

**Invitation for Public Comment on the List of Candidates for the  
EPA Science Advisory Board 2016-2018 Scientific and Technological Achievement Awards  
Committee**

**March 24, 2016**

The U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announced in a Federal Register Notice (Volume 81, Number 15, Pages 4028 – 4029) published on January 25, 2016 that it was seeking public nominations of technical experts to serve on the SAB's 2015 Scientific and Technological Achievement Awards (STAA) Committee. The SAB Staff Office sought public nominations of experts in the following disciplines as they relate to human health and the environment: air pollution exposure; chemistry and geochemistry; chemical engineering; civil and environmental engineering; ecology; environmental economics; groundwater and surface water contaminant fate and transport; human health effects and risk assessment; hydrology and hydrogeology; monitoring and measurement methods for air and water; risk management; transport and fate of contaminants; water quality; and water and wastewater treatment processes. The SAB Staff Office stated it was especially interested in scientists with expertise described above who have knowledge and experience in air quality; aquatic and ecological toxicology; chemical safety; climate change; community environmental health; dosimetry and inhalation toxicology; drinking water; ecological modeling; ecological risk assessment; ecosystem services; energy and the environment; epidemiology; green chemistry; homeland security; human health dosimetry; mechanisms of toxicity and carcinogenicity; metabolism; statistics; sustainability; toxicokinetics; toxicology; waste and waste management; and water re-use.

The SAB Staff Office Director will make the final decision about who will serve on the Committee based on all relevant information. This information includes a review of the confidential disclosure form (EPA Form 3110-48) and information independently gathered by staff and public comments. For the EPA SAB Staff Office a balanced review committee includes 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 charge. Specific criteria to be used in evaluating a candidate include: (a) scientific and/or technical expertise, knowledge, and experience (primary factors); (b) availability and willingness to serve; (c) absence of financial conflicts of interest; (d) absence of an appearance of a loss of impartiality; (e) skills working in committees, subcommittees and advisory panels; and, (f) for the panel as a whole, diversity of expertise and scientific points of view.

The SAB Staff Office has identified the following list of candidates for this Committee based on their relevant expertise and willingness to serve. The SAB Staff Office has identified the following list of candidates for this Committee based on their relevant expertise and willingness to serve.

**We hereby invite public comments on the attached List of Candidates that the SAB Staff Office should consider in the formation of this Committee. Comments should be submitted to the attention of Mr. Edward Hanlon, Designated Federal Officer, no later than April 14, 2016. E-mailing comments (hanlon.edward@epa.gov) is the preferred mode of receipt.** Please be advised that comments received are subject to release under the Freedom of Information Act.

## Aelion, C. Marjorie

### University of Massachusetts, Amherst

Dr. C. Marjorie Aelion is the Professor of Environmental Health Sciences and Dean of the School of Public Health and Health Sciences at the University of Massachusetts Amherst. Dr. Aelion holds a B.S. in Environmental Sciences from at the University of Massachusetts Amherst, an S.M.C.E. in Civil Engineering from Massachusetts Institute of Technology, and a Ph.D. in Environmental Sciences and Engineering from the University of North Carolina, Chapel Hill. The emphasis of her research and teaching is on remedial technologies and environmental contaminants, and associations between environmental contaminants and health outcomes. Dr. Aelion's professional interests include: environmental health; civil and environmental engineering; fate and transport of contaminants in surface and subsurface waters; soil and sediment treatment; monitoring and measurement methods for water; hazardous waste site remediation; and human health effects and risk assessment. She has published numerous articles in leading environmental engineering, environmental science, and environmental health journals; book chapters; and two books (*Environmental Isotopes in Biodegradation and Bioremediation*, Taylor and Francis, 2010; *Innovative Methods in Support of Bioremediation*, Battelle Press, 2001). Dr. Aelion's research has been supported by grants from and contracts with both government agencies and private foundations, with core research support primarily from the federal government (National Institutes of Health, National Oceanic and Atmospheric Administration, National Science Foundation, and U.S. Department of Energy) with additional grant support from state governments and foundations. Dr. Aelion received the National Science Foundation Presidential Faculty Fellow Award in Engineering, the Harriet Hylton Barr Distinguished Alumni Award for Commitment and Service to Public Health, and two Fulbright awards, one in France and one in the Netherlands. Dr. Aelion currently serves as a member of the Board of Directors for the Association of Schools and Programs of Public Health and as its secretary/treasurer, and serves on the Board of the Massachusetts Biologics Laboratories, Inc. She has served as Managing Editor for *Biodegradation*, and is currently serving on the editorial boards for *Bioremediation Journal*, *Biodegradation*, and the *International Journal of Oceans & Oceanography*.

### **Arnold, William A.**

#### **University of Minnesota**

Dr. William A. Arnold is the Joseph T. and Rose S. Ling Professor in the Department of Civil, Environmental, and Geo- Engineering at the University of Minnesota. Dr. Arnold received is S.B. in Chemical Engineering with a minor in Chemistry from the Massachusetts Institute of Technology, an M.S. in Chemical Engineering from Yale University, and a Ph.D. in Environmental Engineering from The Johns Hopkins University. The emphasis of his research and teaching is on the fate and transport of organic chemicals in natural and engineered aquatic systems. His specific interests are reaction kinetics and mechanisms, photochemistry, surface-mediated oxidation/reduction reactions, and development of new water treatment and remediation technologies. Dr. Arnold has published 96 peer-reviewed articles, two book chapters, and several commentary/viewpoint pieces. He has also co-authored a water chemistry textbook (Water Chemistry: An Introduction to the Chemistry of Natural and Engineered Systems, Oxford University Press, 2011). His research funding over the past two years has been supported by grants from and contracts with government agencies, with core research support primarily being from the federal government (National Science Foundation, the Strategic Environmental Defense Research Partnership, U.S. Geological Survey) and the state of Minnesota (Minnesota Environmental Natural Resources Trust Fund, Minnesota Pollution Control Agency). Past funding has been derived from local governments, industry, and foundations. He received the 2012 Association of Environmental Engineering and Science Professors Frontier in Research Award. He and his students have received paper awards from journals and best thesis/paper awards from professional societies. He served on the National Research Council's Committee on Future Options for Management in the Nation's Subsurface Remediation Effort (2010-2012), and he is an Associate Editor for the journal Environmental Science & Technology Letters. He is a registered Professional Engineer in Minnesota.

### **Bejarano, Adriana C.**

#### **Research Planning Inc.**

Dr. Adriana C. Bejarano is an aquatic toxicologist affiliated with Research Planning Inc. (RPI), and the University of South Carolina where she is an Adjunct Professor at the Department of Environmental Health Sciences. Dr. Bejarano is an environmental scientist with broad experience in applied ecology and aquatic eco-toxicology. She has studied the ecological and toxicological effects of organic pollutants on marine and estuarine invertebrates, and has skills in applied ecology, modeling, and ecological risk assessments of contaminated sediments and complex contaminant mixtures, and statistical data analysis. Through RPI, Dr. Bejarano has been part of the Scientific Support Team to the U.S. Coast Guard provided by the National Oceanic and Atmospheric Administration's Emergency Response Division (NOAA-ERD) for oil and chemical spills. She has provided on-site and off-site emergency consultation and scientific support related to the potential environmental consequences associated with oil and hazardous chemical incidents, including risk characterization and potential toxicological effects to aquatic receptors, and quantitative reports and analyses of potential levels of concern. Through the University of South Carolina, she has conducted research on the environmental impacts of illicit crop cultivation in her native Colombia. Dr. Bejarano holds a B.A. in Marine Biology from Universidad del Valle, Colombia, and a M.S. in Marine Science and a Ph.D. in Aquatic Toxicology from the University of South Carolina. Past funding through RPI came from the Coastal Response Research Center, University of New Hampshire. Dr. Bejarano does not currently receive external research grants from either government agencies, private companies, or foundations.

## Bui, Linda

### Brandeis University

Dr. Linda Bui received her Ph.D. in Economics from Massachusetts Institute of Technology (MIT) and is currently an Associate Professor of Economics at Brandeis University. She has taught at Boston University, the University of Michigan, MIT, and the Sloan School of Management. Professor Bui has done work in the area of environmental regulation and its effects on firm-level behavior, strategic environmental behavior between autonomous countries in the context of trans-boundary pollution, and the effectiveness of public disclosure as a regulatory instrument for the environment. Dr. Bui's current research focuses on health outcomes and the environment, and issues of inequality and the environment. She currently has funding through Brandeis University's Theodore and Jane Norman grant to study the relationship between poverty, health, and the environment.

