessing human health risks from a variety of chemicals. Dr. Aylward and her colleagues at Summit Toxicology have published on the development of tools for screening-level evaluation of population biomonitoring data for a wide range of chemical compounds in a risk assessment context. She has participated in studies of occupationally exposed workers, with a focus on the integration and use of pharmacokinetic modeling and biomonitoring data as tools to improve exposure estimation in epidemiological studies. Recent publications include analyses of biomonitoring data on phthalates and volatile organic compounds from the National Health and Nutrition Examination Survey (NHANES), exploration of screening approaches for integrating biomonitoring data with data from the EPA ToxCast™ program, and, in collaboration with the German Human Biomonitoring Commission, a review of health risk-based screening values for biomonitoring data. Dr. Aylward is a member of the board of the International Society for Exposure Science (Councilor) and an active member of the Society of Toxicology (Biological Modeling and Risk Assessment Specialty Sections) and the Society for Risk Analysis. Prior to her position at Summit Toxicology, Dr. Aylward provided consulting services at Exponent, Inc.; BBL, Inc.; and Karch & Associates. She received her B.S. and M.S. in engineering from the Massachusetts Institute of Technology and her Ph.D. in toxicology from the University of Utrecht.

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#### Barton, Hugh A.

##### Pfizer Inc

Dr. Hugh A. Barton is Associate Research Fellow with PDM (Pharmacokinetics, Dynamics, and Metabolism), Pfizer, Inc. where he is lead modeler for the ADME/Safety area in PDM and a member of the global Translational Research Leadership Team. He has more than 20 years experience in biological modeling, including nine years with the US EPA, developing computational models for use in biologically based dose-response analyses for chemical risk assessment. In addition to positions in government and industry, Dr. Barton has been adjunct professor at Boston University School of Public Health and in Toxicology at The University of North Carolina at Chapel Hill. He received a B.S. in Life Sciences from the Massachusetts Institute of Technology, Cambridge, MA in 1982 and a Ph.D. in Toxicology from the Department of Applied Biological Sciences at MIT in 1988 working with Dr. Michael A. Marletta. He has served as an invited peer-reviewer for Health Canada, NIEHS, US EPA, and TERA. He is listed on the Joint FAO/WHO Meeting on Pesticide Residues (JMPR) Expert Roster and served on the WHO IPCS PBPK Modeling working group. He is a reviewer for numerous scientific journals and serves on two editorial boards. Dr. Barton has published more than 50 articles in the scientific literature on physiologically based pharmacokinetic and pharmacodynamic (PBPK/PD) modeling and received awards from EPA and others for that work and its applications in risk assessment.

#### Bearer, Cynthia

##### University of Maryland School of Medicine

Cynthia F. Bearer, MD, PhD is the Mary Gray Cobey Professor of Neonatology and Chief of the Division of Neonatology in the Department of Pediatrics at University of Maryland Hospital for Children. Dr. Bearer is board certified in both pediatrics and neonatal-perinatal medicine. Dr. Bearer has had a long standing interest in the role of the environment on human development. Dr. Bearer received her Ph.D. in biochemistry from Case Western Reserve University and her M.D. from the Johns Hopkins University. Dr. Bearer has published and presented extensively on issues related to fetal and pediatric environmental exposures. Her work has been funded by the NIH, CDC and US EPA. She has served on the Committee to Evaluate Children's Health of the National Academy of Science and is a past President of the Fetal Alcohol Syndrome Study Group. She is on the editorial board of Neurotoxicology. She has served on the NAL study section at the National Institutes of Health. Dr. Bearer is Chair of the Board of Directors of the Children's Environmental Health Network. She has been a member of the Scientific Advisory Board for the U.S. Environmental Protection Agency and the Advisory Group to the Director of the National Center for Environmental Health at the Centers for Disease Control and Prevention. Her major research interests are the effect of ethanol and prevalent environmental neurotoxicants on the development of the central nervous system and the development of biomarkers of prenatal exposures.

#### Becker, Richard

##### American Chemistry Council

Richard A. Becker earned a B.A. in Chemistry from Swarthmore College and a Ph.D. in Pharmacology and Toxicology from the University of California, and received post-doctoral training at the University of Toronto and the International Agency for Research on Cancer. He is a Diplomate of the American Board of Toxicology. He has served as toxicology study director for NTP and NCI sponsored toxicity studies, and was a senior scientist with the State of California for more than 10 years. His experience in

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government service from 1987 to 1999 includes serving as both Deputy Director of Scientific Affairs and Director of the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment and as the Senior Toxicologist in the Department of Toxic Substances Control. In these positions, he focused on development of hazard evaluations, exposure assessments and risk characterizations to determine health and environmental threats posed by the release of hazardous substances into the environment. Since 1999, Dr. Becker has served as the Senior Director of the Public Health and Science Policy Team of the American Chemistry Council. He works as the organization's lead toxicologist in addressing emerging health risk science issues, including biomonitoring, sensitive subpopulations, advanced risk assessment techniques, endocrine screening and testing and alternative test methods. For the past three years, he has served on the NTP's Scientific Advisory Committee for Alternative Animal Methods.

#### **Bellinger, David**

##### **Harvard University**

David C. Bellinger received a Ph.D. in Developmental Psychology from Cornell University in 1977 and a M.Sc. in Epidemiology from the Harvard School of Public Health. He is currently Professor of Neurology at Harvard Medical School and Professor in the Department of Environmental Health at the Harvard School of Public Health. He directs an Interdisciplinary Post-Doctoral Training Program in Neurodevelopmental Toxicology at the Harvard School of Public Health and is the Director of Research Training in the Behavioral Pediatrics Fellowship Program at Children's Hospital Boston. His current research focuses on the impact of metabolic and chemical insults on children's growth and development. These insults include exposures to environmental contaminants, particularly lead, mercury, manganese, and arsenic, and medical conditions such as congenital heart disease. He is currently conducting a randomized clinical trial investigating the renal and nervous system impacts of exposure to dental amalgam in children. He has served on several committees of the National Academies, including the Committee on Measuring Lead Exposure in Critical Populations, the Committee on Toxicological Effects of Mercury, the Committee on Toxicology Subcommittee on Submarine Escape Action Levels, the Committee on Evaluation of Children's Health: Measures of Risk, Protective and Promotional Factors for Assessing Child Health in the Community, and the Committee on Nutrient Relationships in Seafood: Selections to Balance Benefits and Risks. He has served, on several occasions, as a consultant to the CDC's Advisory Committee on Childhood Lead Poisoning and to the FAO/WHO Joint Expert Committee on Food Contaminants, of which he is currently a member. He was a member of the Federal Advisory Committee for the National Children's Study from 2002-2004, and Epidemiology Section Editor of Neurotoxicology and Teratology from 2001-2004. He is currently President of the International Society for Children's Health and the Environment.

#### **Blount, Ben**

##### **Centers for Disease Control**

Ben Blount is the Chief of the VOC and Perchlorate Biomonitoring Lab at the Division of Laboratory Sciences of the National Center for Environmental Health at the Centers for Disease Control and Prevention in Atlanta, Georgia. For the last year, he has also served as the acting Chief of the Tobacco and VOC Branch within the Division of Laboratory Sciences. Dr. Blount received his B.S. in Biology from Lyon College (summa cum laude) and his Ph.D. in Biochemistry from the University of California at Berkeley. After a two year postdoctoral fellowship at the Biomedical Mass Spectrometry Unit of the University of New South Wales in Sydney Australia, Dr. Blount became a staff fellow in the Division of Laboratory Sciences at CDC. Upon completion of the staff fellowship, he accepted a position as a

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research chemist with the Division of Laboratory Sciences at CDC. Over the last two decades, Dr. Blount has developed and applied numerous analytical methods for quantifying environmental toxicants and biomarkers of exposure and effect. He has impacted these research areas by publishing over 80 peer-reviewed scientific papers. His recent research interests focus on assessing exposure to tobacco-related toxicants, volatile organic compounds, and perchlorate by measuring these chemicals in human matrices.

