Invitation for Public Comment on the List of Candidates for the Environmental Protection Agency's Science Advisory Board

May 19, 2021

The U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announced in a Federal Register Notice (86 FR 17148-17149) on April 1, 2021, that it was inviting nominations of experts to be considered for the Administrator's appointment to the Science Advisory Board (SAB). The chartered SAB provides scientific advice to the EPA Administrator on a variety of EPA science and research topics. The SAB Staff Office invited nominations of individuals to serve on the chartered SAB with expertise or extensive experience in the following scientific disciplines and topics as they relate to human health and the environment: *Air quality; agricultural sciences and economics; analytical chemistry; atmospheric sciences; benefit-cost analysis; chemical safety; climate science; citizen science; community environmental health; dose-response assessment; drinking water; drinking water engineering; ecological sciences and ecological assessment; ecological risk assessment; ecosystem services; economics; energy and the environment; engineering; environmental justice; epidemiology; exposure assessment; forestry; geochemistry; health sciences; human health risk assessment; hydrology; hydrogeology; medicine; microbiology; modeling; pediatrics; pesticide risk assessment, public health; physiologically based pharmacokinetic (PBPK) modeling; risk assessment; social, behavioral and decision sciences; statistics; sustainability; radiological risk assessment; toxicology; uncertainty analysis; water quality; water quantity and reuse; and waste management.*

The SAB Staff Office received nominations for the attached 351 candidates based on their expertise and willingness to serve. We hereby invite public comments on the attached List of Candidates under consideration for appointment to the SAB. Comments should be submitted to Dr. Thomas Armitage, Designated Federal Officer, at armitage.thomas@epa.gov no later than June 9, 2021. E-mail is the preferred mode of receipt. Please be advised that public comments are subject to release under the Freedom of Information Act.

List of Candidates for the FY2022 Chartered SAB Membership

Abel, Troy

Western Washington University Huxley Peninsulas Program

Dr. Troy D. Abel is a Professor of Environmental Policy in Huxley College of the Environment, Western Washington University (WWU), and a co-recipient of the Lynton Keith Caldwell Award (2012) for the Massachusetts Institute of Technology (MIT) Press publication: "Coming Clean: Information Disclosure and Environmental Performance." His research and teaching interests focus on Environmental Justice (EJ), urban riskscapes, and industrial environmental performance. Between 2011 and 2019, Dr. Abel published a series of studies on environmental injustice in Seattle, Washington in the American Journal of Public Health, Interdisciplinary Environmental Review, the Routledge Handbook of Global Urban Health and Sustainability. He is currently the project director for the Environmental Protection Agency (EPA) Assistance Agreement NE-01J78901–0 on an environmental justice science education program. Dr. Abel also recently collaborated on two EPA Collaborative Problem Solving projects with South Seattle communities (EPA Assistance Agreements 01J27101 and 00J91901 completed in 2018 and 2016). Dr. Abel has directed or co-directed extramurally funded research projects totaling more than 1.9 million dollars and is a recognized North American expert on environmental justice, the American Editor of the International Journal of Environment and Pollution and served as an expert panelist for the US Environmental Protection Agency's Science Advisory Board from 2013-2015. He received his Ph.D. in Public Policy in 1998 and a Master of Public Administration in 1994 from George Mason University and a Bachelor of Science in Public Health in 1990 from Indiana University. Dr. Abel was recognized in 2018 by the Western Washington University (WWU) Center for his Instructional Innovation and Assessment Teaching Showcase for social justice engagement, a recipient of WWU's Teaching and Learning Academy award for "advancing the University's values of sustainability and diversity" in 2009 and selected as a Teaching Scholar at the University of Wisconsin-Green Bay in 2002-2003.

Adams, Craig

Saint Louis University

Dr. Craig D. Adams is the Oliver Parks Professor of Engineering in the Department of Civil Engineering at Saint Louis University (SLU). He holds a B.S. in Chemical Engineering, and an M.S. and Ph.D. in Environmental Health Engineering from the University of Kansas. He is a Fellow of the American Society of Civil Engineers and a registered professional engineer. He serves on the American Water Works Association Organic Contaminants Control Committee and Contaminant Candidate List (CCL) Workgroup. He served on the United States of America National Committee (USANC) of the International Water Association (IWA) as Chair from 2014 to 2016, and as Secretary/Treasurer from 2008 to 2014. He serves of faculty advisor/mentor for Engineers Without Borders and other student groups with projects in Kenya, Belize, and Honduras. In SLU's Water Quality and Treatment Laboratory, he researches oxidation and sorption processes for drinking water contaminants (including pharmaceuticals, cyanotoxins, taste-and-odor compounds, disinfection byproducts, and others). His research group is focused on fundamental research that is used to develop actionable guidance for utilities in the United States and beyond. He co-authored the Hazen-Adams CyanoTOX software (freely downloadable from the American Water Works Association website) that helps utilities with complex cyanotoxin issues. His recent research is funded by agencies including the Water Research Foundation and the Missouri Department of Natural Resources. His group also focuses on developing point-of-use treatment technology for developing nations. He was the recipient of the Eddy Wastewater Principles and Processes Medal (2008), the ASCE State-of-the-Art Civil Engineering Award (2003), and the ASCE Rudolph Hering Medal (2003), and was a National Science Foundation Young Investigator with research focused on water treatment using advanced oxidation processes. During the past two years Dr. Adams' research has been funded by the Water Research Foundation, American Water Works Association, Missouri University of Science and Technology, and the Missouri Department of Natural Resources.

Adams, Hunter

Cypress Environmental Laboratory

Mr. Hunter Adams is the Laboratory Supervisor, Deputy Quality Control Manager, and Technical Manager of Microbiology and Inorganic Chemistry for the Cypress Environmental Laboratory – City of Wichita Falls, TX. He holds a Bachelor of Science degree in Biology and a Master of Science degree in Biology from Midwestern State University. He is a licensed Class A Water Operator and Class C Wastewater Treatment Operator by the Texas Commission on Environmental Quality. He is also a Certified Water Professional and certified in Infrastructure Protection and Infrastructure Disaster Management by the Texas A&M Engineering Extension Service of Texas A&M University. He

has worked in the planning and implementation of microbiological and analytical testing for Direct Potable Reuse and Indirect Potable Reuse systems for the City of Wichita Falls, TX. He has also successfully implemented a Harmful Algal Bloom and Taste and Odor Monitoring Program that has completely eliminated customer complaints for over 4 years. Hunter received the Water Environment Federation Laboratory Analyst Excellence Award in 2020. He has authored and contributed to several American Water Works Association journal articles and manuals, Association of Public Health Laboratories' Bridges, LCGC North America, and has worked to develop new methods for inclusion in Standard Methods. He has also presented research at many conferences. Mr. Adams serves as a National Environmental Laboratory Accreditation Program Microbiology Expert Committee Member, an Association of Public Health Laboratories Environmental Laboratory Sciences Committee Member, on many committees with American Water Works Association and Water Environment Federation, an Intrastate Technology & Regulatory Council Team Member for Strategies for Preventing and Managing Harmful Cyanobacterial Blooms, and a Texas Commission on Environmental Quality EnviroMentor. He has extensive experience with Microbiology, ion chromatography, inductively coupled plasma mass spectrometry, gas chromatography, quantitative polymerase chain reaction, flow cytometry, and taxonomy.

Adesanya, Babafemi

Intellectual Concepts, LLC

Dr. Babafemi A. Adesanya is Senior Vice President with Intellectual Concepts, a small Mobility-Engineering company focusing on public health particularly vaccine preventable diseases such as Polio and Mobility as a means of addressing community health. Dr. Adesanya obtained a B.S. and M.S. in Chemical Engineering from University of Nebraska and Ph.D. from Clemson University in Chemical Engineering. Dr. Adesanya was a Chemical Engineering Professor at University of Wyoming, Lafayette College and Hampton University from 1982 to 1999. From 1994 to 1999, Dr. Adesanya, as the Executive Director, started and operated the Environmental Equity Information Institute at Hampton University which was funded by the U.S. Environmental Protection Agency (EPA) and National Aeronautics and Space Administration (NASA). The Institute, working along EPA Region III, developed the initial quantitative method for Environmental Justice Assessment in the mid-1990s. In addition, the Institute conducted research into the application of remote sensing to non-point pollutant on water resources using Hyperspectral Imaging (HIS) sensors available through NASA space-based systems. Dr. Adesanya was appointed by EPA to the Federal Advisory Committee for the National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater rulemaking in 1996. In 2017, Dr. Adesanya was appointed as a Board Member to the U.S. Centers for Disease Control Prevention's Board of Scientific Counselors for National Center for Environmental Health/Agency for Toxic Substances and Disease Registry (NIEH/ATSDR). Dr. Adesanya has not received any research funding from any Federal Agencies in the past 10 years.

Aelion, C. Marjorie

University of Massachusetts Amherst

Dr. C. Marjorie Aelion is Associate Vice Chancellor for Research & Engagement and Professor of Environmental Health Sciences at the University of Massachusetts Amherst. From 2009 to 2019, she served as the Dean of its School of Public Health and Health Sciences. Dr. Aelion holds a B.S. in Environmental Sciences from the University of Massachusetts Amherst, an S.M.C.E. in Civil Engineering from the Massachusetts Institute of Technology, and a Ph.D. in Environmental Sciences and Engineering from the University of North Carolina, Chapel Hill. Dr. Aelion studies groundwater and surface water quality, remedial technologies for environmental contaminants, associations between environmental contaminants and health outcomes, and ethnic disparities of environmental exposures. Her research has been supported by grants from the National Institutes of Health, National Oceanic and Atmospheric Administration, National Science Foundation, U.S. Department of Energy, and National Geographic. Dr. Aelion received the prestigious National Science Foundation Presidential Faculty Fellow Award in Engineering, the Harriet Hylton Barr Distinguished Alumni Award for Commitment and Service to Public Health, the International Agricultural Center Research Fellowship from the Netherlands Ministry of Agriculture, Nature Management and Fisheries, and three Fulbright awards. Since 2015, she has served as a member of the U.S. Environmental Protection Agency, Scientific and Technological Achievement Award committee. In 2019, Dr. Aelion completed her third two-year term as secretary/treasurer and member of the Board of Directors for the Association of Schools and Programs of Public Health. She was a member of the U.S. Department of Health and Human Services, Secretary's Advisory Committee, Stakeholder Engagement Subcommittee for the Healthy People 2030, and served on the Board of the Massachusetts Biologics Laboratories, Inc. She currently serves as Associate Editor of the journal Frontiers in Environmental Science (Toxicology, Pollution and the Environment), has served as Managing Editor for Biodegradation, and is currently an editorial board member for Biodegradation, Bioremediation Journal, and the International Journal of Oceans & Oceanography.

Alger, Terrence

Southwest Research Institute

Dr. Terrence "Terry" Alger is the Director of the Automotive Propulsion Systems Department in the Powertrain Engineering Division at Southwest Research Institute. He has earned a Bachelor's Degree in mechanical engineering from the United States Military Academy, a Master of Science in Engineering and Doctor of Philosophy degree from The University of Texas at Austin, and a Master of Business Administration degree from The University of Texas at San Antonio. As the Director of the Automotive Propulsion System Department, Dr. Alger leads a team of 100 engineers, scientists and technicians executing programs oriented at improving transportation technologies focused on the powertrain. Dr. Alger has expertise in engineering, leadership, and business development. His research interests include combustion and the design of high efficiency internal combustion engines, advanced vehicle technologies for reduced emissions, advanced energy storage devices, hybrid, and electric vehicle powertrains, and applying connected and autonomous technologies to vehicles to improve efficiency and reduce emissions. He has been the principal investigator, or co-principal investigator, on dozens of projects, including several joint industry programs consisting of original equipment manufacturers and Tier 1 suppliers working to advance the state of the industry in internal combustion engines, batteries, and fuels and lubricants. He has published over 70 peer reviewed papers on topics relevant to the transportation industry and has 29 patents. His team's major sources of funding include: the U.S. Department of Energy, the U.S. Environmental Protection Agency, the U.S. Department of Defense and nearly all the high-volume vehicle manufacturers and their suppliers. He is a Fellow of the Society of Automotive Engineers and is an active participant on award and organizing committees for the organization. Since 2019, he has been a Consultant to the U.S. Army Science Board.

Allen, David T.

The University of Texas

Dr. David Allen is the Gertz Regents Professor of Chemical Engineering, and the Director of the Center for Energy and Environmental Resources, at the University of Texas at Austin. He is the author of seven books and over 250 papers, primarily in the areas of urban air quality, the engineering of sustainable systems, and the development of materials for environmental and engineering education. Dr. Allen received his B.S. degree in Chemical Engineering, with distinction, from Cornell University in 1979. His M.S. and Ph.D. degrees in Chemical Engineering were awarded by the California Institute of Technology in 1981 and 1983. Dr. Allen has been a lead investigator for multiple air quality measurement and modeling studies, which have had a substantial impact on the direction of air quality policies. He directs the Air Quality Research Program for the State of Texas, and is the founding Editor-in-Chief of the American Chemical Society's journal ACS Sustainable Chemistry & Engineering. He has developed environmental educational materials for engineering curricula and for the University's core curriculum, as well as engineering education materials for high school students. He led the development of a year-long high school engineering course, Engineer Your World, which is used in hundreds of high schools nationwide. The quality of his work has been recognized by the National Science Foundation, the AT&T Foundation, the American Institute of Chemical Engineers, the Association of Environmental Engineering and Science Professors, and the State of Texas; he was elected to the National Academy of Engineering in 2017. He has served on a variety of governmental advisory panels and from 2012 to 2015 chaired the U.S. Environmental Protection Agency's Science Advisory Board. He has won teaching awards at the University of Texas and UCLA and the Lewis Award in Chemical Engineering Education, from the American Institute of Chemical Engineers. He has held visiting faculty appointments at the California Institute of Technology, the University of California, Santa Barbara, Sichuan University, Wuhan University, and the Department of Energy.

Alspach, Brent

Arcadis

Mr. Brent Alspach is a Principal Environmental Engineer and the Director of Applied Research with Arcadis, a global engineering and consulting firm. He has both bachelor's and master's degrees in Civil & Environmental Engineering from Cornell University. Mr. Alspach oversees a program that has conducted an extensive array of drinking water, potable reuse, wastewater, and stormwater research, including projects funded in the past two years by the Water Research Foundation, the American Water Works Association (AWWA), the United States (US) Department of Energy, and the US Bureau of Reclamation. Current projects under his supervision include: examining lead service line replacement, nitrogenous disinfection by-products (e.g., N-nitrosodimethylamine (NDMA)) formation and control, biofiltration, manganese control, distribution system water loss, stormwater asset management, utility innovation, and blending desalinated water into existing supplies. Accordingly, he has a broad range of water quality and treatment experience and is an internationally recognized technical expert in membrane filtration and desalination. Mr. Alspach has also been engaged in numerous drinking water regulatory support activities over his 24-year career,

including advising the United States Environmental Protection Agency (USEPA) on rule requirements for the Long-Term 2 Enhanced Surface Water Treatment Rule, as well as the development of the associated Membrane Filtration Guidance Manual. In addition, Mr. Alspach currently serves on the AWWA Technical Advisory Workgroups providing industry guidance and feedback to USEPA on the development of both the Stage 3 Microbial and Disinfection Byproducts Rule and regulations pertaining to per- and polyfluoroalkyl substances (PFAS) (e.g., Unregulated Contaminant Monitoring Rule (UCMR) 5 and primary standards for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). He is a Past-President of the American Membrane Technology Association (AMTA) and currently Chairs the AWWA's Water Quality and Technology Division, with whom he oversees a diversity initiative to establish AWWA student chapters at Historically Black Colleges and Universities (HBCUs).