## Campbell, Jerry

### Ramboll ENVIRON

Dr. Jerry Campbell is a Manager with Ramboll ENVIRON, and was formerly a Scientist and Associate Director of the Center for Human Health Assessment in the Institute for Chemical Safety Sciences at The Hamner Institutes for Health Science. He holds a B.S. and M.S. in Environmental Health Science, and a Ph.D. in Toxicology from the University of Georgia. Dr. Campbell's research interests include the development of physiologically based models and their application to chemical risk assessment. His areas of focus include the incorporation of tissue dosimetry with probabilistic methodologies and mode-of-action information into quantitative chemical risk assessment and the interpretation of human biomonitoring data in exposure assessment to environmental chemicals. At Hamner, with a team that includes Drs. Harvey Clewell and Melvin Andersen, Dr. Campbell's research was focused on the development of a "State of the Science" methodologies to reduce uncertainty in human risk assessment from exposure to a wide range of chemicals including phthalates, naphthalene, formaldehyde, nickel, trichloroethylene and pesticides. The PBPK models take into account differences in absorption, distribution, metabolism and elimination that play a critical role in target tissue dosimetry. Dr. Campbell was also extensively involved in The Hamner's Tox21 program to reduce the use of animal species in toxicology testing. His primary focus is on the improvement of techniques to derive parameters from In Vitro assays that can be scaled to whole tissues. Dr. Campbell's recent publications include "In vitro metabolism of di(2-ethylhexyl) phthalate (DEHP) by various tissues and cytochrome P450s of human and rat", "Formaldehyde: integrating dosimetry, cytotoxicity, and genomics to understand dose-dependent transitions for an endogenous compound", "Challenges in the application of quantitative approaches in risk assessment: a case study with di-(2-ethylhexyl)phthalate", "Evaluation and prediction of pharmacokinetics of Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) in the monkey and human using a PBPK model", "Quantitative interpretation of human biomonitoring data", and "A PBPK modeling assessment of the competitive metabolic interactions of JP-8 vapor with two constituents, m-xylene and ethylbenzene." Dr. Campbell's research has been supported by grants from private companies and governmental agencies including the American Chemistry Council Long Range Initiative, U.S. Environmental Protection Agency and the National Institutes for Environmental Health Sciences. Dr. Campbell serves as an Associate Editor for Toxicological Sciences, the official journal of the Society of Toxicology.

## Chow, Judith

### The Desert Research Institute

Dr. Judith Chow holds the Nazir and Mary Ansari Chair in Science and Entrepreneurialism and is a Research Professor in the Division of Atmospheric Sciences of the Desert Research Institute (DRI) of the Nevada System of Higher Education in Reno, Nevada. Dr. Chow has led DRI's Environmental Analysis Facility since its inception in 1985. She earned her B.S. degree in Biology from Fu-Jen Catholic University in Taiwan (1974), her M.S. degree in Environmental Health Science (1983) from Harvard University, and her Sc.D. degree in Environmental Science and Physiology (1985) from Harvard University. For more than 35 years, she has conducted air quality studies and performed data analysis to improve understanding of effects of air quality on human health, visibility, historical treasures, ecosystems, and climate. Dr. Chow is currently the principal investigator for: 1) conducting organic and black carbon measurements with the U.S. Environmental Protection Agency's (EPA) Chemical Speciation Network (CSN) and the Interagency Monitoring of Protected Visual Environments (IMPROVE) network; 2) tracking changes in air quality with control measures at the ports of Los Angeles and Long Beach; 3) investigating the chemical nature and composition of atmospheric brown carbon aerosol; and 4) evaluating nitrogen partitioning and evolution of particulate organic nitrogen in peat fire emissions. She has been principal investigator or a major collaborator in more than 50 large air quality studies (and many smaller ones) across the United States and in other countries. Dr. Chow prepared and revised sections of the EPA's PM Criteria Document pertaining to chemical analysis and source emissions and contributed to EPA guidance documents on network design, continuous particulate monitoring, and particulate matter chemical speciation. Dr. Chow's research has been sponsored by grants and contracts from the federal government (e.g., EPA, Department of Energy, Department of Interior, Department of Defense), local, state, and international air quality management authorities, industry, and the National Science Foundation. As past chair and a member of the Air & Waste Management Association's (A&WMA) Critical Review Committee, Dr. Chow has coordinated and evaluated Critical Reviews and Discussions on environmental science and technology topics. She was chair of the Publications Committee for the Journal of the Air & Waste Management Association and serves on Editorial Boards and/or as Associate Editor for several international journals including: the Journal of Air Quality, Atmosphere, & Health, Aerosol and Air Quality Research, Atmospheric Pollution Research, and Particology. Dr. Chow was a member of the National Research Council's (NRC) committees on Research Priorities for Airborne Particulate Matter (1998–2003) and Energy and Air Pollution Futures in the U.S. and China (2004–2008); she also served on the NRC Board on Environmental Studies and Toxicology (2002–2005). She was a member of advisory panels for the National Environmental Respiratory Center (New Mexico) and South Coast (California) Air Quality Management District. Dr. Chow has been a member of EPA's Clean Air Scientific Advisory Committee (CASAC) since 2015 and CASAC's Air Monitoring and Methods Subcommittee (AMMS, formerly the Ambient Air Monitoring and Methods Subcommittee) since 2004. She is the principal author or co-author of more than 350 peer-reviewed articles and more than 90 peer-reviewed book chapters and has been recognized by ISI Highly Cited.com in ecology and environment with more than 14,500 citations of her work. Dr. Chow has received the California Air Resources Board's 2011 Haagen-Smit Clean Air Award for her contributions to air quality science and technology, the Air & Waste Management Association's 2016 Arthur C. Stern Award for Distinguished Paper and 2002 Frank A. Chambers Excellence in Air Pollution Control Award, and the 2001 Nevada System of Higher Education's Regents' Researcher Award.

## DeGeorge, Joseph J.

### Merck Research Laboratories

Dr. Joseph J. DeGeorge was hired by Merck in 2004 as Vice President of Global Safety Assessment. Since his appointment, he has increased responsibility and has been named Global Head of Safety Assessment and Laboratory Animal Resources for Merck Research Laboratories as of September 2010 with global responsibility for non-clinical safety testing and evaluation in support of pharmaceutical development. Dr. DeGeorge holds a B.S. in Biology from the State University of New York-Albany, and a Ph.D. in Pharmacology from the State University of New York/Upstate Medical Center. At Merck, he has served on or chaired committees on drug discovery, drug candidate selection, early and late development, and post marketing safety. In addition to his position with Merck, Dr. DeGeorge also serves as the PhRMA Coordinator for the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH) Safety Topics and has participated in development of numerous ICH Safety Guidance's as a chair or member of Safety and Multidisciplinary ICH Expert Working Groups. Before working at Merck, Dr. DeGeorge served as Vice President of Preclinical Safety Evaluation at Novartis Pharmaceuticals and as the Global Chair for the Research and Development Safety Assessment Committee, with responsibility for first in human studies. Prior to Novartis, he worked at the U.S. Food and Drug Administration (FDA) from 1989-2002, where he was the Associate Director for Pharmacology and Toxicology in the Center for Drug Evaluation and Research (CDER) from 1996-2002 and was responsible for pharmacology and toxicology policy development and implementation. During his tenure at FDA he served on numerous policy and technical committees: Chair for CDER's Carcinogenicity Assessment Committee, CDER's Pharmacology and Toxicology Coordination Committee, the preclinical lead for the FDA Genomics and Proteomics Task Force, as a member of the International Life Sciences Institute (ILSI) Risk Science Institute Thresholds Assessment Committee, the ILSI-Health and Environmental Sciences (HESI) Alternatives to Carcinogenicity Testing Committee and the ILSI-HESI Emerging Issues Committee, as CDER's technical representative to the Presidential Commission on Risk Assessment and CDER's lead to the National Institute of Environmental Health Sciences -National Toxicology Program Academia, Industry, and Government Partnership for the Evaluation and Validation of Transgenic Models for Carcinogenicity Testing, and as CDER's ICH Safety Coordinator and lead for many Safety Expert Working Groups. Prior to joining FDA, Dr. DeGeorge was a Senior Staff Fellow at the National Institutes of Health, National Institute on Aging, Laboratory of Neurosciences, where he worked on development of in vivo functional and structural brain imaging probe. He completed his postdoctoral training as a Fellow at the University of North Carolina, Chapel Hill, NC with a joint appointment at Burroughs Wellcome Research Institute, Research Triangle Park, NC, where he focused on neural cell to cell signaling and second messenger systems. Dr. DeGeorge's current research funding is solely from Merck in support of pharmaceutical development.