#### **Brown, Rosalind S.**

##### **Children's Hospital Boston**

Dr. Rosalind Brown is Associate Professor of Pediatrics at Harvard University School of Medicine and Director of Clinical Trials Research in Endocrinology at Children's Hospital in Boston. She was formerly Professor of Pediatrics at the University of Massachusetts Medical School and Director of the Division of Pediatric Endocrinology and Diabetes at University of Massachusetts Memorial Health Center. Dr. Brown has published numerous articles, editorials, and book chapters with a special interest in thyroid development and disease and its consequences in childhood. She was coeditor of the 4th and 5th editions of *Clinical Endocrinology*. Dr. Brown served on the National Research Council Committee to Assess the Health Implications of Perchlorate Ingestion. She has been a member of the editorial boards of the *Journal of Clinical Endocrinology and Metabolism*, *Thyroid*, and *Endocrine Practice* and was an Associate Editor of *Current Opinion in Endocrinology, Diabetes and Obesity*. Dr. Brown earned her MD from McGill University and is board-certified in pediatric endocrinology.

#### **Carrasco, Nancy**

##### **Yale University**

Dr. Nancy Carrasco is Professor of Cellular and Molecular Physiology at the Yale University School of Medicine. She obtained her MD and Masters in Biochemistry degrees at the National Autonomous University of Mexico and received her postdoctoral training at the Roche Institute of Molecular Biology in New Jersey, on an NIH Fogarty International Fellowship. In 1987, Dr. Carrasco joined the faculty of the Department of Molecular Pharmacology at the Albert Einstein College of Medicine in New York, a position she held until moving to Yale in 2011. Dr. Carrasco cloned and characterized the sodium/iodide symporter (NIS), the key transporter that mediates active iodide uptake in the thyroid—the first step in the biosynthesis of the thyroid hormones—and in other tissues, including lactating breast. Dr. Carrasco is regarded as a world leader in NIS research. She has recently demonstrated that perchlorate, which was only known as a competitive inhibitor of NIS, is actually actively transported by NIS into any cells that express it, and is therefore translocated into maternal milk. Dr. Carrasco is the author or co-author of over 80 peer-reviewed papers published in leading international journals. She has served as a reviewer on numerous NIH study sections and as a member of the editorial boards of *Endocrinology* and *JBC*. She is regularly invited to speak at major national and international meetings and to teach in international courses. Dr. Carrasco has served as President of the Association of Latin American Biophysicists, has chaired the Gordon Conference on “Membrane Transporters,” and will chair another on “Mechanisms of Membrane Transport.” She is the recipient of numerous distinctions, including the Pew, Beckman, Light of Life, and Marshall S. Horwitz awards in the US and, internationally, the Maria Sibylla Merian Award (Germany), the Merck Prize of the European Thyroid Association (Poland), and the Coleman Fellowship (Israel), among many others.

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#### Cohn, Perry

##### NJ Dept. Health & Senior Services

Dr. Cohn has been a Research Scientist in the Division of Epidemiology, Environmental and Occupational Health Services of the New Jersey Department of Health and Senior Services since 1989. Dr. Cohn conducts drinking water epidemiology on chemical, radiological and microbiological exposures and health. In addition, he represents his department on the state commission on drinking water standards. He received his PhD in the neurosciences from the University of Wisconsin-Madison in 1980 and a Masters Degree in Public Health from Yale University in 1989.

#### Corley, Richard

##### Battelle Pacific Northwest National Laboratory

Dr. Richard Corley currently serves as Staff Scientist at the Pacific Northwest National Laboratory. He is currently focusing on physiologically based pharmacokinetic/pharmacodynamic model development; real-time breath analysis; dermal/inhalation bioavailability; and, the development of 3-dimensional/computational fluid dynamics models of the respiratory tract. Dr. Corley earned his Ph.D. in 1985 from the University of Illinois at Urbana-Champaign with a major in environmental toxicology and a minor in analytical chemistry. He earned his B.A. from the University of Missouri at Columbia in 1979 with a major in biology and a minor in chemistry. Dr. Corley has been a full member of the Society of Toxicology since 1992, served on the SOT Program Committee from 1996-2000, and has been a member of the Biological Modeling Specialty Section since 2000. He also became a member of the Pacific Northwest Association of Toxicologists in 2002. Sources of current and pending grant and contract support for Dr. Corley include the National Heart, Lung and Blood Institute(NHLBI), National Institute of Environmental Health Sciences (NIEHS), CEFIC Acetyls Group, and the American Chemistry Council.

#### Dourson, Michael

##### Toxicology Excellence for Risk Assessment (TERA)

Dr. Dourson is the President of Toxicology Excellence for Risk Assessment (TERA), a non-profit group which develops partnerships among government, industry and other interested groups to address risk assessments of high visibility, such as formaldehyde, perchlorate, and soluble nickel, and cooperative ventures such as the Voluntary Children's Chemical Exposure Program (VCCEP), the International Toxicity Estimates for Risk (ITER), and the Alliance for Risk Assessment (ARA). Prior to TERA, Dr. Dourson worked 15 years for EPA, holding several leadership roles and winning 4 bronze medals for joint efforts on specific key projects, such as the creation of EPA's Integrated Risk Information System (IRIS). Dr. Dourson holds a B.A. in Biology from Wittenberg University, and a Ph.D. in Toxicology from the University of Cincinnati College of Medicine. In 2003, Dr. Dourson was selected for the Society of Toxicology's (SOT) Lehman award. Two of his publications have won paper-of-the-year awards from the SOT's Risk Assessment Specialty Section (RASS). He has co-published more than 100 additional papers on risk assessment methods or assessments for specific chemicals. He has also co-authored well over 100 government risk documents, made over 100 invited presentations, and chaired over 100 sessions at meetings and independent peer reviews. He has also been elected to multiple officer positions including President of the American Board of Toxicology, President of RASS of the SOT, and Secretary of the Society for Risk Analysis. He is also a media resource specialist in risk assessment for the SOT, member on the editorial board of three journals, and vice chair of the NSF International Health Advisory Board.

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#### Eisenberg, Marisa

##### Ohio State University

Dr. Marisa Eisenberg received her Ph.D. in Biomedical Engineering from UCLA, before joining the Mathematical Biosciences Institute at Ohio State University. Her research is in mathematical and systems biology, centered on building data-driven models of human disease on scales ranging from intracellular to population-level. Her research is fundamentally interdisciplinary, and she has built successful collaborations with other scientists in public health, medicine, engineering, and mathematics. Dr. Eisenberg's expertise includes building predictive models of human thyroid hormone regulation with clinical applications in thyroid hormone bioequivalence and stability, remnant ablation in thyroid cancer, and circadian rhythms, among others. Her recent efforts in this area have centered on extending these models to examine pediatric and neonatal thyroid hormone regulation, to address clinical questions in pediatric thyroid cancer and congenital hypothyroidism. Dr. Eisenberg's research interests also include infectious disease modeling and modeling cancer cell invasion and migration.

#### Emond, Claude

##### University of Montreal

Dr. Claude Emond is a clinical adjunct professor in the Department of Environmental and Occupational Health at the University of Montreal, Quebec, Canada and associated professor at the University du Québec à Montreal. He received a Ph.D. in Public Health (Toxicology and Human Risk Assessment option) in 2001 from the University of Montreal. From 2001 to 2004, Dr. Emond received grants from the NRC, a branch of the National Academy of Sciences (NAS), to perform postdoctoral studies for 2½ years at the U.S. Environmental Protection Agency (EPA) in North Carolina. At EPA, Dr. Emond's work focused on describing a developmental physiologically based pharmacokinetic (PBPK) model on dioxins. The research conducted by Dr. Emond's team led to recognition from EPA administration and a presentation of EPA's Scientific and Technological Achievement Award to the team. His research and consulting interests address problems in toxicology and focus on different chemicals, including polychlorinated biphenyls (PCBs), dioxins, flame retardants (polybrominated diphenyl ether [PBDE] and hexabromocyclododecane [HBCD]), bisphenol A, pyrethroid, and xenoestrogens. Dr. Emond's research interests also focus on the development and the improvement of mathematical PBPK models to address and reduce the uncertainty for toxicology risk assessment in human health. Much of his research activities focus on the toxicokinetic and dynamic effects to further characterize the mode of action between chemicals and biological matrices for individuals or populations. He is also interested in occupational toxicology, mainly on the effects of organic solvents, modeling physiological changes in aging compared to younger workers, and nanotoxicology. Dr. Emond has also offered his expertise and extensive knowledge on various topics by participating as a peer-reviewer for Health Canada, as a reviewer of toxicological risk assessments associated with herbicide spraying operations, and as a consultant on several projects for U.S. universities and for private research institutes. He is President of an Endocrine Disruptor Review Work Group for the French Agency for Food, Environmental, and Occupational Health and Safety (ANSES). Dr. Emond has published many papers and is often invited to present his research at international meetings on persistent organic chemicals and nanotechnology. Taken as a whole, Dr. Emond's work contributes to the improvement of health, safety, and environmental assessment and regulations.

