

**Invitation for Public Comment on the List of Candidates for the EPA Science Advisory Board Advisory Panel on EPA's Report on the Environment (2012)**

**June 15, 2012**

The EPA Science Advisory Board (SAB) Staff Office announced in a *Federal Register* Notice (Volume 77, Number 52, Pages 15753 – 15754) that it was forming a panel to review EPA's Web-based Report on the Environment. To form the panel, the SAB Staff Office sought public nominations of engineers, ecologists, health scientists, chemical and physical scientists, statisticians, and environmental economists with expertise in the use of environmental, human health, and/or sustainability indicators to assess and communicate the condition of the environment and human health. Background information on the project and details on the nomination process appeared in the cited notice. The notice is available on the SAB website at:

<http://yosemite.epa.gov/sab/sabproduct.nsf/WebFRNotices/6750A0317D9192BE852579C20050BD81?OpenDocument>.

The SAB Staff Office Director will make the final decision about who will serve on the Panel based on all relevant information. This includes a review of the confidential financial disclosure form (EPA Form 3110-48) and 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 committees, subcommittees, and advisory panels; and, for the panel as a whole, f) diversity of scientific expertise and viewpoints.

Below is the list of nominated candidates that is based solely on relevant expertise and willingness to serve on the Panel. 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 the attention of Dr. Thomas Armitage, Designated Federal Officer, no later than July 6, 2012. E-mailing comments to Dr. Armitage at [armitage.thomas@epa.gov](mailto:armitage.thomas@epa.gov) is the preferred mode of receipt.

## Candidates for the Advisory Panel on EPA's Report on the Environment (2012)

### Alberini, Anna

#### University of Maryland

Dr. Anna Alberini is an Associate Professor of Economics in the Agricultural and Resource Economics Department of the University of Maryland. Dr. Alberini has a Ph.D. in Economics from the University of California, San Diego, Department of Economics. Dr. Alberini's research interests are in environmental economics, and specifically in the valuation of non-market natural resources; estimation and valuation of health effects of environmental quality; hazardous waste and contaminated site policy; energy economics; and conservation and reuse of urban areas and cultural heritage sites. She has served as a co-editor of the Journal of Environmental Economics and Management, and has served as the coordinator of the Sustainability Indicators and Environmental Valuation Program (SIEV) for the Fondazione ENI Enrico Mattei. She has worked on a number of projects funded by the European Commission on Climate Change and Economic Tools for Environmental and Sustainability Policies.

### 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-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 persistent organic pollutants 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 (NAS) 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. Dr. Anderson is currently the Principal investigator on two Great Lakes Restoration Initiative (GLRI) grants from the U.S. EPA (Enhancing Wisconsin's Fish Advisory Program: Emerging Chemicals, Angler Awareness, Exposure, Health Status and Outreach) as well as long-term grants from the Centers for Disease Control and Prevention (National Environmental Public Health Tracking Program; Occupational Safety and Health Surveillance: Fundamental occupational safety and health surveillance in Wisconsin).

## **Arvai, Joseph**

### **University of Calgary**

Dr. Joseph Arvai is the Svare Chair in Applied Decision Research in the Haskayne School of Business, and the Institute for Sustainable Energy, Environment, and Economy. Prior to coming to the University of Calgary in 2011, he was on the faculties of Michigan State University (2006-2010) and The Ohio State University (2001-2005). He received his Ph.D. in the decision sciences from the University of British Columbia and he also holds degrees in Ecology and Oceanography (BSc and MSc, respectively). Dr. Arvai's research focuses on advancing our understanding of how people process information and make decisions, both as individuals and in groups. A second objective of his research is to develop and test decision support tools that can be used by people to improve decision quality across a variety of environmental, social, and economic contexts. Dr. Arvai's current research is supported by grants from: the Canada School for Energy and Environment (National Energy Strategy); the National Science Foundation (Decision-makers Use of Climate Science); Natural Resources Canada and Carbon Management Canada (Carbon Management); Canadian Tri-council Foundation for Innovation (Enhancing Research infrastructure in Canada); and the Michigan State University Board of Trustees (Decision Support for Energy Planning). In addition to his research program, Dr. Arvai teaches courses on behavioral decision research and sustainability for undergraduates, graduate students, and MBAs. His research has been published in some of the premier interdisciplinary journals. This reflects the wide range of contexts in which he works. These journals include Risk Analysis, Environmental Science & Technology, the Journal of Risk Research, Ecological Applications, Ecological Economics, and Climatic Change. Dr. Arvai's research has also received international recognition and media attention; media outlets that have covered his research include the British Broadcasting Corporation, the Australian Broadcasting Corporation, CBS News, and the New York Times. Dr. Arvai has also received several awards for his research. In 2006, he was the recipient of the Chauncey Starr Award, which each year honors the individual aged 40 or under who has made exceptional contributions to the field of risk and decision analysis. In 2011, he was named a Leopold Leadership Fellow by the Woods Institute for the Environment at Stanford University.

## **Bailar, John**

### **The National Academies**

Dr. John C. Bailar III, M.D., Ph.D. (statistics) is Professor Emeritus at the University of Chicago and founding Chair of the Department of Health Studies there. For many years, his professional interests centered on the causes and prevention of disease. More recently he has focused on improving quality and performance in science generally. He was at the U.S. National Cancer Institute (1956-1980), Harvard University (1980-1988), and McGill University (1988-1995) before he went to Chicago. At present he is Scholar in Residence at the National Academies. He was a MacArthur Fellow (1990-1995). He has published widely in the statistics and epidemiology literature including recently on the health effects of air pollution. His areas of expertise include statistics, epidemiology, and risk assessment. He has chaired over 20 National Academy committees and served on numerous others. He has also served as monitor of more than 20 Academy reports.

## **Burke, Ingrid**

### **University of Wyoming**

Dr. Ingrid "Indy" Burke is Director of the School of Environment, Natural Resources, and Biodiversity, and Wyoming Excellence Chair at the University of Wyoming. Prior to her current role, Dr. Burke was a Professor, University Distinguished Teaching Scholar, and Co-Director of the Graduate Degree Program in Ecology at Colorado State University. Dr. Burke has served as a member of several National Research Council (NRC) committees to review national environmental research programs and policies, as a member of the NRC Board on Environmental Studies and Toxicology, as a member on numerous National Science Foundation and other advisory panels, and currently serves on the Science Advisory Board for the Environmental Protection Agency. She has served on editorial boards for Ecological Applications, Ecosystems, and Forest Ecology and Management. Dr. Burke has been designated as a National Science Foundation Presidential Faculty Fellow, a National Academy of Sciences Education Fellow in the Life Sciences, and was recently elected a Fellow of the American Association for the Advancement of Science. Dr. Burke received her Ph.D. in Botany (1987) at the University of Wyoming, and her B.S. (1980) at Middlebury College.

## **Campleman, Sharan**

### **Electric Power Research**

Dr. Sharan Campleman is an environmental health scientist and senior project manager at the Electric Power Research Institute, working in the Environment Sector in areas related to occupational health and safety (OH&S), multimedia toxics, and risk assessment. Her primary responsibilities include oversight of the OH&S research program (including sector-specific injury surveillance and job exposure database development); basic toxicological health studies; and, integration of experimental and epidemiologic data into the quantitative risk assessment process. Dr. Campleman's research focus centers on the health effects of trace metals and organics; the assessment of effects related to mixed chemical exposures; cumulative risk assessment; and the development and utilization dose-response models for quantifying risk at low exposure levels. Her previous experience includes a variety of settings in both the public and private sectors, ranging from basic research in molecular toxicology to the regulatory application of toxicological and epidemiologic data for identifying environmental concerns. She also has substantial experience in public health surveillance including as a principal investigator, cancer epidemiologist and Certified Tumor Registrar with the Public Health Institute/California Cancer Registry. Dr. Campleman is a Diplomate of the American Board of Toxicology. She received a Ph.D. and M.P.H. in Environmental Health Sciences (emphasis in toxicology) from the University of California Berkeley, followed by post-doctoral training in environmental epidemiology as a fellow with the California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment (OEHHA), Air Toxicology and Epidemiology Section. She also served as a Toxicology consultant for the American Lung Association, the California Environmental Protection Agency and Prop65 News. Dr. Campleman participates in numerous professional societies, including the Society for Epidemiologic Research, the Society of Toxicology, the Society for Risk Analysis, the National Cancer Registrars Association and the Association of Women in Water, Energy and Environment.

