

**Invitation for Public Comment on the List of Candidates  
For the Chartered Science Advisory Board (SAB)**

**July 1, 2013**

The SAB was established in 1978 by the Environmental Research, Development and Demonstration Act to provide independent advice to the EPA Administrator on general scientific and technical matters underlying the agency' policies and actions. The chartered SAB provides advice to the EPA Administrator on a variety of EPA science and research programs and oversees and approves all SAB committee and panel draft reports.

The U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announced in a Federal Register Notice on April 12, 2013 (78 FR 21946-21948) that it was inviting nominations of experts to be considered for the Administrator's appointment to the chartered SAB .The SAB Staff Office requested nominations of experts to serve on the chartered SAB in the following disciplines as they relate to the human health and the environment:

*ecological sciences and ecological assessment; economics; engineering; health disparities; geochemistry, health sciences; medicine; microbiology; modeling; pediatrics; public health; risk assessment; social, behavioral and decision sciences; and statistics.* The SAB Staff Office is especially interested in scientists with expertise described above who have knowledge and experience in *air quality; climate change; energy and the environment; water quality; water quantity; water re-use; ecosystem services; community environmental health; sustainability; chemical safety; green chemistry; human health risk assessment; homeland security; and waste management.*

The SAB Staff Office identified 48 candidates based on their expertise and willingness to serve. We hereby invite public comments on the attached List of Candidates for appointment by the

Administrator. Comments should be submitted to Dr. Angela Nugent, Designated Federal Officer no later than July 22, 2013 at [nugent.angela@epa.gov](mailto:nugent.angela@epa.gov). E-mail is the preferred mode of receipt. Please be advised that public comments provided to the SAB Staff Office are subject to release under the Freedom of Information Act.

## List of Candidates for the Chartered Science Advisory Board (SAB)

### Adams, Peter

#### Carnegie Mellon

Dr. Peter Adams is a Professor in the Civil and Environmental Engineering Department and the Engineering and Public Policy Department at Carnegie Mellon University. Prof. Adams's research largely focuses on development of chemical transport models, especially the simulation of aerosol microphysical processes, ultrafine particles and the formation of cloud condensation nuclei in global climate models. Areas of research have also included the effects of climate change on air quality, short-lived climate forcers, atmospheric ammonia and particulate matter formation from livestock operations, and the simulation organic particulate matter. Prof. Adams was selected for a Fulbright grant to collaborate with researchers at the Institute of Atmospheric Sciences and Climate in Bologna, has been a Visiting Senior Research Scientist at the National Aeronautics and Space Administration's Goddard Space Flight Center, and received the Sheldon K. Friedlander Award for outstanding doctoral thesis from the American Association for Aerosol Research. He has previously served on the Commonwealth of Pennsylvania's Air Quality Technical Advisory Committee and the Allegheny County Health Department's Air Toxics New Guidelines Proposal Committee as well as service to the American Association for Aerosol Research. His research is supported primarily by the Environmental Protection Agency, the National Science Foundation, the National Aeronautics and Space Administration, the Department of Energy, and the Department of Defense. Dr. Adams received his B.S. degree in Chemical Engineering, summa cum laude, from Cornell University. He was awarded a Hertz Foundation Applied Science Fellowship for graduate study and received M.S. and Ph.D. degrees in Chemical Engineering from the California Institute of Technology. He also holds an associated faculty position in the Chemical Engineering department at Carnegie Mellon.

### Anas, Alex

#### SUNY Buffalo

Dr. Alex Anas has been a professor of economics at the State University of New York at Buffalo since 1991. Prior to joining the faculty at Buffalo, Dr. Anas was on the faculty at Northwestern University from 1975 to 1991 and had visiting appointments at Stanford University in 1981-82 and the University of Illinois at Urbana-Champaign in 1986-88. Dr. Anas obtained his BA and BS from Carnegie Mellon University in 1972, and his MA, MCP in 1974 and Ph.D. in 1975 from the University of Pennsylvania. Dr. Anas' research interests over the years have spanned theoretical, empirical and applied urban economics. His publications have contributed to understanding dynamic land use adjustment with durable housing and the abandonment of housing in central cities, the effects of transportation including public transportation on property values and urban land use, the effects of traffic congestion and congestion pricing on land use, dynamic housing market models, the effects of regulations on the housing market, models with dispersed jobs and residences, theories of systems of cities with intercity trade, urban agglomeration, ethnic segregation and ghettos, and the beneficial effects of urban sprawl. A continuing programmatic focus of Dr. Anas' research career has been the development of computable models based on microeconomic theory that can be used to empirically analyze the impacts of changes and policies on urban structure. In the 1980s he developed and applied the CATLAS (Chicago Transportation and Land Use Analysis System) with a research award from the United States Department of Transportation. In the early 1990s, Dr. Anas developed the CPHMM (Chicago Prototype Housing Market Model), a dynamic model of real estate stock adjustment. The research was supported by awards from the Fannie Mae Foundation and the Department of Housing and Urban Development. More recently, at Buffalo, Dr. Anas completed development of RELU-TRAN (Regional Economy, Land Use and Transportation), a computable general equilibrium model that treats the interconnections of spatially disaggregated labor markets, the markets for housing and non-housing floor space, industry location, real estate development, work and non-work related personal transportation and energy utilization and CO2 emissions in personal transportation. The development of RELU-TRAN was supported by major research awards from the National Science Foundation and the United States Environmental Protection Agency. While these awards helped apply the model to the analysis of congestion, road pricing and urban sprawl in Chicago, a recent award from the University of California is now supporting a more extensive application to Los Angeles.

### Baker, Joel

#### University of Washington Tacoma

Dr. Joel Baker holds the Port of Tacoma Chair in Environmental Science at the University of Washington Tacoma, where he serves as the Special Assistant to the Chancellor for Research. He is the Science Director of the Center for Urban Waters, directs the UW Puget Sound Institute, and co-directs the Washington Stormwater Center. Dr. Baker's research examines the behavior of organic contaminants in the environment, specifically atmospheric transport and deposition, contaminant transport in estuaries, modeling the exposure and transfer of bioaccumulative chemicals in aquatic food webs, and the use of anthropogenic chemicals as tracers of environmental processes. Dr. Baker has led research in the Great Lakes, the Chesapeake Bay, the Hudson River, and the Puget Sound. His laboratory was the first to demonstrate in vivo dehalogenation of brominated diphenyl ethers in fish, a finding instrumental to the voluntary phase out these flame retardants. Dr. Baker has co-authored over ninety papers on contaminant cycling in the Great Lakes, the Chesapeake Bay and coastal waters, and edited "Atmospheric Deposition of Contaminants to the Great Lakes and Coastal Waters" (SETAC Press). Dr. Baker was elected as the inaugural chair of the Puget Sound Science Panel and served on the Board of Directors of the Society for Environmental Toxicology and Chemistry. Dr. Baker received the President's Award for Excellence in Application of Science from the University of Maryland, the Conservation Research Award from the Seattle Aquarium Society, and was named Outstanding Graduate Advisor by the University of Maryland Graduate Program in Marine and Environmental Science. He serves on the Board of Advisors for Salish Sea Expeditions, a marine education organization. Dr. Baker received his B.S. degree in Environmental Chemistry from the State University of New York in Syracuse. His M.S. and Ph.D. degrees in Civil and Environmental Engineering were awarded by the University of Minnesota. He has held tenured faculty positions at the University of Maryland and at the University of Washington, and was visiting faculty at the Institute for Environment and Sustainability, European Commission Joint Research Centre, in Ispra, Italy and at the Laboratory for Aquatic Ecotoxicology, Institutionen för Tillämpad Miljövetenskap, Stockholm University. Dr. Baker's research is supported by the U.S. Environmental Protection Agency (for synthesis and integration of Puget Sound science), by the National Oceanic and Atmospheric Administration (for characterization of marine microplastic debris), and by the State of Washington (for the development and validation of stormwater treatment technologies).

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### Bennett, Deborah

University of California, Davis

Dr. Deborah Bennett is currently an Associate Professor of environmental and occupational health at the University California, Davis. She received her Ph.D and M.S. in Mechanical Engineering from the University of California, Berkeley, and her B.S. in Mechanical Engineering from the University of California, Los Angeles. Previously, Dr. Bennett was an Assistant Professor of Environmental Health and Risk Assessment at the Harvard School of Public Health, and spent time as a scientist in the Lawrence Berkeley Lab's Environmental Energy Technology Division. Dr. Bennett's research focuses on the fate, transport, and exposure of organic compounds chemicals in multi-scale applications, including direct consumer product use, and indoor and outdoor multimedia environments within the context of both environmental epidemiology and environmental risk assessment. Her work utilizes both modeling and measurement techniques, bridging the gap between these two lines of inquiry. Research interests within epidemiology include development of methods to assess exposures in Autism epidemiology studies for compounds found in consumer products, the impact of air filtration interventions on asthma exacerbation and exposures to particulate matter, and respiratory health from exposure to endotoxins among farmworker populations. She also conducts exposure studies focusing on pesticides, flame retardants, hazardous air pollutants, and perfluorinated compounds, including questionnaire, environmental measures, and biological measures. She is also conducting indoor fate and exposure modeling to understand potential impacts of organic compounds released indoors. She has served on various United States Environmental Protection Agency Science Advisory Boards, Panels, and advisory committees related to the Exposure Factors Handbook, Exposure Metrics for the National Children's Study, Estimation Associate Editor for the Journal of Exposure Science and Environmental Epidemiology. She has served as an Elected Councillor, Treasurer, and Chair of the Awards Committee for the International Society of Exposure assessment. She has received funding from the American Chemistry Council, California Air Resources Board, Environmental Protection Agency, and the National Institute for Environmental Health.

### Berliner, L. Mark

Ohio State University

Mark Berliner is Professor and Chair of Statistics at The Ohio State University, Columbus, Ohio, USA. In 1980 he received a Ph.D. in Statistics from Purdue University and joined the faculty at Ohio State. He served as Geophysical Statistics Project Leader, National Center for Atmospheric Research, 1995-97. He was co-Chair of the American Statistical Association's Advisory Committee on Climate Change Policy. He is Vice Chair of the Activity Group on Uncertainty Quantification of The Society for Industrial and Applied Mathematics. He is a Fellow of AAAS, the American Statistical Association, and the Institute of Mathematical Statistics.