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#### Fisher, Jeffrey

##### U.S. Food and Drug Administration

Dr. Jeffrey Fisher is a research toxicologist with the U.S. Food and Drug Administration, National Center for Toxicological Research. He was formerly a Professor in the Department of Environmental Health Science, College of Public Health at the University of Georgia (UGA). He joined the University of Georgia in 2000 and served as Department Head of the Department of Environmental Health Sciences from 2000 to 2006 and Director of the Interdisciplinary Toxicology Program at UGA from 2006-2010. He spent most of his career at the Toxicology Laboratory, Wright Patterson AFB, where he was Principal Investigator and Senior Scientist in the Toxics Hazards Division and Technical Advisor for the Operational Toxicology Branch. Dr. Fisher's research interests are in the development and application of biologically based mathematical models to ascertain health risks from environmental and occupational chemical exposures. Dr. Fisher's modeling experience includes working with chlorinated and non-chlorinated solvents, fuels, pesticides, perchlorate and bisphenol A. He has developed PBPK models for use in cancer risk assessment, estimating lactational transfer of solvents, understanding in utero and neonatal dosimetry, quantifying metabolism of solvent mixtures and developing biologically motivated models for the hypothalamic-pituitary-thyroid axis in rodents and humans. Dr. Fisher has 20 years of experience in physiological modeling and has trained several graduate students and postdoctoral fellows on the concepts and application of physiological models. He was a Visiting Scientist at the Chemical Industry Institute of Toxicology in 1996 and at the NIOSH Taft Laboratory in 1999. During this time, he also served as Adjunct Professor in the Department of Pharmacology and Toxicology at Wright State University. Dr. Fisher has published over 120 papers on pharmacokinetics and PBPK modeling in laboratory animals and humans. He has served on several national panels and advisory boards for the DoD, ATSDR, USEPA and non-profit organizations. He was a U.S. delegate for the North Atlantic Treaty Organization. Dr. Fisher served on the International Life Sciences Institute Steering Committee, which evaluated chloroform and dichloroacetic acid using EPA-proposed Carcinogen Risk Guidelines. He is Past President of the Biological Modeling Specialty Section of the Society of Toxicology, reviewer for several toxicology journals, and was Co-Principal Investigator on a National Institutes of Health (NIH)-supported workshop on Mathematical Modeling at the University of Georgia in the fall of 2003. He was a member of the National Academy of Sciences subcommittee on Acute Exposure Guideline Levels (AEGs) from 2004-2010 and Science Advisory Board for the US EPA (2007-2010). He is an ad hoc member of the SAB for dioxin. He is a fellow of the Academy of Toxicological Sciences and an associate editor for Toxicological Sciences. Dr. Fisher has a B.S. degree in biology from the University of Nebraska at Kearney, a M.S. degree in biology from Wright State University, and a Ph.D. in Zoology/Toxicology from Miami University.

#### Fox, Mary Avis

##### Bloomberg School of Public Health

Dr. Mary Fox is Assistant Professor in the Department of Health Policy and Management and Co-Director of the Risk Sciences and Public Policy Institute at the Johns Hopkins Bloomberg School of Public Health. She received a BS in Biology from the State University of New York at Albany, an MPH in Environmental Studies from the University of Rochester School of Medicine and Dentistry, and a PhD in Environmental and Occupational Health Policy from the Johns Hopkins Bloomberg School of Public Health. Dr. Fox received a AAAS Post-doctoral Fellowship in Risk Policy with a posting in USDA's Office of Risk Assessment and Cost-Benefit Analysis. Her post-doctoral project focused on evaluating the first cumulative risk assessment for organophosphate pesticides. Dr. Fox spent one year

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as a program officer at the National Academy of Sciences in the Board on Environmental Studies and Toxicology where she staffed the Committee on Health Risks of Perchlorate Ingestion and the Subcommittee on Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants. Since returning to Johns Hopkins, Dr. Fox's research has focused on quantitative human health risk assessment as a part of environmental policy making, particularly approaches to cumulative and chemical mixtures risk assessment. Dr. Fox has served on two National Academy of Sciences panels, the IOM Committee on Long-term Health Consequences of Exposure to Burn Pits in Iraq and Afghanistan and the NRC Committee on the Health Risks of Phthalates. She has advised EPA on several topics including fluoride exposure and approaches to cumulative risk assessment for phthalates. Dr. Fox began her public health career conducting community health studies around hazardous waste sites as a Research Scientist in the New York State Department of Health.

#### Goeden, Helen

##### Minnesota Department of Health

Dr. Goeden is a principal toxicologist and human health risk researcher for the Health Risk Assessment Unit at the Minnesota Department of Health (MDH). She received her Ph.D. degree in Environmental Health/Toxicology at the University of Cincinnati and a B.S. in Biological Sciences at the College of St. Scholastica, Minnesota. She is currently the scientific lead for the Drinking Water Contaminants of Emerging Concern program. Responsibilities include: toxicological assessment of a wide range of environmental contaminants (e.g., industrial, agricultural, pharmaceutical, consumer product); development of state-wide health-based criteria for groundwater and drinking water; leadership role in state and federal workgroups regarding the development, improvement, and integration of risk assessment methods and public health policies that are protective of sensitive or more highly exposed populations (e.g., infants and children); and case-by-case health risk assessments or research projects specific to emerging environmental health threats (e.g., perfluorochemicals). Dr. Goeden has served on the Water Quality Association Toxicological Review Committee and currently serves as a member of the NSF International Health Advisory Board and the Federal State Toxicology and Risk Assessment Committee (FSTRAC) planning committee. She has lectured on toxicology and risk assessment at UM Schools of Public Health. She is a member of the Society of Toxicology and was a founding member of the national Dose-Response Specialty section of the Society for Risk Analysis.

#### Handwerger, Stuart

##### University of Cincinnati

Dr. Stuart Handwerger is the Robert and Mary Shoemaker Professor of Pediatrics and Director of Endocrinology at the University of Cincinnati/Cincinnati Children's Hospital Medical Center. He is also Professor of Cell Biology, Neurobiology and Anatomy, Director of Postgraduate Medical Education at Children's Hospital and a member of the Comprehensive Cancer Center at the University of Cincinnati. He received his BA from the Johns Hopkins University in 1960 and his M.D. from the University of Maryland School of Medicine in 1964. He completed his house staff training in pediatrics at the Bronx Municipal Hospital Center and the Mt. Sinai Hospital in New York City. After spending two years as a Clinical Associate at the National Institutes of Health, he completed fellowship training in endocrinology at the Boston Children's Hospital and the Beth Israel Hospital in Boston. He then spent nineteen years on the faculty at Duke University School of Medicine where he was Professor of Pediatrics and Physiology and Director of the Division of Pediatric Endocrinology. He assumed her current positions in Cincinnati in 1990. Dr. Handwerger's major research interest is in the area of fetal and perinatal endocrinology, with particular emphasis on the hormonal regulation of fetal growth and

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development. He has an active NIH–funded research program to examine the genetic programs involved in human trophoblast differentiation and human uterine decidualization. He is also the Program Director of a NIH-funded training grant in developmental and perinatal endocrinology. Dr. Handwerger has served previously on NIH study sections and was a member of the National Advisory Council of the National Institute of Child Health and Development. He serves on the editorial board of several journals in endocrinology; and he is a member of many scientific societies, including The Society for Pediatric Research, The American Pediatric Society, The American Society for Clinical Investigation, The American Association of Physicians, The Endocrine Society and The Lawson Wilkins Pediatric Endocrine Society.

#### Hays, Sean

##### Summit Toxicology

Dr. Sean Hays is the President and founder of Summit Toxicology, a toxicology and risk assessment consulting firm headquartered in Colorado, and is Assistant Clinical Professor in the Colorado School of Public Health at the University of 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 over 18 years of experience, where he specializes in conducting exposure assessments, deriving acceptable exposure limits (i.e., reference doses and reference concentrations, cancer slope factors, occupational exposure limits, and minimal risk levels), and developing pharmacokinetic (PK), physiologically based pharmacokinetic (PBPK), and pharmacodynamic (PD) models for drugs and chemicals. Dr. Hays is also regarded as a leader in the field of interpreting human biomonitoring data. Sean has served as President of the Biological Modeling Specialty Section of the Society of Toxicology and President of the Industry Advisory Board for the Colorado State University School of Biomedical Engineering.