## **Chestnut, Lauraine**

### **Stratus Consulting Inc.**

Ms. Lauraine G. Chestnut is a managing economist at Stratus Consulting Inc. specializing in the quantification and monetary valuation of human health and environmental effects associated with environmental pollutants. She has an M.A. in economics from the University of Colorado, Boulder. Ms. Chestnut has over 25 years of experience with Stratus Consulting and its predecessors working for clients including the U.S. Environmental Protection Agency, California Air Resources Board, the National Park Service, Environment Canada, Health Canada, and the World Bank, quantifying and valuing the effects of environmental pollutants on human health, visibility aesthetics, materials, and crops. She has conducted original economic and survey research to estimate the economic value to the public of protecting human health, visibility aesthetics, and cultural materials from the effects of air pollution; and has conducted epidemiology studies of the effects of particulate matter on human health. She has developed quantification models to estimate the benefits of reductions in air pollutants that have been used to assess provisions of the Clean Air Act in the U.S., proposed Canadian air quality standards, air quality standards in Bangkok, and elsewhere. Ms. Chestnut has numerous publications on these topics in peer reviewed journals including Contemporary Economic Policy, Journal of Environmental Management, Archives of Environmental Health, Journal of the Air and Waste Management Association, and Journal of Policy Analysis and Management. Ms. Chestnut served on the U.S. EPA Clean Air Science Advisory Committee, NOx and SOx Secondary NAAQS Review Panel in 2007-2011. She served in 2007-2008 on the National Research Council Committee on Mortality Risk Reduction Benefits from Decreasing Tropospheric Ozone Exposure. She also served on the U.S. EPA Science Advisory Board, Advisory Council on Clean Air Compliance Analysis and on the California Air Quality Advisory Committee. Ms. Chestnut's recent contracts are with Canada's Policy Research Initiative and Health Canada, reviewing available estimates of economic values for changes in mortality risk applicable in public policy analyses and developing a stated preference instrument for estimating willingness to pay for improvements in life expectancy.

## Cohen, Aaron

### Health Effects Institute

Dr. Aaron J. Cohen is Principal Scientist at the Health Effects Institute (HEI) in Boston, MA, where he has worked since 1990. At HEI Dr. Cohen manages an international program of epidemiologic research on the health effects of air pollution, and is involved in developing and managing HEI's U.S. and international research programs. In these capacities he recently led HEI's review of the literature on the health effects of air pollution in the developing countries of Asia, and is co-coordinator of HEI's Health Outcomes Research program, which assesses the health impacts of actions taken to improve air quality. Past HEI responsibilities have included: the organization and management of epidemiologic research projects such as the Reanalysis of the American Cancer Society and Six-Cities studies of air pollution and mortality, and multi-city time-series studies of air pollution and daily mortality in Europe, North America Asia and Latin America. Since 1999 Dr. Cohen has served as a Temporary Advisor to the World Health Organization (WHO) on the evaluation of epidemiologic evidence, air pollution health impact assessment, and air quality guideline development. He currently co-chairs the Expert Group on Outdoor Air Pollution that produced estimates of the global burden of disease due to outdoor air pollution for the WHO's Global Burden of Disease Comparative Risk Assessment in 2002, and which is now updating those estimates as part of the Global Burden of Disease 2010 project. Dr. Cohen holds a D.Sc. in Epidemiology (1991), and Masters in Public Health (1985) from the Boston University School of Public Health, where he is Adjunct Assistant Professor of Environmental Health. He is also a Registered Respiratory Therapist (RRT), and worked for 15 years in newborn intensive care, and subsequently as Research Associate in Perinatal Epidemiology, at Brigham and Women's Hospital in Boston.

## Crittenden, John C.

### Georgia Institute of Technology

Dr. John C. Crittenden is the director of the Brook Byers Institute for Sustainable Systems and a professor in the School of Civil and Environmental Engineering at the Georgia Institute of Technology. He holds the Hightower Chair and is a Georgia Research Alliance Eminent Scholar in Environmental Technologies. Professor Crittenden received his Bachelor's in Chemical Engineering and his Master's and Ph.D. in Civil Engineering from the University of Michigan. Since 1998 he has been the Associate Editor of the journal Environmental Science and Technology. Professor Crittenden was elected to the National Academy of Engineering in 2002. He is the co-holder of 5 patents and the primary author of the text book, Water Treatment: Principles and Design, now in its third edition. He is the author of numerous articles in refereed journals, book chapters, and symposia. Professor Crittenden has been invited to speak and present around the world on sustainable urban systems and water treatment infrastructure. Professor Crittenden's current research focus is on the emergent properties of urban infrastructure systems. His position as a director of the Brook Byers Institute for Sustainable Systems affords this research to include alternative energy technologies, sustainable materials, advanced modeling of urban systems, sustainable engineering pedagogy, and urban form and policy. He also conducts research in various water treatment (e.g., membrane, nanofiltration, advanced oxidative processes, photocatalytic oxidation, adsorption, etc.) and energy harvesting technologies (photocatalytic water splitting and aqueous phase reforming of biomass). Dr. Crittenden's research in these areas is currently funded by grants from the National Science Foundation.

## Frey, H. Christopher

### North Carolina State University

Dr. H. Christopher Frey is a professor of environmental engineering in the Department of Civil, Construction, and Environmental Engineering at North Carolina State University. His research interests are measurement and modeling of real-world fuel use and emissions of onroad and nonroad vehicles; modeling and evaluation of advanced energy conversion (e.g., combustion, gasification) and environmental control systems; development and application of methods for quantification of variability and uncertainty and for sensitivity analysis in environmental systems models; and exposure and risk analysis. He has been the principal investigator or co-principal investigator for over 50 externally sponsored research projects, and has published over 90 journal papers, 150 conference papers, 60 technical reports, 7 book chapters, and one book. He teaches courses in air pollution control, air quality, and environmental exposure and risk assessment. He currently serves on the U.S. Environmental Protection Agency's Clean Air Scientific Advisory Committee (CASAC) and on the Board of Environmental Studies and Toxicology of the National Research Council. He is Chair of the CASAC Lead Review Panel. In recent years, he has served on a U.S. EPA Science Advisory Board panel on expert elicitation, a U.S. EPA Advisory Council on Clean Air Compliance Analysis panel on EPA's *Report to Congress on Black Carbon*, National Research Council committees on review of the toxicological assessment of tetrachloroethylene and of EPA's New Source Review program, a NARSTO assessment of multipollutant air quality management, and a World Health Organization working group on uncertainty in exposure assessment. He was a lead author for 2006 guidance by the Intergovernmental Panel on Climate Change (IPCC) regarding uncertainty in greenhouse gas emission inventories. He is a Fellow and Past President of the Society for Risk Analysis and a Fellow of the Air & Waste Management Association. He received the 2008 North Carolina State University Alumni Association Outstanding Research Award and 1999 Chauncey Starr Award of the Society for Risk Analysis. He has a B.S. in Mechanical Engineering from the University of Virginia, and from Carnegie Mellon University he has a Master of Engineering in Mechanical Engineering and Ph.D. in Engineering and Public Policy. Dr. Frey is the principal investigator of grants from the National Science Foundation and U.S. Environmental Protection Agency, and contracts from the North Carolina Department of Transportation and United States Department of Transportation. He has received funding from the U.S. Department of Interior (National Park Service) via Louis Berger Group, Inc., the New Jersey Department of Environmental Protection via GbD, Inc., and the Environmental Research and Education Foundation via the University of Nebraska at Lincoln. He was a co-PI on a recently completed grant from the National Institutes of Health. These projects pertain to measurement and modeling of the activity, energy use, and emissions of vehicles and to exposure assessment.