### Boyle, Kevin

Virginia Tech

Dr. Kevin Boyle is Professor and Head of the Department of Agricultural and Applied Economics at Virginia Tech. Prior to this position he was Distinguished Maine Professor and Libra Professor of Environmental Economics at the University of Maine. Dr. Boyle holds a B.S. from the University of Maine and a Ph.D. from the University of Wisconsin. Dr. Boyle has served on the Board of the Association of Environmental and Resource Economists and as President of the Northeastern Agricultural and Resource Economics Association. He has also held editorial positions with the Journal of Environmental Economics and Management and Marine resource Economics. Dr. Boyle was recognized by the Carnegie Foundation for the Advancement of Teaching as "U.S. Professor of the Year, Maine" in 2004, and received the "Distinguished Member" award from the Northeastern Agricultural and Resource Economics Association in 2002. Dr. Boyle's research investigates the validity of nonmarket valuation methods, including stated preferences (contingent valuation and attribute-based choices), revealed preferences (random-utility, travel-cost models, averting behavior and hedonic, property-value models), and benefits transfers. His current research on benefit transfers, with colleagues at Virginia tech, is establishing the theoretical basis of benefit transfers and the estimation of bounds for benefit-transfers to address uncertainty. Applications of his current research focus on the interface of environmental quality and human health, health of aquatic ecosystems, and land-use policy.

### Brouder, Sylvie M.

Purdue University

Dr. Sylvie Brouder is a Professor and Wickersham Chair of Excellence in Agricultural Research in the Agronomy Department at Purdue University in West Lafayette, IN and Director of Purdue's Water Quality Field Station (WQFS). She received her B.A. in Biology from Harvard University (1985) and her Ph. D. in Ecology from the Ecology Graduate Group at the University of California – Davis (1993). Her current appointment is split between research, extension education, and on-campus teaching with an additional administrative appointment in Purdue's College of Agriculture to promote agroecology programming across Purdue's tripartite, Land Grant mission. A foundational theme of her program and the overarching goal of the WQFS research portfolio is to advance quantitative approaches (ecological accounting frameworks) that can inform the valuation of multiple ecosystem services (ES). As an expert in ecological (sustainable) intensification of landscapes, Dr. Brouder has an extensive record of service to science at the interface of agriculture and the environment. Recent, noted activities include: invited "perspectives" presentations/panel discussions on sustainable intensification to the Gates Foundation Convening on Perennial Grains (10/2012) and to the Board for International Food and Agricultural Development (3/2013); an 8-mo, commissioned review of the evidence supporting conservation agriculture management efficacy in productivity and ES enhancement (7/2012 – 2/2013, commissioned by the Independent Science and Partnership Council [ISPC] to evaluate CGIAR system-level outcomes), and an ad hoc consultation with the AGree (AGriculture, research, extension and education) policy initiative on risk management and conservation (on-going). Dr. Brouder is a co-author of the American Society of Agronomy's position statement on Climate Change; having served on a wide array of research planning and review panels for granting programs in ecology, plant biology, agricultural production, water quality and food/energy security, she is familiar with the research agendas of USDA, NSF, DOE and USAID. In May 2013, she will again serve as a peer-reviewer for the DOE's Bioenergy Technology Office to assess progress and impact of their biomass research portfolio. Dr. Brouder's research areas of interest emphasize field-to-landscape scale nutrient cycling with an emphasis on rhizosphere and crop ecology, water quality, greenhouse gas emissions and nutrient balances and losses in agroecosystems. Her specific interests include evaluation of agroecosystem viability and

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sustainability with emphasis on tensions and trade-offs among provisioning ES and air, soil and water quality ES, examination of rooting dynamics, the root-soil interface and root/shoot ecophysiology, and multivariate statistical and simulation modeling approaches to analysis of environmental data. She collaborates with crop breeders, agricultural engineers, economists and sociologists for an interdisciplinary approach to solving problems and has experience working with a host of annual and perennial cropping systems as well as native prairies. She has expertise in the design, implementation and statistical analysis of field and controlled environment experiments on nutrient budgets and plant-soil nutrient cycling process including measurement and monitoring strategies to encompass spatio-temporal variations and phenomena, environmental carbon and nitrogen losses, management strategies for resource-use efficiency, and diagnostics to balance production and stewardship goals for major agricultural land uses. As director of a long-term field research facility, she is keenly interested in all aspects of leveraging science and society's investment in such efforts including standardization of experimental measurement and data protocols, data sharing (preservation, curation, accessibility and repurposing) and cultural barriers to data sharing; she is an active advocate of the value of data records and open access data and has collaborated with research librarians and computer scientists in pilot studies and proposals on prototype distributed repositories, work-flows for data ingestion, and mechanisms for data sharing for environmental accounting studies.

### **Brymer, David**

Texas Commission on Environmental Quality

Mr. David Brymer is the Air Quality Division Director for the Texas Commission on Environmental Quality. Mr. Brymer has been involved in the air quality field for over 27 years with a focus on ambient air monitoring and in the last five years air quality research, planning, and emissions. During this time, he has been an author on over 15 air quality related papers or publications. Mr. Brymer currently serves on the Texas Air Research Center Advisory Board, and has served as the Texas representative for the Central States Air Resource Agencies. Mr. Brymer's technical and leadership contributions have also been recognized by receiving an EPA/TCEQ Strategic Partnership Award for his contributions as co-chair for the Houston Galveston Citizen Air Monitoring Program. Mr. Brymer received his Bachelor of Science in Wildlife and Fisheries Science as well as a Master of Agriculture in Fisheries Science from Texas A&M University. He has also completed numerous technical and leadership training classes and is a graduate of the Governor's Executive Development Program through the Lyndon B. Johnson School of Public Affairs at The University of Texas. Mr. Brymer's air quality research is supported through appropriations from the State of Texas.

### **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, Burke was a Professor, University Distinguished Teaching Scholar, and Co-Director of the Graduate Degree Program in Ecology at Colorado State University. Burke is an ecosystem ecologist, with particular expertise in the effects of climatic variability and land use management on carbon and nitrogen cycling. 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. 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. Burke received her PhD in Botany (1987) at the University of Wyoming, and her BS (1980) at Middlebury College. Dr. Burke receives no federal research funding. Funding for her research comes from her endowed Chair at the University of Wyoming.

### **Chapman, Peter**

Golder Associates Ltd

Dr. Peter M. Chapman is a Principal and Senior Environmental Scientist at Golder Associates Ltd (Burnaby, BC, Canada). He holds a B.Sc. in Marine Biology (1974), M.Sc. in Biological Oceanography (1976), and Ph.D. in Benthic Ecology (1979) at the University of Victoria, BC, Canada. Dr. Chapman's professional areas of specialization are ecotoxicology/toxicity testing, ecological risk assessment, and aquatic ecology. He has directed development and source evaluation studies of contaminants and other stressors in water and sediment involving sewage treatment plants, mining, manufacturing, pulp and paper, wood processing, hazardous waste disposal, landfill operations, oil and gas, smelting and food processing. Dr. Chapman has served as an advisor to the federal governments of both the United States and Canada for environmental toxicology and biomonitoring assessment policy and protocols and directed projects (for government and industry) involving biological monitoring; assessment of contaminant levels in tissues, sediments and water; ecological surveys; literature reviews for ranking environmental contaminants; and, bioassessment (e.g., toxicity testing). He has developed and verified a variety of bioassessment protocols for measuring/ predicting toxicity and bioaccumulation, including the use of benthic indicators for contaminant analysis and various toxicity tests. Dr. Chapman's research was key to the development of the Sediment Quality Triad weight-of-evidence approach to determining pollution-induced degradation in aquatic ecosystems. He is the author of over 200 refereed journal and book publications, 3 edited books, and over 200 technical reports on subjects including: taxonomy, aquatic ecology, development of monitoring programs, risk assessment, and biological effects of chemicals. Dr. Chapman is Senior Editor for the journal Human and Ecological Risk Assessment, Editor of the Learned Discourses in the journal Integrated Environmental Assessment and Management (IEAM), and serves on the Editorial Board of the journal Marine Pollution Bulletin. Dr. Chapman's research has been conducted without the support of grants from either government agencies or private companies. He is a member of the U.S. Environmental Protection Agency (EPA) Science Advisory Board Ecological Processes and Effects Committee. In 1996 Dr. Chapman received an award from EPA Region 10 for resolving environmental issues in Port Valdez, Alaska. In 2001 the Society of Environmental Toxicology and Chemistry (SETAC) awarded Dr. Chapman its highest award, the Founders Award, for an outstanding career and contributions to the environmental sciences.

## List of Candidates for the Chartered Science Advisory Board (SAB)

### Dutta,Prabal

#### University of Michigan

Dr. Prabal Dutta is an Assistant Professor of Electrical Engineering and Computer Science at the University of Michigan, Ann Arbor. He has co-authored over 50 peer-reviewed papers in the areas of sensors, networking, wireless communications, and operating systems. His research is focused on the circuits, systems, and software necessary to realize pervasive sensing, computing, and communications at scale and in the service of society. His work has yielded over a dozen hardware and software systems and has been utilized by thousands of researchers and practitioners worldwide. His curriculum development efforts as an undergraduate resulted in a quarter of all first-year Ohio State engineering students designing mobile robots that compete head-to-head in the school's basketball arena, foreshadowing by more than a decade current efforts to integrate multi-disciplinary design experiences into U.S. undergraduate engineering curriculums. His work on the Common Sense project launched participatory air quality monitoring, enabling citizen scientists to easily take and share air quality measurements, marking a new era in environmental awareness. His work on the DARPA Networked Embedded Systems Technology program led to the largest and longest-running academic sensor networks ever deployed in the U.S. His current efforts in this arena are enabling the next computing class – nearly invisible nano-Watt sensor systems that can be built from mm-scale modular components – to address problems in health, energy, and the environment. His research has been recognized with four best paper awards and several design awards, and it has been directly commercialized by Aginova, Arch Rock (now Cisco), Crossbow (now Memsic), Moteiv (now Sentilla), Moteware, Sseed Studios, Sonnonet and Vectare, and indirectly by countless others. His work on the CyberStick Pro, a Nintendo Wii-like joystick that was the first to use a MEMS accelerometer as an input device, won PC Week's "Comdex Best of Show" Award. He received graduate fellowships from the National Science Foundation and Microsoft Research, and the Intel Faculty Early Career Award. He was elected to the Eta Kappa Nu, Phi Kappa Phi, Tau Beta Pi, and Upsilon Pi Epsilon honor societies, is a member of the ACM, IEEE, and USENIX professional societies, and is a member of the DARPA Information Science and Technology Study (ISAT) study group that independently assesses the state of advanced information science and technology as it relates to the U.S. Department of Defense. Professor Dutta earned a Ph.D. in Computer Science from the University of California at Berkeley, and an M.S. in Electrical Engineering and a B.S. in Electrical and Computer Engineering from The Ohio State University. He currently holds a tenure-track faculty appointment at the University of Michigan and has previously held a visiting faculty appointment at Stanford University and an adjunct appointment at The Ohio State University. His research is supported by numerous federal grants (NSF, USAID, and CDC) and industry gifts (Google, Intel, Microsemi, Microsoft, Qualcomm, and Texas Instruments).