#### Heiger-Bernays, Wendy J.

##### Boston University

Wendy Heiger-Bernays, Ph.D. is an associate professor in the Department of Environmental Health at the Boston University School of Public Health. Her education includes a BS in biology, a PhD in biochemistry from the University of Nebraska, and post--doctoral work in cancer biology at Cold Spring Harbor Laboratory and in the Program in Toxicology at MIT. Her research and teaching are in the areas of regulatory toxicology and risk assessment. She has conducted, reviewed and published toxicological assessments of pesticides and volatile organic compounds, multi-pathway human health risk assessments, mode-of-action analyses for PCBs, developed risk based cleanup and exposure levels to pesticides and metals, and has prepared guidance documents for regulatory agencies, including the US Army Core of Engineers, the USEPA and the Maine Department of Environmental Protection. She supports community groups through research translation and data evaluation. Her current research focuses on the development of methods to measure the bioavailability of contaminants in compost for purposes of mitigating the risks associated with urban and community gardens and indoor VOC exposure and risk. She continues to successfully train students to question assumptions used in risk assessments and to model, with newer science and methods, (aggregate pesticide exposure estimates using EPA models, increased toxicity of chlorinated solvents due to P450 activation, and probabilistic methods to evaluate microbial risks in water treatment facilities). Dr. Heiger-Bernays has served as a reviewer on several NIH and EPA study sections and as a participant on EPA FIFRA Science Advisory Panel and National Drinking Water Advisory Council Workgroups. She currently serves as a member of

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the Massachusetts DEP Waste Site Advisory Committee and the Safe Drinking Water Act Advisory Committee. Dr. Heiger-Bernays is chair of her local board of health.

#### **Herbstman, Julie B.**

#### **Columbia University**

Dr. Julie B. Herbstman is Assistant Professor, Department of Environmental Health Sciences in the Columbia University Mailman School of Public Health. She received a BA in Comparative Religion and Engineering Science with a Certificate in Community Health from Tufts University (Medford, MA) and a ScM and PhD from the Johns Hopkins University Bloomberg School of Public Health in Epidemiology and Environmental Epidemiology, respectively. After four years of post-doctoral training in Molecular Epidemiology and Environmental Health in the Environmental Health Sciences Department at the Mailman School of Public Health, she joined the faculty in that department. Dr. Herbstman's research focuses on the impact of prenatal exposures to environmental pollutants, including polybrominated diphenyl ethers (PBDEs) and polycyclic aromatic hydrocarbons (PAHs) on child growth and development. She has also been involved in research exploring the long-term environmental health impact of exposure to pollutants from the collapse of the World Trade Center on 9/11. Most recently, she collaborates on the Columbia Children's Center's work involving the integration of epigenetic biomarkers to explore the mechanistic pathway between prenatal exposures and disease risk. She received a K99-R00 award (from the National Institute of Environmental Health Sciences) and has developed expertise in the laboratory techniques that generate epigenetic data as well as the biostatistical and bioinformatic approaches used to analyze these data. She is currently applying these skills to study the effects of prenatal exposure to PAHs on genomic methylation in a cohort of sibling-pairs.

#### **Hoel, David G.**

#### **Medical University of South Carolina**

Dr. Hoel has more than 40 years of experience in the fields of epidemiology, statistics, and risk analysis. He is internationally known for his work in risk assessment and has served on and also chaired numerous committees for the WHO and the U.N. as well as the U.S. National Academy of Sciences, the NIH, the EPA and the FDA. For over 20 years, Dr. Hoel was at the National Institute of Environmental Health Sciences, where he directed the Division of Risk Assessment, which included the Laboratories of Biochemical and Molecular Toxicology, as well as the Branches of Epidemiology and Statistics. This Division focused on the development of quantitative methods of estimating human health risks from environmental and occupational exposures. In addition to working with asbestos and chemicals, he is especially active in the area of radiation risk assessment. He has also been involved with issues of adverse outcomes of pharmaceuticals. Dr. Hoel has published more than 175 papers and chapters in the general area of statistics and risk assessment. He also has been active in studies conducted by the National Research Council of the National Academy. These studies have included reports on beryllium, depleted uranium, dioxin/agent orange, radiation effects in space travel, and radiation dose reconstruction from atomic testing. He has also testified to Congress on several occasions, most recently to the Senate on trichloroethylene. For the last 15 years, he has taught doctoral students as well as clinical fellows at the Medical University of South Carolina, where he is a Distinguished University Professor. The courses he has taught have been in the areas of advanced methods in epidemiology, cancer epidemiology, and risk assessment. His doctoral students have taken positions in industry, universities, and government.

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#### Kimbrough, David

##### City of Pasadena Water & Power Department

Dr. Kimbrough is currently the water quality manager for Pasadena Water and Power and has worked in a variety of laboratory settings, including clinical & industrial toxicology, industrial hygiene, food chemistry and microbiology, air chemistry, hazardous waste characterization, and drinking and wastewater chemistry and microbiology. He has worked for Coca-Cola USA, the South Coast Air Quality Management District, California Department of Health Services, and California Department of Toxic Substances Control. He received his Master of Science Degree and Ph.D. at UCLA. He is the author of many papers on the environmental analysis of air, water and solids, drinking water disinfection and microbiology, source identification of environmental contaminants, and environmental policy. He has served on a variety of committees for professional organizations such as the American Water Works Association and the Association of California Water Agencies. He also chairs the California Department of Public Health Laboratory Accreditation Work Group. He has served on the Federal Advisory Committee on Detection and Quantitation for the Clean Water Act which advised the USEPA on laboratory reporting procedures. He also advised the CDPH Reporting Limits Work Group on the issues of detection and quantitation in laboratory analysis for Safe Drinking Water Act compliance.

#### Kirk, Andrea

##### University of North Texas Sciences Center

Dr. Andrea B. Kirk is Adjunct Assistant Professor of Epidemiology at the University of North Texas Health Sciences' School of Public Health and a Research Fellow in Analytical Chemistry at the University of Texas at Arlington. She received a BA from Brandeis University (Waltham, MA), a MS in Biology from Sul Ross State University (Alpine, TX), a PhD in Environmental Toxicology from The Institute of Environmental and Human Health at Texas Tech University (Lubbock, TX), and completed a five year post-doctoral fellowship in Analytical Chemistry at the University of Texas at Arlington (Arlington, TX). She was the first recipient of the Horn Professors Graduate Achievement Award for her discovery of perchlorate as a contaminant of human milk. Dr. Kirk has continued investigation of environmental exposures to perchlorate along with iodine intake in human subjects, the effectiveness of iodine supplements in reducing perchlorate concentrations in breast milk of exposed women, the relative source contributions to perchlorate in the environment. She has also authored a review of environmental perchlorate for *Analytica Chimica Acta* and has served as peer reviewer for the State of California Office of Environmental Health Hazard Assessment's Proposed Public Health Goal for Perchlorate in Drinking Water.

#### Knobeloch, Lynda

##### Wisconsin Department of Health Services

Dr. Lynda Knobeloch is a senior research scientist with the Wisconsin Department of Health Services' Bureau of Environmental and Occupational Health. She also holds positions as adjunct associate professor at the University of Wisconsin-Madison's Department of Population Health Sciences and Molecular and Environmental Toxicology Center. Dr. Knobeloch has provided technical support for several administrative rules that protect the quality of Wisconsin's outdoor air and drinking water and has developed health-based standards for more than 50 chemicals found in groundwater. Her research interests are in the fields of human exposure assessment; assessment of the effects of low level, chronic exposure to environmental contaminants; and public health surveillance. Between 2000 and 2002, she

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conducted a large, population-based health study in a community impacted by arsenic-contaminated groundwater. In June of 2005, she completed a study that assessed fish consumption and methylmercury exposure among more than 2,000 Wisconsin residents. She has authored numerous articles on environmental causes of human disease. Dr. Knobeloch was a member of the National Research Council Committee on the Toxicological Effects of Methylmercury. She is a current member of the EPA Science Advisory Board Homeland Security Advisory Committee (HSAC) and EPA Children's Health Protection Advisory Committee (CHPAC).