Anenberg, Susan

George Washington University

Dr. Susan Anenberg is an Associate Professor of Environmental and Occupational Health and of Global Health at the George Washington University Milken Institute School of Public Health. Dr. Anenberg received a B.A. in Biological Sciences and Environmental Sciences from Northwestern University and an M.S. and Ph.D. in Environmental Science and Engineering, with a minor in Environmental Policy, from the University of North Carolina at Chapel Hill. Dr. Anenberg's research examines interrelationships between air quality, climate change, public health, and environmental policy. She uses multi-disciplinary methods, drawing from epidemiology, exposure science, remote sensing, atmospheric chemistry and meteorology, numerical modeling, and economics. Her research has been supported by National Aeronautics and Space Administration (NASA), National Science Foundation (NSF), Health Effects Institute, Wellcome Trust, C40 Cities, and Environmental Defense Fund and has been published in top academic journals such as Science, Nature, and Lancet Planetary Health. Dr. Anenberg was previously a Co-Founder and Partner at Environmental Health Analytics, LLC, Deputy Managing Director for Recommendations at the U.S. Chemical Safety Board, an environmental scientist at the U.S. Environmental Protection Agency (EPA), and a senior advisor for clean cookstove initiatives at the U.S. State Department. At the U.S. EPA, she led health risk and benefits assessments for Ozone National Ambient Air Quality Standards and Mercury and Air Toxics Standards. She has led or contributed to many science-policy reports on air quality and climate change published by U.S. EPA, World Bank, World Health Organization, United Nations Environment Programme, Arctic Monitoring and Assessment Programme, and others. She currently serves on the U.S. EPA Clean Air Act Advisory Committee's Mobile Sources Technical Review Subcommittee and the Arctic Monitoring and Assessment Programme's Expert Group on Short-Lived Climate Forcers, and as Secretary of the GeoHealth section of the American Geophysical Union, Editor of the GeoHealth journal, and Founding Associate Editor of the Frontiers in Sustainable Cities: Health and Cities journal.

Anoruo, Florence

South Carolina State University

Dr. Florence Anoruo is a Plant Physiologist/Ecologist/Environmental Scientist. She is afaculty member in the Department of Biological and Physical Sciences, Associate Research and Extension Scientist, and Director of Emerging Crops at South Carolina State University. She is also a Visiting Scientist at the Brookhaven National Laboratory, U.S. Department of Energy. She has teaching, research, mentoring, and leadership roles in many university capacity building initiatives, especially in the areas of plant/agricultural, and environmental sciences, sustainability, wellness, and nutrition. She received the National Society of Leadership and Success Excellence in Teaching and Mentoring award in 2015 and 2016, and 2017. Her research and community outreach work are focused on evidence-based community centered participatory approach to achieving just, equitable and sustainable solutions to food insecurity, climate/energy justice in underserved and marginalized frontline communities in South Carolina and beyond. Her past and current projects have revolved around partnering with local grass root/faith-based organizations, state and national environmental organizations such as: New Alpha CDC, Sierra Club, Dogwood Alliance, Southeast Climate and Energy Network, Justice First, Green Faith, South Carolina Environmental Justice Network, Green For All, Friends of the Earth, Deep South Center for Environmental Justice, Food Insecurity Coalition, South Carolina Food Policy Council, Health Food Policy Project, Greening Youth Foundation. Her work has also focused on training, empowerment, and mobilization of minority students and community members to become Change Agents on their campuses and communities. Through workshops, seminars, and social media she has been engaged in projects that address climate change mitigation, adaptation, and resilience, and other environmental justice issues. Dr. Anoruo has received funding from the U.S Department of Agriculture, U.S. Department of Energy, the National Science Foundation, the National Institutes of Health, the National Oceanic and Atmospheric Administration, the U.S. Department of Education, and nongovernmental organizations. Dr. Anoruo has mentored over 60 students in environmental and plant/agricultural sciences, environmental justice, global climate change, and other sustainability related research projects. Many of her mentees have pursued graduate degrees in environmental science or related fields, or obtained employment in government or public sectors in environmental, plant or

agricultural related fields. Since joining the faculty at South State University in 2016, she has assumed the role of the Advisor for the Environmental Action Club (a student environmental advocacy group). Dr. Anoruo also serves as the Executive Committee member/Environmental Conservationist for Sierra Club's South Carolina Pee Dee chapter. In addition, she serves on Advisory Boards/Boards of government and non-governmental agencies (NGOs) such as: the South Carolina Food Policy Council, Southern Cover Crop Council, Dogwood Alliance, the TRI-County Health Network (Calhoun, Orangeburg and Bamberg Counties), Growing COB (Calhoun, Orangeburg, and Bamberg counties), EPA RARE Biochar Advisory Council, Deep South Center for Environmental Justice and Climate Change, South Carolina Environmental Justice Network, Orangeburg District Five School Improvement Board, SC Collegiate Recycling Coalition, and Bamberg Health Coalition.

Arp, Jennifer

Cherokee County Water and Sewerage Authority

Ms. Jennifer Arp is the Environmental Affairs Assistant Manager of the Cherokee County Water & Sewerage Authority (CCWSA) in Georgia. She holds a B.S. in Biology with a minor in Chemistry from Reinhardt University and a M.A in Leadership from Shorter University. She began working with CCWSA after graduation from college and was over the day to day operations of the wastewater laboratory. She was responsible for process control testing as well as regulatory testing and reporting for two plants. She obtained certifications from the State of Georgia in both Drinking Water and Wastewater Laboratory Analyst roles. After spending 8 years working at the plant level, she moved into the surface water testing in the Environmental Affairs Department (EAD). As a Supervisor in the EAD she planned and executed the Water Protection and Implementation Plan sampling and reporting in support of the National Pollution Discharge Elimination System permitting for all CCWSA plants as well as the requirements of the water withdrawal permitting. She is also an active member of the Technical Coordinating Committee and Basin Advisory Council for the Metropolitan North Georgia Water Planning District which updates and prepares Water, Wastewater, and Watershed Planning documents for the 15 county Metro-Atlanta area. She is an active member of the Georgia Association of Water Professionals (GAWP) and has written several articles for publication in the Georgia Operator Magazine, and Georgia Public Works Magazine, as well as numerous presentations at conferences for GAWP and Georgia Rural Water. She currently serves as the GAWP Water Loss Control Committee Vice-Chair, and trains other utility leaders in conducting water loss assessments. She is a Qualified Water Loss Auditor in Georgia and audits other utilities on their required submissions to Georgia Environmental Protection Division. Her committee work, articles, and presentations cover various topics such as environmental planning/policy, bacterial, chemical, and nutrient issues in surface water, biosolids, water loss, and emergency planning for utilities.

Arvai, Joseph

University of Southern California

Dr. Joe Árvai is the Dana and David Dornsife Professor of Psychology in the Department of Psychology and he is the Director of the Wrigley Institute for Environmental Studies at the Dornsife College of Letters Arts and Sciences at the University of Southern California (USC). He works primarily on contexts where people must make judgments and decisions under conditions of risk and uncertainty and where they must confront tradeoffs across conflicting social, economic, and environmental objectives. Dr. Arvai began his career in science as an oceanographer studying the responses of nearshore marine ecosystems to pollutants and eutrophication. Since receiving his Ph.D. in judgment and decision-making in 2001, Dr. Arvai's research has focused on improving the critical thinking and judgment and decision-making capabilities of people. His research also focuses on situations where people's instinctive approach to judgment and decision-making is biased by unchecked emotions and motivated reasoning. In advance of this agenda, Dr. Arvai and his lab of post-doctoral scholars and graduate students conduct research aimed at improving our understanding of how people intuitively make judgments and decisions (primarily) about environmental issues and sustainability. They couple their research with the development and testing of tools and approaches that can be used by people to improve decision quality across a broad range of environmental, social, and economic contexts. Decision quality in this case is measured by the degree to which people's values and objectives align with their ultimate judgments and choices. All of this research conducted in Dr. Arvai's lab is applied and accounts for judgment and decision-making by a broad spectrum of public and stakeholder groups, as well as by technical experts, business leaders, and policymakers. Likewise, Dr. Arvai and his group conduct research across a wide range of contexts ranging from environmental risk management to consumer choice and policymaking. In addition to his work at USC, he is a frequent advisor to government, business, and NGOs. He is a former member of the U.S. Environmental Protection Agency's Chartered Science Advisory Board and the U.S. National Academy of Sciences' Board on Environmental Change and Society. He is also a Senior Researcher at the Decision Science Research Institute in Eugene OR and he is an Adjunct Professor in Engineering and Public Policy at Carnegie Mellon University in Pittsburgh, PA.

Ash, Michael

University of Massachusetts Amherst

Dr. Michael Ash is Professor of Economics and Public Policy at the University of Massachusetts Amherst, jointly appointed in the Department of Economics and the School of Public Policy. From 2011 to 2017, Dr. Ash chaired the Department of Economics. Dr. Ash holds a PhD. in Economics from the University of California, Berkeley, and an A.B. with Honors in Economics from Princeton University. His research on the distribution of access to environmental goods and exposure to environmental hazards in the United States by socioeconomic status has been funded by the National Science Foundation and has appeared in many peer-reviewed journals. Much of this research uses data from integrative assessment models developed by US EPA and others. Related research published in peer-reviewed journals concerns social determinants of health. Dr. Ash is a Co-PI, organizer, and participant in the NSF-funded NSF2026 Equitable Energy Transition Workshop.

Ashford, Nicholas A.

Massachusetts Institute of Technology

Dr. Nicholas Ashford is Professor of Technology & Policy and Director of the Technology & Law Program at the Massachusetts Institute of Technology, where he teaches courses in Environmental Law, Policy, and Economics; Law, Technology, and Public Policy; and Technology, Globalization and Sustainable Development. Dr. Ashford is a Faculty Associate of the Center for Socio-technical Research in the School of Engineering; the Institute for Work and Employment Research in the Sloan School of Management; and the Environmental Policy Group in the Urban Studies Department. He holds both a Ph.D. in Chemistry and a Law Degree from the University of Chicago, where he also received graduate education in Economics. His expertise is in sustainability, economics, chemical safety, benefit-cost analysis, and social, behavioral & decision sciences.

Aslan, Asli

Georgia Southern University

Dr. Asli Aslan is an Associate Professor of Environmental Health Sciences in the Department of Biostatistics, Epidemiology, and Environmental Health Sciences at Georgia Southern University. She has a bachelor's degree in Biology, a Masters' and Ph.D. degree in Biological Oceanography from Istanbul University, Institute of Marine Sciences and Management. Dr. Aslan has 20 years of expertise in environmental microbiology, public health, aquatic ecology, and environmental engineering. Her research includes identifying sources of pollution, fate and transport of emerging contaminants, the impact of extreme weather events on water resources, and social and behavioral factors that influence water quality agency. She has been principal or co-principal investigator for 12 externally funded grants and contracts, published 32 journal articles, 73 conference papers, and authored 38 technical reports. Dr. Aslan's last two years of sponsored funding sources include the National Oceanic and Atmospheric Administration, Georgia Department of Natural Resources, Georgia Environmental Protection Division, and Water Quality Research Foundation. Dr. Aslan has been serving in various state and federal agencies and organizations as an advisor, reviewer, scientific committee member, and affiliated faculty. She was the co-founder and co-director for International Collaboration for Sewage, a global scientific workgroup affiliated with the International Water Association (IWA), Health-Related Water Microbiology (HRWM) that developed methodologies for tracking microbial pollution in global water resources from 2009-2013. She was the principal investigator of the EPA's Great Lakes Restoration Initiative grant for rapid molecular testing of water and the lead author for a guidance document targeted for training state health departments on quantitative polymerase chain reaction for rapid water testing. She is the co-founder and currently co-chair of the Water and Health Committee of the American Public Health Association (APHA). She was one of the co-authors of the Drinking Water Quality and Health Policy document of APHA in 2020. She recently served as the APHA representative for advising a multi-university initiative investigating chemical emissions and exposures caused by cured-in-place-pipe (CIPP) water pipe repair sites.

Aung, Max

University of California, San Francisco

Dr. Max Aung is currently an Associate Research Scientist at the University of California, San Francisco the Program on Reproductive Health and the Environment. Dr. Aung earned a Bachelor's Degree in Molecular Biology from the University of California, Santa Cruz. He earned a Masters' Degree and Ph.D. in Environmental Epidemiology from the University of Michigan, where he pursued Postdoctoral Training in Biostatistics and Data Science. His research training is in characterizing complex biological pathways that may explain and link the human exposome to adverse reproductive health outcomes across the life course. Dr. Aung is an ongoing collaborator on three cohorts within the NIH Environmental influences on Child Health Outcomes (ECHO) program: the Chemicals in our Body (CiOB) study, the Illinois Kids Development Study (IKIDS), and the Puerto Rico Test site for Exploring Contamination Threats

(ECHO-PRO) study. Specific areas of his expertise include: (1) estimating direct associations between environmental contaminants and pregnancy phenotypes, (2) identifying predictive biomarkers of pregnancy phenotypes, and (3) developing statistical frameworks to analyze complex intermediate mediation pathways between toxicant mixtures and adverse reproductive outcomes. Dr. Aung has published 15 research articles, 11 conference abstracts, and 1 book chapter. Presently, Dr. Aung is a member of the International Society for Environmental Epidemiology and serves on their North American Chapter Committee, the Student and New Researchers Network Committee, and the Anti-Racism Task Force. Dr. Aung is also currently serving a three-year term on the Editorial Review Board for the Journal of Exposure Science and Environmental Epidemiology. Dr. Aung's previous and current funding form the past two years includes the Robert Wood Johnson Foundation's Health Policy Research Scholars Fellowship, the National Institutes of Health, and the JPB Foundation. Dr. Aung also has two pending National Institute of Health (NIH) grant proposals as principal investigator or co-investigator.

Bachman, Eric

Vertex Pharmaceuticals

Dr. Eric Bachman is Senior Director in Translational Medicine at Vertex. Dr. Bachman holds a B.S. from Cornell University and an M.D. and Ph.D. (microbiology and immunology) from the Medical Scientist Training Program at Duke University. Dr. Bachman completed a residency in internal medicine and fellowship in Endocrinology, Diabetes and Metabolism from Beth Israel Deaconess Medical Center and Harvard Medical School, along with a postdoctoral fellowship in the lab of Bradford Lowell, M.D., Ph.D. During his time there, he focused on the mechanisms of energy expenditure and obesity. As a research physician, he has been involved in bench-to-bedside research and designing/executing clinical trials in the areas of endocrinology, metabolism, hematology, and cystic fibrosis. His career has been mainly within the realm of translational medicine at numerous companies, as well as an assistant Professor at Boston University School of Medicine until 2010. Dr. Bachman led Ph1-3 clinical trials in hematology, which resulted in approval of the C5 monoclonal antibody Ravulizumab. Areas of expertise include preclinical toxicology and pharmacology, genetics, dose-response predictions, and modeling/simulation for designing human clinical trials. Dr. Bachman has served as a reviewer for numerous journals including Science, Blood, and Diabetes, membership in numerous societies including Endocrine Society, and on the Fibrodysplasia Ossificans Progressiva Connection Registry. Dr. Bachman's main interest lies in understanding the mechanisms of disease at the genetic, molecular, physiological levels. Dr. Bachman has also had a lifelong interest in the environment, human genetics, and human health as these may influenced by the environment. As a research and clinic endocrinologist, Dr. Bachman's expertise and interests are suited for projects related to endocrinology, endocrine disruptors, dose-response toxicology, microbiology, epidemiology, and genetic or socioeconomic risk, as they relate to the environment and human health risk assessment. He is interested in volunteer Senior Advisory or subcommittee projects at the EPA, and currently receives no research funding.

Banzhaf, Spencer

Georgia State Univ

Dr. Spencer Banzhaf is a Professor in the Department of Economics at Georgia State University. He specializes in estimating household's values for non-market goods such as environmental quality. In related work, he has suggested ways to measure and construct indexes of ecosystem services. Two themes in Dr. Banzhaf's work are the distributional welfare effects of environmental policies and the interactions among local environmental amenities, local real estate markets, and the demographic composition and structure of cities. In particular, he has studied the way these social mechanisms interact to drive the correlations between pollution and poor households, as described by the "Environmental Justice" movement. More recently, Dr. Banzhaf has focused on the bounds we can place on valuing environmental quality under minimal modeling assumptions.