## Gibb, Herman

### Tetra Tech Sciences

Dr. Herman Gibb is President of Tetra Tech Sciences (Sciences), an operating unit of the Tetra Tech Corporation specializing in health risk assessment. Dr. Gibb received his Ph.D. in epidemiology from the Johns Hopkins University in 1989, his M.P.H. in environmental health in 1974 from the University of Pittsburgh, and his B.S. in pre-medicine from the Pennsylvania State University in 1970. Since joining Sciences in 2004, Dr. Gibb has provided expert consultation to a variety of international and national clients. Dr. Gibb has been an invited peer reviewer of health risk assessment documents prepared by the U.S. Environmental Protection Agency, the U.S. Food and Drug Administration, the National Institute of Occupational Safety and Health, Health Canada, and the World Health Organization. He is a Scientific Advisor on Risk Assessment for the European Commission. He chairs the World Health Organization's Foodborne Epidemiology Reference Group's (FERG) Chemical Task Force and is a member of FERG's Country Studies and Source Allocation Task Forces. Before joining Sciences, Dr. Gibb served in the positions of Associate Director for Health and Assistant Center Director at the National Center for Environmental Assessment of the U.S. Environmental Protection Agency. He was the Project Officer for EPA's cooperative agreements with the World Health Organization. He directed EPA's assessment of inhalation exposures and potential health risks to the general population that resulted from the collapse of the World Trade Center Towers. He is an author of EPA's Guidelines for Carcinogen Risk Assessment and EPA's Risk Assessment Principles and Practices. He was the recipient of the EPA's Scientific and Technological Achievement Award for his study of lung cancer mortality and clinical irritation among chromate production workers and the recipient of the EPA's Gold Medal for Exceptional Service for his work on the drinking water standard for arsenic. His study of chromate production workers utilized one of the most extensive industrial hygiene data bases ever assembled in its analysis of the lung cancer risk from hexavalent chromium. The study formed the basis of the U.S. Occupational Safety and Health Administration's Permissible Exposure Limit (PEL) on Hexavalent Chromium. He is an author of the World Health Organization's Environmental Health Criteria Document on Principles for the Assessment of Risks to Human Health from Exposure to Chemicals and the World Health Organization's Environmental Health Criteria Document on Arsenic and Arsenic Compounds. Dr. Gibb was a member of White House Interagency Committees on Mercury and on Risk Assessment. He was an author of EPA's Mercury Research Strategy. He is a member of the Presidential Advisory Board on Science, Engineering, and Health at the Ana G. Mendez University System in San Juan, Puerto Rico, and the Advisory Committee of the United States Transuranium and Uranium Registry. He belongs to the International Society of Environmental Epidemiology. He is a Professorial Lecturer in Environmental and Occupational Health and Adjunct Associate Professor of Pharmacology and Physiology at the George Washington University Medical Center. Dr. Gibb received the 2011 Practitioner of the Year Award from the Society for Risk Analysis.

## **Hawkins, Charles**

### **Utah State University**

Dr. Charles Hawkins is Interim Head of the Department of Watershed Sciences and Director of the Western Center for Monitoring and Assessment of Freshwater Ecosystems at Utah State University. He holds a B.A. in Biology (Biochemistry emphasis/Chemistry minor) from California State University, Sacramento (1973), an M.A. in Biology (Aquatic Biology emphasis) from California State University, Sacramento (1975), and a Ph.D. in Entomology (Aquatic Ecology emphasis/Statistics and Philosophy of Science minor) from Oregon State University (1982). Dr. Hawkins has been on the faculty of Utah State University since 1983 following completion of his Ph.D. work. His teaching responsibilities include graduate-level courses in general ecology, stream ecology, and communicating science. Dr. Hawkins' research focuses on the role that landscape setting plays in controlling community composition and richness in aquatic ecosystems; survey designs; predictive modeling of community composition; use of aquatic biota to assess and monitor ecological integrity; cumulative effects of watershed alteration on the physical, chemical, and biotic condition of aquatic and riparian ecosystems; and the biology and ecology of freshwater invertebrates, amphibians, and fishes. He has worked extensively with state and federal agencies to develop scientifically defensible indices of ecological condition and criteria for freshwater ecosystems and ways to simply and directly communicate the results of these technical analyses to the public. Dr. Hawkins' research has been supported by grants from, among others, the National Science Foundation, U.S. Environmental Protection Agency (EPA), United States Geological Survey (USGS), U.S. Forest Service, the U.S. National Park Service, and several State natural resource agencies. His current research is supported by grants from EPA (effects of climate change on freshwater biodiversity, integrating indicators of ecological condition and services); the Nevada Division of Environmental Protection (indices used in ecological assessments); and USGS (modeling and assessment of stream water temperature, modeling the effects of bedrock geology on water chemistry to improve water quality assessments). He served two terms on the editorial board of the Journal of the North American Benthological Society and served a 4-year term as Vice-Chair and Chair of the Aquatic Ecology section of the Ecological Society of America. He is currently a member of the Faculty of 1000 with responsibility for Marine and Freshwater Ecology literature. Dr. Hawkins served two terms (2001-2005) on the Ecological Processes and Effects Committee of the EPA's Science Advisory Board (SAB) and served on the Community Condition Indicators Committee for the H. John Heinz III Center for Science, Economics and the Environment. He has also previously served on an EPA SAB panel that reviewed EPA's Report on the Environment. In addition, he has served on numerous expert panel committees charged with evaluating federal environmental research laboratories, national monitoring needs, and state water monitoring programs. Dr. Hawkins is a key member of the technical analysis team that is developing and interpreting biological indices that support EPA's national assessments of ecological condition of U.S. streams, rivers, lakes, and wetlands.

## **Johnson, Lucinda**

### **University of Minnesota Duluth**

Dr. Lucinda Johnson is Director of the Center for Water and the Environment at the University of Minnesota's Natural Resources Research Institute. She holds a B.A. in Botany from Duke University, an M.S. in Entomology from State University of New York, College of Environmental Science and Forestry, and a Ph.D. in Zoology from Michigan State University. Dr. Johnson is an aquatic and landscape ecologist whose research focuses on the impacts of multiple stressors on aquatic ecosystems with emphasis on human activities (e.g., land use) and climate change. Much of her work has involved quantifying interactions between terrestrial and aquatic ecosystems with a focus on aquatic endpoints (primarily amphibians, invertebrates, fish, and their habitats) in Midwestern U.S. streams and wetlands, and Great Lakes coastal ecosystems. Dr. Johnson's work has resulted in the development of environmental indicators for assessing the condition of aquatic ecosystems, along with the development of spatial analysis tools for identifying reference and degraded conditions. These tools have proved useful for environmental assessment as well as conservation planning. Dr. Johnson has held leadership positions in the Association of Ecosystem Research Centers (President, 2008-2010) and the North American Benthological Society (President, 2010-2011), and serves as an advisor to state and regional government agencies on the topic of impacts of climate change and climate change adaptation strategies. Johnson recently participated on the U.S. EPA Science Advisory Board committee evaluating the effects of Mountain Top Removal Mining and the Conductivity Benchmark (2010-2011). Dr. Johnson's research is currently funded by grants from the Minnesota Department of Natural Resources (impacts of land development and climate change on trout habitat); U.S. EPA Great Lakes Restoration Initiative (implementing Great lakes coastal wetland monitoring, indicator testing and refinement); Minnesota Pollution Control Agency (prioritizing wetland restoration for water quality improvement; ecological design for the St. Louis river area of concern); and the U.S. Geological Survey (managing fish habitat in a rapidly changing climate).