#### Kyle, Amy D.

##### University of California, Berkeley

Dr. Amy D. Kyle is currently Director of Research Translation for the Superfund Research Program and for the Center for Integrative Research on Childhood Leukemia and the Environment at the School of Public Health at the University of California Berkeley, where she is on the faculty. Dr. Kyle obtained her BA from Harvard University and her MPH and PhD in environmental health policy from the University of California Berkeley. Her major research interests lie in processes for uptake of scientific findings and knowledge by public institutions including agencies and other organizations; devising means to represent key scientific findings and knowledge with public health implications in ways that are understandable by policy audiences; children's environmental health; and policy approaches to address cumulative impacts on communities. She has served the Children's Health Protection Advisory Committee for the US Environmental Protection Agency (US EPA); Science Adviser for US EPA on the Science of Disproportionate Impacts; Consultation on the Assessment of Initiatives on Children's Environmental Health, World Health Organization; California Breast Cancer Research Program Council; Expert Panel on Environmental Health and Schools, Centers for Disease Control and Prevention, Division of School and Adolescent Health; Committee on Emerging Issues and Data on Environmental Contaminants, National Academy of Sciences; California Environmental Education Partnership, California Environmental Protection Agency; Board of Councilors, Environment Section, American Public Health Association

#### Lakind, Judy

##### Lakind Associates

Judy S. LaKind, Ph.D., President of LaKind Associates, LLC, Adjunct Associate Professor, Department of Epidemiology and Public Health, University of Maryland School of Medicine, and Adjunct Associate Professor, Department of Pediatrics, Pennsylvania State University College of Medicine, Milton S. Hershey Medical Center is a health and environmental scientist with expertise in strategic risk management, assessment of human health risks, biomonitoring, scientific and technical analysis for regulatory support, and state-of-the-science reviews. Dr. LaKind has spoken and published extensively on risk-related issues, including children's exposures to environmental chemicals, the implications of uncertainty in the risk assessment process, weighing potential risks and benefits related to chemical use, the presence of environmental chemicals in human milk, and time-dependence and distributional analysis of exposure. Dr. LaKind has evaluated the use of human health risk assessment in the development of water quality criteria, and has critically analyzed the environmental fate, behavior, and bioavailability of pollutants in the context of setting regulatory criteria. She has developed risk assessments for a variety of urban industrial sites, military bases, and firing ranges, and has utilized state-of-the-science models for estimating blood lead levels in adults and children. Previously, Dr. LaKind was a geologist at the US EPA's Office of Federal Activities, where she was responsible for the evaluation of Environmental Impact Statements and legislative reports. Dr. LaKind has taught graduate

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level courses at The Johns Hopkins University and the University of Maryland in risk assessment and aquatic chemistry and serves on the editorial boards of the /Journal of Toxicology and Environmental Health and the Journal of Exposure Science and Environmental Epidemiology. Dr. LaKind is a member of the World Health Organization Survey Coordinating Committee for the WHO Global Survey of Human Milk for Persistent Organic Pollutants (POPs), and former member of Maryland's Children's Environmental Health and Protection Advisory Council and the Lead Poisoning Prevention Commission. She also served on the Institute of Medicine Committee on Blue Water Navy Vietnam Veterans and Agent Orange Exposure. She received her Ph.D. from The Johns Hopkins University (Geography and Environmental Engineering), her M.S. from The University of Wisconsin, Madison (Geology) and her B.A. from The Johns Hopkins University (Earth and Planetary Sciences).

#### Lambert, George

#### Robert Wood Johnson Medical School-UMDNJ

Dr. George Lambert is an Associate Professor of Pediatrics and Director of the National Institutes of Health (NIH)/U.S.EPA founded Center for Childhood Neurotoxicology and Exposure Assessment, and Director of the Center for Child and Reproductive Environmental Health at the Robert Wood Johnson Medical School/ University of Medicine and Dentistry of New Jersey. He holds a M.D. degree from the University of Illinois and has had post graduate training in: Clinical Research in Neonatology has been a Pediatric Intern and Resident at the Johns Hopkins Hospital, Baltimore, MD. He was also a Pharmacology Fellow at Children's Hospital of Philadelphia, PA, and a research associate in molecular pharmacology at the NIH. Dr. Lambert is certified by the American Board of Pediatrics, 1979 & 1980; Neonatal/ Perinatal Medicine, 1980 and as an Instructor, Neonatal Resuscitation, 1989), He is currently at the UMDNJ-Robert Wood Johnson Medical School and as an Adjunct Associate Professor of Pharmacy in the School Pharmacy of Rutgers, The State University of New Jersey. He is also a member of the Cancer Institute of New Jersey at UMDNJ- Robert Wood Johnson Medical School. Dr. Lambert has served as a consulting expert to a number of professional and governmental organizations including: the Neuropharmacology Division of the Federal Drug Administration (FDA), the U.S. Congress, Toxic Substances Control Act Interagency Testing Committee, Department of Energy, Oakridge National Laboratory, Division of Chemical Assessment, Office of Orphan Products Development, FDA; National Institute of Child Health and Human Development's (NICHD) National Neonatal Collaborative Project, the CDC and the National Academy of Sciences. He was a Member, Committee on Drugs, American Academy of Pediatrics, (National Committee), Chairman - Human Health Effects Committee of the Joint (U.S. and Canadian) Commission on the Great Lakes, and a consultant to the World Health Organization. Dr Lambert was a member of the USEPA Science Advisory Board and liaison to the Board of Scientific Counselors for 6 years, and is the leader of the Steering Committee for the US Congressional Caucus on Children's Environmental Health since its inception in 2005. Dr Lambert has received awards from the Autism Community of New Jersey and The New Jersey Environmental Federation for his work and research on autism and work with the US Congress. Dr. Lambert's research has focused on the effects of environmental chemicals on human organ maturation, reproductive function, growth and development, and neurobehavioral function. He has over 70 peer reviewed publications and has studied many populations around the world exposed to PCBs, Dioxins, and PCDFs including those of Yu Cheng Taiwan, American Native First Nations, Canada's fishermen, and those of Seveso Italy, and Viet Nam. These studies have focused on PCB/PCDF/dioxin related human health outcomes including birth defects, reproductive toxicology, Drug metabolizing enzymes (CYP 4501A2), persistent adult and pediatric disease states; and neurodevelopment and endocrine dysfunction in children and adults.

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#### Lipkin, Paul H.

##### Johns Hopkins University School of Medicine

Paul Lipkin, M.D. is an Associate Professor of Pediatrics at Johns Hopkins University School of Medicine and the Director of the Center for Development and Learning at the Kennedy Krieger Institute. Dr. Lipkin graduated from Rutgers University and the University of Medicine and Dentistry of New Jersey. After pediatric residency training at Sinai Hospital of Baltimore, he completed a fellowship in developmental pediatrics at the Kennedy Krieger Institute and Johns Hopkins. He is board-certified in pediatrics, neurodevelopmental disabilities, and developmental and behavioral pediatrics. At the Institute, Dr. Lipkin oversees the clinical program for the diagnosis and treatment of children with neurodevelopmental disabilities, including autism, attention, learning, and language disorders. He serves on the faculty of the Institute's Leadership Education in Neurodevelopmental Disabilities (LEND) program, as well as the medical school's pediatrics programs. Dr. Lipkin's career has focused on the early identification and treatment of neurodevelopmental disorders in infants and children. He is currently active on initiatives centered on developmental and autism screening in both the general population and high-risk children with congenital heart disease and motor disorders. He has recently served on consensus panels examining methods of neurodevelopmental evaluation of children exposed to polychlorinated biphenyls and other neurotoxins (Cefic- Long-range Research Initiative) and on recognition of Alcohol-Related Neurodevelopmental Disorder (US Interagency Coordinating Committee on Fetal Alcohol Disorders). Dr. Lipkin is past Chairman of the American Academy of Pediatrics (AAP) Council on Children with Disabilities and chaired key initiatives on developmental surveillance and screening. The AAP awarded Dr. Lipkin with the Arnold J. Capute Award in 2011 in recognition of his work on behalf of children with disabilities. He also served in 2010-2011 as a Robert Wood Johnson Foundation Health Policy Fellow in the Office of the U.S. Secretary of Health and Human Services Kathleen Sebelius.