### Dzombak,David A.

#### Carnegie Mellon University

Dr. David Dzombak is the Walter J. Blenko, Sr. University Professor of Environmental Engineering in the Department of Civil and Environmental Engineering at Carnegie Mellon University, Pittsburgh, PA. He is also Director of the Steinbrenner Institute for Environmental Education and Research at Carnegie Mellon. Dr. Dzombak holds a B.S. in Civil Engineering from Carnegie Mellon University, a B.A. in Mathematics from Saint Vincent College, an M.S. in Civil-Environmental Engineering from Carnegie Mellon University, and a Ph.D. in Civil-Environmental Engineering from Massachusetts Institute of Technology. The emphasis of his research and teaching is on water quality protection and restoration. Dr. Dzombak's professional interests include: aquatic chemistry; fate and transport of chemicals in surface and subsurface waters; water and wastewater treatment; soil and sediment treatment; hazardous waste site remediation; river and watershed restoration; energy and environment; population and environment; and public communication of environmental science and engineering. He has published numerous articles in leading environmental engineering and science journals; book chapters; articles for the popular press; and three books (Surface Complexation Modeling: Hydrous Ferric Oxide, Wiley, 1990; Cyanide in Water and Soil, CRC/Taylor&Francis, 2006; Surface Complexation Modeling: Gibbsite, Wiley, 2010). Dr. Dzombak'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 (National Science Foundation, U.S. Department of Energy, U.S. Environmental Protection Agency), with additional grant support from industry, and foundations. Dr. Dzombak also has a wide range of consulting experience. He served on the EPA National Advisory Council for Environmental Policy and Technology, Environmental Technology Subcommittee (2004-2008); as chair of the National Research Council Committee on the Mississippi River and the Clean Water Act (2005-2007); as chair of the National Research Council Committee on U.S. Army Corps of Engineers Water Resources Science, Engineering, and Planning (2010-2012); and as an Associate Editor of Environmental Science & Technology (2005-2012). He is a registered Professional Engineer in Pennsylvania, a Board Certified Environmental Engineer by the American Academy of Environmental Engineers, a Fellow of the American Society of Civil Engineers, a Fellow of the Water Environment Federation, and a member of the National Academy of Engineering.

### English,Joanne

#### NSF International

Dr. J. Caroline English is an environmental toxicologist and public health professional with 27 years of experience in the toxicological assessment of chemicals. Currently she is Senior Toxicologist for NSF International, which is an independent, not-for-profit, nongovernmental organization, that certifies products and writes standards for food, water, dietary supplements and consumer goods to protect public health, safety, and the environment. Dr. English has prepared numerous human health risk assessments and published in the areas of pharmacokinetics, systemic, genetic, and biochemical toxicology. Prior to joining NSF, she was a toxicologist and manager for Eastman Kodak, where she served as a toxicology study director and designed research programs to support product development and stewardship. Dr. English's areas of research activity includes risk evaluation of unregulated contaminants in food and drinking water, and developing/refining methods that employ mode of action data and predictive modeling to reduce the reliance on traditional whole-animal test data. Research funding is supplied through NSF International. Dr. English serves on the Executive Committee of the NSF International Health Advisory Board, and the U.S. Technical Advisory Group to ISO/TC 229 Nanotechnologies. She was adjunct faculty for 10 years in the Department of Environmental Medicine at the University of Rochester, and subsequently served as a member of the University's Environmental Health Sciences Center External Advisory Board. She was a member of the Science Program Committee for CIIT Centers for Health Research, the Strategic Science Team of American Chemistry Council's Long Range Initiative and the Nanotechnology Working Group of the U.S. Council for International Business. Dr. English is an active member of the Society of Toxicology and a diplomate of the American Board of Toxicology. She has an M.S. in environmental toxicology from Utah State University and a Ph.D. in toxicology from the University of Rochester.

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### Foster, Ian

University of Chicago and Argonne National Laboratory

Dr. Ian Foster is Director of the Computation Institute, a joint institute of the University of Chicago and Argonne National Laboratory. He is also an Argonne Senior Scientist and Distinguished Fellow and the Arthur Holly Compton Distinguished Service Professor of Computer Science. Dr. Foster received a BSc (Hons I) degree from the University of Canterbury, New Zealand, and a PhD from Imperial College, United Kingdom, both in computer science. His research deals with distributed, parallel, and data-intensive computing technologies, and innovative applications of those technologies to scientific problems in such domains as climate change and biomedicine. Methods and software developed under his leadership underpin many large national and international cyberinfrastructures. Dr. Foster leads efforts aimed at applying advanced computing methods to scientific problems relating to climate change. In the 1990s, this work produced (in collaboration with NCAR and ORNL) the first massively parallel climate model. His MacArthur Foundation and NSF funded Center for Robust Decision Making on Climate and Energy Policy combines the best of modern computational and economic science to guide climate and energy policy. This effort brings together collaborators at nine institutions to improve the computational models needed to evaluate energy and climate policies and guide decisions based on outcomes. Dr. Foster is a fellow of the American Association for the Advancement of Science, the Association for Computing Machinery, and the British Computer Society. He is a member of the joint DOE ASCAC/BERAC Subcommittee on Computational and Informational Technology Rate Limiters to the Advancement of Climate Change Science (2007); DOE ASCAC Subcommittee on the Role of Networking and Networking Research within the Office of Science (2007-2008); Open Grid Forum Advisory Committee (2002-2007), NSF Linked Environments for Atmospheric Discovery (LEAD) project External Advisory Committee (2003-2007); Canadian HPC Advisory Committee (2002-2003), IBM Autonomic Computing Council (2002-2003), Editorial Board, IEEE Internet Computing (since 2002), IIT Computer Science Advisory Board (2002-2004), UK eScience Technical Advisory Group (2001-2004), EU DataGrid Architecture Board (2001-2004), NSF CISE Advisory Committee, Subcommittee on Middleware (2000-2001); Editorial Board, IEEE Trans. on Parallel and Distributed Systems (1997-2002); Middleware Working Group, Next Generation Internet Symp. (1997); Advisory committee, IBM Intl. Conf. On Parallel Computing; Information Architecture Committee, Supercomputing '95; Advisory Panel, Intl. Conf. on High Performance Computing (1995-2000); Technical Steering Committee, NSF Center for Research on Parallel Computation (1992-2001); CHAMMP Science Team (1992-2001); Editorial Board, IEEE Parallel and Distributed Technology (1992-2001).

### Frumkin, Howard

University of Washington

Dr. Howard Frumkin is Dean, and Professor of Environmental and Occupational Health Sciences, at the University of Washington School of Public Health. He received his A.B. from Brown University, his M.D. (Medicine) from the University of Pennsylvania, his M.P.H. (Occupational Health) and PhD (epidemiology) from Harvard, his Internal Medicine training at the Hospital of the University of Pennsylvania and Cambridge Hospital, and his Occupational Medicine training at Harvard. From 2005 to 2010 he held leadership roles at the U.S. Centers for Disease Control and Prevention, first as director of the National Center for Environmental Health and Agency for Toxic Substances and Disease Registry (NCEH/ATSDR), and later as Special Assistant to the CDC Director for Climate Change and Health. From 1990 to 2005, he was Professor and Chair of Environmental and Occupational Health at Emory University's Rollins School of Public Health and Professor of Medicine at Emory Medical School. Dr. Frumkin currently serves on the Boards of the Bullitt Foundation, the Children and Nature Network, the Pacific Northwest Diabetes Research Institute, and the U.S. Green Building Council, on the American Institute of Architects Design and Health Leadership Group, on the Executive Committee for the Regional Open Space Strategy for Central Puget Sound, on the Yale Climate and Energy Institute External Advisory Board, on Procter & Gamble's Sustainability Expert Advisory Panel, and on the Advisory Board for the National Sustainable Communities Coalition. As a member of EPA's Children's Health Protection Advisory Committee, he chaired the Smart Growth and Climate Change work groups. His research interests include public health aspects of the built environment, climate change, energy policy, and nature contact; toxic effects of chemicals; and environmental health policy.

### George, Fiji

Shell Exploration & Production Company

Mr. Fiji George has over 18 years of experience related to energy-environmental & sustainability issues. He is currently the Onshore Science, Policy & Regulatory Advisor for Shell Exploration & Production Company (Shell) in Houston, Texas. In this position, he advises the company on air quality, greenhouse gases (GHG) and end-use macro energy-environmental scientific, policy and regulatory issues. He previously held various positions at El Paso Corporation, including as the Carbon Strategies Director and Manager, Safety & Sustainability. At El Paso, he advised the Chief Executive Officer and members of his executive committee and Board of Directors on various energy and environmental issues. As a widely respected expert on environmental-energy issues impacting natural gas, he has been an invited speaker at various forums, including CERAWEEK, Carnegie Endowment, Center for Strategic and International Studies (CSIS), National Association of Regulatory Commissioners (NARUC), EPA Gas STAR conference, California Climate Action Registry (CCAR) and the US Chamber of Commerce. He has been involved in several multi-stakeholder studies, including the 2010-2011 National Petroleum Council (NPC), a Federal Advisory Committee to the Secretary of Energy, where he led the Carbon and End-Use Emissions Sub-group's study of North American natural gas and oil resources development. He also leads Shell's technical team on the University of Texas and Environmental Defense Fund (EDF) study on methane emissions from natural gas production and currently serves as a member of the Stanford University led Energy Modeling Forum 26 (EMF) study, "Changing the game? Emissions and Market Implications of New Natural Gas Supplies". He has peer-reviewed several prestigious reports related to natural gas, including reports from the National Energy Technology Laboratory (NETL) and the World Resources Institute (WRI). He has led or been involved in analysis, public comments and implementation of several key EPA and state regulations impacting the natural gas industry, including NOx State Implementation Plans (SIPs), National Emission Standards for Hazardous Air Pollutants (NESHAP), Title V and New Source Performance Standards (NSPS). He has led or been part of corporate teams implementing over \$100 million of environmental control retrofits at various facilities and permitting of multi-billion dollar natural gas infrastructure projects, including natural gas pipelines, gas processing plants and LNG terminals. He holds a Master's in Civil (Environmental) Engineering from Texas A&M University and a Bachelor's in Mining Engineering from Anna University, India. Mr. George also worked at the consulting firms of ENSR and ERM-West.