Baptista, Ana

The New School

Dr. Ana Isabel Baptista is an Assistant Professor of Professional Practice in the Environmental Policy and Sustainability Management graduate program at the Milano School of Policy, Management, and Environment at The New School University. She serves as the Associate Director of the Tishman Environment & Design Center at The New School. She holds a B.A. from Dartmouth College in Environmental and Evolutionary Biology, an M.A. in Environmental Studies from Brown University, and a Ph.D. in Urban Planning and Public Policy from Rutgers, the State University of New Jersey. Dr. Baptista works on environmental justice policies, climate justice and renewable energy policies, environmental planning, zero waste systems, cumulative impacts analysis, and goods movement mitigation strategies. Dr. Baptista is a member of the Fourth New York City Panel on Climate Change. She serves on the External Advisory Board to the National Institute of Environmental Health Sciences (NIEHS) Center for Environmental Exposures and Disease at the Environmental and Occupational Health Sciences Institute at Rutgers

University. She is also an Associate Editor for the Environmental Justice Journal and an inaugural member of the Equitable and Justice National Climate Platform. She serves on the New York -New Jersey Harbor & Estuary Program's Science and Technical Advisory Committee and as co-chair of the Lower Passaic Superfund Community Advisory Group. In 2020, she was the recipient of Governor Phil Murphy's Environmental Excellence Award. In 2019 she released a national study on land use and zoning approaches to environmental justice as well as a national assessment of the municipal solid waste incineration industry impact on environmental justice communities. She is currently serving as the co-principal investigator on a national environmental justice movement fellowship program to be housed at The New School. Dr. Baptista's research has been supported by the Northlight Foundation, the JPB Foundation, the Mertz-Gilmore Foundation, and the Ford Foundation.

Beck, Barbara D.

Gradient

Dr. Barbara Beck is an expert in toxicology and human health risk assessment. As an employee of Gradient, an environmental risk sciences consulting firm, she works on multiple projects for which Gradient has contracts with different organizations. She has broad experience doing toxicological evaluations of chemicals, especially metals and air pollutants, in a variety of exposure settings, such as contaminated sites, consumer products, and pharmaceuticals. She received her Ph.D. in Molecular Biology and Microbiology from Tufts University and her B.A. in Biology from Bryn Mawr College (cum laude). She is adept at working with scientists from varying backgrounds to develop an integrated understanding of chemical hazards. Dr. Beck has conducted laboratory studies on chemical exposure and toxicity and has used the results of these studies to refine exposure and risk analyses. She has published over 100 book chapters and journal articles on a range of topics, including the development of health-based criteria for several chemicals and of probabilistic exposure models for metals. Her publications have received awards from organizations such as the Society of Toxicology and the U.S. EPA. She presents her work to different audiences, including regulatory agencies, the U.S. Congress, and the public. Her participation in advisory committees and panels, such as the National Research Council, the U.S. EPA Science Advisory Board (as vice-chair), and her town's Board of Health, has spanned over thirty years. She received the Lifetime Achievement Award from the University of Massachusetts, Amherst, School of Public Health and Health Sciences. Her work on her Board of Health received recognition from the Massachusetts House of Representatives for efforts towards enhancing the health of youth and families in the community. Dr. Beck is a fellow of the Academy of Toxicological Sciences, a Diplomate of the American Board of Toxicology, a European-Registered Toxicologist, and fellow of the American Association for the Advancement of Science. She has served as Chief of Air Toxics Staff and Regional Expert in Toxicology for U.S. EPA Region I. Prior to that, she was a Fellow in the Interdisciplinary Programs in Health at the Harvard School of Public Health (now the Harvard T.H. Chan School of Public Health).

Becker, William

Hazen and Sawyer, PC

Dr. William (Bill) Becker is Vice President and the Corporate Drinking Water Practice Leader at Hazen and Sawyer (Hazen). He is also a Scholar-in-Residence and co-director of the Water Reuse Program at the University of Colorado, Boulder where he teaches water treatment and reuse classes, and an affiliate of the Columbia Water Center at Columbia University. Bill earned a Ph.D. degree from the Johns Hopkins University. He received his masters' and bachelor's degrees from Clarkson University and is a registered professional engineer. At Hazen, Dr. Becker directs the firm's drinking water practice which focuses on helping utilities solve water quality and treatment problems. He has consulted for some of the largest utilities in the country and has taught a variety of water related classes to thousands of people including water plant operators, professional engineers, and graduate students. Dr. Becker has conducted pilot studies, evaluated treatment systems, and helped design and optimize numerous water treatment systems. In addition to his work in consulting and as an adjunct professor for the past 25 years, his background also includes significant experience at a major water supply utility. This broad experience gives him a diverse perspective that allows him to view the challenges and needs of utilities in ways that most consultants cannot. Dr. Becker's research interests include disinfection byproduct control, corrosion control, water reuse, and the impact of climate change and extreme weather events on water quality and treatment. He has received funding from the Water Research Foundation in the past two years but has not received any funding from Environmental Protection Agency (EPA). Bill has authored more than 300 technical presentations and publications, has directed several Water Research Foundation projects, and serves as the Deputy Editor for American Water Works Association (AWWA) Water Science.

Bell, Michelle

Yale University

Dr. Michelle Bell is the Mary E. Pinchot Professor of Environmental Health at the Yale University School of the Environment, with secondary appointments at the Yale School of Public Health, Environmental Health Sciences Division and the Yale School of Engineering and Applied Science, Department of Chemical and Environmental Engineering. Dr. Bell holds a Ph.D. in Environmental Engineering and M.S.E. in Environmental Management and Economics from Johns Hopkins University, an M.S. in Environmental Engineering and Science from Stanford University, an M.Sc. in Philosophy from University of Edinburgh, and a B.S. in Environmental Engineering Science from the Massachusetts Institute of Technology. Her research investigates how human health is affected by environmental conditions, including air pollution and weather. Other research interests include the health impacts of climate change and environmental justice. Much of this work is based in epidemiology, biostatistics, and environmental engineering. The research is designed to be policy-relevant and contribute to well-informed decision-making to better protect human health and benefit society. She is the Director of the Solutions to Energy, AiR, Climate, and Health (SEARCH) Center funded by the Environmental Protection Agency (EPA). She is Principal Investigator (PI) for a National Institutes of Health (NIH) Research Project (R01) grant focusing on environmental justice and a project funded by the Wellcome Trust on air pollution and health under climate change in Brazil. Other funding within the last two years include projects on green playgrounds in New York City funded by the Robert Wood Johnson Foundation, ethane cracker plants funded by the Hightide Foundation, and unconventional oil and gas funded by EPA. Her work is global in scope and she has over 250 peer-reviewed publications. She was a member of the EPA Clean Air Scientific Advisory Committee (CASAC) Ozone Review Panel and is a current and former member of several National Academy committees. She received the NIH Outstanding New Environmental Scientist (ONES) Award, Health Effects Institute Rosenblith New Investigator Award, and the Prince Albert II de Monaco/Institut Pasteur Award. She was elected to the National Academy of Medicine and was recognized as a highly cited researcher (top 1% for field) for the last three years.

Belzer, Richard

Independent Consultant

Dr. Richard Belzer has been an independent consultant in regulation, risk, economics, and information quality since 2001. Previously he was a visiting professor of public policy at Washington University in St. Louis and staff economist in the Office of Information and Regulatory Affairs in the Office of Management and Budget. He received his Ph.D. in Public Policy from Harvard University (1989), Master's in Public Policy (M.P.P.) from the John F. Kennedy School of Government (now Harvard Kennedy School) (1982), and M.S. and B.S. degrees in Agricultural Economics from the University of California at Davis (1979, 1980). Current original research areas include the analysis of variability in quantities conventionally assumed to be constant; the development of objective economic indicators to identify adverse human health effects; and the improved integration of human health risk assessments into benefit-cost analysis. Recent projects have included benefit-cost analyses of California's proposed drinking water standards for hexavalent chromium and 1,2,3-trichloropropane; the estimation of variability in pulmonary function testing and blood pressure measurement; and the characterization of the definition and implementation of economic feasibility into Safe Drinking Water Act regulations. In 2021, he is working on methods to implement within regulatory impact analysis recent presidential directives concerning distributional effects and environmental justice. Dr. Belzer is a regular contributor to scholarly professions through journal peer review and service to professional societies. He was elected Treasurer of the Society for Risk Analysis (1998, 2000) and elected Secretary-Treasurer of the Society for Benefit-Cost Analysis (2008, 2010). He earned multiple awards for exemplary performance at the Office of Management and Budget (OMB), given the Society of Risk Analysis Distinguished Service Award (2003), and was named a Fellow of the Cecil and Ida Green Center for the Study of Science and Society (1995). In 2015, Dr. Belzer was appointed to the Environmental Protection Agency (EPA) Science Advisory Board (SAB) ad hoc panel on Economy-Wide Modeling and served through 2017. In 2019, he was appointed to the SAB Chemical Assessment Advisory Committee. Dr. Belzer's breadth of experience and multidisciplinary contributions to scientific advancement would add diversity to the Chartered SAB, its Chemical Assessment Advisory Committee, and Clean Air Scientific Advisory Committee (CASAC).

Benke, Roland

Renaissance Code Development

Dr. Roland Benke is an entrepreneur, technology pioneer, and subject matter expert. He is certified by the American Board of Health Physics and holds a Ph.D. in Nuclear Engineering and Masters' in Radiological Health Engineering from the University of Michigan. As a Director at Renaissance Code Development, he supports the U.S. Nuclear Regulatory Commission on updating radiological protection methodologies in regulatory guidance and spearheads

new initiatives including organizational collaborations. His research on radiation imaging from handheld measurements was featured in R&D Magazine and customized by the Japan Atomic Energy Agency to detect radioactive hot spots from aerial drone surveys. He has demonstrated rapid approaches for radioactive material quantification behind heavy shielding at standoff distances using commercially available instruments. Prior to 2015, he led a month-long fieldwork campaign involving more than six geologists and engineers to acquire airborne particulate measurements at the Sunset Crater volcanic site and served as a subject matter expert to the Swedish Radiation Protection Authority in both the initial and main review phases of the safety assessment for a spent nuclear fuel repository in Sweden. From a nationwide call in 2016, Dr. Benke was selected from the private sector by the Department of Homeland Security and National Nuclear Security Administration to receive specialized training to support state and local authorities during major radiological incidents. During fiscal year 2021, he served as an independent subject matter expert to EPA's Science Advisory Board to review the revision of the Multi-Agency Radiation Survey and Site Investigation Manual. Dr. Benke is a Governor appointee to the Texas Radiation Advisory Board and serves as an associate editor of Health Physics, The Radiation Safety Journal. He maintains an unpaid appointment in the Nuclear Engineering Teaching Laboratory at the University of Texas at Austin to conduct radiation detection experiments and validate new technologies.

Bennett, Deborah Hall

University of California, Davis

Dr. Deborah Hall Bennett is currently a 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. 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. She had research funding from the U.S. Environmental Protection Agency (EPA) to conduct modeling of the fate, transport, and resulting exposures from use of consumer products in the indoor environment. The American Chemistry Council is funding efforts for a modeling framework capable of rapidly calculating exposures over a continuum of spatial/temporal scales. She is involved in several projects funded through several National Institute of Environmental Health Sciences (NIEHS) grants focusing on environmental causes of Autism. She has funding from the California Air Resources Board to evaluate the impact of air filtration interventions on asthma exacerbation, and a separate grant to evaluate ozone forming potential from low volatility compounds in consumer products. She has funding from the National Institute for Occupational Safety and Health (NIOSH) to evaluate heat exposure among farmworker populations, as well as pesticide exposure among landscape workers and farmworkers. She has served on various EPA Science Advisory Boards, Panels, and Advisory Committees related to the Exposure Factors Handbook, and Exposure Metrics for the National Children's Study. She has served as Estimation Associate Editor for the Journal of Exposure Science and Environmental Epidemiology. She has served as an Elected Councilor, 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, EPA, NIOSH and NIEHS.

Bernstein, Aaron

Harvard University

Dr. Aaron S. Bernstein is Assistant Professor of Pediatrics at Harvard Medical School, Director of the Center for Climate, Health and the Global Environment at the Harvard TH Chan School of Public Health, and a pediatric hospitalist at Boston Children's Hospital. He holds an A.B. in Human Biology from Stanford University where he graduated with Honors and was elected to Phi Beta Kappa. His degrees in Medicine and Public Health were awarded by the University of Chicago and Harvard University, respectively. He was named a Harvard University Zuckerman Fellow, awarded on the basis of academic achievement and public service. Dr. Bernstein's career has focused on the effects of global environmental change on health, especially children's health. Recent areas of investigation include health effects of midstream oil and gas infrastructure, the effects of heat and air quality on child health, the ecology and economics of pandemic prevention, and health resilience to climate change for patients served at Federally Qualified Health Centers around the United States. His work has been supported by private foundations, the National Science Foundation, and for the climate resilience project, Biogen. From 2016-2019, he served on the CDC's National Center on Environmental Health Board of Scientific Councilors. He currently serves on the American Academy of Pediatrics' National Council on Environmental Health and has co-authored many policy statements on environmental health concerns for children including air pollution and climate change. He also serves on the Board of the U.S. Green Building Council which he chairs, the National Academy of Medicine's Planning Committee for its Grand Challenge on Climate Change, the Board of the Dalio Center for Health Justice at New York Presbyterian, and the

University of Chicago Center for Global Health. He has testified before the U.S. Congress on the child health effects on climate change.

Berry, Edwin

Climate Physics LLC

Dr. Ed Berry is CEO of Climate Physics, LLC, in Bigfork, Montana. He earned his B.S. in Engineering from Caltech, M.A.in Physics from Dartmouth, and Ph.D. in Physics from the U. of Nevada. His Ph.D. thesis on stochastic collection of cloud droplets is cited in many books and scientific publications. The U of Nevada Alumni gave Berry its Professional Achievement Award. He is currently doing theoretical research and publishing papers on the effect of anthropogenic emissions on the level of atmospheric carbon dioxide. He is an American Meteorological Society Certified Consulting Meteorologist and a pilot with glider, power, and instrument ratings. He was chief scientist for the Desert Research Institute airborne research facility, a DOD consultant for weather modification, and a National Science Foundation Program Manager for Weather Modification managing METROMEX and NHRE. He solved the FAA problem of downdraft-caused airline crashes. He performed the largest wind-energy study for the California Energy Commission. He won "People's Choice Award" at Microsoft's Windows World Open software contest for meteorological software. He is a US and world sailing champion.

Bliss, Jesse

National Environmental Health Association

Mr. Bliss currently serves as the Director of Program and Partnership Development for the National Environmental Health Association. He has over 15 years of academic and workforce development administration, leadership, and graduate public health higher education experience including curriculum and academic program development, teaching, research, and practice. His academic and public health practice experience include: serving as an Assistant Professor in the Departments of Global Health and Environmental & Occupational Health at a CEPH accredited school of public health for 10 years; serving as Director of an academic practice and training Center for Public Health Preparedness for 8 years; and serving as Executive Director of the Office of Public Health Practice and Workforce Development (LLU OPHP) for 8 years. His administrative and executive leadership experience includes serving for the past 18 months as a member of NEHA's Leadership Team as well as previously serving as Assistant Dean for Public Health Practice for 2 years and as Public Health Practice Coordinator for 8 years at Loma Linda University School of Public Health. Over the past 16 years he has successfully managed over 12 million dollars in public health practice and practice-based research grants and contracts and has successfully been awarded over 5 million in federal, state and locally funded workforce development, and research projects and initiatives. He has served as a member of the ASPPH Practice Coordinators Council and a variety of workgroups and advisory groups focused on environmental health, Native American tribal health, disaster preparedness & response, emergency support function 8 (health and medical), and global disaster response leadership and technical advisor for NGOs.

Blumberg, Bruce

University of California Irvine

Dr. Blumberg has more than twenty-eight years of experience in the field of nuclear receptors. His original research identified and characterized novel nuclear receptors including the human peroxisome proliferator activated receptor gamma (PPARγ), steroid and xenobiotic receptor (SXR), and Xenopus benzoate X receptor (BXR). His recent research has linked chemical exposure with increased adipose development and obesity. Obesity is a major public health problem, consuming approximately $208 billion in health care costs in the most recent U.S. statistics. Dr. Blumberg's laboratory originated the "obesogen hypothesis" which holds that developmental exposure to endocrine disrupting chemicals (EDCs) contributes to adipogenesis and obesity. His laboratory is studying how maternal programming of adipose tissue development is influenced by obesogen exposure and how reprogramming multipotent mesenchymal stem cells (MSCs) contributes to fat deposition and obesity, in vivo. His laboratory has published important recent papers identifying novel obesogens1-4 and shown that prenatal exposure to the environmental obesogen, tributyltin, causes transgenerational changes in fat depots, MSC fate, bone structure and non-alcoholic fatty liver disease. Recent results show that perinatal exposure to the obesogen tributyltin leads to structural changed in chromatin that promote a transgenerational thrifty phenotype.2,3 This causes unexposed F3 and F4 descendants to store more of the calories they consume as fat and to resist mobilization of this fat under fasting conditions. proposed research will make important contributions to understanding the maternal programming of obesity, how obesogens affect this process, what is the contribution of altered stem cell programming and how this programming is transmitted across the generations after a prenatal exposure.