## **Knobeloch, Lynda**

### **Wisconsin Department of Health Services**

Dr. Lynda Knobeloch has been a Research Scientist/Toxicologist in the in the Wisconsin Department of Health Services since 1990 and is currently the Department's senior toxicologist. She is responsible for the development of health-based groundwater standards and provides technical support for Wisconsin's air quality and agricultural chemicals programs. She also provides guidance on Wisconsin's fish consumption advisories. Dr. Knobeloch received a doctorate in Environmental Toxicology from the University of Wisconsin-Madison where she currently holds adjunct faculty positions in the Department of Population Health Sciences and Molecular and Environmental Toxicology Center. 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. She has conducted several case investigations and population-based health studies, has served as principal investigator on numerous grant-funded projects, and is the author of nearly 100 articles on environmental exposure and human disease. Dr. Knobeloch was a member of the National Research Council Committee on the Toxicological Effects of Methylmercury. She is a past member of the U.S. EPA Children's Health Protection Advisory Committee and the National Pollution Prevention and Toxics Advisory Committee. Dr. Knobeloch's research is currently funded by a grant from the U.S. EPA Great Lakes National Program Office (enhancing Wisconsin's fish advisory program).

## **Lasker, Grace**

### **Lake Washington Institute of Technology**

Dr. Grace Lasker is a tenured faculty member at Lake Washington Institute of Technology. She oversees the Energy & Science degree program as well as the Academic Science department. Her primary focus is in environmental epidemiology, with additional expertise in cellular biology, biochemistry, and nutrition. She has been involved in agricultural and environmental research for over a decade in such areas as nutrient management, soil and water chemistry, and chemical analysis of fruits and vegetables grown under varied nutritional programs. She has an M.S./ABD Ph.D. in Molecular Genetics (Agronomy) from the University of Nebraska-Lincoln, a Ph.D. in Human Nutrition from Clayton College of Health to obtain certification in the state of Washington as a certified nutritionist, and a Ph.D. in Public Health, Epidemiology from Walden University (July 2012). Dr. Lasker's research at the University of Nebraska involved investigating epigenetic DNA/RNA impact due to nutrient/environmental influences. Her latest research is in organochlorine pesticide bioaccumulation in humans and their impact on neurological human health. She is dedicated to education and engaging her community in environmental and health issues.

## Legge, Allan

### Biosphere Solutions

Dr. Allan Legge is currently President of Biosphere Solutions, an environmental consulting firm located in Calgary, Alberta, Canada. Prior to forming Biosphere Solutions in 1993, he was a Senior Research Scientist at the Kananaskis Center for Environmental Research at the University of Calgary from 1972 to 1990, and a Senior Research Officer in the Environmental Research and Engineering Department, Alberta Research Council from 1990 to 1993. Dr. Legge holds a B.A. in Biology and Dramatic Arts which was received from Whitman College, Walla Walla, Washington in 1965, and a Ph.D. in Plant Genetics/Ecology from Oregon State University in Corvallis, Oregon in 1971. His areas of specialization are environmental toxicology/atmospheric chemistry, and he focuses on the evaluation and assessment of the effects of the air pollutants SO<sub>2</sub>, O<sub>3</sub>, H<sub>2</sub>S, NO<sub>x</sub>, HF, PM and saline aerosols on forests and agricultural ecosystems. Dr. Legge served on the following panels and committees of the U.S. EPA Science Advisory Board: (1) Forest Effects Review Panel (Co-Chair), 1985; (2) Scientific and Technological Achievement Awards Subcommittee (STAA), intermittently from 1986 to 2002; (3) Review Panel on EPA's 2007 Report on the Environment: Science Report; and (4) Report on the Environment Committee in 2009 providing independent guidance and advice on the EPA Report on the Environment scheduled for release in 2012. Dr. Legge also served on the U.S. EPA Clean Air Scientific Advisory Committee (CASAC) as a consultant from 1994 to 2011 on Review Panels dealing with nitrogen oxides, ozone and related photochemical oxidants, and particulate matter. In addition, Dr. Legge served on the Ecological Effects Subcommittee of the Advisory Council on Clean Air Compliance Analysis in 2010 to provide review comments on an augmented review of the Second 812 Prospective Study as required by the Clean Air Act Amendments of 1990. He served as a member of the U.S. National Research Council Committee to Assess the North American Research Strategy on Tropospheric Ozone (NARSTO) from 1997 to 2000. Dr. Legge is an active member of the Air & Waste Management Association (AWMA), the Alberta Society for Professional Biologists (ASPB), and the International Air Pollution Workshop. He was elected as a Fellow of the American Association for the Advancement of Science (AAAS) in 1992, and a Fellow of the AWMA in 2002. Dr. Legge's work to evaluate the effects of air pollutants on forests and agricultural ecosystems and to provide scientific advice and guidance is currently supported by contracts from the Wood Buffalo Environmental Association (WBEA), Fort McMurray, Alberta, Canada and Stantec Consulting Limited, Calgary, Alberta, Canada.

## **Mihelcic, James R.**

### **University of South Florida**

Dr. James R. Mihelcic is a Professor of Civil and Environmental Engineering and State of Florida 21st Century World Class Scholar at the University of South Florida. He holds a B.S. in Environmental Engineering from Pennsylvania State University (1981), and an M.S. (1985) and Ph.D. (1988) in Civil Engineering from Carnegie Mellon University. Dr. Mihelcic directs the Peace Corps Master's International Program in Civil & Environmental Engineering and is an international expert in provision of water, sanitation, and hygiene in the developing world community. His research interests are centered around sustainability, specifically understanding how global stressors such as climate, land use, and urbanization influence water resources, water quality, and provision of water supply and sanitation technologies. Dr. Mihelcic is a past president of the Association of Environmental Engineering and Science Professors (AEESP), a Board Certified Environmental Engineering Member, and Board Trustee with the American Academy of Environmental Engineers (AAEE). He is lead author for 3 textbooks: Fundamentals of Environmental Engineering (John Wiley & Sons, 1999); Field Guide in Environmental Engineering for Development Workers: Water, Sanitation, Indoor Air (ASCE Press, 2009); and, Environmental Engineering: Fundamentals, Sustainability, Design (John Wiley & Sons, 2010). Dr. Mihelcic's current research and education initiatives are supported by competitive grants from the National Science Foundation (NSF) to provide graduate scholarships to achieve sustainable water and transportation infrastructure at the water-energy-global nexus, model and analyze the use, efficiency, value, and governance of water as a material in the Great Lakes region, and develop tools and strategies for integration of sustainability into engineering education. He also has research support from the Water Reuse Foundation to assess models to estimate and minimize greenhouse gas emissions and the carbon footprint of water reuse and desalination facilities. Dr. Mihelcic also has several research grants to improve management of water resources and sanitation technologies in Madagascar and Bolivia. This includes: support from CARE-Madagascar to provide applied research expertise to increase sustainable access to improved drinking water supply and sanitation facilities in regions of Madagascar with some of the lowest water and sanitation coverage rates, and a new U.S. Agency for International Development Partnerships for Enhanced Engagement program grant that, when integrated with NSF funding, will study the fate of enteric pathogens during the safe reclamation of water and nutrients from reused wastewater.