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### Gordon, Terry

#### New York University School of Medicine

Dr. Terry Gordon holds the rank of Professor of Environmental Medicine at the New York University (NYU) School of Medicine. He holds a B.S. in Physiology (1974) and an M.S. in Toxicology (1976) from the University of Michigan, and a Ph.D. in Toxicology from Massachusetts Institute of Technology (1981), and was appointed to the faculty of the Department of Environmental Medicine in 1989. He has served as an ad hoc member of grant review panels and/or site visit teams for the National Institute of Environmental Health Services (NIEHS), National Institute of Allergy and Infectious Diseases (NIAID), National Coalition for Cancer Research (NCCR), U.S. Department of Defense (DOD), Bureau of Mines, Health Canada, and the U.S. Environmental Protection Agency (EPA). Dr. Gordon currently serves as Chair of the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value committee, a volunteer organization that publishes occupational exposure levels that are used as workplace safety guidelines throughout the world. Dr. Gordon's broad research interest is in inhalation toxicology. The major focus of his research lab is the identification and understanding of the role of genetic host factors in the pathogenesis of the adverse pulmonary effects produced by inhaled environmental and occupational agents. Because inter-individual responses to inhaled particles and gases vary so greatly in both human subjects and test animals, Dr. Gordon has hypothesized that genetic susceptibility factors play a major role in environmental and occupational lung disease. In collaboration with a number of investigators in the department, his laboratory uses classic murine genetics models, computational genomics, and DNA microarrays to identify genes involved in the acute response as well as in the development of tolerance to repeated exposure to inhaled toxicants. Dr. Gordon also plays a major role in the particulate matter (PM) research program at NYU, and was among the first researchers to use concentrator technology to study the adverse cardiopulmonary effects of ambient PM. He also led a large collaborative effort amongst EPA's five original PM research centers to evaluate the in vitro and in vivo toxicity of size-segregated PM collected in the U.S. and Europe. Dr. Gordon'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, Centers for Disease Control, National Institute of Environmental Health Sciences), with additional grant support from state and local governments, and industry. Dr. Gordon is an active member of the Society of Toxicology (SOT), and has served on the Program Committee (2002-2005), the Placement Service (1998-2001), Membership Committee (2009-2012), and as President of its Inhalation Specialty Section during 2002-2003. He has served as a consultant/author to the EPA on issues of pulmonary toxicology related to the development of various documents, and he served on EPA's Clean Air Scientific Advisory Committee (CASAC) Oxides of Nitrogen (NOx) and Sulfur Oxides (SOx) Primary National Ambient Air Quality Standards (NAAQS) Review Panels.

### Gurevitch, Jessica

#### Stony Brook University

Dr. Jessica Gurevitch is Professor in the Department of Ecology and Evolution at Stony Brook University. She is the lead author on the major undergraduate textbook in her field, *The Ecology of Plants* (Gurevitch, Scheiner and Fox), and is co-editor of the *Handbook of Meta-analysis in Ecology and Evolution*. Her co-edited book, *The Design and Analysis of Ecological Experiments* (Scheiner and Gurevitch), went through two editions and has influenced a generation of young ecologists. Her papers are highly cited, and her research has been highlighted in ecological textbooks. Her interests and contributions are in the areas of plant ecology, particularly population and community ecology, and in statistical applications in ecology. Much of her current work focuses on plant demography in disturbed environments, the ecology of biological invasions, and methods and applications of research synthesis and meta-analysis in ecological research. Her research has been funded by the National Science Foundation, Environmental Protection Agency, U.S. Fish and Wildlife Service, New York State Natural Heritage Program, and others. Dr. Gurevitch introduced contemporary quantitative research synthesis and meta-analysis to the fields of ecology and evolution, changing the way scientists in these fields conceptualize and review scientific data. This work has been controversial and highly influential. She has given many invited and keynote talks and convened a number of high profile workshops and working groups. She was elected a Fellow of the American Association for the Advancement of Science, is a Contributing Member of the Faculty of 1000, served as Chair of the Department of Ecology and Evolution Department at Stony Brook University, as a National Science Foundation Program Director in Population Biology, as a member of the re-accreditation team reviewing the University of Massachusetts at Amherst, as an Associate Editor on *Ecology Letters* and *Biology Letters*, and was elected to positions of Secretary of The American Society of Naturalists and as Executive Vice President of the Society for the Study of Evolution (this included the role of CFO/treasurer). Professor Gurevitch received her B.S. from Cornell University College of Agriculture and Life Sciences, her Ph.D. from University of Arizona, and held a postdoctoral fellowship at The University of Chicago. She held positions as Assistant, Associate, and full Professor and department Chair in Ecology and Evolution at Stony Brook University, and a Visiting Professor at New York University. She is a popular and successful university teacher, and was honored by an award for graduate teaching excellence. Dr. Gurevitch has mentored numerous graduate students at the Masters and Ph.D. levels, and many undergraduate and high school students in independent research.

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### Hamburg, Steven

#### Environmental Defense Fund

Dr. Steven Hamburg is chief scientist of the Environmental Defense Fund and is an ecosystem ecologist. Trained at Vassar College (AB, Biology), Yale (MFS ecology and forestry; PhD, biogeochemistry and ecosystem ecology), Stanford Universities (Post-doc ecology) and Harvard (Bullard Fellowship – mid career sabbatical) he has been involved in biogeochemistry/forest ecology research for more than 25 years. He has published more than 80 scientific papers on biogeochemistry, climate change impacts on forests and carbon accounting approaches and methodologies and has served as a lead author for the IPCC. His involvement with the IPCC resulted in his being acknowledged as one of the contributing recipients of the 2007 Nobel Peace Prize. He was twice awarded the US EPA Environmental Merit Award from Region 1 for his climate change related work. He was on the faculty of Brown University for 15 years where he was the founding director of the Global Environment Program at the Watson Institute for International Studies. Prior to being at Brown he was on the faculty of the University of Kansas where he directed the Environmental Studies Program and served as the Environmental Ombudsman. He has supervised the research of more than 20 graduate students and 60 undergraduates. He help found the East Asia Long-term Ecological Research network and served as the Vice Chair of the International Long Term Ecological Research Network. He currently co-chairs the Royal Society's Solar Radiation Management Governance Initiative and USDA's National Agricultural Research, Economics, Education and Extension Advisory Board as well as serving on numerous other science panels including at the National Research Council and the Federal Aviation Administration. Serving as a PI or co-PI he has received research funding from NSF, NASA, Luce and Mellon Foundations of over \$8,000,000. He is currently not a PI or co-PI on any research grants.

### Hardy, Margaret

#### The University of Queensland

Dr Margaret Hardy is an academic researcher internationally recognized for her work in sustainable agriculture and insecticide toxicology. Dr Hardy earned her MSc in Entomology from the University of Hawaii in 2007, where her work focused on the toxicity of boron compounds in subterranean termites. Dr Hardy earned her PhD in Chemistry and Structural Biology from The University of Queensland Institute for Molecular Bioscience in Brisbane, Australia in 2011, where her research program centered on discovering novel, environmentally friendly, orally active insecticides from the venom of native Australian spiders. Dr Hardy has actively published at the intersection of insecticides and biological control, invasive species and the conservation of biodiversity, and discovery programs for new sources of insecticides. Dr Hardy has received funding from the Australian Government, the Australian Research Council, and UniQuest Pty Ltd, and has authored patents protecting her work. Dr Hardy is the Secretary for the International Branch of the Entomological Society of America, the world's largest professional organisation serving entomologists, and a member of the Australian Early- and Mid-Career Researchers Network, an initiative of the Australian Academy of Science. In addition to her research interests, bringing science to the public is another of Dr Hardy's goals. As an undergraduate and graduate student, she was involved with programs designed to help marginalized and minority students succeed in higher education and careers in science. While a PhD student at the IMB, she founded the IMB Science Ambassador Program to train early career researchers in speaking to the public, to the media, and to funders. In 2008, she was selected as one of the Australian Academy of Technological Sciences and Engineering's Young Science Ambassadors, where she spoke to high school students and stakeholders in Outback Queensland, and as one of the Queensland Government's Talking Scientists, for which she appeared at community groups and stakeholder meetings state wide. Because of her work communicating science, Dr Hardy was an invited speaker at the 2009 Queensland Parliament's Science in Parliament.

### Jackson, Richard

#### University of California, Los Angeles

Dr. Richard Joseph Jackson is Professor and Chair of Environmental Health Sciences at the Fielding School of Public Health at the University of California, Los Angeles. A pediatrician, he has served in many leadership positions in both environmental health and infectious disease with the California Health Department, including the highest as the State Health Officer. For nine years he was Director of the CDC's National Center for Environmental Health in Atlanta and received the Presidential Distinguished Service award. In October, 2011 he was elected to the Institute of Medicine of the National Academy of Sciences. While in California he helped establish the California Birth Defects Monitoring Program and state and national laws to reduce risks from pesticides, especially to farm workers and to children. While at CDC he established the national asthma epidemiology and control program, oversaw the childhood lead poisoning prevention program, and instituted the federal effort to "biomonitor" chemical levels in the US population. He has received the Breast Cancer Fund's Hero Award, as well as Lifetime Achievement Awards from the Public Health Law Association, and the New Partners for Smart Growth. In October 2012 he is the recipient in Pittsburgh of the Heinz Award for Leadership in the Environment. He receives research funding from the Robert Wood Johnson Foundation and the Centers for Disease Control. Dr. Jackson lectures and speaks on many issues, particularly those related to built environment and health. He co-authored two Island Press Books: Urban Sprawl and Public Health in 2004 and Making Healthy Places in 2011. He is host of a 2012 public television series Designing Healthy Communities which links to the J Wiley & Sons book by the same name published in October, 2011. He has served on many environmental and health boards, as well as the Board of Directors of the American Institute of Architects. He is an elected honorary member of the American Society of Landscape Architects.

### Jersey, Gilbert

#### Independent Consultant

Mr. Gilbert (Gib) Jersey is a recent retiree of ExxonMobil in 2013 where he held the positions of Distinguished Research Associate and Program Leader in the Corporate Strategic Laboratory. At ExxonMobil, he was responsible for leading efforts in environmental assessment and life cycle analysis of emerging energy resources such as shale gas, oil sands, and biofuels as well as developing collaborations with external scientific experts from academia and national laboratories for joint research programs in these areas. During his 29 years at ExxonMobil, he has also held positions of leadership in other areas of

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research including advanced fuels for fuel cell vehicles and advanced gasoline and diesel engine technology to improve energy efficiency and environmental performance of fuels. In this role, he developed and led research projects with global vehicle manufacturers and interacted with U. S. national laboratories and the Department of Energy. At the merger of Exxon and Mobil he was a member of the strategic research planning department and was responsible for the integration of the two companies' research programs on advanced fuels and engine technologies. Earlier in his career, he led air quality monitoring, modeling, and risk assessment studies to support the company's activities at refineries, chemical plants, and oil and gas development operations. Prior to his career at ExxonMobil, he was a research engineer at an electric utility engineering and construction company where he conducted air quality studies for new power plants. He was also employed as an air quality meteorologist at a local environmental agency in Pennsylvania. Over his career he has served in industry and professional activities including technical committees of the American Petroleum Institute, the Coordinating Research Council (an auto-energy industry research group) and the American Institute of Chemical Engineers' Center for Chemical Process Safety. He also led the analysis of the Transportation Efficiency committee for the 2007 National Petroleum Council study "Facing the Hard Truths about Energy". He is currently a member of the Transportation Energy Committee of the National Academy's Transportation Research Board and the editorial advisory board of the Sustainable Chemistry and Engineering journal. He is a member of the American Meteorological Society. Mr. Jersey earned his B.S. and M.S. degrees in meteorology from the Pennsylvania State University, where his area of research was in the development of computational models to simulate atmospheric mixing which was funded by the Environmental Protection Agency.