Bolyard, Stephanie

Environmental Research & Education Foundation

Dr. Bolyard is the Research and Scholarship Program Manager for the Environmental Research & Education Foundation. She received her Ph.D. and M.S. in Environmental Engineering from the University of Central Florida and B.S.in Chemistry from the University of Florida. Stephanie has 12 years of academic and professional experience in domestic wastewater permitting, environmental compliance, solid waste management, and nanotechnology. Her research expertise includes solid waste management, analytical chemistry, advance spectroscopic techniques, fate of dissolved organic matter in aquatic systems, biological and advanced oxidation processes, domestic wastewater treatment, nanotechnology, and emerging contaminants. Dr. Bolyard worked for Brown and Caldwell and the Florida Department of Environmental Protection prior to starting her graduate studies. Her professional background has allowed her to bring engineering experience into the classroom as well as understand firsthand how her research impacts not only industry, but also society. She has built an extensive professional network due to her active membership and numerous leadership roles in the Association of Environmental Engineering and Science Professors, Air & Waste Management Association (A&WMA), International Waste Working Group, American Academy of Environmental Engineers and Scientists, and the Water Environment Federation. She is currently an Associate Editor for the Journal of the Air & Waste Management Association, Association of Environmental Engineering and Science Professors Foundation Board of Directors, Board of Director of the South Atlantic States Section of A&WMA, and vice-chair of the RTP A&WMA Chapter. She was recently named a 2021 Waste360 40 Under 40 award recipient. She was an Environmental Research and Education Foundation doctoral scholar, ATHENA International Emerging Women Leader Fellow, and a former National Science Foundation East Asia and Pacific Summer Institute Fellow. In 2015, Dr. Bolyard was selected as a member of the inaugural top 30 Under 30 Alumni class at the University of Central Florida.

Bond, Tami

Colorado State University

Dr. Tami Bond is the Walter Scott, Jr. Presidential Chair in Energy, Environment and Health at Colorado State University, and a Professor in Mechanical Engineering. Dr. Bond was trained as a mechanical engineer (B.S., University of Washington; M.S., University of California at Berkeley) before pursuing an interdisciplinary Ph.D. at the University of Washington and a NOAA Climate and Global Change Post-Doctoral Fellowship. Her research has followed a thread from combustion, to atmospheric chemistry and climate, to technology change and future scenarios, to the intimate relationship between technology choice, human needs, and infrastructure. Her work has spanned considerations as small as a particle's skin and as large as a national transportation system, with a particular focus on household energy and human environments in domestic and international settings. Her research group has designed sampling strategies to characterize health- and climate-relevant emissions in both laboratory and remote field settings and developed multi-scale modeling frameworks for microscopic to regional-scale simulation. Her team has developed technical procedures and training to make emission characterization accessible to practitioners. Dr. Bond is the author of nearly 100 journal articles, including four state-of-the-science synthesis papers. She has served on two National Academy panels, most recently The Future of Atmospheric Chemistry in 2016; the U.S. Environmental Protection Agency Risk and Technology Methods Review Panel in 2017; and led and participated in standard-setting activities for performance of residential appliances. She joined Colorado State in 2019 after 16 years in Civil and Environmental Engineering at the University of Illinois Urbana-Champaign. Dr. Bond is a Fellow of the American Geophysical Union and a 2014 John D. and Catherine T. MacArthur Fellow.

Borsuk, Mark

Duke University

Dr. Mark E. Borsuk is Associate Professor of Civil and Environmental Engineering at Duke University. He is also Co-Director of the Duke Center on Risk. Dr. Borsuk received a B.S.E. with highest honors in Civil Engineering and Operations Research from Princeton University as well as a certificate in Environmental Science. After a period in environmental engineering consulting, he attended Duke University, earning an M.S. in Statistics and Decision Sciences and a Ph.D. in Aquatic and Atmospheric Sciences. He then did post-doctoral training in the Department of Systems Analysis, Integrated Assessment, and Modelling (SIAM) at the Swiss Federal Institute for Environmental Science and Technology (EAWAG), where, in the course of four years, he advanced to head of the Decision Analysis and Integrated Assessment group. Dr. Borsuk returned to the U.S. in 2006 to join the faculty of the Thayer School of Engineering at Dartmouth Collegeand was granted tenure in 2013. In 2016, he joined the faculty of the Pratt School of Engineering at Duke. Dr. Borsuk's research concerns the development and application of mathematical and statistical models for integrating scientific knowledge and data on natural, technical, and social systems. He is a widely cited expert in Bayesian network modeling with regular application to environmental and human health, ecosystem services valuation, climate change, and land-use management. While at Dartmouth, Dr. Borsuk served as

Community Engagement Leader from 2011 to 2016 for the Dartmouth Superfund Research Program and as a Project Leader from 2010 to 2016 for the Institute for Quantitative Biomedical Sciences. He was also a member of the Expert Elicitation Advisory Panel of the US EPA Science Advisory Board. Dr. Borsuk has served as Associate Editor for the journals of Operations Research and Environmental Modelling & Software and on the Editorial Board for Integrated Environmental Assessment & Management. Currently, he is on the Governing Council for the Society for Risk Analysis and the Editorial Board for the journals Socio-Environmental Systems Modelling and Environment Systems & Decisions. He has been awarded the Chauncey Starr Distinguished Risk Analyst Award by the Society for Risk Analysis and the Early Career Research Excellence Award by the International Environmental Modelling & Software Society. Dr. Borsuk is a highly cited author of over 80 peer-reviewed journal publications and 6 book chapters and has been awarded multiple best paper awards. He teaches graduate and undergraduate courses in engineering optimization, risk analysis, economics, statistics, and decision theory and has received student-nominated awards for teaching and mentoring. He has produced and published five distinct software tools for integrated environmental risk assessment in the contexts of climate change, water quality regulation, and river restoration. Dr. Borsuk's highly collaborative research has been funded in recent years by the National Science Foundation, the Department of Defense's Strategic Environmental Research and Development Program, the US Environmental Protection Agency, the US Forest Service, and the National Institute of Environmental Health Sciences.

Bott, Charles

Hampton Roads Sanitation District

Dr. Charles B. Bott is the Hampton Roads Sanitation District (HRSD) Director of Water Technology and Research. He manages technology innovation and research and development for HRSD's 18 wastewater treatment plants and interceptor system. Dr. Bott is also an Adjunct Professor in the Departments of Civil and Environmental Engineering at Virginia Tech and Old Dominion University. He was formerly an Associate Professor in the Department of Civil and Environmental Engineering at the Virginia Military Institute and a consulting engineer with Parsons Engineering Science. Dr. Bott has a Bachelor's degree in Civil Engineering from the Virginia Military Institute, a Masters' degree in Environmental Engineering from the Johns Hopkins University, and a Ph.D. in Civil and Environmental Engineering from Virginia Tech. He is a Professional Engineer in Virginia, a Board Certified Environmental Engineer, and a licensed Wastewater Treatment Plant Operator - Virginia Class I. Dr. Bott is a Fellow of the Water Environment Federation (WEF) and a former member of the Science and Technology Advisory Committee to the Chesapeake Bay Program Executive Council. He is a two time winner of the WEF Harrison Prescott Eddy Medal for outstanding contribution to wastewater principles/process research, he was a previous member of the WEF Board of Trustees, and he was a founding co-chair of the WEF and the Water Research Foundation Leaders Innovation Forum for Technology (LIFT) program. Dr. Bott's technical interests include municipal and industrial wastewater collection and treatment, drinking water treatment and distribution, water reuse, and renewable energy generation in wastewater treatment and landfill applications. Important areas of focus include is the development and demonstration of mainstream shortcut nitrogen removal and treatment technologies for potable reuse. Dr. Bott's recent research has been primarily funded by internal HRSD resources, with limited support from the Water Research Foundation, the US Environmental Protection Agency, the US Department of Energy, and the US Bureau of Reclamation.

Boylan, James

Georgia Department of Natural Resources

Dr. James Boylan is currently the Manager of the Planning & Support Program in the Air Protection Branch of the Georgia Environmental Protection Division. He has a B.S. in Chemical Engineering from the University of Notre Dame, a M.S. in Chemical Engineering from Auburn University, and a M.S. and Ph.D. in Environmental Engineering from the Georgia Institute of Technology. Dr. Boylan's Ph.D. research included the development of the Urban-to-Regional Multiscale 1 Atmosphere Model (URM-1ATM) which was the first comprehensive three-dimensional Eulerian photochemical grid model that included full ozone chemistry, heterogeneous sulfate chemistry, aerosol thermodynamics, wet deposition and scavenging, and the decoupled direct method (DDM) for ozone and particulate matter. This model was applied as part of the Southern Appalachian Mountain Initiative (SAMI) to simulate 1-hour maximum ozone, W126 ozone, speciated PM2.5, acid deposition (ANC), and regional haze. The Planning & Support Program includes the Data & Modeling Unit (DMU), Emissions & Control Strategies Unit (ECSU), and Planning & Regulatory Development Unit (PRDU). Dr. Boylan's team is responsible for air dispersion modeling with American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) and California Puff Model (CALPUFF) required for Prevention of Significant Deterioration (PSD) permit applications covering sulfur dioxide (SO2), nitrogen dioxide (NO2), carbon monoxide (CO), particulate matter with a diameter of less than 2.5 microns (PM2.5), and lead (Pb); photochemical grid modeling with Community Multiscale Air Quality Model (CMAQ) and Comprehensive Air Quality Model with extensions (CAMx) required for Georgia's ozone, PM2.5, and regional haze

State Implementation Plans (SIPs); meteorological modeling with the fifth-generation Pennsylvania State University–National Center for Atmospheric Research Mesoscale Model (PSU/NCAR MM5) and Weather Research and Forecasting model (WRF); emissions modeling with Sparse Matrix Operator Kernel Emissions model (SMOKE) and MOtor Vehicle Emission Simulator (MOVES); the development of annual state-wide emission inventories for criteria pollutants; and the technical analyses for nonattainment area designation recommendations (ozone, PM2.5, lead, SO2, NO2). In addition, he is responsible for updating Georgia's Rules for Air Quality Control and developing and submitting all attainment demonstration State Implementation Plans (SIPs), infrastructure SIPs, and rule revision SIPs to Environmental Protection Agency (EPA). In 2002, he was awarded the "Outstanding Ph.D. Thesis Award" the for the best Ph.D. dissertation in the Georgia Tech School of Civil and Environmental Engineering. Later, he developed and published the first model performance goals and criteria for PM2.5 which has become the benchmark for most PM2.5 modeling projects both nationally and internationally. Dr. Boylan was one of the first modelers to merge traditional air permit dispersion modeling with photochemical grid models (PGMs) when he applied a PGM to evaluate the single source impacts on ozone and secondary PM2.5 from a coal-fired power plant as part of a PSD permitting review in 2009. In addition, he developed the "Inter-Pollutant Trading Ratio Approach" for accounting for secondary PM2.5 formation from SO2 and NOx in EPA's AERMOD steady-state dispersion model. Over the past several years he has held leadership positions within many regional and national workgroups. Dr. Boylan has authored or co-authored over 30 peer-reviewed journal articles and conference papers on ozone and PM2.5, has presented research findings at over 150 national, regional, and local conferences/meetings, and was awarded "Outstanding Reviewer Status" by Atmospheric Environment in 2015. In 2001, Dr. Boylan was inducted into the Sigma Xi Scientific Research Honor Society. In 2014, Dr. Boylan was selected to participate in the Clean Air Scientific Advisory Committee (CASAC) review panel for the primary SO2 NAAQS. In 2017, he was appointed by the EPA Administrator to serve on the chartered CASAC where he reviewed EPA documents for the most recent ozone and PM National Ambient Air Quality Standards (NAAQS). He was assigned as lead reviewer on multiple chapters and appendixes related to measurements, emissions, and modeling. In December 2020, Dr. Boylan published a paper titled "CASAC Review of the PM and Ozone NAAQS" in EM - The Magazine for Environmental Managers where he compared the traditional CASAC review approach to the newly implemented streamlined approach. Finally, Dr. Boylan was one of eight people selected to serve on the EPA Science Advisory Board (SAB) Reduced Forms Tools (RFT) review panel in 2020.

Boyle, Kevin

Virginia Tech

Dr. Kevin Boyle is Professor of Agricultural and Applied Economics at Virginia Tech and is also the Willis Blackwood Director of the Program in Real Estate. He received his bachelor's with honors from the University of Maine, Masters' in Agricultural and Resource Economics from Oregon State University, and Doctorate in Agricultural Economics from the University of Wisconsin. Dr. Boyle's research focuses on the development and application of methods that estimate monetary values for goods and services that are not traded in markets. His stated-preference research refines the theoretical and empirical foundations for modeling peoples' choices to estimate values. His hedonic property-value research focus on appropriate measurement of environmental quality in model estimation and his research has assisted in developing the foundations for benefit transfers. Recent research applications focus on the benefits of surface water quality, improvements in air quality, tree cover in urban areas and human health. He served on the USEPA Science Advisory Board Environmental Economics Advisory Committee (2013-2016 and 2017-2018), U.S. EPA Science Advisory Board Advisory Council on Clean Air Compliance (2011-2013), and U.S. EPA Clean Air Scientific Advisory Committee Particulate Matter Review Panel (2015-2018). Dr. Boyle also served on the Union of Concerned Scientists' Independent Particulate Matter Review Panel (2019-2020) and the External Environmental Economics Advisory Committee Waters of the United States (WOTUS) Report Review Committee (2020). He received Virginia Tech's highest research recognition, Alumni Award for Research Excellence, in 2021. Dr. Boyle was recognized with the "Service Award" by the Land, Water and Environmental Economics Section of the Agricultural and Applied Economics Association. He is the lead author of "Due Diligence in Meta-Analyses to Support Benefit Transfers" that received the Publication of Merit from Environmental and Resource Economics. He is a Fellow of the Agricultural and Applied Economics Association and a Fellow of the Association of Environmental and Resource Economists.

Brantley, Susan L

Penn State Univ

Dr. Susan L. Brantley is a Distinguished Professor of Geosciences in the Department of Geosciences at the Pennsylvania State University. She earned a Bachelor's degree in Chemistry, and a Masters' degree and Ph.D. in Geological and Geophysical Sciences from Princeton University. Dr. Brantley has expertise in geochemistry, geomicrobiology, groundwater and surface water hydrology, and soil geochemistry. Her research includes

measurement and modeling of soil formation; evaluation of the effects of hydraulic fracturing and shale-gas development on water resources; detection of contamination in water and soil; and geochemical reactive transport modelling. She has been principal or co-principal investigator for over 100 externally sponsored research projects, and has published over 270 journal papers, 15 book chapters, and has co-edited one book. Dr. Brantley's funding sources in the last two years include the U.S. National Science Foundation, the U.S. Department of Energy, the U.S. Geological Survey, the Pennsylvania Department of Environmental Protection, and small awards for outreach and education from the Environmental Protection Agency. Dr. Brantley was a member of the Science Advisory Board (SAB) Hydraulic Fracturing Advisory Panel from 2013-2016. She was appointed by President Barack Obama to the Nuclear Waste Technical Review Board in 2012, and served through spring 2021. She has served on several National Research Council study committees on environmental and geochemical issues, and on a round table committee on shale-gas development. She is a Fellow and Past President of the Geochemical Society, a Fellow of the American Geophysical Union, and a member of the U.S. National Academy of Sciences and the American Academy of Arts and Sciences.

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 and Director of Purdue's Water Quality Field Station. Dr. Brouder received her B.A. in Biology from Harvard University and her Ph.D. in Ecology from the Ecology Graduate Group at the University of California – Davis where she remained for a two-year post-doctorate in agroecology before joining the Purdue faculty in 1995. Dr. Brouder studies field-to-landscape scale nutrient cycling with an emphasis on crop ecology, water quality, greenhouse gas emissions and nutrient balances and loses in agro-ecosystems; she translates new knowledge to practice via development of diagnostics and recommendations for on-farm nutrient management. In 2017, Dr. Brouder completed a 3-year term on the Science Advisory Board of the U.S. Environmental Protection Agency contributing her expertise at the intersection of agriculture, ecology, climate change and water quality. She currently serves as Past President of the American Society of Agronomy and as Panel Manager for the Data Science for Food and Agriculture Systems funding program of the National Institute of Food and Agriculture. She is a Certified Senior Ecologist through the Ecological Society of America and recently completed her second term on their Board of Professional Certification. Dr. Brouder is a 2017 Fellow of the American Association for the Advancement of Science in recognition of her contributions to plant nutrition and agroecology, particularly for rigor in developing evidence-based practices and knowledge translation for agricultural sustainability, and she is a 2012 Fellow of the American Society of Agronomy. Recent sources of funding for Dr. Brouder's research are the National Science Foundation, the National Institute of Food and Agriculture, the Foundation for Food and Agriculture, the 4R Research Fund within the Foundation for Agronomic Research of the Fertilizer Institute, and a gift from DowDuPont.