#### Maldonado, George

##### University of Minnesota

Dr. Maldonado specializes in developing epidemiologic methods, injury epidemiology, environmental and occupational epidemiology, environmental infectious diseases, and occupational health nursing. Since earning his PhD in Epidemiology from University of California Los Angeles, he has been on the faculty at the University of Minnesota School of Public Health, where he has developed a research and teaching program on epidemiologic methods. He studies better ways of designing, analyzing and interpreting epidemiologic studies.

#### Miller, Mark

##### California Environmental Protection Agency

Dr. Mark Miller has appointments as Assistant Clinical Professor in the departments of Pediatrics and Occupational and Environmental Medicine at the University of California San Francisco. He currently serves as the director of the University of California San Francisco- Pediatric Environmental Health Specialty Unit (PEHSU) and as a public health medical officer for the California EPA Office of Environmental Health Hazard Assessment, Air Pollution Toxicology and Epidemiology Section (CA EPA). He holds an MD degree from Michigan State University College of Human Medicine and completed his pediatric residency there. He has a MPH in environmental health sciences from the School of Public Health at U.C. Berkeley and completed a residency in preventive medicine with the California Department of Health Services. Dr. Miller spent more than 13 years as a pediatrician in private practice in California. At the California EPA, Dr. Miller is working on developing risk

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assessment methodology that addresses the unique vulnerabilities of children. In addition, he evaluates chemical-specific epidemiology and toxicology literature for Cal/EPA for use in health effects assessments for air pollutants. Most recently he has edited a review of the health effects of environmental tobacco smoke for the California Toxic Air Contaminant listing process. He is a Fellow of the American Academy of Pediatrics (AAP) and co-chair of California Chapter 1, American Academy of Pediatrics (AAP) Environmental Health Committee. In addition, he is a former member of the AAP National Committee on Environmental Health. Dr. Miller has served as a member of advisory committees and expert panels in the area of pediatric environmental health for the state of California and federal agencies, including the “Center for Evaluation of Risks to Human Reproduction” Expert Panel on Methanol and the USEPA/USDA Pesticide Tolerance Reassessment Advisory Committee. He is currently active in international environmental issues and serves on the Commission for Environmental Cooperation Lindane Action Plan Task Force. His articles on pediatric environmental health issues have appeared in such publications as Pediatrics, the International Journal of Toxicology, and the Handbook of Pediatric Environmental Health (published by the American Academy of Pediatrics).

#### Orlov, Alexander

#### SUNY Stony Brook

Dr. Alexander Orlov is an Assistant Professor of Materials Science and Engineering at State University of New York, Stony Brook, USA. He is the first ever Provostial appointment in environmental area at the College of Engineering and Applied Sciences. He is also a faculty member of the Consortium for Interdisciplinary Environmental Research and affiliate faculty of Chemistry Department. His major research and teaching activities are in development of novel nanomaterials for environmental protection and green chemistry routes of materials production, spectroscopic studies of pollutant interactions with mineral surfaces, physicochemical methods of pollutant removal, environmental aspects of energy production, new technologies for sustainable energy production and heterogeneous environmental catalysis. Before coming to Stony Brook he was a Research Fellow in Science and Engineering at the University of Cambridge (UK), where he was also affiliated with the King's College. Dr. Orlov has 5 degrees from various European and the US institutions, including: Doctoral and Master's degrees in Physical and Environmental Chemistry from the University of Cambridge (UK) and Master's degree in Environmental Engineering from the University of Michigan (US). He also holds Diploma in Economics from the London School of Economics. In 2007 Dr. Orlov was appointed by the UK Secretary of State to advise the Labour Government on such environmental issues as hazardous substances and environmental impact of nanotechnology. He was a co-author of several reports to the UK government, including reports on DecaBDE toxicity, cumulative effects of phthalates, phosphate recycling and several others. He was reappointed to the same role by the new Conservative Liberal Democrats Coalition Government in 2010. Before accepting this position, Dr. Orlov served as a member of the UK Conservative Party Task Force (Chaired by Hon. Ian Taylor, former UK Minister of Science) charged with a development of the science policy for the next Conservative Government. Among his current activities, Dr. Orlov is contributing to the work of the United Nations Environmental Program as a Lead Author for the Global Environmental Outlook (GEO) report and to the activities of the UK Parliamentary and Scientific Committee. He is reviewer of grant proposals submitted to the National Science Foundation (US), the EU Commission, the Engineering and Physical Sciences Research Council (UK), the Natural Environment Research Council (UK), the American Chemical Society (US) and various other agencies. He was also an invited speaker at the OECD and EU commission meetings on environmental aspects of nanotechnology. Dr. Orlov is a recipient of National

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Endowment for Science Technology and Arts CRUCIBLE award (UK) focused on developing skills in communicating science to general public and policy makers.

#### Owen, Christine

##### Tampa Bay Water

Dr. Christine Owen is the Water Quality Assurance Officer for Tampa Bay Water, a regional water utility in southwest Florida. She is responsible for integrating research and water quality into the operation of regional groundwater, surface water and desalination facilities. Dr. Owen holds a B.S. in Biology from Shippensburg State College (1980) and a Ph.D. in Biology from the University of California, Santa Cruz (1991). She has worked in drinking water treatment for 19 years; prior to that, she taught ecology and biology at the University of California at Santa Cruz. Dr. Owen's research interests range from the development of novel taste and odor detection methods to cutting edge water treatment technologies and management of distribution system water quality. Her work focuses on integrating research efforts, water quality, treatment technology and public policy. Dr. Owen has presented or published more 50 papers and is active in the water industry as a member of the American Water Works Association, the Water Research Foundation and the American Membrane Technology Association (AMTA). She served on the U.S. Environmental Protection Agency (EPA) Science Advisory Board Drinking Water Committee and the EPA National Advising Council for Environmental Policy and Technology Environmental Technologies Subcommittee. Dr. Owen also served on the American Water Works Research Foundation Research Advising Committee for High Quality Water. Presently she is on the Board of Directors for AMTA and the Editorial Advising Board for the Journal of the American Water Works Association.

#### Pearce, Elizabeth

##### Boston University School of Medicine

Dr. Pearce received her undergraduate and medical degrees from Harvard and a masters' degree in epidemiology from the Boston University School of Public Health. She completed her residency in internal medicine at Beth Israel Deaconess Medical Center, and her fellowship in endocrinology at the Boston University Medical Center. She is currently an Associate Professor of Medicine at Boston University School of Medicine in the Section of Endocrinology, Diabetes, and Nutrition. She serves on the editorial boards for Endocrine Practice, Thyroid, and the Journal of Clinical Endocrinology and Metabolism, and the European Journal of Clinical Nutrition. She is a member of the board of directors of the American Thyroid Association and of the International Council for the Control of Iodine Deficiency Disorders. She is a member of the American Thyroid Association's Thyroid in Pregnancy Guidelines Task Force. Her research interests include the sufficiency of dietary iodine in the U.S., thyroid function in pregnancy, the thyroid effects of environmental perchlorate exposure and other environmental thyroid disruptors, and the cardiovascular effects of subclinical thyroid dysfunction.

#### Peck, Jennifer

##### University of Oklahoma

Dr. Jennifer Peck is an Associate Professor of Epidemiology in the Department of Biostatistics and Epidemiology at the University of Oklahoma Health Sciences Center, College of Public Health and Adjunct Associate Professor in the Department of Obstetrics and Gynecology in the College of Medicine. Dr. Peck received a B.A. in Sociology from the University of Texas at Arlington, M.S. degrees in Sociology and Epidemiology from Texas A&M University and a Ph.D. in Epidemiology from the University of North Carolina at Chapel Hill. Her research has addressed reproductive, perinatal

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and pediatric health outcomes associated with environmental exposures to endocrine-disrupting chemicals. She has investigated exposures to persistent and non-persistent compounds in relation to maternal and child health endpoints such as gestational diabetes, maternal thyroid hormone concentrations and newborn hearing function. Dr. Peck is a member of the Institute of Medicine Board on the Health of Select Populations and the Institute of Medicine Medical Follow-up Agency Advisory Committee. She has also served as a member of the Institute of Medicine Committee on Gulf War and Health: Health Effects of Serving in the Gulf War, Update 2009. Memberships in professional societies include the Society for Epidemiologic Research and the Society for Pediatric and Perinatal Epidemiologic Research.