Ergas, Sarina

University of South Florida

Dr. Sarina Ergas is a Professor and Graduate Program Director in the Department of Civil & Environmental Engineering at the University of South Florida, Tampa. She joined the USF faculty in 2009 after 15 years at the University of Massachusetts, Amherst. She holds a BS in Environmental Resources Engineering from Humboldt State University and MS and PhD degrees in Civil & Environmental Engineering from the University of California, Davis. She teaches classes in Biological Principles, Air Pollution Control and Environmental/Water Resources Capstone Design. Her research interests are centered on environmental biological processes, including contributions in the areas of biofiltration for control of air emissions of odors and VOCs, membrane bioreactor applications and industrial wastewater reuse. Her current research is focused on applications of biological nitrogen removal for treatment of municipal and onsite wastewater, stormwater management and anaerobic digester side-streams. Her recent work also focuses on understanding the growth of algae on waste nutrients and water and sanitation in developing countries. She is a past board member and secretary of the Association of Environmental Engineering and Science Professors (AEESP), past chair of the AEESP lectures committee and the current secretary of the AEESP Foundation. She is also an active member of the Water Environment Federation (WEF) and International Water Association (IWA). Dr. Ergas' research has been supported by the National Science Foundation, Environmental Protection Agency, the states of Massachusetts and Florida, the National Fish and Wildlife Fund, the Air Force Center for Engineering and the Environment, the Binational Agricultural Research and Development (BARD) fund, the National Oceanographic and Atmospheric Administration, private industry and local municipal agencies. Dr. Ergas was a 2015 WEF Fellow, a 2007 Fulbright Fellow and a 1995 Excellence in Civil Engineering Education (ExCEED) fellow. Dr. Ergas is a licensed Civil Engineer in the Commonwealth of Massachusetts and an AAES Board Certified Environmental Engineer.

## Fan, Zhi-Hua (Tina)

### N.J. Department of Health

Dr. Zhi-Hua (Tina) Fan is Program Manager of Chemical Terrorism, Biomonitoring and Food Testing, N.J. Department of Health (DOH). Prior to joining in the NJ DOH in May 2014, she was Associate Professor at Exposure Science Division, the Department of Environmental and Occupational Medicine at Robert Wood Johnson Medical School, Rutgers University. Dr. Fan serves as Council Member at Rutgers China Office, Internal Advisory Board member for the National Institute of Environmental Health Sciences (NIEHS) Excellence Center at Rutgers University. She was one of the primary founders of the Tri-State (NY, NJ, and PA) Chapter of International Society of Exposure Science (The Chapter), the President of the Chapter from 2010-2012, the Committee of Air Sampling Instruments of the American Commerce Government Industrial Hygiene (ACGIH), Associated editor of Journal of Exposure Science and Environmental Epidemiology, and a reviewer for several scientific journals. She has served as review panel for the STAR program of the U.S. Environmental Protection Agency (EPA), NIOSH (The National Institute for Occupational and Safety Health), and Health effects Institute. She is visiting professor at Tsinghua University, China Petroleum University-Beijing, and Chongqing University.

Dr. Fan received her B.S. and M.S. in Environmental Chemistry from Peking University, and received Ph.D. Degree in Atmospheric Chemistry from the Department of Environmental Sciences and Engineering School of Public Health at the University of North Carolina - Chapel Hill. She is internationally well-known expert in exposure science and environmental health. The primary research of Dr. Fan includes assessment of personal and community exposure to environmental contaminants, particularly exposure to air pollutants in social economically disadvantaged communities, identification of the sources of exposures and the factors that may affect those exposures, and investigation of the underline mechanisms of cardiopulmonary health effects associated with exposure to air pollution in both controlled environmental conditions as well as in the real world, and recently research on air pollution and public health in China. She is one of the leading investigators of the Centers for Disease Control (CDC) newly funded 5-year Biomonitoring Program at the DOH. In 2014 she has won a Global Innovation Initiative grant sponsored by the U.S. and the UK. Scientists from Rutgers, University of Reading in UK, and Chongqing University in China will investigate the impact of changes in ambient air pollution in China on indoor air quality. She was also the PI of a new EPA STAR grant, which will examine the impact of climate change on indoor air quality and cardiovascular health for elderly. Other research interests of Dr. Fan include development of innovative sampling and analytical techniques for the measurements of a variety of air pollutants in indoor, outdoor and personal air. In 2008, with collaboration with the scientists from china Petroleum University-Beijing, Dr. Fan initialized a study and received funds from National Science Foundation-China to investigate post-earthquake exposure to disinfectants and pesticides in Wenchuan earthquake area. Prior to joining in Rutgers University in 1998, Dr. Fan worked as Research Chemist at Research Triangle Institute (RTI), North Carolina to develop EPA sampling and analytical methods for the measurement of various toxic chemical species in furniture coatings, stationary source emissions, herbicides in foods and beverages, and land fill gases. She has published more than 40 scientific research articles, 5 book chapters/invited articles, more than 50 presentations at a variety of scientific conferences, including as an invited speaker for numerous meeting and workshops in both U.S. and China. Her research in the past two years is primarily funded by the CDC, EPA, NIEHS, the U.S. Department of State, and N.J. Department of Environmental Protection.

## Gerberick, G. Frank

### The Procter & Gamble Company

Dr. G. Frank Gerberick has been employed at the Procter & Gamble Company since 1986. Prior to joining P&G, he was a postdoctoral fellow at The Johns Hopkins School of Medicine working in the field of pulmonary immunology. Dr. Gerberick holds a B.S. from Edinboro State University of Pennsylvania and an M.S. from Duquesne University, both in Biology, and a Ph.D. Medical Microbiology from West Virginia University. While working at P&G, Dr. Gerberick has focused his career working in the field of dermatotoxicology. In 2004, He was appointed to the Procter & Gamble Victor Mills Society which is the highest technical honor for P&G scientists. Dr. Gerberick's primary research focus has been in the field of skin allergy, although he has also been active in the field of phototoxicology. He has over 170 publications and has co-authored a book entitled *Toxicology of Contact Dermatitis*. His laboratory's research is focused primarily on elucidating the chemical, cellular and molecular mechanisms underlying skin allergy in hope of developing *in vitro* test methods for skin sensitization testing. Recently, Dr. Gerberick has begun research efforts in the area of respiratory allergy and is interested in understanding the role of the microbiome in human health. In the past, his laboratory was actively involved in the development and validation of the LLNA. For his effort, he has been a co-recipient of two prestigious international awards: the SmithKline Beecham Laboratory Animal Welfare Prize and the Society of Toxicology's Animal Welfare Award. More recently, he was awarded the William and Elenor Cave Award and Lush Black Box Prize for advancing skin sensitization alternatives. The Direct Peptide Reactivity Assay developed in Dr. Gerberick's laboratory has been successfully evaluated by the European Union Reference Laboratory for Alternatives to Animal Testing and adopted as OECD test guideline. The Procter & Gamble Company has supported Dr. Gerberick's research over the past two years. Dr. Gerberick has received no external research grants nor has any research contracts from either government agencies or foundations.

## Grippo, Richard

### Arkansas State University

Dr. Richard S. Grippo is a Professor of Environmental Biology at Arkansas State University (ASU) in the Department of Biological Sciences. He has received over \$2,000,000 in competitive research funding in the areas of biomonitoring, bioassessment and ecological risk assessment. Dr. Grippo's research funding over the past two years has been supported by grants from and contracts with both government agencies and private companies, with core research support primarily being from the federal government (National Science Foundation) and contractual sources of funding from a private consulting firm (EnSafe, Inc. Memphis, TN). His primary research focus is on the environmental effects of fossil fuel extraction on aquatic and marine organisms. Recent funded research includes evaluating stream bank restoration on cattle ranches (U.S. Environmental Protection Agency (EPA)), efficacy of Best Management Practices on adjacent streams following clear-cut silviculture (US EPA and Arkansas Forestry Commission), environmental impact of an aquaculture therapeutant (U.S. Department of Agriculture), factors affecting migratory bird collisions with communication towers (U.S. Fish and Wildlife Service, and AR Game and Fish Commission), the effects of oil spill dispersants on estuarine fish physiology (Arkansas State University), the effect of the BP oil spill on food resources of shorebirds, especially the Black Skimmer (National Science Foundation (NSF) REU), and Planning Grant for the Harp Environmental Field Station (NSF). Dr. Grippo also recently received funding from ASU to evaluate whether mangroves serves as nurseries for coral reef fish in the Caribbean, specifically the US Virgin Islands. In 2006 he was the recipient of the ASU Environmental Sciences Faculty Research Award.