Bucher, John R.

National Institutes of Environmental Health Science

Dr. John R. Bucher is a toxicologist and former Associate Director, National Toxicology Program (NTP), and Scientific Director, Division of the NTP, National Institute of Environmental Health Sciences, National Institutes of Health (NIH). He holds a Ph.D. in Pharmacology from Iowa, an M.S. in Biochemistry from UNC Chapel Hill and a B.A. in Biology from Knox College. He was an NIH Postdoctoral Fellow in Biochemistry and Environmental Toxicology at Michigan State; is a Diplomate' of the American Board of Toxicology and Fellow Collegium Ramazzini. He served a prior term as a member of the EPA FIFRA Science Advisory Panel. His NIH funded research spans 37+ years and includes responsibility for the NTP rodent toxicology and carcinogenesis bioassay program, as well as efforts to replace these studies with in vitro and in vivo genomic-based assays. He led efforts to evaluate genetically modified mice for rapid cancer assessments, and co-authored the 2004 NTP Roadmap, which became a blueprint for the National Research Council report "Toxicology in the 21st Century." He was instrumental in the formation of the "Tox 21" federal collaboration. He developed capabilities for radiofrequency research studies in Europe and at NTP. He co-organized the first conference on nanomaterials toxicity and established the CLARITY-BPA research effort to improve regulatory assays to detect endocrine active substances. He led establishment of the literature review activities of the NTP Center for the Evaluation of Risks to Human Reproduction (now Office of Health Assessment and Translation); oversaw the NTP Report on Carcinogens, and continues to promote adoption of systematic literature review methods in environmental health sciences. Dr. Bucher has received numerous awards from NIH; has served on a number of World Health Organization working groups and committees, National Academy of Science committees and Federal Health Agency panels, and has testified before House and Senate subcommittees.

Bui, Linda

Brandeis University

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

Burroughs, Melissa

Stanford Health Care

Dr. Melissa Burroughs is a clinical cardiologist at Stanford Health Care. Dr. Burroughs graduated summa cum laude with a Bachelor of Science in Anthropology and Human Biology from Emory University where she received the Robert W. Woodruff Scholarship. She graduated cum laude from Harvard Medical School. She completed cardiovascular medicine training at Duke University where she also received a Master of Science in Global Health and was a fellow at the Duke Clinical Research Institute. With a clinical emphasis on cardiovascular prevention, Dr. Burroughs also has expertise in environmental health, health inequality and global health. Dr. Burroughs is a co-author of the American Heart Association (AHA) policy statement on cardiovascular disease and air pollutant exposure. Additionally, she represented the AHA in advocating for stricter air quality standards to the White House's Office of Information and Regulatory Affairs in the review of the national air quality standards for fine particulate matter. Specifically, Dr. Burroughs highlighted the disproportionate exposure to air pollution in African American and Hispanic/Latino communities, contributing to disparities in cardiovascular disease outcomes and COVID-19 mortality. She has also served on the AHA Scientific Sessions Programming Committee in 2020 and 2021. She is also a member of the World Heart Federation Air Pollution External Roster of Experts. Dr. Burroughs's research has focused on environmental health and health inequality in the United States, Puerto Rico, Cuba, Peru and Brazil and she has co-authored 23 scientific publications. Dr. Burroughs is an associate editor at the American Heart Journal. She currently serves on the board of directors of the Association of Black Cardiologists. She received a National Institutes of Health Fogarty Global Health Fellowship in 2013. Although Dr. Burroughs has written several grants to investigate the association of exposure to air pollutants and cardiac function in Hispanics/Latinos, she has no research funding to report from the last 2 years.

Bus, James

Exponent, Inc.

Dr. James S. Bus is a Senior Managing Scientist in the Health Sciences Group of Exponent (May 2013-present). He received a B.S. in Medicinal Chemistry (University of Michigan) and Ph.D. in Pharmacology (Michigan State University). He is an Adjunct Professor in the Dept. Pharmacology and Toxicology at MSU. Dr. Bus has served on advisory boards of the International Life Sciences Institute and its Health and Environmental Sciences Institute (ILSI-HESI), The Hamner Institutes (formerly CIIT), American Chemistry Council Long-Research Initiative, the EPA (BOSC and Chartered SAB), the National Toxicology Program, and the National Academy of Sciences Board of Environmental Sciences and Toxicology (BEST). He has served as President of the Society of Toxicology, The American Board of Toxicology, and the Academy of Toxicological Sciences, and in various editorial roles to toxicology-related journals. Dr. Bus received the Society of Toxicology Achievement (1987) and Founders (2010) awards, the Toxicology Forum George H. Scott Award (2013), Rutgers University Robert A. Scala Award (1999), the Michigan State University K.E. Moore Outstanding Alumnus Award), and the International Society of Regulatory Toxicology and Pharmacology International Achievement Award (2015). He has authored/co-authored over 150 publications, books, and scientific reviews. His primary research interests include modes of toxic action of industrial chemicals and pesticides, including use of toxicokinetics as a key consideration for improving the human relevance of in vitro and in vivo toxicity test findings. Dr. Bus has received no direct funding for research, but has received external support through Exponent contracts for toxicology-related consulting activities from various companies and industry-related trade associations (e.g., Halogenated Industry Solvents Alliance; Styrene Information and Research Center; American Chemistry Council, 2,4-D Industry Task Force II, CropLife America).

Carbone, Jared

Colorado School of Mines

Dr. Jared Carbone is an Associate Professor at the Colorado School of Mines in the Division of Economics and Business. He currently serves as a member of the editorial council for the Journal of the Association of Environmental and Resource Economists. Dr. Carbone previously served on the Economy-Wide Modeling Panel of the EPA Science Advisory Board and organized a series of EPA workshops on modeling employment responses to environmental regulations. He completed a Ph.D. in Economics at the University of Colorado at Boulder in 2003. Subsequently, he worked as a post-doctoral fellow at the Center for Environmental and Resource Economics Policy at North Carolina State University from 2003 to 2005. Dr. Carbone's research focuses primarily on evaluating the economy-wide impacts of environmental regulations and the use of applied general equilibrium models to address these problems. He has written about international trade and regulatory responses to global warming, about environmental taxation and fiscal reform, and about how to model the demand for environmental quality and health in economy-wide benefit-cost assessments.

Carlton, Ann Marie

University of California, Irvine

Dr. Ann Marie Carlton is a Professor and Vice-Chair of Chemistry at the University of California, Irvine. Dr. Carlton holds B.S. and M.S. Degrees in Bioenvironmental Engineering and a Ph.D. in Environmental Science, from Rutgers University in New Brunswick, NJ. Prior to earning a doctorate, Dr. Carlton worked as an inspector to enforce air and water quality standards for Region 2 of the U.S. Environmental Protection Agency (EPA) and became a licensed professional engineer in New Jersey. After four years in EPA's Office of Research and Development in Research Triangle Park, as a Community Multiscale Air Quality (CMAQ) model developer, Dr. Carlton joined the faculty of Rutgers. Dr. Carlton is a scientific leader of the Southern Oxidant and Aerosol Study and served on the National Academy of Sciences' panel to write The Future of Atmospheric Chemistry Research. She is a former co-editor of Atmospheric Chemistry and Physics and presently an editor of The American Geophysical Union's (AGU) Reviews of Geophysics. Dr. Carlton serves on the Board of Reviewing Editors for Science Magazine and on the Advisory Board for the Royal Society of Chemistry Journal, Environmental Science: Atmospheres. Dr. Carlton is an atmospheric chemist focused on issues of air quality. Her work is funded by National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), the National Science Foundation (NSF) and the Department of Defense (DOD) through the Army Research Office.

Caron, Rosemary

University of New Hampshire

Dr. Rosemary M. Caron is a Professor of Health Management and Policy in the College of Health and Human Services (CHHS) at the University of New Hampshire (UNH) in Durham, New Hampshire. Dr. Caron holds a Ph.D. in Pharmacology and Toxicology from Dartmouth College; MPH from Boston University School of Public Health; and a B.A. in Chemistry from Regis College. After a post-doctoral fellowship at the Harvard School of Public Health, Dr. Caron practiced public health for several years as the Assistant State Epidemiologist in the Bureau of Health Risk Assessment and Chief of the Bureau of Health Statistics and Data Management for the New Hampshire Department of Health and Human Services. At the state's largest local health department, Dr. Caron worked as a Chronic Disease Epidemiologist and Environmental Toxicologist. Dr. Caron also worked as a Senior Toxicologist conducting public health assessments for a private consulting firm. Dr. Caron joined the UNH faculty in 2006 where she studies the role for community-based participation in policy development for addressing complex environmental public health issues. Dr. Caron serves on the Editorial Board for BMC Health Services, Occupational Diseases and Environmental Medicine, and Journal of Patient Experience and she serves on the Board of Governors for the American Journal of Preventive Medicine. Dr. Caron serves on the Board of Directors for the Association for Prevention Teaching and Research and the Association of University Programs in Health Administration. Dr. Caron serves on and leads the Publications Board for the American College of Epidemiology and the American Public Health Association, respectively. Dr. Caron has been a NH Governor appointee to examine cancer, chronic disease, and a pediatric cancer cluster. Dr. Caron received the 2011 Teaching Excellence Award in CHHS and was the recipient of the 2015 Outstanding Associate Professor Award at UNH. Dr. Caron's most recent funding has been provided by the CDC and she has worked on projects that have been funded by the Robert Wood Johnson Foundation and NASA.

Carroll, Allen

Applied Ceramics, Inc.

Mr. Allen Carroll has a masters' degree from Clemson in Ceramic Engineering. With 50 years in ceramic and catalyst industry, he has served on industry committees for appliance emissions for both IAQ and particulate. He has a particular emphasis on residential wood burning stoves, and has worked with the testing labs, development companies and manufacturers since 1982.

Cecot, Caroline

George Mason University

Dr. Caroline Cecot is an Assistant Professor of Law at Antonin Scalia Law School at George Mason University. She is also an affiliated scholar at the Atlantic Council, the C. Boyden Gray Center for the Study of the Administrative State, the Institute for Policy Integrity at New York University School of Law, and the Technology Policy Institute. Dr. Cecot earned a Bachelor's degree, magna cum laude, in Economics from Harvard College, a J.D. from Vanderbilt Law School, and a Ph.D. in Law and Economics from Vanderbilt University. She worked on regulatory issues at the AEI-Brookings Joint Center for Regulatory Studies, was a postdoctoral research scholar in law and economics at Vanderbilt Law School, and was a legal fellow at the Institute for Policy Integrity. She also clerked for the Honorable Raymond J. Lohier, Jr., of the United States Court of Appeals for the Second Circuit. As a professor, Dr. Cecot teaches administrative law, environmental law, and torts. In her research, Dr. Cecot applies her expertise in law and economics to analyze issues related to energy and environmental regulation and has published articles in peer-reviewed journals and law reviews on these topics. In particular, Dr. Cecot is a coauthor of the casebook Environmental Law and Policy, and her recent scholarship focuses on agency practice and judicial review of cost-benefit analysis. Dr. Cecot has served on the Science Advisory Board's Economic Guidelines Review Panel (2020-2021). As faculty at George Mason University, she is funded by the Commonwealth of Virginia and has received honoraria for participating at conferences organized by the C. Boyden Gray Center, where she is affiliated faculty, and the Clifford Symposium on Civil Justice at DePaul University College of Law.

Chakraborty, Jayajit

University of Texas at El Paso

Dr. Jayajit Chakraborty is a Professor in the Department of Sociology and Anthropology and Founding Director of the Socio-Environmental and Geospatial Analysis Lab at the University of Texas at El Paso. He has a Masters' degree in Urban and Regional Planning and Ph.D. in Geography. Dr. Chakraborty's research experiences encompass a wide range of environmental health and environmental justice issues, with an emphasis on social vulnerability to hazards, risks, and disasters. His scholarship has examined disproportionate exposure to environmental hazards and disamenities (e.g., air pollution, dust events, hurricanes, flooding, hazardous chemical accidents, industrial contamination, and heatwaves), as well as access to amenities (e.g., public beaches, parks, healthy food, and greenspaces), in multiple US urban areas, the US-Mexico border, Australia, and India. His research utilizes a wide variety of methodologies, including the applications of geographic information science (GIScience) and spatial statistical techniques. Dr. Chakraborty has been principal/co-principal investigator for over 30 externally funded research projects, and has published 75 journal articles, 15 book chapters, 10 technical reports, and 4 books, including The Routledge Handbook of Environmental Justice. He has also edited four journal special issues on environmental justice. His funding sources in the last two years include the US National Science Foundation, US Department of Transportation, US Department of Treasury, and El Paso County, Texas. Dr. Chakraborty has served on advisory committees and review panels for the EPA, National Science Foundation, American Association of Geographers, National Institutes of Health, and National Academies of Sciences, Engineering and Medicine. He has chaired the American Association of Geographers Hazards, Risks and Disasters Specialty Group. Dr. Chakraborty was commissioned by the EPA to coauthor and present a report at the first national symposium on Strengthening Environmental Justice Research and Decision Making. He also served as a peer-reviewer for EJSCREEN, the EPA's environmental justice screening and mapping tool. He is currently serving on the editorial boards of three journals: Environmental Justice; Environment, Development and Sustainability; and International Journal of Environmental Research and Public Health.

Chambers, Janice E.

Mississippi State University

Dr. Janice E. Chambers is the Director of the Center for Environmental Health Sciences and is a William L. Giles Distinguished Professor in the College of Veterinary Medicine, Mississippi State University (MSU). She is originally from Berkeley, California. She holds an undergraduate degree in Biology from the University of San Francisco, and a Ph.D. in Animal Physiology from MSU. She held post-doctoral positions at MSU before obtaining her faculty

appointment at MSU. Dr. Chambers has been the Principal Investigator of about $30 million in federally-funded competitive grants in the field of toxicology, and has had previous support from the National Institutes of Health (NIH), U.S. Environmental Protection Agency (EPA), National Science Foundation (NSF), U.S. Department of Defense (DoD) and the American Chemistry Council. Research support during the last two years has been from NIH, DoD and 3 pesticide manufacturers (FMC Corporation, AMVAC and Gowan). She has served on advisory boards and committees for several organizations, including the National Research Council Board of Toxicology, the International Life Sciences Institute/Health and Environmental Sciences Institute, the Society of Toxicology, and the American Chemistry Council. She has previously served as a member of EPA's Scientific Advisory Panel for FIFRA, EPA's Human Studies Review Board, and was recently a member of EPA's chartered Science Advisory Board, and was a member of the Board of Scientific Counselors for the National Center of Environmental Health/Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention. She is or has been a peer review panel member for NIH and National Institute for Occupational Safety and Health (NIOSH), and a member of journal editorial boards. She has received the International Award for Research in Agrochemicals from the American Chemical Society, Agrochemicals Division. She has received a Burroughs Wellcome Toxicology Scholar Award and a SmithKline Beecham award for Research Excellence, along with the Ralph E. Powe Research Award and the Alumni Association's Faculty Achievement Award in Research at MSU, and MSU's 2017 Faculty Achievement Award from the Southeastern Conference. She is board certified in general toxicology by the American Board of Toxicology and she is a Fellow of the Academy of Toxicological Sciences. The Center for Environmental Health Sciences at MSU, which she directs, is an interdisciplinary research center specializing in toxicology and is supported primarily by NIH. The Center's major research areas are neurotoxicology, biochemical toxicology, endocrine toxicology, immunotoxicology, analytical chemistry, biostatistics, epidemiology, and computational chemistry. Dr. Chambers directs a mechanistic research program specializing in toxicology with a major emphasis on organophosphate neurotoxicants, most notably insecticides and nerve agent surrogates, and she has also studied the associations of legacy pesticides with the health disparity chronic illnesses cardiovascular disease and type 2 diabetes. She has been involved in the training of about 40 graduate students and post-docs. Her program emphasizes a consideration of dose-response relationships. Specifically, she leads projects related to the neurochemical and behavioral effects of organophosphates; the metabolism of pesticides; new approach methodologies (NAMs) related to improvements in pesticide risk assessments; effects of chemical mixtures; and exposure assessment. Most recently her program is developing novel antidotes to highly toxic anticholinesterases that could be used as agents of terrorism or warfare.