### **Kapuscinski, Anne R. D.**

#### Dartmouth College

Dr. Anne R. Kapuscinski is the inaugural Sherman Fairchild Distinguished Professor of Sustainability Science and Chair of the Environmental Studies Program at Dartmouth College. Previously, she was on the University of Minnesota faculty in the Department of Fisheries, Wildlife and Conservation Biology and founding fellow of the Institute on the Environment. Her work has primarily focused on ecological consequences of technology--from dams and hatcheries to aquaculture and genetic engineering--on fish biodiversity and aquatic ecosystems. She has developed risk assessment methodologies that better integrate ecological science and stakeholder participatory processes. Recent research on society's capacity for a sustainability transition involved participatory scenario learning via the Minnesota 2050 project. At Dartmouth, she has launched interdisciplinary research on integrated food-energy systems studying the adoption and ecological, social and economic consequences of up-cycling of wastes into valuable inputs and products, for different configurations of these systems. Her lab is studying food linkages in integrated food-energy systems involving aquaculture, microalgae-based fish feeds, and up-cycling of aquaculture effluents as nutrient inputs to crops and microalgae production. Kapuscinski has been a scientific advisor to the U.S. Secretary of Agriculture under three administrations, U.S. Food and Drug Administration, World Health Organization, Food and Agriculture Organization, Global Environment Facility, European Union Food Safety Agency, and the state of Minnesota. She co-authored a state-wide environmental conservation plan for the Minnesota legislature. She served on National Academy of Science committees on conservation of salmon and their watersheds, including Pacific salmon in the Northwest and Atlantic salmon in Maine; and on research needs for ecological risk assessment of genetically modified organisms and on biological confinement of such risks. She was on the Board of Trustees and chaired the Science Advisory Committee of the WorldFish Center and serves on the Board of the Union of Concerned Scientists. Kapuscinski edited a CABI book series, "Environmental Risk Assessment of Genetically Modified Organisms", and is co-editor in chief of Sustainability Transitions, a domain of a new online journal, "Elementa: Science of the Anthropocene". Professor Kapuscinski received her BA in Biology from Swarthmore College and MS and PhD degrees in Fisheries (with Water Resources minor) from Oregon State University. She received an Honor Award from the U.S. Secretary of Agriculture for environmental protection, a Pew Fellowship in Marine Conservation, and a Distinguished Service Award from the Society for Conservation Biology. Current research support comes from Dartmouth and an EPA STAR fellowship to a PhD student.

### **Khanna, Madhu**

#### University of Illinois at Urbana-Champaign

Dr. Madhu Khanna is a professor in the Department of Agricultural and Consumer Economics at the University of Illinois at Urbana-Champaign. She received her Ph.D. from the University of California at Berkeley. Her research focuses on environmental policy analysis and incentives for adoption of environmentally friendly technologies. She has examined the effectiveness of alternative market based instruments for inducing the adoption of best management practices in agriculture such as precision farming and improved irrigation methods and the targeting of green payment policies for reducing nitrogen run off and sediment from cropland. She has also examined the motivations and effectiveness of voluntary approaches to environmental protection. Her current work is examining the economics and land use implications of biofuel production. Her research is currently funded by NSF, USDOE and the Energy Biosciences Institute, University of California, Berkeley. Professor Khanna's teaching responsibilities have included undergraduate and graduate courses in international trade and environmental economics. She has received several teaching and research awards and was supervisor of the recipient of an Outstanding Thesis Award in 2002 from the American Association of Agricultural Economics. She was selected as a University of Illinois Scholar for 2004-07 and a Leopold Leadership Fellow of the Woods Institute at Stanford University in 2010. She has served on review panels for the USEPA and the USDA and on the Board of Directors of the Association of Environmental and Resource Economists. She currently serves as the Chair of the Board of the South Asian Network of Development and Environmental Economics and is an Associate Member of the Standing Panel on Impact Assessment of CGIAR (Consortium of International Agricultural Research). She has served on the editorial boards of several agricultural and environmental economics journals and is currently the editor of the American Journal of Agricultural Economics.

### **Kyle, Amy D.**

#### University of California, Berkeley

Dr. Amy D Kyle spent her formative years engaged in policy change to improve environmental quality and public health and retains a primary interest in public policy and has a broad background in environmental health research and practice. Professor Kyle's work is at the intersection of science, policy, and civic engagement. She is currently exploring use of networking approaches to engagement and to propagation of knowledge and capacity for change across disciplinary and sectoral boundaries. She is working on design of research translation and engagement programs that can transition to new platforms, with a current focus on adapting scientific content for video and mobile media. She specializes in design of forums for engagement that span academic and external sectors. Her research

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interests include the relationship between policy concepts and metrics based on empirical data, higher order approaches to synthesis of scientific research, uptake of scientific findings and knowledge by institutions of civil society and public institutions, and representation of scientific findings and knowledge in ways that are understandable by policy audiences. Recent topics include cumulative impacts, chemicals policies, children's environmental health, biomonitoring, and air pollution standards. Dr. Kyle directs research translation and community engagement for the Superfund Research Program at Berkeley and the Center for Integrative Research on Childhood Leukemia and the Environment and is affiliated with research groups on Environmental Public Health Tracking. She was recently appointed Associate Director of the Berkeley Institute for the Environment. She works with many community-based organizations, non-governmental organizations, executive and legislative agencies, and academic partners. Professor Kyle has served in senior positions in environmental protection at the state level, working on a wide range of environmental, health, and natural resources issues. Her Masters of Public Health and her doctorate in environmental health sciences and policy are from the University of California, Berkeley and BA in environmental sciences is from Harvard College. She has served as vice chair of the California Breast Cancer Research Council, was elected as Councilor to the Environment Section of the American Public Health Association, and was appointed by US Environmental Protection Agency Administrator Lisa Jackson to the Children's Health Protection Advisory Committee. Her academic work has been supported by the National Institute of Environmental Health Sciences, the US Environmental Protection Agency, the Centers for Disease Control and Prevention, and the State of California.

### Larsen, Christopher

SUNY Buffalo

Dr. Chris Larsen is an Associate Professor and Director of Graduate Studies in Geography at the University at Buffalo, State University of New York. He received his B.S. degree in Physical Geography from the University of Calgary, and his M.S. and Ph.D. degrees in Physical Geography from McMaster University. His teaching at the undergraduate and graduate level has been on: Climate Change, Conservation Biology, Forest Ecology, and Restoration Ecology. Dr. Larsen's research is at the intersection of climate change, landscape ecology and ecological dynamics. He employs historical ecological and paleoclimatic data to assess ecosystem dynamics and to provide context for ecological restoration. Additional research with graduate students has explored carbon sequestration by vegetation at the local scale of brownfields in Buffalo, to the regional scale of the forests of the eastern USA, and landscape-scale conservation and restoration of amphibians including the eastern hellbender. He has published 23 peer-reviewed publications that have received over 1600 citations and have an h-index of 15. Dr. Larsen's research has been supported by Parks Canada (to assess the relative impacts of past climate change and human fire-control on wildfire frequency), Forest Renewal British Columbia (to assess the frequency and landscape pattern of human caused wildfires), Niagara Power (to evaluate restoration plans for terrestrial portions of the Niagara River), and the National University of Singapore (to evaluate the relative impact of past anthropogenic disturbances and future impact of anthropogenic climate change on forest composition).

### Lehman-McKeeman, Lois

Bristol-Myers Squibb Company

Dr. Lois Lehman-McKeeman is currently Distinguished Research Fellow in Discovery Toxicology at the Bristol-Myers Squibb (BMS) Company in Princeton, NJ, where she has worked since 2001. Prior to joining BMS, she was employed in the Human and Environmental Safety Division of the Procter and Gamble. Dr. Lehman-McKeeman has active research interests broadly in biochemical mechanisms of toxicity. Her research also includes emphasis on the application and integration of metabolomic and transcriptomic technologies in mechanistic toxicology. She has published extensively in these fields. Dr. Lehman-McKeeman received a BS degree in Toxicology from the University of the Sciences in Philadelphia and holds a Ph.D. in Toxicology from the University of Kansas Medical Center. She has been active professionally in the Society of Toxicology (SOT) serving on numerous SOT committees, and she has held elective office in the SOT as Councilor from 2000-2002 and the SOT Awards Committee (2008-2010). She was elected as Vice-President elect of the SOT in 2011, serving as President of the SOT in 2013-2014. In 2003, she was appointed Editor of Toxicological Sciences, a position she held through completion of the 2011 journal year. She has also served on a number of other editorial boards. Dr. Lehman-McKeeman has served on numerous national and international advisory committees for USEPA, NIH and IARC and the International Life Sciences Institute (ILSI). She was elected as a Fellow of the American Association for the Advancement of Science (AAAS) in 2008, and she is a fellow in the Academy of Toxicological Sciences. She was also the recipient of the Robert Scala Award in Toxicology for research excellence in an industrial laboratory (1994), the Society of Toxicology Achievement Award (2003) and the George H. Scott Award for scientific excellence from the Toxicology Forum (2006).

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### Mena, Kristina D.

University of Texas Health Science Center at Houston

Dr. Kristina D. Mena is Associate Professor and Program Head of Environmental and Occupational Health Sciences in the Division of Epidemiology, Human Genetics, and Environmental Sciences at the University of Texas – Houston, School of Public Health (UT-Houston SPH). She earned a BA in Biology at Franklin College (Indiana), a MSPH at the University of South Florida, a PhD in environmental microbiology and epidemiology at The University of Arizona, and completed a Post-Doctoral Fellowship in the Food Animal Health and Management Center at Kansas State University. As Program Head, Dr. Mena oversees all environmental faculty at each of the six campuses of UT-Houston SPH, which is part of the largest medical center in the world. A trained water microbiologist, Dr. Mena is located at the El Paso Regional Campus of UT-Houston SPH where she addresses Hispanic health disparities through epidemiological studies and human health risk assessment. Internationally, she is among a relatively small group of researchers with an expertise in microbial and chemical risk assessment, which evaluates both acute and chronic health outcomes associated with water. Her research has been funded by the National Institutes of Health (NIH), the National Aeronautics and Space Administration (NASA), the Paso del Norte Health Foundation, (the former) American Water Works Association Research Foundation (AwwaRF), and other agencies. Dr. Mena translates laboratory and field data to human health impact, and communicates such findings in ways meaningful among diverse audiences, including those facing health disparities. Her research has identified risk factors associated with infectious disease transmission for a range of populations – from those living in rural, socially marginalized communities to the flight crew at the International Space Station. Her studies incorporate clinical and environmental sampling, as well as survey administration in order to comprehensively characterize human health risk so that mitigation strategies can be developed and implemented. Dr. Mena currently serves as co-Director of the Community Engagement and Dissemination Core of the NIH-funded Hispanic Health Disparities Research Center (HHDR) with the University of Texas at El Paso (UTEP). In addition, she has been named to serve as co-Director of the newly proposed Community Engagement Core for the renewal application of the NIH-funded Research Centers in Minority Institutions (RCMI) Border Biomedical Research Center.