Dr. Grippo has performed environmental assessments and reviews as a consultant on numerous industrial projects, including Mississippi River harbor enlargements in MO; environmental assessments of stream widening, irrigation lake construction (Grand Prairie Project), and a new I-40 interchange construction, in AR. Most recently he is consulting on the environmental impact assessment of the proposed Southern Gateway project (construction of a third Mississippi River bridge at Memphis, TN). He currently teaches 11 lecture and laboratory/field courses including Case Studies in Ecosystem Management, Environmental Systems Analysis (computer modeling), Environmental Biology, Legal Aspects of Environmental Management, Field Experiences in Marine Systems (in Belize, Central America), Environmental Toxicology: Mechanisms and Impacts, Pharmacology, Marine Biology, Marine Mammals, and Biology of Sex. In 2014 he was the recipient of the Arkansas State University Chancellor's Award for Excellence in Teaching. He earned a B.S. in Tropical Marine Biology and an M.S. in Marine Ecology, both from Fairleigh Dickinson University at Madison, NJ. He earned a Ph.D. in Ecology with a minor in Statistics from The Pennsylvania State University, where he studied the physiological effects of acid mine drainage and acid rain on aquatic organisms. While a graduate student he supplied scientific support to the class action litigation associated with the Exxon Valdez oil spill at field sites in Prince William Sound, lower Cook Inlet, and Kodiak Island, Alaska. He was awarded the Homeyer Graduate Fellowship Award for Outstanding Senior Graduate Student at Penn State in 1991. He has served on the Arkansas Governor's Task Force on In-stream Gravel Mining and chaired the committee that developed the successful proposal for the first Ph.D. program at Arkansas State University, in Environmental Science. He has served on the Meetings Committee and three Meeting Organizational Committees for the Society of Environmental Toxicology and Chemistry. He is past president of the Mid-South Chapter of SETAC and currently serves as the chairman of the Environmental Committee of the Arkansas Chapter of the American Fisheries Society, and on the National Ecological Observatory Network (NEON) – Domain Science & Education Coordination Committee. He is co-director of the George L. Harp Environmental Field Station on the Buffalo National River, AR; and the Bearitage Biological Field Station, Cherry Valley, AR.

## Harkema, Jack

### Michigan State University

Dr. Jack R. Harkema, DVM, Ph.D., DACVP, is a University Distinguished Professor at Michigan State University in East Lansing, MI. Dr. Harkema received a DVM (veterinary medicine) from Michigan State University (MSU) and a Ph.D. (comparative pathology) from the University of California, Davis (UCD). After completing a National Institutes of Health (NIH)-sponsored research/residency training program in comparative pathology and toxicology at the UCD, Dr. Harkema joined the scientific staff of the Lovelace Inhalation Toxicology Research Institute in Albuquerque, NM in 1985 as an experimental and toxicologic pathologist. He later became the institute's project manager for pathogenesis research. In 1994, Dr. Harkema joined the faculty of the Department of Pathobiology and Diagnostic Investigation in the College of Veterinary Medicine at MSU. His primary research is designed to understand the pathobiology and toxicology underlying the health effects of outdoor and indoor air pollutants. In 2011, he became the director of the Great Lakes Air Center for Integrated Environmental Research, one of four U.S. Environmental Protection Agency (EPA)-funded Clean Air Research Centers in the nation. Dr. Harkema has authored or co-authored over 220 peer-reviewed scientific publications and has served on several scientific advisory committees, including those for the National Institute of Environmental Health Sciences (NIEHS), the National Toxicology Program, the EPA, and the National Academy of Sciences. Besides training graduate students, residents, and postdoctoral fellows in biomedical research, Dr. Harkema also moderates didactic courses in advanced general pathology, integrative toxicology, and pulmonary pathobiology. Dr. Harkema is a diplomate of the American College of Veterinary Pathologists (by examination) and a member of the Society of Toxicologic Pathologists, the Society of Toxicology, and the American Thoracic Society. He currently receives research funding through grants or contracts from a variety of sources including the EPA to explore and elucidate the health effects of multipollutant atmospheres in the Great Lakes region, the American Chemistry Council to study the nasal pathology and toxicology of inhaled olefin compounds, and the NIEHS/National Institutes of Health to identify the molecular mechanisms underlying toxicity of dioxin-like compounds.

## Hopke, Philip K.

### Clarkson University

Dr. Philip K. Hopke is the Bayard D. Clarkson Distinguished Professor at Clarkson University, the Director of the Center for Air Resources Engineering and Science (CARES), and the Director of the Institute for a Sustainable Environment (ISE). He holds a B.S. in Chemistry from Trinity College, Hartford, CT, and an M.A. and Ph.D. in Chemistry from Princeton University. Dr. Hopke is the past Chair of U.S. Environmental Protection Agency (EPA)'s Clean Air Scientific Advisory Committee (CASAC), and has served on the EPA Science Advisory Board (SAB) Professor Hopke is a Past President of the American Association for Aerosol Research (AAAR), and was a member of the more than a dozen National Research Council committees. He currently serves on the NRC's Board of Environmental Studies and Toxicology. He is a fellow of the International Aerosol Research Assembly, the American Association for the Advancement of Science and the American Association for Aerosol Research. He is an elected member of the International Statistics Institute and the recipient of the Eastern Analytical Symposium Award in Chemometrics and the Lifetime Achievement Award of the Chemometrics in Analytical Chemistry Conference. Dr. Hopke is also a recipient of the David Sinclair Award of the AAAR. He served as a Jefferson Science Fellow at the U.S. Department of State during the 2008-09 academic year. After a post-doctoral appointment at the Massachusetts Institute of Technology and four years as an assistant professor at the State University College at Fredonia, NY, Dr. Hopke joined the University of Illinois at Urbana-Champaign, rising to the rank of professor of environmental chemistry, and subsequently came to Clarkson in 1989 as the first Robert A. Plane Professor with a principal appointment in the Department of Chemistry. He moved his principal appointment to the Department of Chemical and Biomolecular Engineering in 2000. Since 2002, Dr. Hopke has been the Clarkson Professor and Director of CARES. Dr. Hopke's research has been supported by grants from both government agencies and private companies, with core grant research support primarily being from the federal government (U.S. Environmental Protection Agency, U.S. Department of Energy, and the National Science Foundation) with additional grant support from state (NYSERDA) and local governments, industry, and foundations. His current EPA funding is the Great Lakes Fish Monitoring and Surveillance Program that examines the presence of legacy and emerging contaminants in Great Lakes fish. He has multiple contracts with NYSERDA to examine aspects of the use of high efficiency, low emissions wood pellet boilers. On July 1, 2010, he took on the directorship of the ISE that houses Clarkson's undergraduate and graduate environmental science degree programs as well as managing Clarkson's sustainability initiatives.

## Horvath, Arpad

### University of California, Berkeley

Dr. Arpad Horvath is a Professor of Civil and Environmental Engineering at the University of California, Berkeley. He heads the Energy, Civil Infrastructure and Climate graduate program. He is the Director of UC Berkeley's Transportation Sustainability Research Center as well as the Engineering and Business for Sustainability Certificate Program. His Ph.D. degree in Civil and Environmental Engineering is from Carnegie Mellon University. His research focuses on life-cycle environmental and economic assessment of products, processes, and services, particularly of engineered systems, civil infrastructure systems, and the built environment. He is Associate Editor of the Journal of Infrastructure Systems, and is on the Editorial Boards of Environmental Science & Technology, Environmental Research Letters, and the Journal of Industrial Ecology. Dr. Horvath was Conference Chair of the 6th International Conference on Industrial Ecology in 2011. He is a recipient of the American Society of Civil Engineers' Walter L. Huber Civil Engineering Research Prize, the Laudise Prize "for outstanding achievements in industrial ecology by a young scientist or engineer" of the International Society for Industrial Ecology, the Excellence in Review Award from Environmental Science & Technology, and the National Science Foundation (NSF) CAREER award. Three of his co-authored papers were among the top three policy or feature papers in Environmental Science & Technology in 2008, 2011 and 2012. Dr. Horvath's research is currently supported by the NSF Engineering Research Center: Reinventing the Nation's Urban Water Infrastructure (ReNUWIt); the NSF Sustainability Research Network, the Department of Energy's Clean Energy Research Center for Water Energy Technologies (CERC-WET), and Henry H. Wheeler, Jr. to support researching the environmental footprint of various products.

## Johnston, Robert J.

### Clark University

Dr. Robert J. Johnston is Director of the George Perkins Marsh Institute and Professor of Economics at Clark University. He received a B.A. in Economics from Williams College and a Ph.D. in Environmental and Natural Resource Economics from the University of Rhode Island. Dr. Johnston's research addresses methodology for nonmarket valuation, benefit cost analysis, and analysis of ecosystem services, with an emphasis on aquatic, riparian and coastal systems. He has also conducted significant work in fisheries economics and climate change adaptation. Much of his work coordinates methods and data from environmental economics with those of other natural and social sciences, seeking to enhance interdisciplinary collaborations for policy analysis. His work has been funded by numerous agencies including the U.S. Environmental Protection Agency (EPA), National Science Foundation, US Department of Agriculture (USDA), National Oceanic and Atmospheric Administration (NOAA; including Sea Grant and the National Estuarine Research Reserve System), US Department of Transportation, and Environment Canada. Among other current appointments, he is on the EPA Chartered Science Advisory Board, the Ecosystem Science and Management Working Group of the NOAA Scientific Advisory Board, the Management Committee and Science Advisory Board of the Narragansett Bay National Estuary Program, the Senior Advisory Board of the Connecticut Sea Grant Program, and the and the Council on Food, Agricultural and Resource Economics (C-FARE) Blue Ribbon Panel on Natural Resource and Environmental Issues. He has served on numerous National Research Council, EPA, NOAA, USDA and other federal agency panels addressing such topics as the effectiveness of fish stock rebuilding, valuation of ecosystem services, ecosystem research, sustainability science, and valuation of environmental quality and ecological protection.