## **Moo-Young, Horace**

### **California State University**

Dr. H. Keith Moo-Young is Dean of the College of Engineering, Computer Science and Technology at California State University-Los Angeles. He holds an M.S. and Ph.D. in Civil-Environmental Engineering from the Rensselaer Polytechnic Institute, and a Masters of Technology Management from the University Pennsylvania, a B.S. degree in Civil Engineering from Morgan State University, and is a licensed professional engineer (Environmental Engineering) in Pennsylvania. Dr. Moo-Young was formerly the Interim Dean and Associate Dean for Research and Graduate Studies at Villanova University, and has served as a Professor at Lehigh University and Villanova University. Dr. Moo-Young is a Board Certified Environmental Engineer by the American Association for Environmental Engineers and a Fellow of the American Society of Civil Engineers. The emphasis of his research is on hazardous and solid waste management and technologies, such as the remediation of inorganic contaminants in acid mine drainage and groundwater, manufactured gas plant and coal tar, recycling and reuse of industrial co-product materials, and corrective strategies for contaminated sediments. Dr. Moo-Young's current research is funded by: the National Science Foundation (to acquire an Ultra-Centrifuge for geoenvironmental research and education, renovate core facilities, fund the GK-12 Fellowship Program, and support the CREST Center for Sustainable Energy); Naval Surface Warfare Center (to support its education partnership agreement with the College of Engineering, Computer Science and Technology at California State University, Los Angeles); the California Air and Resource Board (to support the Hydrogen Refueling Station); the Department of Defense (to support the Great Minds in Science, Technology, Engineering and Math, STEM, careers program); Department of Education (to increase engineering transfers students from East Las Angeles College and Los Angeles Trade Technical College); various corporations (to support the 'Senior Design' project); and National Oceanic and Atmospheric Administration (to support the University Research Center). Dr. Moo-Young has served as a member of the Water Environmental Research Foundation Exploratory Team on Solids Reduction, National Science Foundation Committee of Visitors for Civil and Mechanical Systems Division from 2001-2003, the Department of Energy's Workshop on Monitoring of Metals and Radionuclide Contaminated Sites in 2004 and Workshop on Containment Technologies in 2002. He also served as the session leader on Sediment Stability for the Department of Defense's SERDP-ESTCP Workshop on Contaminated Sediment in 2004. Dr. Moo-Young co-chaired the First International Conference on Environmental Research, Technology, and Policy on Africa in Accra, Ghana in 2007 and was the Honorary Chair for the ISEG 2012 The XII International Symposium on Environment, Energy and Global Sustainable Development. He has received numerous national awards including service as an American Association for the Advancement of Science Policy Fellow at the U.S. Environmental Protection Agency from 2001-2002 and Black Engineer of the Year in 2001. Dr. Moo-Young has published over 200 refereed papers and invited talks in peer-reviewed journals, books and conference proceedings, workshops and invited lectures. He is also the co-inventor of one patent.

## **Murphy, Eileen**

### **Rutgers University**

Dr. Eileen Murphy is the Director of Research and Grants at the Rutgers University Ernest Mario School of Pharmacy. She holds a B.S. in English with a minor in Biology from the University of Notre Dame (1983), an M.S. in Environmental/Outdoor Education from Northern Illinois University (1984), and a Ph.D. in Environmental Science from Rutgers University (1989). Dr. Murphy coordinates multi-disciplinary research projects among faculty in pharmacology, toxicology, communication, environmental science, engineering and other disciplines at Rutgers. Her research interests include occurrence, fate and transport of pharmaceuticals and other anthropogenically-derived organic chemicals in the environment. Prior to holding this position, Dr. Murphy served as the Director of the New Jersey Department of Environmental Protection (NJDEP) Division of Science, Research and Technology. She held the position of Assistant Director for the group for four years before that and served as a research scientist for 15 years within the group, developing an expertise in the drinking water field. Dr. Murphy has focused much of her career on drinking water science, including contaminant occurrence and fate and transport. She has been involved in the issue of unregulated contaminants in drinking water and the treatment to remove them from finished water. Dr. Murphy's particular research emphasis is on exposures to toxic substances, fate and transport of toxic substances, and assessments of the potential risks to human health and the environment posed by these exposures. Dr. Murphy's research has been conducted without the support of grants from either government agencies or private companies. She is co-author on numerous peer-reviewed scientific papers that have appeared in scholarly journals, including Environmental Science and Technology.

## **Opaluch, James**

### **University of Rhode Island**

Dr. James Opaluch is Professor and Department Chair of Environmental Economics at the University of Rhode Island. He received a Ph.D. in Natural Resource Economics and Masters Degree in Statistics both from the University of California, Berkeley. Dr. Opaluch has been actively involved in issues related to natural resource and environmental policy for many years, and is an internationally recognized expert in natural resource valuation and damage assessment. Dr. Opaluch currently serves on the U.S. EPA Science Advisory Board. He has served as an expert in over 25 major natural resource damage assessment cases. Other projects include development of the original Type A model for assessing natural resource damages under CERCLA (incorporated in Federal Regulations); evaluation of the potential social costs of the national five-year offshore oil and gas leasing program; a comprehensive assessment of alternative bidding systems for auctions for offshore oil; development of a methodology for landfill siting for the state of Rhode Island; and estimating uses and values of the Peconic Estuary System as part of the National Estuaries Program. Dr. Opaluch was invited to serve on the United Nations Environmental Program's Working Group of Consultative Experts to provide advice and training to policy professionals throughout the world. Dr. Opaluch has served on a number of national committees, including panels for the National Academy of Science, National Science Foundation, the United Nations, the U.S. EPA, and the United States Minerals Management Service. He also served as executive officer and in an editorial capacity for many National and International Professional Associations. Dr. Opaluch has authored or co-authored numerous papers in peer reviewed, professional journals. Dr. Opaluch has ongoing research grants on managing ecosystem services, funded by the U.S. Department of Agriculture, and siting renewable energy facilities, funded by the State of Rhode Island.

## **Parkin, Rebecca**

### **The George Washington University Medical Center**

Dr. Rebecca T. Parkin is an environmental epidemiologist with over 30 years of career experience; she is now a Professorial Lecturer in Environmental and Occupational Health and in Epidemiology and Biostatistics in the School of Public Health and Health Services (SPHHS) of The George Washington University (GW). She occasionally serves as a public health consultant to federal agencies and local governments. She retired from fulltime work as the Associate Dean for Research and Public Health Practice and as a Professor in the Department of Environmental and Occupational Health, with a joint appointment in the Department of Epidemiology and Biostatistics, in SPHHS. Dr. Parkin was also the Scientific Director of the Center for Risk Science and Public Health at GW. Previously she served as the Assistant Commissioner of Occupational and Environmental Health in the New Jersey Department of Health and as an Environmental Epidemiologist in the Centers for Disease Control. Dr. Parkin received her A.B. in sociology from Cornell University; M.P.H. (environmental health) and Ph.D. (epidemiology) from Yale University; and Certificate in Science, Technology, and Policy from Princeton University. Her areas of expertise include environmental epidemiology, public health policy, and environmental health risk assessment and risk/benefit communication. Her research has been supported by the U.S. Environmental Protection Agency; the American Water Works Association Research Foundation; the Association of Occupational and Environmental Clinics; and the U.S. Departments of Defense, Homeland Security, and Health and Human Services. She has been a member of the National Research Council's Water Science and Technology Board; and has served on and been chair or vice chair of committees of the Council, the Institute of Medicine, U.S. Environmental Protection Agency (Science Advisory Board and several of its committees, and the Human Subjects Review Board), U.S. Department of Health and Human Services, and Agency for Toxic Substances and Disease Registry. Additionally, Dr. Parkin has served as a peer reviewer for various national and international professional organizations and journals focused on environmental health. She has represented U.S. public health scientists at international forums and workshops hosted by the National Academies, World Health Organization, professional societies, and academic institutions. Further, she has taught environmental and occupational health courses at several universities outside of the U.S. Among her many awards, Dr. Parkin has been elected to Delta Omega (public health honorary society), recognized by Yale University as a Distinguished Alumna, honored with the Association of Schools of Public Health/Pfizer Faculty Award for Excellence in Academic Public Health Practice, and selected for lifetime membership as a National Associate of the National Academies.