### Mihelcic, James R.

University of South Florida

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 are 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 has research support from the Water Reuse Foundation to assess models to estimate greenhouse gas emissions and the carbon footprint of water reuse and desalination facilities. Finally, Dr. Mihelcic has several research grants to improve management of water resources, water reuse, and sanitation technologies in the developing world. This includes support from Catholic Relief Services-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 USAID PEER Science grant that when integrated with NSF funding allows his research group to study the fate of enteric pathogens during the safe reclamation of water and nutrients from reused wastewater.

### Misra, Veena

North Carolina State University

Dr. Veena Misra is the Director of the NSF Center for Advanced Self-Powered Systems of Integrated Sensors and Technologies (ASSIST) and a Professor of Electrical and Computer Engineering at North Carolina State University. The Center is focused on developing wearable sensors that can empower individuals to monitor their personal environmental exposures and simultaneously their personal health parameters with innovative, comfortable, wearable and battery-free devices. These wearable devices will be powered by the human body in the form of heat and motion. These technologies will enable long term monitoring of environmental toxins (such as ozone and particulate matter) and body signals (such as heart rate and wheezing) to enable the direct correlation between personal exposure and personal health and enable rapid assessment and effective treatment. With these technologies, ASSIST can help scientists directly address how environment impacts chronic conditions such as asthma and heart disease. Dr. Misra's expertise include nanodevices for computation that consume very low power, nano-enabled energy harvesting, low power sensors, molecular electronics and power electronics. Dr. Misra's work has been recognized by the National Science Foundation (Presidential Early Career Award for Scientists and Engineers) and International Electrical and Electronics Engineering (IEEE) (Fellow induction). She has won numerous awards at North Carolina State University (Alcoa Research awards and the Outstanding Alumni Research Award) and at Motorola where she worked prior to joining North Carolina State University. She has generated 15 patents to date and over 150 publications. Dr. Misra has served on many international professional societies and recently was the general chair of the IEEE Electron Device Meeting Conference, considered to be the flagship conference of electronic devices. She has presented numerous invited talks and most recently gave a plenary lecture at the Ninth International Nanotechnology Conference on Communication and Cooperation on the use of wearable technologies to correlate health and environment. Dr. Misra's research has been supported by the

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National Science Foundation (self-powered technologies for health and environment, ultra low power memory and logic devices), Office of Naval Research (devices for radio frequency applications), Department of Defense (molecular electronics) and corporations such as Intel, Semiconductor Research Corporation, LSI Logic, CREE and Toyota (ultra low power devices). Dr. Misra received her B.S., M.S., and Ph.D. degrees from North Carolina State University in Electrical and Computer Engineering. Prior to becoming a faculty members, she worked at Motorola in the Advanced Products Research and Development Laboratories in Austin, Texas.

### Moo-Young, Horace

Washington State University, Tri-Cities

Dr. H. Keith Moo-Young is Chancellor of the Washington State University, Tri-Cities, Richland, Washington. Prior to assuming this position in April 2013, he served as 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 (NSWC) 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.

### Morgan, Jayne

American Chemistry Council

Dr. Jayne Morgan is a Cardiologist with extensive experience in clinical patient management, as well as compound and biotech research. For the past 2 decades, she has focused on improving the care and quality of life measures for patients from heterogenous populations, including end-of-life patients without further medical options. Serving in the roles of Clinical Development and Medical Affairs for global pharmaceutical and device companies for the past 7 years, she has successfully lead Phase II and III programs in the U.S., and Phase IV programs in Europe. As the driver of the cardio-renal and heart failure programs (sponsored and funded by Solvay Pharmaceuticals), and providing scientific guidance as a consultant to the MitraClip programs (funded and sponsored by Abbott Vascular), her experience in the design and execution of large international clinical trials for both devices and pharmaceuticals is well established. Acknowledged with both the Solvay Cardio-Metabolic Strategic Paper Award for noncommunicable diseases and People to People Ambassadorship for vulnerable global populations, she has selected and lead many scientific panel experts including Steering Committees, Adjudication Committees, and Data Safety Monitoring Board Committees, and has also served on panels for both the FDA and EMEA. Dr. Morgan received her B.S. degree in Biology and Biochemistry from Spelman College; her M.D. degree from Michigan State University; her Internal Medicine Residency from George Washington University; and her Cardiology Fellowship from Mount Sinai Medical Center. She has treated patients in both rural primary care settings, as well as within academic institutions as the Associate Professor of Medicine at the Cleveland Clinic Florida, and is published in both the American Heart Journal and recognized by the Heart Failure Society for her work on A1 Adenosine Receptor antagonists. Further, Dr. Morgan has received numerous distinctions in Principles of Radiation Physics, Medical Radiation Instrumentation, Medical Radiation Protection, as well as RadioPharmaceuticals and Chemistry. She is presently serving as the Chief Medical Officer of the American Chemistry Council where she is charged in part with integrating a medical and public health perspective into initiatives, and the coordination of research across the organization.

### Ostrander, Gary

Florida State University

Dr. Gary Ostrander is the Vice President for Research and President of the Research Foundation at Florida State University. Dr. Ostrander directs the Office of Research and all aspects of Florida State University's \$200 million research enterprise. He oversees a staff of 80, a \$29 million operating budget and is a Professor in the School of Medicine. His own research has spanned from cancer biology to marine biology. Hereceived a bachelor's degree in biology from Seattle University, a master's degree in biology from Illinois State University, and a doctorate from the University of Washington in Oceans and Fisheries Science. He was also an NIH postdoctoral fellow in the Department of Pathology at the University of Washington. As a University Professor his research focused on exploiting novel aspects of the biology of aquatic species to address fundamental mechanistic questions relating to cancer. In the last decade, his research program has expanded to include laboratory and field studies aimed at understanding the worldwide deterioration of coral reef ecosystems. He has authored/co-authored over 80 peer-reviewed publications, edited 4 books and co-authored a field guide. Professional service

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has included editorships, serving on grant review panels, organizing symposia and workshops, and serving on a number of diverse boards (e.g. National Institutes for Water Resources, AAU Executive Committee for Graduate Deans, Pan-American Marine Biotechnological Association and UT-Battelle Board of Governors).

### **Paulson, Jerome**

George Washington University

Jerome A. Paulson, MD is a Professor of Pediatrics at the George Washington (GW) University School of Medicine & Health Sciences, and Professor of Environmental & Occupational Health at the GW School of Public Health & Health Services. He is the Medical Director for National & Global Affairs of the Children's Health Advocacy Institute at the Children's National Medical Center and the director of the Mid-Atlantic Center for Children's Health and the Environment (MACCHE). He holds a B.S. in Biochemistry from the University of Maryland, and an M.D. from Duke University. Dr. Paulson is the chair of the Executive Committee of the American Academy of Pediatrics' Council on Environmental Health and a member of the Children's Health Protection Advisory Committee for the U.S. Environmental Protection Agency (EPA). He served on the Pediatric Medical Care Committee of the National Commission on Children and Disasters and was part of the National Conversation on Public Health and Chemical Exposures organized by the Agency for Toxic Substances and Disease Registry (ATSDR). Dr. Paulson was a recipient of a Soros Advocacy Fellowship for Physicians from the Open Society Institute and worked with the Children's Environmental Health Network. He also served as a special assistant to the director of the National Center on Environmental Health of the Centers for Disease Control and Prevention working on children's environmental health issues. He has published on a number of topics related to children's health and the environment and has served on numerous boards and committees related to children's environmental health. Dr Paulson receives no research support; MACCHE is funded through a collaborative agreement between the ATSDR and the Association of Occupational and Environmental Clinics with supplemental funding from EPA.

### **Poirot, Richard L.**

Vermont Agency of Natural Resources

Mr. Richard L. Poirot has worked as an Environmental Analyst in the Air Quality Planning Section of the Vermont Department of Environmental Conservation since 1978. Mr. Poirot holds a B.A. from Dartmouth College (1972), where he majored in geography and environmental studies. His responsibilities include developing the technical support for State Implementation Plans (SIPs) to ensure attainment and maintenance of federal and state standards for ozone, particulate matter, and regional haze. Mr. Poirot has also developed interests and expertise in drawing inference on the nature of pollution sources from analysis of ambient air quality and meteorological measurement data. He has been an active participant on the Acid Deposition Committee and the Ambient Monitoring and Assessment Committee for the Northeast States for Coordinated Air Use Management (NESCAUM); the U.S. Environmental Protection Agency (EPA) Acid Rain Advisory Committee; the Data Analysis Workgroup for the Ozone Transport Assessment Group (OTAG); the Science and Technical Support Workgroup for the Federal Advisory Committee on Ozone, Particulate Matter and Regional Haze (OPRHA); the Monitoring and Data Analysis Workgroup for the Mid Atlantic/Northeast Visibility Union (MANE-VU), the Steering Committees for the Interagency Monitoring of Protected Visual Environments (IMPROVE) and the Visibility Information Exchange Web System (VIEWS); the Subcommittee on Scientific Cooperation for the US/Canada Air Quality Agreement; the EPA Clean Air Scientific Advisory Committee (CASAC), the CASAC Ambient Air Monitoring and Methods Subcommittee and the CASAC Panels for Particulate Matter, Ozone, Lead, and Secondary SOx and NOx NAAQS Review; the NARSTO External Review Panel; the EPA Advisory Council on Clean Air Compliance Analysis and the Council Subcommittee on Ambient Air Modeling; and the Board on Environmental Studies and Toxicology (BEST) for the National Research Council. He is not currently a recipient of research grants from the Environmental Protection Agency, other federal agencies, or the private sector.

### **Richardson, David B.**

University of North Carolina

Dr. David B. Richardson is Associate Professor of Epidemiology in the School of Public Health at the University of North Carolina at Chapel Hill. His research focuses on the health effects of occupational and environmental exposures, particularly with regards to ionizing radiation. He has conducted studies of cancer among nuclear workers at several U.S. Department of Energy facilities, as well as studied cancer among the Japanese survivors of the atomic bombings of Hiroshima and Nagasaki. He has served as a visiting scientist at the World Health Organization's International Agency for Research on Cancer in Lyon, France and at the Radiation Effects Research Foundation in Hiroshima, Japan. Since 2007, he has served as Director of the National Institute of Occupational Safety and Health-funded training program in occupational epidemiology at the University of North Carolina-Chapel Hill. In addition, he is a core faculty member at the Injury Prevention Research Center at the University of North Carolina, and a member of the Exposure and Biomarkers Research Core at the University's Center for Environmental Health and Susceptibility. He is an Associate Editor of the journals Occupational and Environmental Medicine, American Journal of Epidemiology and Environmental Health Perspectives, is a member of the President's Advisory Board on Radiation and Worker Health, and currently serves on the Institute of Medicine's Committee on Review of the Department of Labor's Site Exposure Matrix Database. Dr. Richardson's current research includes studies of mortality among workers in the nuclear industry and development of innovative methods for occupational cancer studies. These research activities are supported by grants from the National Institute for Occupational Safety and Health, and the National Cancer Institute. Dr. Richardson received a Ph.D. and M.S.P.H., both in epidemiology, from the University of North Carolina.