## Kavanagh, Terrance

### University of Washington

Dr. Terrance Kavanagh is a Professor of Toxicology in the Department of Environmental and Occupational Health Sciences, and Adjunct Professor of Pulmonary and Critical Care Medicine at the University of Washington. He received a B.S. in Natural Resources from the University of Michigan, an M.S. in physiology/toxicology, and his Ph.D. in Toxicology and Genetics from Michigan State University. He conducted research in free radical biology and aging as a Post-Doctoral Fellow at the University of Washington. Dr. Kavanagh is a Diplomate of the American Board of Toxicology. He is currently Director of the NIEHS UW Interdisciplinary Center for Exposures, Diseases, Genomics and Environment, and Director of the NCNHIR UW Nanotoxicology Center. He is a Member of the Society of Toxicology (Past-President – Mechanisms Specialty Section and Pacific Northwest Association of Toxicologists; Awards Committee Member), the Society for Redox Biology and Medicine (Fellow), the International Society for Analytical Cytology, and the Society for Environmental Toxicology and Chemistry. He has served as an external advisor/reviewer for the NIEHS Center for Rodent Genetics, NIEHS Laboratory of Respiratory Biology, the NIA Interventions Testing Program, Oregon State University Environmental Health Sciences Center and Superfund Basic Research Program, the Oregon Health and Science University Center for Research on Occupational and Environmental Toxicology, the University of Montana Environmental Health Sciences Center, the University of Alaska INBRE Program, the Texas A&M Center for Translational Environmental Health Research, and the National Academy of Sciences Board of Environmental Toxicology, Committee on Toxicology. Dr. Kavanagh's areas of research include glutathione metabolism, molecular toxicology, analytical cytology, free radical biology, oxidative stress biomarkers, toxicogenomics, systems toxicology, nanotoxicology and in vitro/in vivo toxicology modeling. Support for his research has been provided by the National Institute for Environmental Health Sciences, the National Institute on Aging, the US Environmental Protection Agency, and the National Science Foundation.

## Larson, Timothy

### University of Washington

Dr. Timothy Larson is a Professor in the Department of Civil and Environmental Engineering at the University of Washington. He is also a Professor in the Department of Occupational and Environmental Health Sciences at the University of Washington. Dr. Larson holds a B.S. in Chemical Engineering from Lehigh University, and an M.S.Ch.E. and Ph.D. from the University of Washington. Dr. Larson is a member of the Air and Waste Management Association, the International Society of Exposure Sciences, and the International Society of Environmental Epidemiology. His expertise is in characterization of urban air pollution, exposure assessment of airborne particles and gases, and source/receptor relationships of ambient air pollutants. Dr. Larson major focus in recent years has been on assessment of human exposure to outdoor generated air pollutants. Dr. Larson has previous served as a member of U.S. Environmental Protection Agency (EPA)'s Advisory Council on Clean Air Compliance Analysis (COUNCIL) and EPA's advisory committee on Indoor Air Quality/Total Human Exposure. In addition, he served on the EPA Science Advisory Board as a member of the Health and Ecological Effects Subcommittee and the Air Quality Modeling Subcommittee. Dr. Larson's research has been supported by grants from both government agencies and private companies, with core grant research support primarily being from the federal, state and local government (U.S. Environmental Protection Agency, National Science Foundation, National Institutes of Health, National Institute of Environmental Health Sciences, Washington State Department of Ecology, and Puget Sound Clean Air Agency) with additional grant support from state and local governments, industry, and foundations.

## Lee, Cindy M.

### Clemson University

Dr. Cindy M. Lee is a Professor of Environmental Engineering and Earth Sciences and of Environmental Toxicology and Chair of the Engineering and Science Education at Clemson University. She holds a B.A. in English from Indiana University (1977), a B.A. in Geology and Chemistry from University of Colorado (1984), and a Ph.D. in Geochemistry from the Colorado School of Mines (1990). Dr. Lee joined the faculty at Clemson in 1990. Her major teaching and research interests are the chemistry of environmentally significant organic compounds and environmental sustainability. Dr. Lee's specific research interests involve the use of chiral chemistry as a tool for investigating the fate and transport of pesticides, pharmaceuticals, and persistent organic pollutants (POPs) in the environment; the bioremediation of chlorinated contaminants; and the role of black carbon and natural organic matter in the fate of contaminants. Her research has been supported by grants from both government agencies and private companies, with core grant research support primarily being from federal government (National Science Foundation, U.S. Environmental Protection Agency, U.S. Department of Energy, U.S. Army Corps of Engineers), with additional grant support from state and local governments, industry, and foundations. From July 2006 to July 2007, Dr. Lee served at the National Science Foundation as the founding Program Director of the Environmental Sustainability Program in the Division of Chemical, Bioengineering, Environmental and Transport Systems (CBET), Directorate of Engineering. Dr. Lee has a national perspective on engineering and science research and research needs in environmental sustainability. She served as a member of the Energy and Environment Coordinating Group for development of the National Aeronautical Research and Development Plan under the auspices of the Office of Science and Technology Policy (OSTP). Dr. Lee participated on the Feedstocks Task Force of the U. S. Department of Energy's Biofuels Action Plan. In 2015, she was elected to the Board of the Association of Environmental Engineering and Science Professors (AEESP) and serves as treasurer.

## Luster, Michael I.

### West Virginia University

Dr. Michael I. Luster is currently a part-time Research Professor in the Department of Occupation and Environmental Health, School of Public Health at West Virginia University (WVU) and a private consultant in toxicology. Dr. Luster holds a B.A. in Biology from the University of Massachusetts, and an M.A. and Ph.D. in Microbiology from Loyola University of Chicago. He retired as Chief of the Toxicology and Molecular Biology Branch at National Institute for Occupational Safety and Health (NIOSH) in 2006 and prior to joining NIOSH in 1996, served as Head of the Environmental Immunology and Neurobiology Section at the National Institute of Environmental Health Sciences, National Institutes of Health (NIH) in Research Triangle Park, North Carolina. He has co-authored over 360 publications, holds several U.S. Patents and has co-edited 10 books in the area of Immunotoxicology. He is a recipient of the NIH Award of Merit, the Alice Hamilton Award for excellence in occupational safety and health research and the Frank Blood Award from the Society of Toxicology. Dr. Luster has served on the Editorial Board of numerous journals during his career including the Journal of Immunology, Environmental Health Perspectives, Journal of Immunotoxicology, Food and Chemical Toxicology and Toxicology & Appl. Pharmacology and has served as a member or an ad-hoc member of the Scientific Advisory Boards for the U.S. Environmental Protection Agency (EPA), U.S. Food and Drug Administration (FDA) and Consumer Product Safety Commission (CPSC) as well as on advisory committees for the World Health Organization (WHO), International Life Sciences Institute (ILSI)/Health and Environmental Sciences Institute (HESI), National Academy of Sciences and World Resource Institute on issues related to immunotoxicology and currently serves as a scientific advisor on issues related to immunotoxicology for several private and academic institutions. His current research at WVU is focused on development of screening methods to identify environmental obesogens that act via peroxisome proliferator receptors. His current research at WVU is focused on development of screening methods to identify environmental obesogens that act via peroxisome proliferator receptors and is supported by grants from the NIH.

## Mayer, Audrey

### Michigan Technological University

Dr. Audrey Mayer is an Associate Professor of Ecology and Environmental Policy at Michigan Technological University, with a joint appointment between the School of Forest Resources and Environmental Science and the Department of Social Sciences. She has a Ph.D. in Ecology and Evolutionary Biology from the University of Tennessee, and wrote her dissertation on the conservation of the Cape Sable Seaside sparrow in Everglades National Park. Her areas of expertise include landscape ecology, sustainability science and environmental policy, and her current research focus areas include land use change, bioenergy from woody biomass, and sustainability assessment. Her work on sustainability science began in 2001 as a postdoctoral researcher (and then an ecologist) at the U.S. Environmental Protection Agency's Office of Research and Development lab in Cincinnati, OH. She and her team received two EPA Scientific and Technological Achievement Awards (STAA) awards for this work. At present, she is the chair of the Policy Committee for the U.S. Regional chapter of the International Association for Landscape Ecology, and she served as a Councilor-At-Large for that society from 2012-2014. She is also a curriculum technical advisor for the Association for the Advancement of Sustainability in Higher Education's STARS rating program. She serves on the editorial board of two journals: Landscape and Urban Planning, and Sustainability. Dr. Mayer's research funding over the past two years has been primarily supported by grants from the (US) National Science Foundation, but she has also received funding from the U.S. Department of Agriculture, and the Swedish Research Council.