Chen, Aimin

University of Pennsylvania,

Dr. Aimin Chen is Professor of Epidemiology in the Department of Biostatistics, Epidemiology and Informatics, Perelman School of Medicine, University of Pennsylvania. He is Associate Director of the Integrative Health Sciences Facility Core (IHSFC) in the Center of Excellence in Environmental Toxicology (CEET) in the University of Pennsylvania. He has received MD in Preventive Medicine and M.S. in Epidemiology from Nanjing Medical University, and he has a Ph.D. in Epidemiology and Health Statistics from Fudan University. He completed postdoctoral training in Perinatal and Pediatric Environmental Epidemiology at the National Institute of Environmental Health Sciences (NIEHS). Dr. Chen has expertise in epidemiology, biostatistics, children's environmental health, exposure assessment, and public health interventions. His research includes informal electronic waste recycling exposure and child development; exposure to polybrominated diphenyl ethers (PBDEs) and per- and polyfluoroalkyl substances (PFAS) and child neurobehavioral development; developmental neurotoxicity of organophosphate ester (OPE) and replacement brominated flame retardants; environmental chemical mixture exposure and child health outcomes. He has studied heavy metals, persistent organic pollutants, endocrine disrupting chemicals, and chemical mixtures. He has published more than 170 peer-reviewed journal papers and presented at numerous national and international academic conferences. In the past two years, his research was supported by the NIEHS. Dr. Chen has served on various National Institutes of Health (NIH) study sections. He is Associate Editor of International Journal of Hygiene and Environmental Health (IJHEH) and on the Editorial Review Board of Environmental Health Perspectives (EHP). He has served on the Board of Directors of the Pacific Basin Consortium for Environment and Health, a forum to promote technology and information exchange on environmental and health issues in the Pacific Basin. He is a member of Project TENDR: Targeting Environmental Neuro-Development Risks, which promotes translation of sciences to reduce children's exposure to developmental neurotoxicants.

Childress, Amy

University of Southern California

Dr. Amy Childress is Gabilan Distinguished Professor of Science and Engineering, Professor of Civil and Environmental Engineering, and Director of the Environmental Engineering program at the University of Southern California (USC). She received her B.S. in Civil Engineering from the University of Maryland and her M.S. and Ph.D. in

Environmental Engineering from the University of California, Los Angeles. Dr. Childress' research and scholarly interests are in the area of desalination, wastewater reclamation, and the water-energy nexus. Most recently, she has investigated pressure-driven membrane processes as industry standards for desalination and water reuse; membrane contactor processes for innovative solutions to contaminant and energy challenges; membrane bioreactor technology; colloidal and interfacial aspects of membrane processes; and brine reduction and energy recovery. Dr. Childress has directed research funded by federal, state, and private agencies with research projects in the past two years being funded by the Department of Energy National Alliance for Water Innovation, Department of Defense Environmental Security Technology Certification Program, California Department of Water Resources, National Science Foundation, Fulbright US Scholar Program, Electric Power Research Institute, and USC Viterbi School of Engineering. She has received awards for publications, research innovation, technology education, and mentoring. Dr. Childress is a past president of the Association of Environmental Engineering and Science Professors and a Board-Certified Environmental Engineering member. She is regularly invited as a plenary or keynote speaker to technical conferences worldwide. Dr. Childress chairs National Water Research Institute independent advisory panels on potable reuse and seawater desalination projects and serves on the external audit panel for Singapore Public Utilities Board. She is also co-editor of Desalination and on the advisory boards of several technical journals.

Chiu, Weihsueh

Texas A&M University

Dr. Weihsueh A. Chiu is a professor in the Department of Veterinary Integrative Biosciences in the College of Veterinary Medicine and Biomedical Sciences at Texas A&M University. He received an A.B. degree in Physics from Harvard University, a M.A. and Ph.D. in Physics from Princeton University, and a Certificate in Science, Technology, and Environmental Policy from the Woodrow Wilson School of Public and International Affairs at Princeton University. Dr. Chiu was an analyst at the U.S. Government Accountability Office from 1998-2000. He joined the Radiation Protection Division of the U.S. Environmental Protection Agency (EPA) as an environmental scientist in 2000, transferring to the Office of Research and Development in 2002. From 2002-2015, Dr. Chiu led and supervised the development of human health hazard and dose-response assessments for a variety of environmental chemicals, serving as Chief of the Toxicity Pathways Branch from 2012-2015. Dr. Chiu's research has addressed a broad range of topics in human health risk assessment, including toxicokinetics, mechanisms of toxicity, physiologically-based pharmacokinetic modeling, dose-response assessment, characterizing uncertainty and variability, systematic review, meta-analysis, Bayesian and probabilistic methods, and geospatial mapping and data integration for environmental justice. His research has been supported by a number of government agencies, including the National Institutes of Health, the Food and Drug Administration, the U.S. EPA, and the National Academies of Sciences, Engineering, and Medicine (NASEM). Dr. Chiu has participated in or chaired expert review and advisory committees for the National Toxicology Program, California EPA, U.S. Food and Drug Administration, Agency for Toxic Substances and Disease Registry, and NASEM. He has also served on international committees and workgroups for Health Canada, the World Health Organization, and the Organisation for Economic Cooperation and Development. He is currently a Councilor for the Society for Risk Analysis, and previously chaired its Dose-Response Specialty Group.

Chou, Karen

Michigan State University

Dr. Karen Chou is an Associate Professor of Environmental Toxicology in the Department of Animal Science and Environmental Science and Policy Program. She received a B.S. in Human Nutrition from Fu Jen Catholic University, M.S. in Dairy Science from Michigan State University, and Ph.D. in Toxicology from the University of Michigan. She was a visiting scientist in the Department of Environmental Epidemiology, Harvard School of Public Health. Dr. Chou coordinates the sustainable agricultural management program which synthesizes pesticide risk, pesticidal efficacy, and agricultural practices, to enable flexible management approaches for small and large operations, by providing risk information to users, and to minimize the cost and burden of practicing sustainability. She teaches two graduate and three undergraduate courses in the areas of human health risk assessment, toxicology, food safety, and environmental management, including the topics on reproductive toxicity, endocrine disruptors, metal toxicity, and nanotoxicity. She has studied the toxicity of pesticides and other environmental chemicals in human and animals. Dr. Chou has developed geospatial exposure models for the interactions between environmental contaminants, human reproductive health, and socioeconomic factors. She was the toxicology advisor for the Technical Outreach Service for Communities and Technical Assistance to Brownfield. She has conducted research and workshops in Bulgaria and Romania on Balkan Endemic Nephropathy. Dr. Chou has published over 50 peer-reviewed journal articles and book chapters and given over 100 invited talks and conference presentations. Dr. Chou has served as a board member, reviewer, chairperson, or editor on environmental health related topics, related to several dozens of hazardous substances in human and animals, for local communities, and federal and state agencies, including US Environmental

Protection Agency, the National Institute of Environmental Health Sciences, the National Institute for Occupational Safety and Health, Michigan Department of Environmental Quality, and Michigan Department of Agriculture.

Chow, Judith C.

Desert Research Institute

Dr. Judith Chow holds the Nazir and Mary Ansari Chair in Science and Entrepreneurialism and is a Research Professor in the Division of Atmospheric Sciences at the Desert Research Institute (DRI), Nevada System of Higher Education in Reno, Nevada. She has led DRI's Environmental Analysis Facility since its inception in 1985. Dr. Chow earned a B.S. degree in Biology from Fu-Jen Catholic University in Taiwan (1974), a M.S. degree in Environmental Health Science (1983) from Harvard University, and a Sc.D. degree in Environmental Science and Physiology (1985) from Harvard University. For nearly 45 years, she has conducted air quality and source characterization studies and performed data analysis and receptor modeling to improve understanding of how air quality affects human health, visibility, historical treasures, ecosystems, and climate. Dr. Chow is currently the principal investigator for: 1) measuring organic and black carbon concentrations for the National Park Service's Interagency Monitoring of Protected Visual Environments (IMPROVE) network; 2) tracking changes in air quality with control measures at the ports of Los Angeles and Long Beach; and 3) investigating the chemical nature and composition of atmospheric brown carbon aerosol. She has been principal investigator or a major collaborator in more than 50 large air quality studies (and many smaller ones) across the United States and in other countries. Dr. Chow prepared and revised sections of the U.S. EPA's Particulate Matter (PM) Criteria Document (in the late 1990s/early 2000s) pertaining to chemical analysis and source emissions and contributed to EPA guidance documents on network design, continuous particulate monitoring, and particulate matter chemical speciation. Her research has been sponsored by grants and contracts from the federal government (e.g., EPA, Department of Energy and Department of Interior), local, state, and international air quality management authorities, industry, and the National Science Foundation. As past chair and a member of the Air & Waste Management Association's (A&WMA) Critical Review Committee, Dr. Chow has coordinated and evaluated Critical Reviews and Discussions on environmental science and technology topics. She was chair of the Publications Committee for the Journal of the Air & Waste Management Association and serves on Editorial Boards and/or as Associate Editor for several international journals including: the Journal of Air Quality, Atmosphere, & Health, Aerosol and Air Quality Research, Atmospheric Pollution Research, and Particuology. Dr. Chow was a member of the National Research Council's (NRC) committees on Research Priorities for Airborne Particulate Matter (1998–2003) and Energy and Air Pollution Futures in the U.S. and China (2004-2008); she also served on the NRC Board on Environmental Studies and Toxicology (2002–2005). She has been a member of the technical advisory group for the South Coast (California) Air Quality Management District's Multiple Air Toxics Exposure Study (MATES) since 1998. Dr. Chow was a chartered member of EPA's Clean Air Scientific Advisory Committee (CASAC) (2015-2018) and CASAC's Air Monitoring and Methods Subcommittee (AMMS, formerly the Ambient Air Monitoring and Methods Subcommittee) (2004-2019). She is the principal author or co-author of >590 peer-reviewed articles and book chapters and >260 reports. She has been recognized by ISIHighlyCited.com in ecology and environment with more than 27,725 citations and an h-index of 82, and is one of Stanford University's "Top 2% of the Worlds' Most Cited Scientists."

Christensen, William

Brigham Young University

Dr. William F. Christensen is the Melvin W. Carter Professor of Statistics at Brigham Young University (BYU). He earned his Ph.D. in Statistics in 1999 from Iowa State University and holds M.S. and B.S. degrees in Statistics from BYU. His specific areas of statistics expertise include the development of statistical methods for pollution source apportionment; multivariate analysis; latent variable modeling of multivariate spatial data; and the analysis of climate and paleoclimate data. His recent research activities have focused on the development of statistical methods for pollution source apportionment using lichens as biomonitors; identifying COVID-19 hot-spots in an academic setting; a re-evaluation of the robustness of the two-tailed permutation test for skewed and unbalanced data; modeling sea-level processes on the U.S. Atlantic coast; modeling Antarctic surface mass balance; spatio-temporal modeling of precipitation in the Indus watershed; and the assessment of phenomenological dimensionality in psychiatric assessments. Dr. Christensen has been active in the American Statistical Association, having served on and vice-chaired the Committee on Funded Research and been active in the leadership of the Section on Statistics and the Environment, including as secretary, treasurer, publications chair, and chair of its awards committee. He has also been an associate editor of Environmetrics since 2014.

Christian-Smith, Juliet

Water Foundation

Dr. Juliet Christian-Smith oversees the Water Foundation's Healthy Communities program, which supports projects that advance safe drinking water and climate resiliency in urban and rural communities. She works closely with Water Foundation staff and partners to craft strategy, develop projects and policies, support implementation, track progress, and share lessons learned, with a focus on advancing equitable policies and practices across the water field. Dr. Christian-Smith has a Ph.D. in Environmental Science, Policy, and Management from UC Berkeley. Prior to joining the Water Foundation, she was previously with the Union of Concerned Scientists where she led water and climate work as a Senior Climate Scientist. She also brings a comparative perspective, informed by her Fulbright Fellowship to study the implementation of the European Water Framework Directive in Portugal and her work as a Murray Darling Basin Futures Fellow in Australia. She is the author of a 21st Century U.S. Water Policy, and a contributor to numerous other books and articles. She served on the editorial board of the Sustainability Science journal and has received numerous scientific awards, including: a National Science Foundation Undergraduate Research Award, a Fulbright Fellowship, a National Academies of Science Kavli Frontiers of Science Fellow, and a recipient of Environmental Protection Agency (EPA) Region 9's Environmental Excellence Award.

Christy, John R.

University of Alabama in Huntsville

Dr. John R. Christy is the Director of the Earth System Science Center (ESSC), Distinguished Professor of Atmospheric and Earth Science and Alabama's State Climatologist at the University of Alabama in Huntsville. He manages ESSC with over 100 employees working on research projects ranging from developing and launching space-based instruments to studying impacts of significant weather events in developing countries to high-resolution studies of air pollution (air-chemistry and meteorology) in the Southeast. He earned M.S. and Ph.D. degrees in Atmospheric Sciences from the University of Illinois. Dr. Christy's own area of research concerns developing, constructing and refining global and regional climate data records which may be used to test claims of climate variability and change and to understand the climate's sensitivity to various forcing factors, resulting in 100 peer-reviewed publications. As State Climatologist he interacts with government, industry, and the public regarding climate resources in Alabama that may be utilized in environmentally and economically sustainable ways. Inducted as a Fellow of the American Meteorological Society (AMS) in 2002, Dr. Christy was also selected for (a) the AMS Special Award as co-author of the first satellite-based global bulk-atmosphere temperature record and (b) the National Aeronautics and Space Administration (NASA) Medal for Exceptional Scientific Achievement. He has served on panels of the National Research Council, National Academy of Sciences, the Earth Science Subcommittee of the NASA Advisory Council and Lead Author/Contributor/Reviewer of the Intergovernmental Panel on Climate Change. He has been called to testify before 20 Congressional Hearings and approved as an expert witness in U.S. Federal Court on climate issues. Present research is funded by the State of Alabama, NASA, National Oceanic and Atmospheric Administration (NOAA), United States Department of Agriculture (USDA) and the Department of Energy.

Clayton, Susan

College of Wooster

Dr. Susan D. Clayton is the Whitmore-Williams Professor and Chair of the Dept. of Psychology at the College of Wooster in Ohio. She received a Ph.D. in Social Psychology from Yale Univ. in 1987, and has a B.A. in Psychology from Carleton College (1982). Dr. Clayton's research examines humans' knowledge and attitudes about the environment, the effects of climate change on mental health, and issues of social and environmental justice. She is a Fellow of the American Psychological Association, the Society for Personality and Social Psychology, the Society for the Psychological Study of Social Issues, and the Society for Environmental, Population, and Conservation Psychology. Dr. Clayton serves on the editorial boards of the Journal of Environmental Psychology, Sustainability, and the Journal of Zoological and Botanical Gardens, and is the editor of the Cambridge Elements series in Applied Social Psychology. She is a lead author on the forthcoming Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Dr. Clayton is currently a member of the Board of Directors of the American Psychological Association (APA) and previously served as president of both the Society for the Psychological Study of Social Issues and the Society for Environmental, Population, and Conservation Psychology.

Clewell, Harvey

Ramboll US Consulting, Inc.