#### Post, Gloria

##### New Jersey Department of Environmental Protection

Dr. Gloria Post has been a Research Scientist in the New Jersey Department of Environmental Protection Office of Science since 1986. She is responsible for development of the human health basis for New Jersey's standards and guidance for drinking water, surface water, ground water, soil, and fish consumption, for coordination of risk assessment approaches used throughout NJDEP, and for providing toxicology expertise to NJDEP on other issues. Dr. Post has developed risk assessments for many important environmental contaminants including chlorinated volatile organics, MTBE, PFOA, and perchlorate. She was a member of a national consortium evaluated in vitro approaches for determining bioavailability of metals in soils and of an interagency committee overseeing the National Toxicology Program studies of styrene-acrylonitrile trimer, a drinking water contaminant tested as part of the investigation of childhood cancer in Dover Township, NJ. She is the first author of the chapter on "Health and Aesthetic Effects of Drinking Water Contaminants" in the recently published 6th edition of the AWWA Handbook of Water Quality & Treatment. She serves on the Exposure and Human Health Committee of the USEPA SAB, the USEPA SAB Trichloroethylene Review Panel, and on the NJ Drinking Water Quality Institute, a legislatively mandated advisory body to NJDEP. She is also member of the planning committee of FSTRAC, an organization of government scientists responsible for human health assessment of drinking water contaminants. She has been a Diplomate of the American Board of Toxicology since 1990 and a full member of the Society of Toxicology since 1989, currently serving as Secretary of its Mid-Atlantic chapter. She has lectured in Pharmacology at Rutgers College of Pharmacy and on risk assessment at UMDNJ Schools of Public Health and Medicine. Dr. Post holds a Ph.D. in Pharmacology from Thomas Jefferson University, where her thesis work related to benzene metabolism and toxicity. She earned an A.B. with honors in Biochemical Sciences from Princeton University. Prior to joining NJDEP, she did post-doctoral research in biochemical toxicology at Duke University and Thomas Jefferson University.

#### Putzrath, Resha

##### Department of the Navy

Resha M. Putzrath, Ph.D., DABT, is a toxicologist and risk assessor for the Navy and Marine Corps Public Health Center, U.S. Navy. She serves as a technical expert for the Department of Defense Emerging Chemicals Program; Navy Bureau of Medicine; and the Navy and Marine Corps facilities and vessels (NAVFAC and NAVSEA) both inside and outside the U.S. Dr. Putzrath evaluates the risks of exposures to individual chemicals and complex mixtures through air (including vapor intrusion), drinking water, dermal contact, and diet. She represents NMCPHC on environmental health issues affecting Navy-wide policy at senior policy boards, meetings, and committees. She prepares and presents briefs on various toxicological and risk assessment issues; negotiates agreements with federal,

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state, and local agencies; and serves as a technical expert on EPA and ATSDR policies and procedures regarding risk and public health assessments. The focus of her research is improving quantitative risk assessment procedures, especially those involving methods for combining data such as evaluation of complex mixtures. Dr. Putzrath earned her M.S. and Ph.D. in biophysics from the University of Rochester, and her A.B. in physics from Smith College; she is a Fellow of the Society for Risk Analysis. From 2003 to 2009, Dr. Putzrath was the Health Science Coordinator for EPA's Risk Assessment Forum. Prior to public service, she was a consultant (Georgetown Risk Group, Step 5 Corporation, Organization Resources Counselors, and Environ Corporation) and staff for The National Academies of Science projects on toxicology and statistics. She has served as a panel member for EPA's Expert Peer Consultations and has served as an External Peer Reviewer for EPA, ATSDR, and DoD. Dr. Putzrath has taught "Principles of Risk Assessment and Management" and "Advances Topics in Risk Assessment" at Johns Hopkins University and "Environmental Toxicology" at Department of Toxicology and Pharmacology, FAES/NIH.

#### **Roberts, Stephen M.**

##### **University of Florida**

Dr. Stephen M. Roberts is Professor at the University of Florida with joint appointments in the College of Veterinary Medicine, College of Medicine, and College of Public Health and Health Professions. He also serves as Director of the Center for Environmental & Human Toxicology at the University of Florida. Dr. Roberts received a B.S. in Pharmacy from Oregon State University and a Ph.D. from the University of Utah College of Medicine. After a postdoctoral fellowship at SUNY Buffalo (1977 – 1980), he served on the faculties of the University of Cincinnati College of Pharmacy (1980-1985) and the College of Medicine at the University of Arkansas for Medical Sciences (1986-1989). Dr. Roberts has been a faculty member at the University of Florida since 1989. His research addresses mechanisms of toxicity, particularly involving the liver and immune system. Dr. Roberts also has an active research program in toxicokinetics, especially involving bioavailability of environmental toxicants, as well as approaches to evaluation of potential toxicity of nanomaterials. He serves as an advisor to regulatory agencies on topics related to risk assessment.

#### **Rovet, Joanne F.**

##### **The Hospital for Sick Children**

Joanne Rovet is a Professor of Pediatrics and Psychology at the University of Toronto and a Senior Scientist in the Neuroscience and Mental Health Program at the Hospital for Sick Children in Toronto. She obtained her PhD from the University of Toronto and is a registered neuropsychologist in the Province of Ontario. Dr. Rovet has conducted pioneering studies on the role of thyroid hormone and fetal alcohol exposure on developing human brain using clinical/behavioral, electrophysiological, and structural and functional magnetic resonance imaging approaches. Her research on congenital hypothyroidism, maternal hypothyroidism, and hypothyroxinemia of prematurity provides critical key insights on when different human brain structures need thyroid hormone and has application to environmental thyroid disruptors. Her research on fetal alcohol spectrum disorders includes examining brain and behavioral changes following self-regulation training. Dr. Rovet has consulted to the National Institute of Environmental Health Sciences, Environmental Defense League, and the California Environmental Protection Agency. She was awarded the Dewan Award from the Ontario Mental Health Foundation for her contributions to mental health in Ontario. Her research has been supported by grants

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from the Canadian Institutes of Health Research, Canadian Foundation for Fetal Alcohol Research, and March of Dimes. She has published over 150 articles, critical reviews and book chapters, and is co-editor of a book on thyroid disorders in infancy and childhood.

#### Sakaji, Richard

##### East Bay Municipal Utility District

In his capacity as Manager of Planning and Analysis for Water Quality for the East Bay Municipal Utility District, Dr. Richard Sakaji is confronted with a variety of water quality and public health issues. His activities can range from reviewing and providing guidance on testing or study protocols in the subject areas of treatment technology and invasive species to serving on technical committees that aid in the establishment of drinking water regulations and public policy. To this end he has reviewed technical protocols for U.S. EPA's Environmental Technology Verification program and for the National Sanitation Foundation for their technical merit. His educational background includes marine biological sciences (A.B., University of California, Berkeley), environmental engineering (M.S. and Ph.D., University of California, Berkeley). Throughout his career, he has brought a public health perspective to various advisory committees and workgroups, such as those serving the National Academy of Sciences, the National Water Research Institute, the American Water Works Association Research Foundation, and the U.S. EPA. He has also represented the California Department of Public Health as a representative on the Santa Ana River Water Quality and Health Study. He recently worked with the National Water Research Institute/AWWA Research Foundation in developing the present ultraviolet light disinfection guidelines.

#### Sande, Kate

##### Minnesota Department of Health

Kate Sande is a toxicologist at the Minnesota Department of Health (MDH). Kate leads a team responsible for risk assessment and rule making for groundwater contaminants that are a priority for regulatory programs. Her primary role is to conduct dose-response toxicity assessments, develop guidance for drinking water, and communicate the results to the public, policy makers, and regulatory programs. She is also involved in a variety of other risk assessment activities, most recently a review of the toxicity data supporting an assessment of risks from the ingestion of manganese, with a special emphasis on the exposures to bottle-fed infants. Prior to joining MDH, Kate worked as a toxicologist for the Oregon Department of Human Services and developed health assessments to evaluate health risks from exposures to contaminants at hazardous waste sites throughout Oregon. In this role, she evaluated the health implications of perchlorate ingestion and conducted assessments for several controversial contaminants and sites. Kate researched children's dietary pesticide exposures while at the University of Washington and as a Fellow at the U.S. EPA, she researched air toxics from diesel fuel sources. In 2011, Kate participated in the EPA-sponsored expert panel review of the U.S. EPA Regulatory Determinations 3 protocol. Kate received a M.S. in Environmental Health from the University of Washington, Seattle and a B.S. in Engineering from the University of Minnesota, Twin Cities.