## **Rodewald, Amanda**

### **The Ohio State University**

Dr. Amanda Rodewald is Professor of Wildlife Ecology in the School of Environment and Natural Resources at The Ohio State University. She holds a B.S. in Wildlife Biology from The University of Montana, an M.S. in Zoology from The University of Arkansas, and a Ph.D. in Ecology from The Pennsylvania State University. Dr. Rodewald's research program seeks a mechanistic understanding of the responses of animal communities to human activities and global change, which requires her to work at multiple spatial scales and across multiple levels of biological organization. As such, her research touches on a variety of sub-disciplines, including conservation biology, landscape ecology, population demography, community ecology, behavioral ecology, and ecological restoration. Her current work focuses on understanding (1) how community organization and species interactions are affected by land use change, invasive species, altered disturbance regimes, and anthropogenic resource subsidies, (2) socioecological drivers of avian population, community, and landscape dynamics, (3) modified selective environments in human-dominated systems, and (4) population and community responses of forest birds to land use change in the U.S. and South America. Dr. Rodewald consistently extends research findings to managers, decision-makers, and private individuals in the U.S. and Neotropics. She serves her professional societies and university by serving on governance councils, advisory boards, and committees, and was recently a CIC Academic Leadership Fellow. Dr. Rodewald also contributes to the national and state-level environmental decision-making process in her ad-hoc advisory and panel roles with National Science Foundation, U.S. Department of Agriculture Forest Service, U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, and North American Bird Conservation Initiatives. Over the last decade, her research has been funded by National Science Foundation (NSF), U.S. Fish and Wildlife Service (USFWS), Ohio Department of Natural Resources, National Council for Air & Stream Improvement, National Fish and Wildlife Foundation, American Association for the Advancement of Science, The Nature Conservancy, Ohio Agricultural and Research Development Center, Cleveland Metropark Zoo, and Ohio Ornithological Society. Dr. Rodewald's research is currently supported by grants from: the NSF (linking watershed research and GK-12 education in an ecosystem context); the USFWS (impact of cat colonies on the conservation value of protected areas to grassland birds, non-breeding ecology of Cerulean Warblers); and the Ohio Department of Natural Resources (Ohio biodiversity conservation partnership, conserving birds in urbanizing landscapes, landscape-scale responses of animal communities to urbanization).

## **Roy, Sujoy**

### **Tetra Tech Inc.**

Dr. Sujoy B. Roy is a Director of Tetra Tech Inc., located in Lafayette, CA. He holds a B. Tech. in Civil Engineering from Indian Institute of Technology, New Delhi, India, and an M.S. and Ph.D. in Civil and Environmental Engineering from Carnegie Mellon University. Dr. Roy is an environmental engineer with extensive experience studying water quality and water resources in applied research and regulatory contexts. Dr. Roy's particular areas of interest include the modeling and development of management plans to address water quantity and quality concerns for drinking water source protection and for addressing ecological impacts. In most instances, his work is motivated by current impairment, such as the development of total maximum daily loads or anticipation of future growth and climate change. Dr. Roy's recent studies have included the evaluation of water withdrawal sustainability across the U.S. under climate change scenarios at national and regional scales, support for the development of nutrient standards in surface waters, and modeling of contaminants of drinking water or ecological concern, such as mercury, selenium, and arsenic. He served on National Academy of Sciences panels on Missouri River Basin restoration and on Clean Water Act Implementation across the Mississippi Basin. Dr. Roy served as a member of the U.S. EPA Science Advisory Board Environmental Engineering Committee (EEC) panel that provided advice to EPA on its draft hydraulic fracturing research scoping study plan and a panel on the value of water to the U.S. Economy. Dr. Roy's research is currently supported by the Electric Power Research Institute (to conduct a National-Scale Analysis of Water Use Availability in River Basins and to develop case studies for the use of stormwater as a resource for power plant cooling); the U.S. Environmental Protection Agency (to study the Development of TMDLs for Organic Carbon and Nutrients for Suisun Marsh, California); the Florida Coordinating Group of Electric Utilities (to study Mercury Cycling in Florida Lakes and Rivers); the Metropolitan Water District of Southern California (for the Development of Models for Turbidity in the Sacramento-San Joaquin Delta); the Western States Petroleum Association (to conduct Selenium Monitoring in San Francisco Bay); Orange County, California (to assess Climate Change Impacts on the Development of Integrated Regional Water Management Plans); and the National Aeronautics and Space Administration (to conduct an Evaluation of Impacts of Climate Variability and Change at NASA Ames Research Center in Silicon Valley California).

## **Sanders, James**

### **Skidaway Institute of Oceanography**

Dr. James Sanders is Director of the Skidaway Institute of Oceanography, a campus of the University System of Georgia. He received his B.S. from Duke University in Zoology and his Ph.D. from the University of North Carolina in Marine Sciences, then was a postdoctoral investigator at Woods Hole Oceanographic Institution. Prior to his arrival in Savannah in 2001, Dr. Sanders was on the faculty and served as Director of the Academy of Natural Sciences' Estuarine Research Center in Maryland from 1981 to 1999, then was Chairman of the Department of Ocean, Earth and Atmospheric Sciences at Old Dominion University in Virginia. Dr. Sanders is known for his interests within the area of nutrient and trace element biogeochemistry: how trace elements are transported through coastal zones, transformed by chemical and biological reactions during transport, and how they can impact aquatic ecosystems. He serves as a consultant to federal and state science agencies and industrial groups in the U.S. and Europe. He is a member of numerous scientific societies and is a Trustee of the Consortium for Ocean Leadership. He is the author of over 75 scientific publications. Dr. Sanders' current research is supported by grants from the National Science Foundation (ship operations, shipboard scientific support equipment, oceanographic instrumentation, and positioning field stations and marine laboratories for emerging initiatives in scientific research and training), and the National Oceanic and Atmospheric Administration (support for fisheries sampling activities on the Southeast U.S. Continental shelf).

## **Scavia, Donald**

### **University of Michigan**

Dr. Donald Scavia is the Graham Family Professor of Sustainability, Professor of Natural Resources and Environment, Professor of Civil and Environmental Engineering, Special Counsel to the University of Michigan President for sustainability, and Director of the Graham Environmental Sustainability Institute at the University of Michigan. He received a B.S. and M.S. in Environmental Engineering at Rensselaer Polytechnic Institute and a Ph.D. in Environmental Engineering from the University of Michigan. As a research scientist at the National Oceanic and Atmospheric Administration's (NOAA) Great Lakes Environmental Research Laboratory (1975-1990), he studied food-web dynamics and nutrient cycles and developed ecological models of Great Lakes ecosystems. He held a number of ocean and Great Lakes research administration positions at NOAA headquarters (1990-2003), including Director of the National Centers for Coastal Ocean Science and Chief Scientist of the National Ocean Service. He joined the University of Michigan faculty in 2004 where he develops models, assessments, and policy analyses on the effects of human activities on coastal marine and Great Lakes ecosystems. He serves on National Wildlife Federation Great Lakes Leaders Council, and on science advisory boards for the Environmental Law and Policy Center, the Healing our Waters Coalition, the North American Nitrogen Center, University of Michigan Risk Science Center, University of Michigan Erb Institute for Global Sustainable Enterprise, and the University of Michigan Center for Advancing Research & Solutions for Society. He was a member of the National Research Council Committee on Missouri River Recovery, on the U.S. EPA's Board of Scientific Counselors' Subcommittee reviewing EPA's STAR and GRO Fellowship Programs, and on EPA's Science Advisory Board panel to review the Great Lakes Restoration Initiative. He was the Director of the Michigan Sea Grant Program (2004-2009), Director of the Cooperative Institute for Limnology and Ecosystems Research (2004-2007), Associate Editor of *Estuaries* (1998-2007), Associate Editor of *Frontiers in Ecology and Environment* (2002-2006), on the Board of Directors for the American Society for Limnology and Oceanography (1987-1990), and Secretary of the International Association for Great Lakes Research (1983-1986). Dr. Scavia's research is currently funded by the National Science Foundation (water sustainability and climate change), the National Oceanic and Atmospheric Administration (Integrated Sciences and Assessment Center, and Modeling of the Causes of Hypoxia), and the Kresge Foundation (urban climate adaptation).