## McCready, David

### President/Owner, EnviroCalc, PLLC

Dr. David McCready launched EnviroCalc, PLLC in 2015 after a 29-year career with Union Carbide Corporation, a subsidiary of The Dow Chemical Company. EnviroCalc offers consulting services to industry and others. He holds a B.S. and a Ph.D. in Civil Engineering (environmental option) from Virginia Tech and a M.S. in Civil Engineering from Montana State University. He is a registered professional engineer (PE) and a qualified environmental professional (QEP). David is considered an expert in risk assessment based on his education, experience, and presentations/publications. He has performed hundreds of analyses of human and environmental exposure and risk characterization related to chemical manufacturing and the use of chemical products. David then used these analyses to offer risk management guidance and provide input into risk management decisions. David has broad experience in air pollution modeling and exposure, chemistry, chemical engineering, drinking water/water quality, and chemical safety. He has recent experience in green chemistry, sustainability, and surface water contaminant fate and transport. His current research was spurred by the 2014 MCHM spill into the Elk River, which contaminated the drinking water supply for nearly 300,000 people. He did an innovative, self-funded study of inhalation exposure via contaminated tap water. That work led to the development of the ROSE computer model (patent pending) for use in pollution prevention planning and risk assessment for chemical spills into a river. The model has been applied in studies for derailments of tank cars transporting Bakken crude oil and a denatured ethanol. Dr. McCready was nominated for TechConnectWV StartUp Innovator of the Year in 2015. He serves on the board of directors for the West Virginia Chapter of the Air and Waste Management Association (AWMA), on two AWMA national subcommittees (Health Effects and Exposures, Risk Assessment and Management), and is a member of the Editorial Board of Human and Ecological Risk Assessment: An International Journal. Dr. McCready's research over the past two years has been self-funded; Dr. McCready has received no external research grants nor has any research contracts from either government agencies, private companies, or foundations.

## Mihelcic, James R.

### University of South Florida (Tampa)

Dr. James R. Mihelcic is a State of Florida 21st Century World Class Scholar and Professor of Civil and Environmental Engineering at the University of South Florida (Tampa). He holds a B.S. in Environmental Engineering from Pennsylvania State University, and an M.S. and Ph.D. in Civil Engineering from Carnegie Mellon University. His research interests are centered around sustainability, specifically understanding how global stressors such as population, urbanization, climate, land use changes, and nutrient loadings impact water resources, water quality, and deployment of technology for water treatment, wastewater treatment, and water reuse. He also has expertise on the chemical and biological transformation and treatment of pollutants in natural and engineered systems. Dr. Mihelcic is an internationalized recognized expert on provision of water, sanitation, and hygiene (WASH) in the developing world and directs the Peace Corps Master's International Program in Civil & Environmental Engineering at the University of South Florida (<http://cee.eng.usf.edu/peacecorps>). He 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 & Scientists (AAEES). He is lead author for 3 textbooks: Fundamentals of Environmental Engineering (John Wiley & Sons); Field Guide in Environmental Engineering for Development Workers: Water, Sanitation, Indoor Air (ASCE Press); and, Environmental Engineering: Fundamentals, Sustainability, Design (John Wiley & Sons). Dr. Mihelcic's research and education initiatives have been supported by several competitive grants from the National Science Foundation to determine geographically and culturally appropriate methods to recover water, energy, and nutrients from wastewater, achieve sustainable water and transportation infrastructure at the water-energy-global nexus, and, model the use, efficiency, and value of water as a material. He also completed a research project for the Water Reuse Foundation to assess models to estimate greenhouse gas emissions and the carbon footprint of water reuse and desalination facilities. He recently received competitive funding from U.S. Environmental Protection Agency to establish a National Research Center to conduct water research and demonstration projects that are innovative and sustainable using a systems approach for nutrient management in the Nation's waters.

## Murphy, Eileen

### Rutgers University

Dr. Eileen Murphy is the Director of Research Development at the Office of Research and Economic Development at Rutgers University. She holds a Ph.D. in Environmental Science from Rutgers University, an M.S. in Outdoor Education from Northern Illinois University, and a B.S. in English with a minor in Biology from the University of Notre Dame. Dr. Murphy coordinates multi-disciplinary research projects in pharmacology, toxicology, communication, environmental science, engineering and other disciplines at the university. Her research interests include occurrence, fate and transport of pharmaceuticals and other anthropogenically-derived organic chemicals in the environment with a particular research emphasis 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. Prior to holding this position, Dr. Murphy served as the Director and Assistant Director of the New Jersey Department of Environmental Protection (NJDEP) Division of Science, Research and Technology for eight years and served as a research scientist for 15 years before that 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 & 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 is co-author on numerous peer-reviewed scientific papers that have appeared in scholarly journals, including Environmental Science and Technology. Her research has been conducted without the support of grants from either federal government agencies or private companies, and her current position is not grant funded.

## Olson, Mira

### Drexel University

Dr. Mira Olson is an Associate Professor in the Civil, Architectural and Environmental Engineering Department at Drexel University. She holds a B.S in Mechanical Engineering and B.A. in Environmental Sciences and Engineering from Rice University, and an M.E. and Ph.D. in Civil (Environmental) Engineering from the University of Virginia. The broad focus of her research is on protecting source water quality, including remediation of contaminated ground water, assessing the impact of water resources technologies on source water supply and quality, and the fate and transport of both chemical and biological agents in the environment. Dr. Olson's research has been funded by the National Science Foundation (NSF), the Water Environment Research Foundation (WERF), the United States Geological Survey (USGS), the United States Department of Agriculture (USDA), as well as local utilities and foundations. Dr. Olson is Past Chair of the Groundwater Quality Committee, of the American Society of Civil Engineers (ASCE) Environmental and Water Resources Institute (EWRI), and is a member of the American Geophysical Union (AGU) and the Association of Environmental Engineering and Science Professors (AEESP).

## Pagilla, Krishna

### Illinois Institute of Technology

Dr. Krishna Pagilla is a Professor and Program Director of Environmental Engineering in the Civil and Environmental Engineering Department at the University of Nevada, Reno. Dr. Pagilla has BE, MS, and PhD degrees in Civil/Environmental Engineering from the Osmania University (India), the University of Oklahoma (Norman, OK), and the University of California (Berkeley, CA), respectively. Dr. Pagilla is a Registered Professional Engineer (PE) in Illinois and California, and Board Certified Environmental Engineer of the American Academy of Environmental Engineers and Scientists (AAEES). He is a member of Water Environment Federation (WEF), International Water Association (IWA), Association of Environmental Engineering and Science Professors (AEESP), American Society of Civil Engineers (ASCE), Engineers without Borders USA (EWB-USA), AAEES, Central States Water Environment Association (CSWEA), and Illinois Water Environment Association (IWEA). Dr. Pagilla's academic focus is on water quality, water resource recovery, and environmental biotechnology. The primary focus of his current research is on water reclamation; water-economy nexus framework; biological strategies to reduce oxygen requirements for aerobic processes; water, energy, and nutrient recovery from wastewater; and enhanced energy production through anaerobic digestion of sludge and waste feedstocks. He researched nutrient pollution control and recovery, gaseous emissions from wastewater treatment processes, sludge treatment processes in the past. His research has been funded by municipal utilities, US Environmental Protection Agency, Water Environment Research Foundation, National Science Foundation, and engineering companies. Dr. Pagilla has been a consultant for various public utilities and private companies on wide range of environmental issues. Dr. Pagilla was the President of IWEA (2012-13), is the Chair of the USA National Committee of IWA, and was a committee chair of WEF. He served as an Associate Editor of Water Environment Research and Water Science and Technology. Dr. Pagilla received the Thomas R. Camp Applied Research Award (2013) and Gordon Maskew Fair Distinguished Engineering Educator Award (2013) from WEF. He received Harrison Prescott Eddy Medal for Outstanding Applied Research on Wastewater Principles and Processes (2011) from WEF and the Bill Boyle Outstanding Educator Award (2012) from the CSWEA. Dr. Pagilla is a Fellow of both WEF and IWA.