#### Snyder, Shane

##### University of Arizona

Dr. Shane Snyder is a Professor in the College of Engineering at the University of Arizona. He is also the Co-Director of the Arizona Laboratory for Emerging Contaminants. For over 15 years, Dr. Snyder's research has focused on the identification, fate, and health relevance of emerging water pollutants. Dr.

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Snyder and his team have published over 100 peer-reviewed manuscripts and book chapters on emerging contaminant analysis, treatment, and toxicology. In April of 2008, Dr. Snyder was one of six experts invited to testify before the U.S. Senate regarding pharmaceuticals in US waters. He has since been invited to brief the U.S. Congress three additional times. Dr. Snyder has served two terms on the federal advisory committee to EPA's Endocrine Disruptor Screening Program and was an invited expert panel member for the development of EPA's CCL3. Dr. Snyder is a member of the National Academy of Science's National Research Council Committee on Water Reuse and has served two appointments on the California Chemicals of Emerging Concern Expert Panels. Dr. Snyder is also a visiting professor at the National University of Singapore where he leads research on water reuse technologies and implications for public health.

#### Stanford, Benjamin

#### Hazen and Sawyer, P.C.

Dr. Stanford serves as the Director of Applied Research for Hazen and Sawyer, where he coordinates company-wide research efforts in water, wastewater, and reuse, and participates in study design, QA/QC, and report writing. Dr. Stanford is currently leading and/or participating in five studies involving emerging contaminants from the WaterReuse Research Foundation, Water Research Foundation, and Water Environment Research Foundation (WERF). He also directs and manages a portfolio of 17 active grant-funded research projects. Dr. Stanford is co-authoring a chapter on emerging contaminants and public health risks for the US EPA Water Reuse Guidelines and serves as a technical expert on AWWA's Candidate Contaminant List Technical Advisory Workgroup. He is also a member of WERF's Biosolids Exploratory Team and Issue Area Team. He serves on the AWWA Trace Organic Contaminants Committee and has served as a reviewer for the US EPA SBIR program and the USDA Agriculture and Food Research Initiative. Finally, Dr. Stanford is the Americas Editor for the IWA Journal AQUA. In addition to research efforts, Dr. Stanford supports new and existing design work at Hazen and Sawyer as a technical expert. Prior to joining Hazen and Sawyer, Dr. Stanford worked with Shane Snyder at the Southern Nevada Water Authority, where he investigated, among other things, emerging contaminant treatment and a variety of drinking water, wastewater, and water reuse process optimization studies. His diverse responsibilities have included designing and managing studies on chlorine chemistry, perchlorate, and chlorate formation; water reuse; reducing organic fouling in RO and NF membrane systems; fate and transport of micro-pollutants in wastewater and drinking water systems; evaluation of novel pilot-scale water treatment technologies for the removal of emerging contaminants; investigations of climate change on drinking water quality; and in vivo and in vitro toxicology studies.

#### Stein, Cheryl R.

#### Mount Sinai School of Medicine

Dr. Cheryl Stein, PhD, is an Assistant Professor in the Department of Preventive Medicine at Mount Sinai School of Medicine in New York, NY. She holds a BA in Government from the College of William and Mary and a MSPH and PhD in Epidemiology from the University of North Carolina at Chapel Hill. As a perinatal epidemiologist, Dr. Stein studies environmental risk factors for pregnancy complications, adverse birth outcomes, and impairments in child neurobehavioral development. Her current projects primarily focus on exposures to perfluorinated chemicals, metals, and chemical-containing medical materials in the neonatal intensive care unit.

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#### Steinmaus, Craig

##### California Environmental Protection Agency

Dr. Craig Steinmaus is a board-certified physician in Occupational and Environmental Medicine with over ten years of clinical experience, a Public Health Medical Officer in the Drinking Water Section at the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA), an Associate Adjunct Professor at the University of California, Berkeley (UCB) School of Public Health's Division of Epidemiology, and an Assistant Adjunct Professor in the Department of Medicine and the Global Health Sciences Program at the University of California, San Francisco (UCSF). He has a bachelor's degree in Environmental Toxicology from the University of California, Davis (UCD), a medical degree from UCD, a Masters of Public Health Degree from the University of California, Berkeley, and completed his residency training in Occupational and Environmental Medicine at UCSF. His major interests include risk assessment, causal inference, and designing and running large epidemiologic studies on the health effects of chemical contaminants in drinking water, with a particular focus on potential susceptibility factors such as diet, co-exposures, and early life exposure. He has authored several recent publications on perchlorate and was the lead investigator on a study of the possible interactions between perchlorate, iodine, nitrate, and thiocyanate published in Environmental Health Perspectives and a study perchlorate exposure and thyroid hormone levels in almost 500,000 California newborns published in the Journal of Occupational and Environmental Medicine. He is also the primary author of OEHHA's comprehensive 160-page Draft 2011 California Public Health Goal for perchlorate which includes an extensive review of the current published scientific literature on perchlorate and risk assessments using US EPA's Benchmark Dose Software. He is also currently the Principal Investigator (PI) of three large, multi-year, NIH-funded R01 epidemiologic studies on early life chemical exposures in drinking water, including a study of perchlorate and thyroid hormone levels in 2300 pregnant women and their offspring in San Diego, California. Dr. Steinmaus has been involved in research at the UCB School of Public Health on the toxic effects of drinking water contaminants for over thirteen years, and is currently the Associate Director of the UCB Arsenic Health Effects Research Program. He has over 40 published journal articles and several review articles on the health effects of chemical contaminants in drinking water. He currently teaches or co-teaches three graduate level courses on occupational and environmental epidemiology, causal inference, and meta-analysis at UCB and UCSF.

#### Sweeney, Lisa M.

##### Naval Medical Research Unit-Dayton

Lisa M. Sweeney, Ph.D., DABT, has been a senior scientist at the Naval Medical Research Unit-Dayton since August, 2010. Lisa has a broad range of experience in the application of toxicology, chemistry, and engineering to problems in the health and environmental sciences. She has over 15 years experience in risk assessment, pharmacokinetics, and biochemical engineering from a variety of private sector and non-profit backgrounds. Her experience has focused on the development and refinement of physiologically-based pharmacokinetic (PBPK) models and their application to risk assessment and experimental design. She is an author of over 30 peer-reviewed publications, with 18 as first author. She has previously served as a councilor for the Society of Toxicology's Risk Assessment and Biological Modeling specialty sections. Dr. Sweeney holds a bachelors of science in Chemical Engineering from Case Western Reserve University and Ph.D. in Chemical Engineering with a minor in Toxicology from Cornell University. She is a Diplomate of the American Board of Toxicology (DABT) and a Certified Hazardous Materials Manager (CHMM).

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**Ziese, Lauren**

**California Environmental Protection Agency**

Lauren Zeise is Chief, Reproductive and Cancer Hazard Assessment Branch, of the California Environmental Protection Agency's (Cal/EPA) Office of Environmental Health Hazard Assessment. In that role she oversees a variety of scientific activities concerning risk assessment, including chemical hazard and dose response assessment and development of improved methods for risk assessment. She has coauthored hundreds of chemical risk assessments and related publications. As part of Cal/EPA's environmental justice work, her group is also developing the Agency's approach to cumulative impact assessment – for characterizing the impact on communities of multiple sources of pollution and non-chemical stressors in the presence of community vulnerability. Her group works with other departments in California government in operating Biomonitoring California, the state's biomonitoring program. She co-led the team that developed California's Green Chemistry Hazard Trait regulation. Dr. Zeise has served on numerous national and international science advisory committees and boards focusing on environmental public health and improving the way chemicals are tested or evaluated for health risk. She has coauthored numerous National Academy of Sciences (NAS) reports, including "Science and Decisions: Advancing Risk Assessment" (2009), "Toxicity Testing in the 21st Century: A Vision and Strategy" (2007), "Sustainability and the US EPA" (2011), and "Understanding Risk: Informing Decisions in a Democratic Society" (1996). She is currently a member of the NAS committees including the Committee on Use of Emerging Science for Environmental Health Decisions. She is member, fellow, former editor and former councilor of the Society of Risk Analysis and was the 2008 recipient of the Society's Outstanding Risk Practitioner Award. She is a lifetime NAS National Associate. She received her doctorate from Harvard University.