Dr. Harvey J. Clewell is a research scientist with over forty-five years of experience in environmental quality and toxicology research, chemical risk assessment and hazardous materials management. He is currently a Principal Consultant with Ramboll US Consulting, Inc. He received a Masters' degree in Chemistry from Washington University,

St. Louis, and a Ph.D. in Toxicology from the University of Utrecht, the Netherlands. He is a Diplomate of the American Board of Toxicology (DABT) and a Fellow of the Academy of Toxicological Sciences (FATS), and he holds the position of Visiting Scientist at the University of Utrecht in the Netherlands. He has authored more than 200 peer-reviewed scientific publications and book chapters on the use of pharmacokinetics, dose-response analysis, genomics, and new alternative methods (NAMs) in risk assessment. He has gained an international reputation for his work on the incorporation of mechanistic data and mode of action information into chemical risk assessments, having played a role in the first uses of physiologically based pharmacokinetic (PBPK) modeling in cancer and non-cancer assessments by U.S. Environmental Protection Agency (EPA), Agency for Toxic Substances and Disease Registry (ATSDR), U.S. Occupational Safety and Health Administration (OSHA), and U.S. Food and Drug Administration (FDA). In 2007, the Society of Toxicology recognized Dr. Clewell with the Arnold J. Lehman Award for major contributions to chemical safety and risk assessment. Dr. Clewell has served on external peer review panels for a number of EPA guidelines, including those for cancer risk assessment, risk characterization, benchmark dose modeling, and dermal absorption, and has participated in chemical-specific reviews conducted by the EPA Scientific Advisory Board and the FIFRA Scientific Advisory Panel. He also served as a member of the European Centre for the Validation of Alternative Methods (ECVAM) Scientific Advisory Panel from 2012 to 2016. Over the years, he has performed research for a wide variety of clients in both government (e.g., ATSDR, EPA, FDA, Health Canada, National Institute of Environmental Health Sciences (NIEHS), California Office of Environmental Health Hazard Assessment (OEHHA), Texas Commission on Environmental Quality (TCEQ)) and industry (e.g., 3M, ABA, ACC, Afton, Bayer, CEFIC, `Denka, Dow Corning, DuPont, EPRI, Johnson and Johnson, NiPERA, Pfizer, Procter and Gamble, Silicones Environmental, Health, and Safety Council of North America (SEHSC), Syngenta, Unilever).

Clewell, Rebecca

21st Century Tox Consulting

Dr. Rebecca Clewell is an internationally recognized expert on the development of in vitro and computational tools to support chemical safety decisions. Bringing together over 20 years of experience in quantitative biology and chemical dose-response, her current work is focused on designing in vitro tests with the biological fidelity to accurately predict human response and in developing strategies to use these in vitro based points of departure for risk-based decision making. Recently, Dr. Clewell has worked with industry, government, and academic thought leaders around the globe to identify tools and technologies that are needed to build confidence in this new era of toxicology and to develop a framework for efficient chemical testing using primarily in vitro and in silico approaches. This framework, which uses high-throughput screening approaches for chemical triage and biologically complex in vitro systems and computational pathway models to evaluate chemical dose-response, supports chemical decisions from early screening and prioritization to in-depth evaluation of dose-response and margins of exposure. Dr. Clewell's areas of expertise are in using mathematical models to describe chemical pharmacokinetics and response, planning and directing in vivo rodent studies to identify chemical mode of action, and more recently, development of in vitro and in silico tools to evaluate the effect of chemicals on cellular signaling. In her leadership positions at The Hamner Institutes and ScitoVation, she leveraged this diverse research background to build integrative research programs that combined high throughput data streams, omics technologies, fit for purpose in vitro assays, and computational models to support chemical safety assessments based on non-animal methods. At 21st Century Tox Consulting, she works with industry, government agencies and non-governmental organizations to develop nonanimal testing strategies for human safety assessments and to promote implementation of new approach methods in chemical risk assessment.

Clougherty, Jane

Drexel University

Dr. Jane E. Clougherty is an Associate Professor at the Drexel University Dornsife School of Public Health, Department of Environmental and Occupational Health. Dr. Clougherty completed her doctorate and post-doctoral training at the Harvard School of Public Health, worked at New York City Department of Health and Mental Hygiene from 2008-2010, and was faculty at the University of Pittsburgh Graduate School of Public Health from 2010-2016. An air pollution exposure scientist and epidemiologist, Dr. Clougherty's research focuses on the combined health effects of chronic social stressors and air pollution exposures. To that end, she has designed and implemented a number of studies on intra-urban variation in air pollution and source apportionment. She is Principal Investigator on several studies funded by the Environmental Protection Agency (EPA) and National Institutes of Health (NIH), including a Research Project grant (R01) using geographic information systems (GIS)-based methods to examine how social and environmental exposures may alter the efficacy of pharmaceutical interventions for asthma in clinical trials, a Health Effects Institute (HEI)-funded grant on the combined effects of community stressors and multiple pollutant exposures on cardiovascular events, and an R01 on extreme temperature and children's health. She has received a Fulbright award, and the International Society for Exposure Science (ISES) Sally Liu Award for an

Outstanding New Investigator. She has served on the Board of ISES, and on Scientific Advisory Committees of the National Academy of Sciences, Engineering, and Medicine.

Cohen, Stephen

Environmental Restoration Group, Inc.

Mr. Stephen J. Cohen, PG, CSP is a Senior Regulatory Specialist at Environmental Restoration Group, Inc., Colorado Springs, Colorado. Mr. Cohen holds a B.S in Geology from the University of Maryland, College Park, a Certificate of Civil Engineering Studies from Johns Hopkins University, and an M.S. in Geological Engineering from the University of Idaho, Moscow. Mr. Cohen is a licensed geologist in the Commonwealth of Pennsylvania and is a Certified Safety Professional through the Board of Certified Safety Professionals. Mr. Cohen's areas of expertise includes 30+ years in site characterization, remediation, and the regulation of hazardous and radioactive wastes including sites listed on the National Priorities List pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, the Resource Conservation and Recovery Act, and the Atomic Energy Act. His remediation expertise includes geostatistics, hydrogeology, soil remediation, waste minimization. Mr. Cohen is also an expert in many Federal and state regulations regarding hazardous and radioactive materials, groundwater quality, surface water quality, and mining. For example, he managed the licensing of uranium mills at the US Nuclear Regulatory Commission. Mr. Cohen is also an occupational health and safety expert on environmental remediation and characterization projects and general construction projects. Mr. Cohen does not receive any research funding. Mr. Cohen is a member of the Board of Certified Safety Professionals.

Cole, Bruce

The Richard T. Greener Institute for Social Policy Research

Dr. Bruce Cole is a scholar, entrepreneur and community advocate. He is the founder and president of the Richard T. Greener Institute for Social Policy, a think tank with research focused on the economic progress of African Americans in South Carolina (SC) and Managing Director of Palmetto Realty Advisors, a private equity fund investing in infrastructure projects. Dr. Cole holds an A.B. in Economics from Harvard University, an M.B.A. in Finance from the Stanford Graduate School of Business, an M.S. in Accounting from Northeastern University and a Ph.D. in Planning, Design and Built Environment from Clemson University. He currently serves as Chair of the Sierra Club of South Carolina's executive committee. His research interests cover two main areas: the creation and measurement of public value and sustainable finance. Dr. Cole's latest paper considers how funding decisions for infrastructure can destroy or increase homeowner value (a proxy for public value). He has a work in progress that will examine the impact on the financial health of planned communities of a funding vehicle commonly used in Florida to finance amenities. His doctoral dissertation examined how over-regulation can destroy public value as measured by the present value of project cash flows from projects developed as Public Private Partnerships. Dr. Cole wants to explore the use of the Adrian Slywotzky's Value Migration framework to characterize and quantify the creation and destruction of public value resulting from public policy and strategic choices and project implementation methods. Potential measures of value include wealth, jobs, home value, portfolio value of community assets, etc. as possible starting points. The concept of "sustainable finance" is evolving. In the larger context, it encompasses financial decisions that support sustainability. In this respect, it is a critical factor in the effort to reach a sustainable society, in particular in line with the Sustainable Development Goals (SDG) and the Paris Agreement. However, his research also includes the original meaning, which refers to sustainability-related considerations incorporated into investment decisions. He is a Certified Public Accountant and author of numerous books, journal articles and business case studies, including "Building Your Business with Interactive Technology," the first book published in the U.S. on electronic commerce, "Dead on Arrival," a post mortem analysis of the Lehman Brothers Bankruptcy." He lives with his wife and two children in Forest Acres, SC.

Corley, Tracy

Conservation Law Foundation

Dr. Tracy A. Corley is the Director of Research and Partnerships at Conservation Law Foundation (CLF). Dr. Corley identifies areas where research and science can support active advocacy and litigation and coordinates independent research related to climate change and environmental justice across New England. She holds a B.A. in Architecture, an M.S. in Public Policy, and a Ph.D. in Law and Public Policy. As a political economist, she brings experience in research, public policy, law, and conservation to her work and thrives on bringing people together to tackle the systemic issues that drive conservation and environmental justice. In addition to building a new scientific practice for CLF, Dr. Corley currently oversees a longitudinal participatory action research study of the relationship between neighborhood development, public health, and climate change. Prior to joining CLF, Dr. Corley served as the Transit-Oriented Development Fellow at MassINC, where she conducted research and convened stakeholders to promote equitable development in regional cities and published From Transactional to Transformative: The Case for Equity in

Gateway City Transit-Oriented Development. Her time at MassINC followed her mid-career graduate studies, when she researched the economic development potential of New England cities at the Dukakis Center for Urban and Regional Policy and co-authored multiple editions of the Greater Boston Housing Report Card. During her studies, Dr. Corley split her time between Boston and the German Rhineland, using multimodal discourse analyses to investigate informal/illegal work in Germany's skilled trades and crafts sector. She also has lived in Seattle, Washington, where she coordinated a participatory research program for formerly incarcerated workers and conducted strategic planning at Seattle Jobs Initiative; founded two consulting firms that helped advance clean technologies, sustainable development, and energy efficiency and conducted dozens of organizational assessments and market research studies; published research on heat pump water heater markets; and advocated for inclusive economic development as Vice-Chair of Small Business for the Seattle Chamber of Commerce Board of Trustees. She has also worked as an architect and designer in Washington state and South Carolina..

Cory-Slechta, Deborah

University of Rochester

Dr. Deborah Cory-Slechta is a Professor of Environmental Medicine, Pediatrics and Public Health Sciences at the University of Rochester Medical School, and former Chair of its Department of Environmental Medicine and Principal Investigator (PI) of its National Institute of Environmental Health Sciences (NIEHS) Core Center Grant. She also previously served as Dean for Research at the University of Rochester Medical School, and as Director of the Environmental and Occupational Health Sciences Institute of Rutgers University. Her research, which has resulted in over 200 peer-reviewed publications to date, includes both animal models and human studies focused largely on the consequences of developmental exposures to environmental chemicals on brain development and behavior. Her earlier work examined the effects of developmental exposures to metals and pesticides in animal models and human cohorts. Over the past 10 years she has undertaken studies of the impact of air pollution on brain development and behavior, with exposures to concentrated ambient ultrafine particles that have led to 20 peer-review publications. Dr. Cory-Slechta has served on advisory panels of the National Institutes of Health (NIH), the Food and Drug Administration (FDA), the Environmental Protection Agency, the National Academy of Sciences, the Institute of Medicine, and the Agency for Toxic Substances and Disease Registry (ATSDR), and on the editorial boards of the journals Environmental Health Perspectives, Neurotoxicology, Toxicology, Toxicological Sciences, Toxicology and Applied Pharmacology and Neurotoxicology and Teratology. She also served on the Board of Scientific Counselors, ATSDR/Centers for Disease Control and Prevention (CDC). In 2017, she was the recipient of the Distinguished Neurotoxicologist Award from the Neurotoxicology Specialty Section of the Society of Toxicology. In 2021, she was the recipient of the Distinguished Toxicology Scholar Award from the Society of Toxicology.

Cote, Ila

University of Colorado

Dr. Ila Cote is currently an associate for Risk Sciences International, Ottawa, Canada (an international consulting company), and an adjunct professor in the University of Colorado Medical School, Department of Environmental and Occupational Health. She is an inhalation toxicologist and risk assessor. Her B.A. is from the University of New Mexico, and her Ph.D. is from the University of New Mexico, School of Medicine (Albuquerque, NM). She was a post-doctoral fellow at Duke University School of Medicine, Department of Cell Biology (neuroendocrinology), and then at the New York University School of Medicine, Department of Environmental Medicine (inhalation toxicology). For more than 25 years, she was a board-certified toxicologist. Current research interests are in improving dose-response assessment methodologies, and utilizing advanced biologic data (e.g., omics) to inform risk assessments. Previously, at the Environmental Protection Agency (EPA) National Center for Environmental Assessment, she has served as the Senior Science Advisor to the Director, and the Research Triangle Park Division Director. In these positions, she was responsible for leadership, planning, and oversight of EPA's Integrated Science Assessments for the criteria air pollutants and Integrated Risk Information System (IRIS) assessments for high priority hazardous air pollutants, as well as the development of new risk assessment methodologies and policies. Before this, she was the Associate Director for EPA's National Health and Environmental Effects Research Laboratory and its matrix manager for the air pollution research program. In these positions, she has had extensive experience presenting to independent science advisory boards, including the Clean Air Scientific Advisory Committee (CASAC), the Science Advisory Board (SAB), and the National Academy of Sciences, as well as responding to comments. Additionally, she has served on a number of advisory panels, e.g., the National Academy of Sciences, World Health Organization, National Institutes of Health, Food and Drug Administration, and the National Association of Clean Air Agencies. Dr. Cote also has led several scientific delegations and taught extensively in South America, Asia, and the Middle East.

Cox, Jr., Louis Anthony (Tony)

Cox Associates

Dr. Tony Cox is President of Cox Associates, a Denver-based applied research company specializing in health risk analysis, epidemiology, computational toxicology and disease modeling, causal analytics, decision science, and operations research. He holds the world's first Ph.D. in Risk Analysis, from the Massachusetts Institute of Technology (MIT), as well as an S.M. in Operations Research from MIT and an A.B. from Harvard; he is also a graduate of the Stanford Executive Program. Dr. Cox has won many scientific awards for research in risk analysis, computational toxicology, biostatistics, respiratory disease modeling, and causal analysis and has served as an expert on risk analysis on many National Academies and National Research Council committees, and as a member of the National Academies' Board on Mathematical Sciences and their Applications (BMSA). He is author of Quantitative Risk Analysis of Air Pollution Health Effects and numerous other books and over 250 peer-reviewed scientific publications on air pollution epidemiology, toxicology, statistics, and health risk analysis. He is an expert in quantitative modeling of chemical health effects and disease causation, pharmacokinetics and pharmacodynamics, and systems biology modeling, and stochastic models of carcinogenesis and inflammation-mediated health effects. In the past two years, he has received research funding from Cox Associates, primarily for research for the US Department of Agriculture (USDA) on causal analysis of microbial risks. Dr. Cox serves as Editor-in-Chief of Risk Analysis: An International Journal. He is a member of the National Academies (NASEM), a Fellow of the Society for Risk Analysis (SRA), and a Fellow of the Institute for Operations Research and Management Science (INFORMS). Dr. Cox has advised many national and international regulatory and health risk assessment bodies in multiple administrations, including the World Health Organization, the U.S. Food and Drug Administration (FDA), Department of Agriculture (USDA), Environmental Protection Agency (EPA), and National Institutes for Occupational Safety and Health (NIOSH). He is currently a member of the NIOSH Board of Scientific Counselors (BSC) and is past Chair of the Clean Air Scientific Advisory Committee (CASAC) for the U.S. EPA.

Crabtree, Carrie

Georgia Department of Agriculture

Dr. Carrie Ross Crabtree is the Assistant Laboratory Division Director for the Georgia Department of Agriculture. She has a Bachelor of Science in Agriculture with an animal science focus, a Bachelor of Science in Environmental Health from the University of Georgia, a Master of Science in Environmental Science at the University of Tennessee at Chattanooga, and a Ph.D. in Animal Science from the University of Georgia. Her expertise areas include animal science, ruminant nutrition, environmental science, nutrient management, toxicology, pesticides, bioremediation, and anaerobic digestion. Her research includes bacterial batteries utilizing raw sewage; anaerobic digestion of cattle waste utilizing rumen fluid as an inoculant; cattle feeding studies on by-product feeds such as vegetable and fruit waste. She has served as the primary advisor or co-advisor on several undergraduate research projects during her professorship at Abraham Baldwin Agricultural College including nutrient degradation in water retention ponds; purification and repurposing of chitin; and identification of microbial growth in diesel fuel. Dr. Crabtree is a member of the following professional associations including the Association of American Pesticide Control Officials, Association of Analytical Chemists, and Association of American Feed Control Officials. She has no current funding as she is employed by a state agency where research funding is not available.

Cullen, Alison C.