**Parkerton, Thomas**

**ExxonMobil Biomedical Sciences, Inc.**

Dr. Thomas Parkerton joined ExxonMobil Biomedical Sciences, Inc. (EMBSI) as an Ecotoxicologist in 1992. He holds a B.S. in Environmental Science with an emphasis in Environmental Chemistry from Rutgers University and M.S. degrees in Aquatic Biology/Toxicology and Environmental Engineering from North Texas State University and Manhattan College, respectively. He received a Ph.D. in Environmental Science/Exposure Assessment from Rutgers University. Dr. Parkerton's area of expertise is in the development and application of computer models to predict the physio-chemical fate, bioaccumulation, trophic transfer and toxicological effects of chemicals entering the environment. Prior to joining EMBSI, Dr. Parkerton had gained experience in the development of scientifically defensible effluent, water and sediment quality criteria to protect aquatic life, wildlife and human health. Dr. Parkerton has coordinated numerous laboratory-based research programs to support environmental hazard classification and risk assessment of Exxon Mobil products. Other responsibilities have included performing multi-media exposure and environmental risk assessments in support of existing or new regulations. Dr. Parkerton relocated to Brussels in 1998 and served as the European ecotoxicology advisor for four years. In this role, Dr. Parkerton provided technical assistance to Exxon Mobil business units, industry associations and European regulatory agencies on environmental science issues relevant to both products and facility operations. In 2004, Dr. Parkerton became head of the EMBSI environmental sciences section that is headquartered in Annandale, New Jersey. In this position, Dr. Parkerton managed a group of approximately 20 consultants and laboratory staff. Over the next few years, Dr. Parkerton also led industry efforts to develop innovative methods, data and models to comply with the European REACH regulation. In 2011, Dr. Parkerton relocated to Houston Texas to assume a new position as senior environmental technical advisor. In this role, Dr. Parkerton is coordinating EMBSI technical support to its Houston-based clients and is providing expertise in helping EM address a variety of environmental issues. Dr. Parkerton has received no external grants from either government agencies, private companies, or foundations.

## Pinkerton, Kent

### University of California, Davis

Dr. Kent Pinkerton is a Professor of the Department of Pediatrics in the School of Medicine and Professor of Anatomy, Physiology and Cell Biology in the School of Veterinary Medicine at the University of California, Davis (UCD). He is also the Director of the Center for Health and the Environment, Associate Director of the Western Center for Agricultural Health and Safety at UC Davis, and former Associate Director of the San Joaquin Valley Aerosol Health Effects Center. Dr. Pinkerton received his B.S. in Microbiology with a minor in Chemistry from Brigham Young University; and his M.S. and Ph.D. in Pathology from Duke University. He was a Research Associate in the Division of Allergy, Critical Care and Respiratory Medicine at Duke University Medical Center in 1982, and he remained at Duke University until 1986 as an Assistant Medical Research Professor in the Department of Pathology. Dr. Pinkerton began teaching at UCD in 1986. Dr. Pinkerton's research has focused on the respiratory system and health. General themes addressed: (1) mechanisms of particulate toxicity, (2) effects of oxidant gases on lung injury and repair, (3) effects of environmental pollutants on lung development and immune responses during perinatal life, (4) mechanisms of tobacco smoke-induced lung inflammation and (5) diet, chemotherapeutic agents and inhibitors of inflammation to reduce tumor risk in an animal model of tobacco-induced lung disease and (5) health effects of engineered nanomaterials. He has published over 220 articles in peer-reviewed, scientific journals, texts, and encyclopedias on those subjects. Dr. Pinkerton has served on numerous advisory committees and other professional societies. In the last fifteen years, he has been involved in leadership positions for two major research centers in air pollution and agricultural health. (1) San Joaquin Valley Aerosol Health Effects Research Center from 2006 until 2011 (one of 5 national PM Centers funded by the United States Environmental Protection Agency (U.S. EPA) and (2) the Western Center for Agricultural Health and Safety (WCAHS) with Marc Schenker from 2001 to the present. He currently serves as the Director for Health and the Environment at UC Davis since 2001, overseeing an annual research budget of more than \$5 million with 18 faculty members and 100 staff and students from the Schools of Medicine, Veterinary Medicine, the College of Agriculture and Environmental Sciences and the College of Engineering. On the national level, Dr. Pinkerton has served as Chair for the Environmental and Occupational Health (EOH) assembly and Chair of the Environmental Health Policy Committee for the American Thoracic Society. His community-based endeavors have been to chair and oversee the publication of a workshop on Climate Change and Global Public Health (Pinkerton et al, 2012, PATS). He has been appointed to numerous scientific advisory boards for the U.S. Environmental Protection Agency, the National Institutes of Health, the National Research Council and most recently the International Agency for Research on Cancer (IARC) in Lyon, France. He sits on editorial board for *Inhalation Toxicology* and serves as a reviewer for numerous scientific journals. His research on the perinatal effects of environmental air pollutants on lung growth and development, maturation and aging is found in numerous scientific publications, reports and chapters. Trained as a research pathologist at Duke University Medical Center, he has trained more than 40 graduate students over his career. He has edited and co-authored books on climate change (Global Climate Change and Public Health, 2014), lung development and the environment (The Lung: Development, Aging and the Environment, 2<sup>nd</sup> Edition, 2015) lung aging (Molecular Aspects of Aging: Understanding Lung Aging, 2014), and comparative respiratory systems (Comparative Biology of the Normal Lung, 2<sup>nd</sup> Edition, 2015). Dr. Pinkerton's primary sources of research funding for the past five years has been supported by grants from and contracts with both government agencies and private companies, with core research support primarily being from the federal government (NIEHS), with additional grant support from Universities and foundations such as the American Asthma Foundation, Dalian University (China) and the California National Primate Research Center.

## Portier, Kenneth

### American Cancer Society

Dr. Kenneth M. Portier is Vice President of the Statistics & Evaluation Center at the American Cancer Society (ACS) home office in Atlanta, GA, and is Affiliate Professor of Biostatistics in the School of Public Health, Emory University. A native of south Louisiana, Dr. Portier holds a B.S. in Mathematics from Nicholls State University in Thibodaux, Louisiana (1973), and an M.S. in Statistics (1975) and Ph.D. in Biostatistics (1979) from the University of North Carolina, Chapel Hill. With ACS since early 2006, he provides general statistical support on design and analysis of cross-sectional and longitudinal sample surveys, program evaluation and cancer modeling. Prior to ACS Dr. Portier spent 27 years as a statistical consultant to researchers in agriculture, natural resources and the environment and as a teacher of applied statistics at the graduate level at the University of Florida. He has coauthored over 170 publications in many of the premier journals in agriculture, natural resources and environmental sciences. Dr. Portier has received national recognition for his teaching and twice participated in U.S. Department of Agriculture (USDA)-funded teaching grants, one on new methods for teaching natural resources sampling and the other to develop a study abroad course in natural resources assessment with the Czech Republic. His collaborations with other researchers at UF resulted in 36 funded research grants from numerous agencies and private companies, with core research support being from the federal government (National Science Foundation (NSF), USDA, U.S. National Oceanic and Atmospheric Administration (NOAA), U.S. Environmental Protection Agency (EPA), and the U.S. Department of the Interior). Dr. Portier continues to collaborate with UF's Center for Environmental and Human Toxicology on statistical questions that arise in environmental sampling and risk assessments. He has participated in over 60 Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Scientific Advisory Panel (SAP) meetings since 1999 and five EPA Science Advisory Board science review panels. In addition, Dr. Portier has served on expert and advisory panels for the National Institutes of Health (NIH), National Institute of Environmental Health Sciences (NIEHS), the National Toxicology Program (NTP), and the World Health Organization Food and Agriculture Organization (WHO/FAO). He has recently been appointed to the EPA Science Advisory Board and will be chair of the newly chartered EPA Chemical Safety Advisory Committee. His research interests are wide, including the application of new statistical methodologies to cancer research and environmental health.

## Puls, Robert W.

### Independent Consultant

Dr. Robert Puls is owner and principal scientist of Robert Puls Environmental Consulting, LLC. His company has received funding from the National Ground Water Association, the Ground Water Protection Council, the Environmental Defense Fund, and the Wyoming Outdoor Council for projects related to water quality monitoring, risk assessment and management, and protection of water resources during oil and gas exploration and production. Dr. Puls recently retired as Director of the Oklahoma Water Survey and Associate Professor in the College of Atmospheric and Geographic Sciences at the University of Oklahoma. As Director, his research interests included ground water protection from nonpoint sources, water resource protection related to oil and gas operations, wastewater reuse strategies, assessment of ecological impacts from climate change, and aquifer storage and recovery as a means to conserve water and augment drinking water supplies. He received funding in 2014-2015 from the National Science Foundation. He received his Ph.D. in Soil and Water Science from the University of Arizona. Dr. Puls received his Masters in Forest Resources from the University of Washington and his B.S. in Soil Science and Natural Resources from the University of Wisconsin-Madison. Before coming to the University of Oklahoma, he worked for 25 years at the U.S Environmental Protection Agency (EPA) Office of Research and Development in the Ground Water and Ecosystems Restoration Division in Ada, Oklahoma. He has held positions with EPA as Senior Soil Scientist, Branch Chief, and Director of Research of the Division. His research focused on use of passive systems to restore groundwater from nonpoint and point source contamination (e.g. chromium, arsenic, chlorinated solvents), contaminated site characterization and risk assessment, ground-water sampling, and the transport and fate of contaminants in the subsurface. He has served on Advisory Boards and Committees with the USGS, USEPA, USDOE, National Research Council, the Nature Conservancy, Ground Water Protection Council (GWPC), ASTM, and private industry. Dr. Puls currently serves on the Editorial Board of the Land Contamination and Reclamation Journal and the journal, Water. Dr. Puls has authored / co-authored more than 150 research articles on the above topics, and received a number of Agency, interagency and industry awards for his research. He was awarded eight Science and Technological Achievement Awards and three Bronze medals during his EPA career for his research and publications.