### **Rosner, Robert**

The University of Chicago

Robert Rosner is a theoretical physicist, with primary interests in fluid dynamics and plasma physics, especially in areas that bridge laboratory science with computational modeling; as well as in energy technologies and policy analysis. He is on the faculty of the University of Chicago (since 1987), where he is the William E. Wrather Distinguished Service Professor in the departments of Astronomy & Astrophysics and Physics at the University of Chicago, as well as in the Enrico Fermi Institute and the Harris School of Public Policy Studies. He served as Argonne National Laboratory's Chief Scientist and

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Associate Laboratory Director for Physical, Biological and Computational Sciences (2002-05), and was Argonne's Laboratory Director from 2005-09; he was the founding chair of the U.S. Dept. of Energy (DOE) National Laboratory Directors' Council (2007-09). His degrees are all in physics (BA, Brandeis University; PhD, Harvard University). He was elected to the American Academy of Arts and Sciences in 2001, and to the Norwegian Academy of Science and Letters (as a Foreign Member) in 2004; he was also elected Fellow of the American Physical Society. His current research work is focused on turbulent mixing in nonlinear Rayleigh-Taylor, Kelvin-Helmholtz, and other interface mixing flows and transient MHD processes; and modeling and simulations of advanced energy technologies, including advanced nuclear reactors. More generally, he is involved in the development of modern high-performance computer simulation tools, with a particular interest in complex systems. Within the past few years, he has been increasingly involved in energy technologies, and in the public policy issues that relate to the development and deployment of various energy technologies; he is the founding director of the Energy Policy Institute at Chicago (EPIC), located at the Harris School of Public Policy Studies and Booth School of Business of the Univ. of Chicago. Among his various external activities, he currently serves on the DOE Fusion Science Advisory Committee (FESAC); is chair of the American Physical Society Panel on Public Affairs (POPA); and serves on the Council of the American Academy of Arts & Sciences. He receives support from the Department of Energy Office of Advanced Scientific Computing Research and the MacArthur Foundation.

### Rossmann, Toby

#### New York University

Dr. Toby Rossmann is Professor of Environmental Medicine and Director of Molecular Toxicology and Carcinogenesis Program. He holds a Ph.D. in Basic Medical Sciences from NYU School of Medicine (Microbiology and Biochemistry specialization) and did a postdoctoral in Pathology. He has published widely on various aspects of metal toxicology and carcinogenesis, with most of his recent work on arsenic. He developed the first animal model for arsenic-induced skin cancer. He has written numerous reviews on arsenic. He served on the Chemical Pathology Study Section (NIH) (ad hoc), the National Toxicology Program (NTP) Study Section to review proposals for contracts, the American Cancer Society Study Section (Genetics), twice on the Environmental Health Sciences Review Committee (NIEHS), NIH Small Business Grants (Genetics) study section, and the Metabolic Pathology Study Section (NIH). He serves on the editorial boards of Environmental and Molecular Mutagenesis and Mutation Research, and previously of Molecular Toxicology and Teratogenesis, Carcinogenesis and Mutagenesis. He is an active member of the Environmental Mutagen Society (EMS), Society of Toxicology (SOT), and American Association for Cancer Research (AACR). He participated in the Workshop "Environmental restoration: Significant basic research needs", U.S. Department of Energy, 1990 and the International Agency for Research in Cancer (IARC) review of the carcinogenicity of metals, Lyon, France, 1993 and again in 2004. He organized and chaired the session on mechanisms of carcinogenesis at the NIH/EPA meeting "Arsenic: Health Effects, Mechanisms of Action, and Research Issues", Baltimore, Sept. 22-24, 1997. He was co-organizer of the First, Second, and Third International Meetings on Molecular Mechanisms of Metal Toxicity and Carcinogenicity. In 2003, he edited a Special Issue of Mutation Research devoted to Metals and Carcinogenesis. He is currently on the Council of the Metal Specialty Section of SOT, and on the Program committee for the 9th Symposium of Metals in Biology and Medicine to be held in Lisbon in 2006. He has received almost 30 years of federal funding for my research, mostly from NIH. His current support is from the Superfund Basic Research Program.

### Sheeran, Kristen A.

#### Economics for Equity and the Environment Network

Dr. Kristen Sheeran is Vice President of Knowledge Systems at Ecotrust and Director of Economics for Equity and Environment Network. Dr. Sheeran is an environmental economist whose research focuses on climate change, environmental policy, natural resource management, and political economy. She is the author of numerous scholarly journal articles, research papers, and reports. Her book, *Saving Kyoto* (New Holland 2009), with Graciela Chichilnisky, was recognized as Outstanding Academic Title of 2010 by the American Library Association and Book of the Month by the American Geographical Society. Her research has also been cited in articles in the *New York Times*, *Wall Street Journal*, *Washington Post*, *Forbes*, and *Scientific American* amongst others major newspapers. Six years ago, Dr. Sheeran left a tenured position as Associate Professor of Economics at St. Mary's College of Maryland to found and direct Economics for Equity and Environment Network (E3) at Ecotrust. E3 is a national network of more than 250 economists committed to improving environmental decision-making at multiple scales through applied research, education, and engagement. She is now Vice President at Ecotrust, a non-profit conservation and community development think and do tank based in Portland, Oregon. At Ecotrust, Dr. Sheeran leads an interdisciplinary research team that includes economists, systems scientists, GIS and spatial analysts, cartographers, and software developers. She is responsible for fund raising, strategic guidance, project design, and execution for more than \$3 million dollars in grant funded research projects annually. Dr. Sheeran graduated Summa Cum Laude and Phi Beta Kappa with a B.A. degree in Economics and in Political Science from Drew University. Her Ph.D. in economics was awarded by the American University. She has held a tenured faculty position at St. Mary's College and visiting faculty appointments at Dickinson College, Lewis and Clark College, and American University. She is affiliated with Portland State University and is on the advisory board of Ore-Cal, a collaborative agricultural and resource policy institute of Oregon State University and the University of California at Davis.

### Trasande, Leonardo

#### New York University School of Medicine

Dr. Leonardo Trasande is a faculty member in pediatrics and environmental medicine at the NYU School of Medicine, and in health policy at the NYU Wagner School of Public Service. Dr. Trasande's research focuses on identifying the role of environmental and other factors in chronic childhood disease, and documenting the economic costs for policy makers of failing to prevent them proactively. Dr. Trasande is perhaps best known for a 2011 study in *Health Affairs* which found that children's exposures to chemicals in the environment cost \$76.6 billion in 2008. His analysis of the economic costs of mercury pollution played a critical role in preventing the Clear Skies Act (which would have relaxed regulations on emissions from coal-fired power plants) from becoming law. He has also published a series of studies which document increases in hospitalizations associated with childhood obesity and increases in medical expenditures associated with being obese or overweight in childhood. These studies have been cited in the Presidential Task Force Report in Childhood Obesity, and another landmark study identified that a \$2 billion annual investment in prevention would be cost-effective even if it produced small reductions in the number of children who were obese and overweight. He serves on the Executive Committee of the Council for Environmental Health of the American Academy of

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Pediatrics, on the CDC's World Trade Center Health Program Scientific and Technical Advisory Committee, and on a United Nations Environment Programme Steering Committee which is developing a Global Outlook on Chemicals Policy. He recently served on the Board of Scientific Counselors for the National Center for Environmental Health at the Centers for Disease Control and Prevention. Dr. Trasande earned a Master's degree in Public Policy from Harvard's Kennedy School of Government, and an M.D. from Harvard Medical School. He completed a pediatrics residency at Boston Children's Hospital, a Dyson Foundation Legislative Fellowship in the office of Senator Hillary Rodham Clinton, and a fellowship in environmental pediatrics at the Mount Sinai School of Medicine. He has testified before the Senate's Environment and Public Works committee and Democratic Policy Committee. His work has been featured on the CNN documentary Planet in Peril and in National Geographic, and frequently appears on national media, including NBC's Today Show, ABC's Evening News and National Public Radio. He currently receives funding from the National Institute for Occupational Safety and Health NIOSH for clinical care for children exposed to the World Trade Center disaster; National Institute of Environmental Health Sciences (NIEHS) & Fogarty for a study of prenatal methylmercury exposure; and NIEHS, Fogarty & NIOSH for building studies of air pollution and children's health in China.

### Vena, John

University of Georgia

Dr. John E. Vena is the Head of the Department of Epidemiology and Biostatistics and University of Georgia Foundation Professor in Public Health at the College of Public Health, University of Georgia. From 2003-2008 he served as Professor and Chair of the Department of Epidemiology and Biostatistics at the Arnold School of Public Health at the University of South Carolina (USC). Dr. Vena was Professor of Social and Preventive Medicine at the State University of New York at Buffalo, School of Medicine and Biomedical Sciences and a research fellow at Roswell Park Cancer Institute (1981-2003) and Director of the Environment & Society Institute (1999-2003). Dr. Vena received his B.S. in Biology from St. Bonaventure University and his M.S. and Ph.D. degrees in Epidemiology from the State University of New York at Buffalo. Dr. Vena is a Fellow of the American College of Epidemiology and the American Epidemiological Society, a member of the International Society for Environmental Epidemiology, Society for Epidemiologic Research and the American Public Health Association (APHA). He has published extensively in the field of environmental and occupational epidemiology and his studies have included descriptive and analytic studies of air and water pollution, bladder cancer and drinking water contaminants, occupational exposures, health of municipal workers including firefighters and police officers, diet, electromagnetic fields and persistent environmental toxicants. His current grant activities are funded by the Georgia Cancer Coalition and the national Institutes of Health on the topics of environmental determinants of cancer and systemic lupus erythematosus (SLE); physical activity, stroke and cognitive function; stress and cardio-metabolic disease in police; biomarkers of SHS smoke; long-term lung health after exposure to chlorine gas; and health effects of persistent organic pollutants. Since 1981, Dr. Vena has taught courses in epidemiologic methods and applications in occupational health and in environmental health and has mentored graduate students, post-doctoral fellows and junior faculty.

### Walker, Harold

Stony Brook University

Dr. Harold Walker is currently the founding Director and Professor of Civil Engineering at Stony Brook University. Prior to coming to Stony Brook, Dr. Walker was a Professor in the Department of Civil, Environmental, and Geodetic Engineering at The Ohio State University for 16 years. Dr. Walker also served as the Director of the Ohio Water Resources Center, the federally-authorized and state-designated water resources research institute for the state of Ohio as established by the Water Resources Research Act of 1964. Dr. Walker also served on the Board of Directors of the National Institutes for Water Resources as well as the Board of Directors for the Water Management Association of Ohio. Dr. Walker is registered Professor Engineer in the state of Ohio. Dr. Walker's has a BS in Environmental Engineering from Cal Poly San Luis Obispo and MS and PhD degrees in Civil and Environmental Engineering from the University of California, Irvine.