## Skelly, David

### Yale University

Dr. David Skelly is a Professor of Ecology and Associate Dean for Research at Yale University. His primary appointment is in the Yale School of Forestry & Environmental Studies and his secondary appointments at Yale are in the Department of Ecology & Evolutionary Biology and at the Peabody Museum of Natural History where he serves as Curator of Vertebrate Zoology. He received his A.B. from Middlebury College in 1987 and his Ph.D. from the University of Michigan in 1992. Subsequently, Dr. Skelly completed postdoctoral fellowships at the University of Wollongong in New South Wales, Australia and at the University of Washington in Seattle. At Yale, where he has been since 1996, Dr. Skelly's teaching responsibilities have included Aquatic Ecology, Landscape Ecology, and Doctoral Seminar. He has won his School's Award for Teaching Excellence on four occasions. Dr. Skelly's research, which has been the subject of honors including Fellowships from the Guggenheim Foundation and the American Association for the Advancement of Science, centers on the ecology of amphibians. He has focused on the patterns and mechanisms of distribution and abundance, particularly at large scales. His research combines long-term, large-scale observational studies with experiments conducted in the laboratory, in enclosures, and at the scale of entire wetlands. Current research projects are focused on the drivers of large scale dynamics of amphibians and an examination of the causes for reproductive deformities in amphibians. Dr. Skelly's research in these areas is currently funded by grants from the National Science Foundation, the Richard P. Garmany Fund, Hartford Foundation for Public Giving, the National Geographic Society/Waitt Foundation, and the Quinipiac River Fund. In addition to his research activities, Dr. Skelly served for six years as an editor for Ecology/Ecological Monographs and as panelist for the Division of Environmental Biology at the National Science Foundation. His current responsibilities also include responsibility for his School's Doctoral Program and oversight of research infrastructure and pre-award grant proposal administration.

## Steinman, Alan

### Grand Valley State University

Dr. Alan Steinman is Professor of Water Resources and Director of the Annis Water Resources Institute (AWRI) at Grand Valley State University. He oversees research, educational activities, and outreach at the Institute, and maintains an active research lab currently focused on phosphorus cycling, aquatic metabolism, ecosystem restoration in the Great Lakes, and algal ecology. Prior to joining AWRI, Steinman was the Director of the Okeechobee Restoration Program at the South Florida Water Management District. Steinman received his Ph.D. in Botany and Aquatic Ecology at Oregon State University and did his postdoctoral research at Oak Ridge National Laboratory in nutrient cycling and disturbance ecology. He is the associate editor of two scientific journals, and serves on: the International Joint Commission's Upper Great Lakes Water Level Study, Central Michigan University's Biostation Science Advisory Board, and Board of Directors of the Michigan chapter of The Nature Conservancy. Past service includes the U.S. EPA Science Advisory Board (Report on the Environment and Florida Nutrient Criteria panels), Michigan's Phosphorus Management Policy Advisory Committee and Groundwater Conservation Advisory Council. He has published over 100 peer-reviewed scientific articles and book chapters, and given expert testimony before the U.S. Congress and Michigan State Senate. Some of his professional awards include Outstanding Reviewer Award from Journal of Environmental Quality, Public Health Partnership Award from the Michigan Association for Local Public Health, Outstanding Achievement Award and State Program Innovation Award as part of the Michigan Groundwater Conservation Advisory Council for Development of Water Withdrawal Assessment Tool, and both the Joan Hodges Queneau Palladium Medal from the National Audubon Society and the Outstanding Planning Achievement Award from U.S. Army Corps of Engineers as part of the Everglades Restudy Team. Dr. Steinman's research is currently supported by grants from the National Oceanic and Atmospheric Administration (1. Bear Lake hydrologic reconnection and wetland restoration; and 2. Habitat restoration in Muskegon Lake: macrophyte assessment and socioeconomic monitoring), the U.S. EPA (studies to support Ruddiman Creek implementation-ready TMDL), and the Michigan Department of Environmental Quality (Bear Creek / Bear watershed implementation project: internal phosphorus loading).

## **Theis, Thomas L.**

### **University of Illinois at Chicago**

Dr. Thomas L. Theis is the Director of the Institute for Environmental Science and Policy, a campus-wide unit dedicated to promoting interdisciplinary research and scholarship on the environment, and Professor of Civil and Materials Engineering at the University of Illinois at Chicago. He earned his B.S.C.E, M.S.C.E. and Ph.D. at the University of Notre Dame. His areas of expertise include industrial ecology and environmental sustainability, the mathematical modeling and systems analysis of environmental processes, the environmental chemistry of trace organic and inorganic substances, nutrient flows and impacts associated with agricultural systems, interfacial reactions, subsurface contaminant transport, hazardous waste management, and industrial pollution prevention. He has been principal or co-principal investigator on over fifty funded research projects, and has authored or co-authored over one hundred papers in peer reviewed research journals, books, and reports. He has served as a member of the U.S. EPA Science Advisory Board (SAB), and is a former editor of the Journal of Environmental Engineering. From 1980-1985 he was the co-director of the Industrial Waste Elimination Research Center (a collaboration of Illinois Institute of Technology and University of Notre Dame), one of the first Centers of Excellence established by the U.S. EPA. In 1989 he was an invited participant on the United Nations Scientific Committee on Problems in the Environment (SCOPE) Workshop on Groundwater Contamination. In 1998 he was invited to by the World Bank to assist in the development of the first environmental engineering program in Argentina. In 2009 he delivered the keynote address at the 4th general assembly of NitroEurope: The nitrogen cycle and its influence on the European greenhouse gas balance. He is the founding Principal Investigator of the Environmental Manufacturing Management Program, one of the Integrative Graduate Education Research and Training (IGERT) grants of the National Science Foundation. With the SAB he has served on the chartered board, and numerous committees including chair of the Multimedia, Multi-pathway, Multi-receptor Exposure and Risk Assessment Model (3MRA) Committee, Scientific and Technological Achievement Awards (STAA) Committee, and vice chair of the Integrated Nitrogen Committee. Dr. Theis' research is currently funded by grants from the U.S. EPA (sustainable development of brownfields), the National Science Foundation (climate zoo education network), and the University of Illinois at Chicago (building urban resilience and sustainability).