## Stone, Alan T.

### The Johns Hopkins University

Dr. Alan T. Stone is a Professor in the Department of Geography and Environmental Engineering, G.W.C. Whiting School of Engineering, The Johns Hopkins University, where he has served since 1983. He received his B.S. (Chemistry) from the University of Maryland, College Park, and his M.S. and Ph.D. (Environmental Engineering Science) from the California Institute of Technology under the direction of Prof. James J. Morgan. His interests in biogeochemistry include the acquisition of iron and other elemental nutrients by soil organisms, and chemical reactions of bioactive compounds at mineral/water interfaces. His interests in agriculture include transformation pathways of pesticides and other agricultural chemicals in water and soils. His interests in drinking water and other engineered systems focus on metal-organic reactions, including the solubilization of lead dioxide by natural organic matter and the oxidation of contaminants by permanganate and hydrous manganese oxide. His interest in physical chemistry include mechanisms underlying (i) metal ion and chelating agent exchange, (ii) the adsorption of Lewis base-bearing organic compounds at mineral-water interfaces and (iii) surface catalysis. His laboratory employs capillary electrophoresis to discern speciation, identify reaction intermediates and products, and explore chemical kinetics. Overall, the objective of Dr. Stone's research is to link speciation in aqueous solution and at mineral/water interfaces with the kinetics of environmentally-relevant chemical reactions. Dr. Stone was the chair of the 1996 Environmental Sciences: Water Gordon Conference, Co-Convener of the 2000 Iron in Ground Water Thesis Conference, and guest editor of the February 2002 James J. Morgan festschrift issue of the journal Environmental Science & Technology. Dr. Stone's primary source of funding during the past two years has been a National Science Foundation project of the Division of Bioengineering and Environmental Systems, Environmental Engineering, entitled "Improving permanganate oxidations: speciation, pathways, rates, and products." He is also funded by an award "Phosphorus acid MRL barrier to EU export of California tree nuts" of the U.S. Department of Agriculture (USDA) Foreign Agriculture Service to the Dried Fruit Association of California and USDA ARS laboratory in Parlier, California.

## Tanguay, Robert L.

### Oregon State University

Dr. Robert L. Tanguay is a Distinguished Professor of Environmental and Molecular Toxicology in the Department of Environmental and Molecular Toxicology at Oregon State University (OSU), and Director of OSU's Sinnhuber Aquatic Research Laboratory. He is also the director of two National Institutes of Health training grants, and is dedicated mentor. He holds a B.S. in Biology from California State University and a Ph.D. in Biochemistry from the University of California – Riverside. He received postdoctoral training at the University of Wisconsin-Madison, and was a faculty member at the University of Colorado School of Pharmacy for 4 years. Dr. Tanguay was recruited to OSU in 2003 and has created a world-class zebrafish-focused research facility that is specifically designed for environmental health related research. Over his career, he has led the charge for advancing the use of zebrafish as a model organism to study environmental effects on human health. Dr. Tanguay investigates the environmental and biological interactions and mechanisms by which environmental exposures produce biological responses. He studies the mechanisms underlying developmental responses to chemicals such as 2,3,7,8-tetrachlorodibenzo-p-dioxin, polycyclic aromatic hydrocarbons, pesticides, nanomaterials, and complex environmental mixtures. Dr. Tanguay continues to develop new methods and approaches to discover the molecular pathways that prevent or promote vertebrate tissue regeneration. This is primarily done using genetics, "omics" techniques and informatics that are intimately anchored to phenotypes. Over the past several years he has also transitioned to the field of green chemistry and green nanotechnology. Dr. Tanguay's laboratory is dedicated to define the nanomaterial characteristics that drive biological responses; with the goal to safely advance the field of nanotechnology. Over his career he has published over 140 manuscripts and review articles that span the areas of toxicology, biochemistry, genetics, behavior, and regenerative medicine. Dr. Tanguay recently received recognition as a University Distinguished Professor in 2011, and received a Career Achievement Award from the Pacific Northwest Association of Toxicologists (2012). His students have received dozens of research awards for advancing the molecular toxicology field. Dr. Tanguay has a broad and federally funded research base. Dr. Tanguay's research has been supported by grants primarily from government agencies, with core grant research support primarily from the federal government (U.S. Environmental Protection Agency and the National Institutes of Health).

## Turner, Jay

### Washington University, St. Louis

Dr. Jay Turner is an Associate Professor of Energy, Environmental and Chemical Engineering at Washington University in St. Louis. Dr. Turner holds B.S. and M.S. degrees from UCLA (1987) and a D.Sc. from Washington University (1993), all in Chemical Engineering. Following his M.S. studies, he spent two years at the University of Duisburg, Germany, where he was a DAAD Fellow. Following his D.Sc. studies, Dr. Turner spent eight months on assignment with the Federal Highway Administration, U.S. Department of Transportation, as an Air Quality Specialist. He subsequently joined the Washington University faculty in 1994 as an Assistant Professor of Engineering & Policy. Dr. Turner's research primarily focuses on air quality characterization and control with emphasis on field measurements and data analysis to support a variety of applications in the atmospheric science, regulation and policy, and health studies arenas. He was the Principal Investigator of the St. Louis – Midwest Fine Particulate Matter Supersite. He manages a field site in East St. Louis that has hosted several Federal Equivalent Method testing campaigns and was recently one of two U.S. Environmental Protection Agency (EPA) coarse particulate matter pilot speciation study sites. Current and recent research projects include estimating lead emissions from piston engine aircraft, source apportionment of ambient particulate matter in Hong Kong, assessing intraurban variability of air toxics metals, long-term fence-line monitoring for gaseous air toxics and particulate matter species at an industrial facility, and air quality measurements to support health studies. Recent consulting activities include monitoring guidance and/or data analyses for agencies in four states in support of State Implementation Plan development. He is currently Washington University lead investigator on a contract from the Airport Cooperative Research Program (ACRP) to Sierra Research, Inc. to develop approaches to mitigate lead concentration hot spots at general aviation airports, and Co-PI on an NIH grant to examine relationships between air pollution and neurodegenerative disease. His consulting work is currently funded by The Organisation for Economic Co-operation and Development (OECD) to assess the state of air quality monitoring in 51 countries and develop a framework for estimating air quality indicators, and by the Hong Kong Environmental Protection Department through Hong Kong University of Science and Technology to develop a conceptual model for particulate matter air quality over the Pearl River Delta. Dr. Turner has served on several state and local air quality-related advisory committees and the Science and Technical Support Workgroup of the Federal Advisory Committee Act (FACA) Subcommittee for Ozone, Particulate Matter, and Regional Haze Implementation Programs. He currently serves on EPA's chartered Science Advisory Board (SAB), the Ambient Monitoring and Methods Subcommittee (AMMS) of EPA's Clean Air Scientific Advisory Committee (CASAC), and the Independent Technical Advisory Committee of the Texas Air Quality Research Program. He recently served on the Science and Technology Achievement Awards (STAA) Committee of the EPA Science Advisory Board and on the Health Effects Institute project panel for the National Particle Components Toxicity Initiative. Dr. Turner was general chair for the 2007 Annual Conference of the American Association for Aerosol Research (AAAR) and is the immediate past president of AAAR. He is a Visiting Scientist at the Harvard T.H. Chan School of Public Health for the period January-July 2016. He previously served on the Science and Technology Achievement Awards (STAA) Committee of the EPA Science Advisory Board (term 2012-2015).

## Weavers, Linda K.

### The Ohio State University

Dr. Linda Weavers is the John C. Geupel Chair and Professor in the Department of Civil, Environmental and Geodetic Engineering at The Ohio State University. In addition, Dr. Weavers is co-Director of the Ohio Water Resources Center, the Water Resources Research Institute for the State of Ohio. After obtaining her B.S. in Civil Engineering from the University of Minnesota, she received M.S. and Ph.D. degrees in Environmental Engineering Science from the California Institute of Technology (Caltech). Dr. Weavers' research is multi-pronged with research expertise in the area of advanced oxidation processes (including ultrasound, ozonation, and photochemistry), sediment remediation, contaminants contained on fly ash and flue gas desulfurization by-product (FGD), and defouling of membranes for water treatment. Dr. Weavers has numerous publications and one patent stemming from funding from a variety of sources. Her recent primary sources of funding are from the United States Geological Survey, Ohio Sea Grant College Program, and various State of Ohio sources. In addition to her research, Dr. Weavers founded and ran for six years an engineering summer camp for middle school girls. She currently serves on the Board of the Association of Environmental Engineering and Science Professors (AEESP) as Vice President. She has received a National Science Foundation CAREER Award, a Presidential Early Career Award for Scientists and Engineers (PECASE) from President Bush, and the American Association of University Women Emerging Scholar Award for her research.