### Weis, Judith S.

Rutgers University

Dr. Judith Weis is currently Professor Emerita, Department of Biological Sciences, Rutgers University, Newark NJ. He previously served as Associate Dean for Academic Affairs at the University. She also has served as a AAAS/American Society of Zoologists Congressional Science Fellow with the Senate Environment and Public Works Committee, and served as a Program Director at the National Science Foundation. She has been a visiting scientist at EPA, both at the research lab at Gulf Breeze FL and in the Office of Water (Ocean and Coastal Protection Division). Advanced Degrees: She received her bachelor's degree from Cornell University, and MS and PhD from New York University. Her research focuses on estuarine ecology and ecotoxicology. She has published about 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, and behavior; altered behavior and ecology of populations in contaminated estuaries; development of tolerance to contaminants in populations living in contaminated areas; effects of invasive marsh plant species on estuarine ecology and on fate of metal contaminants. Much of her research has been focused on estuaries in the NY/NJ Harbor area, but she has worked in other estuaries along the Atlantic Coast and in Indonesia and Madagascar. Service and advisory committees: She has served on the Boards of Directors of the Society of Environmental Toxicology and Chemistry (SETAC) and the American Institute of Biological Sciences (AIBS). She was the Chair of the Biology Section of American Association for the Advancement of Science (AAAS) in 2000, and was the President of AIBS in 2001. She was on the board of the Association for Women in Science (AWIS) 2004-2006. She is a fellow of the American Association for the Advancement of Science (AAAS). She has served on advisory committees for the US Environmental Protection Agency (STAA for the EPA Science Advisory Board, and the Endocrine Disruptors Screening and Testing Advisory Committee – EDSTAC, and most recently the review of Aquatic Life Criteria in 2005 and the Report on the Environment in 2007) and for the National Oceanic and Atmospheric Administration (Sea Grant Advisory Board). She has been a member of the Marine Board of the National Research Council. She is Chair of the Science Advisory Board of the NJ Department of Environmental Protection, and co-chair of the Science & Technical Advisory Committee of the

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NY/NJ Harbor Estuary Program. She was previously on the Editorial Board of Transactions of the American Fisheries Society and the Bulletin of Environmental Contamination and Toxicology and was Associate Editor of Bulletin of Environmental Contamination and Toxicology. She is currently on the Editorial Board of BioScience and one of the editors of the on-line Encyclopedia of Earth.

### 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 is experienced in linking the needs of the management community with science. He specializes in 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. Dr. Weisberg's research projects are currently supported by the State of California (developing new indicators of beach water quality; developing protocols for conducting bacterial source identification studies) and San Diego County Department of Public Works (developing protocols for quantitative microbial risk assessment).

### Westerhoff, Paul K.

#### Arizona State University

Dr. Paul Westerhoff is an Associate Dean for Research in the Ira A. Fulton Schools of Engineering and Professor in School of Sustainable Engineering and The Built Environment, and member of the Civil, Environmental and Sustainable Engineering faculty, at Arizona State University (ASU). He holds a B.S. in Civil Engineering from Lehigh University, an M.S. in Civil and Environmental Engineering from University of Massachusetts, and a Ph.D. in Civil, Architectural and Environmental Engineering from the University of Colorado at Boulder. Dr. Westerhoff joined ASU in August 1995 and was promoted to full professor as a University Exemplar in 2007. He served as Department Chair in Civil and Environmental Engineering, and was the founding Director for the School of Sustainable Engineering and the Built Environment. Dr. Westerhoff has a strong publication and research record, has garnered wide recognition for his work related to treatment and occurrence of emerging contaminants in water, and has been active in multidisciplinary research. Dr. Westerhoff has over 125 peer reviewed journal article publications and has been involved in over 250 conference presentations. He belongs to the American Society of Civil Engineers (ASCE), the American Water Works Association (AWWA), the Association of Environmental Engineering and Science Professors (AEESP), the American Chemical Society (ACS), and the Arizona Water & Pollution Control Association (AWPCA), International Ozone Association (IOA), International Water Association (IWA), Arizona Water & Pollution Control Association (AWPCA), and International Humid Substances Society (IHSS), and serves on numerous voluntary committees for these organizations. He currently is a member of the U.S. Environmental Protection Agency (EPA) Science Advisory Board – Environmental Engineering Committee, Vice Chair of the WaterReuse Foundation Research Advisory Board, and external advisory board member of the EPA-NSF Center for Environmental Impacts of Nanotechnology. Dr. Westerhoff has received several research awards including the 2005 ASCE Walter L. Huber Research Award and the 2006 Water Environment Federation (WEF) Paul L. Busch Award. Dr. Westerhoff's current research is supported by the National Science Foundation to study photocatalytic reduction of nitrate in water; the Water Research Foundation to study Constructed Wetlands for Treatment of Organic and Nanomaterial Pollutants; the Water Environment Research Foundation to study the Fate of Engineered Nanomaterials in Wastewater Biosolids - Land Application; the National Institutes of Health to detect engineered nanomaterials in drinking water, food, commercial products and biological samples; the EPA to develop novel sorbents for multiple contaminant removal from groundwater serving small drinking water systems; Cities of Phoenix, Tempe, Peoria, Chandler (Arizona) and Central Arizona Project to monitor regional water quality (organics, taste and odor, and effects of forest fires) in central Arizona surface water; Semi-conductor Research Corporation (SRC) to develop methods for measurement and monitoring of engineered nanomaterials in electronics manufacturing; and Water Research Foundation to assess means of controlling the formation of nitrosamines in drinking waters.

### Wiedinmyer, Christine

#### National Center for Atmospheric Research

Dr. Christine Wiedinmyer is a Scientist III in the Earth System Laboratory at the National Center for Atmospheric Research in Boulder Colorado. She received a Bachelor's of Science in Chemical Engineering from Tulane University and a Master's and Ph.D. in Chemical Engineering from the University of Texas in Austin. Dr. Wiedinmyer is an expert in air quality modeling, and she studies the impact of air pollutants from various sources on atmospheric chemistry and climate. Dr. Wiedinmyer has developed emissions inventories from various sources, including natural and wildland fire emissions in order to understand their impacts on air quality and potential air pollution control strategies. She has designed a high resolution global fire emissions model now used by local, regional, and global chemical modelers to better quantify the impacts of fire emissions on atmospheric composition. Dr. Wiedinmyer's research is wide-reaching, and she continues to collaborate with biologists, ecologists, atmospheric scientists, public health experts, regulators, policy-makers, and land managers. She has authored more than 70 peer-reviewed publications. Dr. Wiedinmyer's research has supported in part by the National Science Foundation, the Environmental Protection Agency, the U.S. Dept. of Agriculture, and the National Oceanic and Atmospheric Administration. Dr. Wiedinmyer is a Board member of the Earth Science Women's Network and is actively working on projects to increase the diversity in the Earth Sciences. She is a member of several scientific and technical advisory panels. Dr. Wiedinmyer was recently selected as the Walter Orr Roberts Lecturer for the American Meteorological Society and Nominated Lecturer for the Association for Women Geoscientists.

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### Wilcoxon, Peter J.

#### Syracuse University

Dr. Peter J. Wilcoxon is an Associate Professor in the Departments of Economics and Public Administration at Syracuse University's Maxwell School, and he is also a Nonresident Senior Fellow at the Brookings Institution. He is the author or coauthor of three books and more than 50 papers and has won teaching awards at Harvard University and Syracuse University. Dr. Wilcoxon's principal area of research is the effect of environmental and energy policies on economic growth, international trade, and the performance of individual industries. His work often involves the design, construction and use of large-scale intertemporal general equilibrium models. He is coauthor of IGEM, a thirty-five-sector econometric general equilibrium model of the US economy that has been used to study a wide range of environmental, energy and tax policies. He is also coauthor of G-Cubed, a nine-region, twelve-sector general equilibrium model of the world economy that has been used to study international trade and environmental policies. In addition, he is a coauthor of a graduate-level textbook on general equilibrium modeling. Many of his recent publications have focused on national and international policies to control climate change. Dr. Wilcoxon received his BA in physics from the University of Colorado and his AM and PhD in economics from Harvard University. His past positions include Associate Professor of Economics, the University of Texas at Austin; Assistant Professor of Economics, the University of Texas at Austin; Visiting Fellow, the Brookings Institution; Visiting Scholar, Harvard University, and Senior Research Fellow, the University of Melbourne in Australia. In addition, he has served on EPA's Environmental Economics Advisory Committee. Dr. Wilcoxon's research has been supported by EPA, the National Science Foundation, the Department of Energy, and private sector organizations.

### Witherspoon, Nsedu Obot

#### Children's Environmental Health Network

Ms. Nsedu Obot Witherspoon serves as the Executive Director for the Children's Environmental Health Network (CEHN), the leading national non-profit organization dedicated to protecting children from environmental health hazards. For over 13 years, her work has included successfully organizing, leading, and managing science, education/training, and child-protective policy efforts. She serves as a key spokes person for children's vulnerabilities and the need for their protection against harmful chemical exposures, conducting presentations and lectures across the country. Ms. Witherspoon is editor of the Child Care Settings chapter in the American Academy of Pediatrics' Pediatric Environmental Health, 3rd Edition (2012). She was a contributor to the Environmental Quality Technical Panel for Caring for Our Children: National Health and Safety Performance Standards. Ms. Witherspoon has a published chapter on climate change and children's health in the book The Way We Will Be 50 Years from Today: 60 of the World's Greatest Minds Share Their Visions of the Next Half Century (2008). She is a co-author on the publications titled: The public health and policy implications of epigenetics and pediatric health research. Environmental Health Perspectives 120: A380-381 (2012) and Incorporating environmental health into pediatric medical and nursing education. Environmental Health Perspectives 112: 1755-60 (2004). Ms. Witherspoon is a leader in the field of children's environmental health, serving on the Children's Health Protection Advisory Committee for the Environmental Protection Agency and is a member of the Institute of Medicine's Environmental Health Sciences Roundtable. Ms. Witherspoon is a past member of the National Association of Environmental Health Sciences Council and past Coordinator of the National Institute for Environmental Health Sciences Public Interest Partners. She is a member of the Friends of the Columbia Center for Children's Environmental Health and a Strategy Advisor for the California Breast Cancer Prevention Initiatives (CBCPI) project, through UC San Francisco. She is also a Board member for the Pesticide Action Network of North America. She received her B.S. degree in Biology from Siena College and her Masters of Public Health Degree in Maternal and Child Health from The George Washington University. In recognition of her work and leadership, CEHN unveiled the Nsedu Obot Witherspoon (NOW) Student Achievement Award on 2012 to honor youth leaders working around the country to promote children's environmental health protection.