## **Thompson, Sue**

### **Carnegie Mellon University**

Dr. Sue A. Thompson is currently an Adjunct Research Scientist at the Hunt Institute for Botanical Documentation, Carnegie Mellon University, as well as an environmental consultant. Dr. Thompson is a plant biologist with a broad background in the environment and ecological indicators, including both aquatic and terrestrial habitats. Most recently, Dr. Thompson was a co-principal investigator on a project to establish baseline conditions of the Monongahela River in areas of Marcellus Shale drilling. This project was funded by the Heinz Endowments. Prior to that, she was the first and only Director of the Three Rivers Ecological Research Center, a new component of the Pennsylvania Fish and Boat Commission (PFBC) with a focus on the ecology and management of the Ohio River Basin in Pennsylvania. Before joining PFBC, Dr. Thompson served as President of the Pennsylvania Biodiversity Partnership, a public-private partnership to conserve biodiversity statewide. Dr. Thompson worked for many years as a curator of botany at Carnegie Museum of Natural History, where she was active in education, exhibit development, and other outreach activities as well as biodiversity research. She has planned and conducted numerous multidisciplinary research projects in diverse habitats and often remote areas, including surveys of large river systems, assessments of invasive species, and biodiversity inventories. She has an undergraduate degree in anthropology from Harvard University, a master's in botany from the University of California, Berkeley, and a Ph.D. in plant biology from the University of Illinois at Champaign-Urbana. Dr. Thompson has been active for over 25 years in environmental issues, including appointments to the Mississippi River Basin Panel on Aquatic Nuisance Species (at-large member), Ohio River Basin Fish Habitat Partnership Steering Committee, Pennsylvania Governor's Invasive Species Council, Pennsylvania Department of Conservation and Natural Resources Advisory Council, Wild Resource Conservation Fund Advisory Committee, Pennsylvania Biological Survey Steering Committee, and Pennsylvania Association of Environmental Professionals Board of Directors. She previously served on the U.S. EPA's Board of Scientific Counselor's Ecological Research Subcommittee, which reviewed the EPA Office of Research and Development's ecological research program (2005) and conducted a mid-term review of progress in implementing recommendations (2008). She was an invited participant in the National Fish Habitat Action Plan, Science and Monitoring Workshop and One-Year Out Workshop as well as the Appalachian Landscape Conservation Cooperative's Conservation Priorities Science Needs Workshop.

## Weis, Judith

### Rutgers University

Dr. Judith Weis is a Professor, Department of Biological Sciences, Rutgers University, Newark, NJ. She previously served as Associate Dean for Academic Affairs at the University. She also has served as American Association for the Advancement of Science (AAAS) Congressional Science Fellow with the Senate Environment and Public Works Committee, and Program Director at the National Science Foundation. She has been a visiting scientist at the U.S. Environmental Protection Agency both at the research lab at Gulf Breeze, FL and in the Office of Water. She received her B.S. in Zoology from Cornell University and an M.S. and Ph.D. in Biology from New York University. Dr. Weis' research has focused on estuarine ecology and ecotoxicology. She has published well over 200 refereed papers, focusing mainly on stresses in the estuarine environment and their effects on organisms, populations and communities. Particular areas of focus have been effects of metal contaminants on growth, development, behavior, and trophic interactions; development of tolerance to contaminants in populations living in contaminated areas; effects of parasites on behavior and ecology of fish; interactions of invasive and native species; effects of invasive marsh plants on estuarine ecology and on fate of metal contaminants. Much of her research has been focused on estuaries in the New York/New Jersey Harbor area. Her book for the general public entitled "Salt Marshes: A Natural and Unnatural History" was published in 2009, and another book, "Do Fish Sleep?" was published in 2011. Both books were published by Rutgers University Press. Dr. Weis has served and held leadership positions on numerous advisory committees including: Boards of Directors of the Society of Environmental Toxicology and Chemistry (SETAC), Association for Women in Science (AWIS) and the American Institute of Biological Sciences (AIBS); Chair of the Biology Section of American Association for the Advancement of Science (AAAS) in 2000; and President of AIBS in 2001. She is a fellow of the American Association for the Advancement of Science (AAAS). She has served on several advisory committees for the U.S. Environmental Protection Agency (EPA). These include: the EPA Science Advisory Board (SAB) Scientific and Technical Achievement Awards (STAA) Committee, the SAB review committee for the Report on the Environment (ROE), and the Endocrine Disruptors Screening and Testing Advisory Committee (EDSTAC). She has been a member of the Marine Board of the National Research Council, and served on the National Sea Grant Advisory Board of the National Oceanic and Atmospheric Administration (NOAA). She is currently Chair of the Science Advisory Board of the New Jersey Department of Environmental Protection. Dr. Weis has been on the Editorial Boards of Transactions of the American Fisheries Society and Bulletin of Environmental Contamination and Toxicology (BECT) and was Associate Editor of BECT. She is currently on the Editorial Board of BioScience and Journal of Marine Biology. Dr. Weis' recent sources of grant support include: NOAA, for research on feeding and growth of bluefish (*Pomatomus saltatrix*) in clean and contaminated estuaries, and the Meadowlands Environmental Research Institute for feeding behavior of fiddler crabs (*Uca pugnax*) in clean and contaminated salt marshes.

## **Weisberg, Stephen**

### **Southern California Water Research Project Authority**

Dr. Stephen Weisberg is Executive Director of the Southern California Coastal Water Research Project Authority, which is a research consortium formed by the leading water quality management agencies in California to ensure a solid scientific foundation for their water quality management. Dr. Weisberg received a Ph.D. in biology from the University of Delaware in 1981 and a B.G.S. in Biology from the University of Michigan in 1974. He is a national leader in development of aquatic biological monitoring programs, having established southern California's regional marine monitoring program, led the benthic component of the Chesapeake Bay monitoring program, and helped establish the U.S. EPA's Environmental Monitoring and Assessment Program. He presently implements the National Oceanic and Atmospheric Administration's Mussel Watch program in California and serves on California's Water Quality Monitoring Council, where he is California's liaison with the U.S. EPA for preparation of their National Coastal Condition Report. Dr. Weisberg also served on the Coasts and Oceans Workgroup for the Heinz Center State of the Nation's Ecosystems Report. Dr. Weisberg is experienced in linking the needs of the management community with science. He has experience translating science into management action and brings with him the management perspectives he gains through interactions with his multiple member agencies. Dr. Weisberg has considerable experience serving on advisory bodies at both State and Federal level, bringing perspective of how such committees can be most effective. At the State level, he presently serves on California Ocean Protection Council Scientific Advisory Panel, the California Clean Beach Task Force, the California Sea Grant Program, and Governing Boards for the California Ocean Science Trust and the Southern California Coastal Ocean Observing System. At the federal level, he has served on the Ocean Research and Resources Advisory Panel, U.S. EPA Board of Scientific Counselors Water Quality Committee, the National Academy of Sciences Panel on Indicators of Waterborne Pathogens, and presently serves as Governing Board Chair for the Alliance for Coastal Technologies. Dr. Weisberg's research projects are currently supported by: the National Institutes of Health and the State of California (evaluating the efficacy of present and potential future indicators of beach water quality); the County of Los Angeles (identification of sources of fecal contamination in Ramirez and Escondido Creek Watersheds); the State of California Water Resources Control Board (developing protocols or conducting bacterial source identification studies, and developing and implementing the State of California water quality data management system).

## **Young, John**

### **Savannah River National Laboratory**

Mr. John Young is a Fellow Technical Advisor with the Savannah River National Laboratory (SRNL). He received a Bachelor's degree in Chemistry from the University of South Carolina in 1981 and has been at the Savannah River Site since that time. Mr. Young has received the Water Environment Federation's (WEF) Crystal Crucible award in 2008 and WEF's Laboratory Analyst of the Year award in 2012. Mr. Young designed and installed an innovative ultra-trace on-line analyzer for the reactor fuel/target manufacturing and wastewater facility in 1984 using laser induced fluorescence spectroscopy. He was the startup manager for SRNL's Physical Chemical Wastewater Treatment facility in 1986 before moving to manage the laboratories that supported nuclear reactor moderator chemistry, reactor fuel/target manufacturing and wastewater laboratory and the site's 13 biological wastewater plants. Additionally, he was lab manager and start-up team member for the state's largest direct discharging physical chemical wastewater facility for the site's effluent treatment facility. Mr. Young has served on numerous chemical investigations and radiochemical forensic examinations. He served on the due-diligence review for assumption of the Hanford Nuclear Waste Treatment Plant, and has provided expert testimony in wastewater, CERCLA and RCRA legal actions.