University of Washington

Dr. Alison Cullen serves as the Daniel J. Evans Endowed Professor of Environmental Policy at the University of Washington Evans School of Public Policy and Governance, with adjunct appointments in the College of the Environment and the School of Public Health. She holds a B.S. in Civil/Environmental Engineering from MIT (1984), and an M.S. (1989) and an Sc.D. in Environmental Health (1992) from Harvard University School of Public Health. Her research involves the analysis of environmental health risks, decision-making in the face of uncertainty, and the impact of climate change on wildfire, ground water systems and fisheries. Dr. Cullen is past president of the Society for Risk Analysis and is a 2016 National Science Foundation (NSF) Faculty Fellow in the Advanced Studies Program. Her research is published in numerous peer-reviewed articles and a book with co-author H.C. Frey entitled Probabilistic Techniques in Exposure Assessment: A Handbook for Dealing with Uncertainty and Variability in Models and Inputs. She teaches graduate level courses in quantitative methods and environmental policy, and mentors MPA and Ph.D. students. Dr. Cullen is the recipient of a U.S. EPA Region 10 Special Recognition in the Field of Air Toxics, the Chauncey Starr Award from the Society for Risk Analysis, and the Outstanding Young Scientist Award from the International Society of Exposure Assessment. Outside of academia, Dr. Cullen has served as a technical consultant and advisor to many groups, including the Health Effects Institute, the U.S. Consumer Product Safety Commission, the State of Washington's Department of Ecology, the Sloan Foundation and the Bill and Melinda Gates Foundation.

She has also served on the U.S. EPA Chartered Science Advisory Board (SAB) (2016-2021), the U.S. EPA SAB Chemical Assessment Advisory Committee (CAAC 2016 - 2018) and was a member of the U.S. EPA Clean Air Scientific Advisory Committee's augmented panel on Sulfur Dioxide (2014 - 2018). Dr. Cullen's work has been supported in the past two years by the U.S. National Science Foundation, National Aeronautics and Space Administration (NASA), the Lenfest/PEW Charitable Trust, the Bill and Melinda Gates Foundation and the National Center for Atmospheric Research.

Cullings, Harry M.

Radiation Effects Research Foundation (RERF)

Dr. Harry M. Cullings was Chief of the Statistics Department at the Radiation Effects Research Foundation (RERF) in Hiroshima and Nagasaki, Japan, until 2018 and is now a consultant to RERF. He has been conducting research at RERF since 1999. RERF is a public interest foundation funded by the Japanese Ministry of Health, Labour and Welfare (MHLW) and the U.S. Department of Energy (DOE). Dr. Cullings holds a B.S. in Fundamental Sciences from Lehigh University, and an M.S. in Medical Physics and Ph.D. in Analytical Health Sciences (Biometrics) from the University of Colorado Health Sciences Center in Denver, Colorado. He completed a postdoctoral fellowship in Radiation Sciences, funded by the U.S. Department of Energy (DOE) at the University of Pittsburgh. The emphasis of Dr. Cullings' research is on radiation dosimetry and other aspects of radiation epidemiology, including dosimetric uncertainty and applications of spatial statistics. Dr. Cullings has published numerous reports, papers in scientific journals, and book chapters on subjects related to radiation dosimetry and radiation health effects research. He served as a member of the Joint U.S.-Japan Working Group on the Reassessment of Atomic-bomb Dosimetry, which created the Dosimetry System 2002 that is currently in use at RERF. Dr. Cullings served as a member of the executive council of the Radiation Research Society in 2019-2020 and is one of two organizers of an upcoming RRS midyear topical symposium on radiation epidemiology. In 2020 he was appointed by the US National Academy of Science to the NAS Committee on the Assessment of Strategies for Managing Cancer Risks Associated with Radiation Exposure During Crewed Space Missions. Dr. Cullings' research has been funded strictly through the Radiation Effects Research Foundation, in part through DOE award to the National Academy of Sciences. Dr. Cullings has received no external research funding from government agencies, private companies, or foundations.

Curry, Judith

Climate Forecast Applications Network

Dr. Judith Curry is President of Climate Forecast Applications Network (CFAN), a company that develops innovative weather and climate forecast tools. She is Professor Emerita at the Georgia Institute of Technology, where she served as Chair of the School of Earth and Atmospheric Sciences for 13 years. Previously, she held faculty positions at the University of Colorado-Boulder, Penn State University, and Purdue University. Dr. Curry received a Ph.D. in Atmospheric Science from the University of Chicago and B.S. in Meteorology from Northern Illinois University. Her research expertise includes climate dynamics, hurricanes, probabilistic prediction of extreme weather events, the socioeconomic impacts of weather and climate variability, and decision making under deep uncertainty. She is a Fellow of the American Meteorological Society, the American Association for the Advancement of Science, and the American Geophysical Union. Dr. Curry is actively engaged at the intersection of science and public policy. She has recently served on the National Aeronautics and Space Administration Advisory Council Earth Science Subcommittee, the U. S. Department of Energy Biological and Environmental Research Advisory Council, and the National Academies Climate Research Committee and the Space Studies Board. She is frequently called upon to give Congressional testimony and serve as an expert witness on matters related to weather and climate. In the past two years, Dr. Curry has received research funding from the National Oceanic and Atmospheric Administration (NOAA) SBIR program. Her company, CFAN, conducts applied (but unpublished) research related to weather and climate for CFAN's clients in the public and private sectors.

Deng, Baolin

University of Missouri

Dr. Baolin Deng is a professor in the Department of Civil and Environmental Engineering at the University of Missouri and serves as Director of the Missouri Water Resources Research Center (MoWRRC). Dr. Deng obtained his Ph.D. from Johns Hopkins University and conducted postdoctoral research in the U.S. Air Force Research Laboratory as a National Research Council Research Associate. His research has focused on drinking water treatment by adsorption and membrane filtration, disinfection-by-product control, wastewater treatment and reuse, environmental processes important to groundwater and soil remediation, and fundamental reaction kinetics and mechanism of contaminant transformation in aquatic systems. He has been Principal Investigator (PI)/co-PI for over thirty research projects including the CAREER award from the National Science Foundation, and published over 100 journal articles. Dr. Deng is the Asian regional editor for Environmental Engineering Science and is also on the editorial boards of several other

journals. He is a member of the Association of Environmental Engineering and Science Professors (AEESP) publication committee, and has served on numerous panels in the United States (Department of Energy, Department of Defense, National Science Foundation, Environmental Protection Agency, and National Aeronautics and Space Administration), China, Israel, Singapore, India, and UK. Dr. Deng has received research funding for the last 2 years from National Science Foundation, United States Geological Survey, DOW, and Missouri Department of Transportation.

Denly, Elizabeth

TRC Companies, INC

Ms. Denly serves as TRC's per- and polyfluoroalkyl substances (PFAS) Group Program Director and Quality Assurance (QA) & Chemistry Director. As a project QA chemist at TRC, Ms. Denly is responsible for providing QA/quality control (QC) oversight in support of different environmental investigations, including remediation programs, ambient air monitoring, and human health/ecological risk assessments. Ms. Denly has a B.A. in Chemistry from the University of New Hampshire and is a Certified Manager of Quality/Organizational Excellence from the American Society of Quality. Ms. Denly is currently serving on the Interstate Technology and Regulatory Council (ITRC) PFAS team, is a co-leader on the PFAS Naming Conventions sub-team, and won the 2017 ITRC Industry Affiliates Award for her contributions to this team. She is also working on the ITRC 1,4-Dioxane team, as a co-leader for the Sampling & Analysis sub-team. She currently works on many different types of PFAS investigations with a specific focus on chemistry, sampling procedures, data interpretation, forensics, QA/QC, and analytical methodologies. She has recently collaborated with laboratories on research activities including (1) evaluation of the leachability of PFAS from environmental sampling products; (2) evaluation of analytical approaches (isotope dilution liquid chromatography/dual mass spectrometry, total oxidizable precursor assay, and total fluorine) on samples collected from aqueous film forming foam sources and paper mill sources; (3) evaluation of the solubility of perfluorooctane sulfonic acid; and (4) evaluation of sampling/analytical approaches for the measurement of PFAS in ambient air. There was no funding provided for these research activities. Ms. Denly has also served on advisory committees related to analytical methodologies for the Massachusetts Department of Environmental Protection. Her major areas of expertise include emerging contaminants, data evaluation, quality assurance project plans, data usability assessments, field and laboratory audits, and consulting for regulatory agencies.

DeWitt, Jamie C.

East Carolina University

Dr. Jamie DeWitt is an Associate Professor of Pharmacology and Toxicology, Brody School of Medicine, East Carolina University and Adjunct Associate Professor, Toxicology Program, Biological Sciences, North Carolina State University. Dr. DeWitt has Bachelor's degrees in Environmental Science and Biology from Michigan State University and doctoral degrees in Environmental Science and Neural Science from Indiana University-Bloomington. She has expertise in environmental toxicology, immunotoxicology, neurotoxicology, developmental toxicology, biomedical statistics, and risk assessment and communication. Her research focuses on consequences of exposure to emerging environmental contaminants, especially aquatic contaminants, on adult and developing immune systems and on interactions between the immune and nervous systems. She has co-authored nearly 80 scientific publications including two edited books. Dr. DeWitt's funding sources in the last two years include the North Carolina Policy Collaboratory, US Environmental Protection Agency via subcontract from Oregon State University, Department of Defense, National Institute of Environmental Health Sciences via subcontract from North Carolina State University, Brody Brothers Endowment Fund, and North Carolina State University. Dr. DeWitt is a Diplomate of the American Board of Toxicology, past president of the Immunotoxicology Specialty Section of the Society of Toxicology and the North Carolina Society of Toxicology, Associate Editor for Toxicology and Applied Pharmacology, and co-editor of the Molecular and Integrative Toxicology series. She is a member of the North Carolina Secretaries Science Advisory Board, the Tennessee per- and polyfluoroalkyl substances (PFAS) External Advisory Group, and the Global PFAS Science Panel, served as a member of the North Carolina Cancer Advisory Research Panel, serves as a grant reviewer for the National Institute of Environmental Health Sciences and Department of Defense, has been an external reviewer for the Agency for Toxic Substances and Disease Registry and the US Environmental Protection Agency, and served as working group member for the International Agency for Research on Cancer.

Donatuto, Jaime

Swinomish Indian Tribal Community

Dr. Jamie Donatuto is a Community Environmental Health Analyst for the Swinomish Indian Tribal Community, located in the Pacific Northwest of the United States. Dr. Donatuto completed her doctoral studies at the University of British Columbia, Vancouver, Canada, in the interdisciplinary graduate program of Resource Management and Environmental Studies. A Swinomish staff member for the past 21 years, Dr. Donatuto specializes in working with

Indigenous communities in the development and implementation of projects that address the community's priorities, as well as distilling and communicating results for multiple audiences using mixed methods and structured decision-making analyses. In her research, she works with numerous Tribes and First Nations in using community-engaged social science methods to improve natural resource management decision-making, such as: modifying human health risk assessments to reflect Indigenous values; analyzing toxics in local traditional foods and subsequent Indigenous health impacts; evaluating climate related impacts to Indigenous health and wellbeing; and, developing adaptive management strategies founded on Indigenous ways of knowing. Dr. Donatuto is a SeaDoc science advisory team member, a Northwest Indian Fisheries Commission climate change working group member, and an Institute for Tribal Environmental Professionals Climate Change advisory group member. In the last two years, Dr. Donatuto has received research funding from the National Science Foundation, U.S. Environmental Protection Agency, National Institute of Environmental Health Sciences, National Indian Health Board, Robert Wood Johnson Foundation, First Nations Development Institute, Northwest Portland Area Indian Health Board, Washington SeaGrant, Climate Resilience Fund, and JPB Foundation..

Dorman, David

North Carolina State University

Dr. David Dorman is a veterinary toxicologist and a professor of toxicology at North Carolina State University. Dr. Dorman completed his undergraduate training in chemistry at the University of San Diego, his veterinary training at Colorado State University, and completed a combined doctoral and veterinary toxicology residency program at the University of Illinois at Urbana-Champaign. He is a diplomate of the American Board of Veterinary Toxicology and the American Board of Toxicology. Dr. Dorman's research interests include neurotoxicology, inhalation toxicology, pharmacokinetics, cognition and olfaction in animals, and veterinary education. In the past two years he has received grants from Fulbright-Saastamoinen Foundation that allowed him to teach and conduct research at the University of Eastern Finland. He has served on advisory boards for the Navy, National Aeronautics and Space Administration, the Department of Agriculture, and the National Toxicology Program where he served as a member of the National Toxicology Program's Board of Scientific Counselors. He recently served on three International Agency for Research on Cancer Monograph Groups that evaluated the carcinogenicity of nitrobenzene, shift work, and acrolein, crotonaldehyde, and arecoline. He has chaired nine National Academies committees and has served on six others. National Academy committees that he has chaired have examined emerging science on indoor chemistry, developed a scoping plan to assess the hazards of organohalogen flame retardants, evaluated endocrine-related low dose toxicity, developed predictive-toxicology approaches for acute exposures, developed a framework to guide the design and evaluation of safer chemical substitutions, and examined health risks from recurrent lead exposure to firing range personnel. Another committee chaired by Dorman recently organized a workshop on federal government human health PFAS research. His past National Academies service also includes chairing the Committee on Toxicology and serving as a member of the Board on Environmental Studies and Toxicology.

Dourson, Michael

Toxicology Excellence for Risk Assessment

Dr. Michael Dourson is the Director of Science at the environmental science NGO, Toxicology Excellence for Risk Assessment (TERA), located in Cincinnati, Ohio. He has a Ph.D. in Toxicology from the University of Cincinnati, and a B.A. in Biology from Wittenberg University, Springfield, Ohio. He is board-certified in toxicology and an elected Fellow in both the Academy of Toxicological Sciences and the Society for Risk Analysis. Dr. Dourson has expertise in toxicology and human health risk assessment. He has co-published more than 150 papers on risk assessment methods or chemical specific analyses (4 of them winning awards), and co-authored well over 100 government risk assessment documents (many of them risk assessment guidance texts for U.S. Environmental Protection Agency). He has made over 150 invited presentations to a variety of organizations, and has chaired numerous sessions at scientific meetings. Sources of TERA funding for the last two years include the American Chemistry Council, Alliance for Risk Assessment, Australian Pesticides and Veterinary Medicines Authority, Becton Dickinson, Cobalt Institute, Consumer Products Safety Commission, Dose Response Boot Camps, National Science Centre of Poland, and the Swedish Research Council. Percentages of effort expended between government and industry sponsors can be seen at https://tera.org/about/FundingSources.html, but roughly approximates two thirds government and one third industry. Since 1986, and to the present, Dr. Dourson has chaired well over 100 scientific peer review meetings for risk assessment documents. Documents have covered a number of topics including risk assessment methods and assessments including cancer and non-cancer toxicity. These meetings have been sponsored by a number of organizations through either Toxicology Excellence for Risk Assessment's (TERA) program of the International Toxicity Estimates for Risk (ITER) database (for examples, please see www.tera.org/peer), by EPA through its IRIS database (see www.epa.gov/iris), by the NSF International, or by groups such as Versar. These reviews have discussed well over 400 chemicals or risk issues. He has also been elected to multiple officer positions in the

American Board of Toxicology (including its President), the Society of Toxicology (including the presidency of 3 specialty sections), the Society for Risk Analysis (including its Secretary), and is currently the President of the Toxicology Education Foundation, a nonprofit organization with a vision to help our public understand the essentials of toxicology. In addition to numerous appointments on government panels, such as EPA's Science Advisory Board, he is a current member on the editorial board of Regulatory Toxicology and Pharmacology.

Dunnick, June

NIEHS

Dr. June K. Dunnick is a Senior Toxicologist with the National Toxicology Program (NTP), National Institute of Environmental Health Sciences (NIEHS), and a Diplomat of the American Board of Toxicology. Dr. Dunnick holds a B. S. in Biological Sciences from Cornell University, Ithaca, NY, a Ph.D. in medical sciences from the Weill Cornell Graduate School of Medical Sciences, NY, NY and an MBA from the Kenan School of Business, Chapel Hill, NC. After two years of post-doctoral research in the Department of Biochemistry, University of Rochester, Rochester, NY, she joined the National Institute of Allergy and Infectious Diseases (NIAID) as the Hepatis Program Officer, where she coordinated a program that worked with extramural and intramural investigators to develop a hepatitis B vaccine. Then she became a Life Sciences Research Associate, at the Department of Nuclear Medicine, Stanford University, Palo Alto, CA where she studied and designed drug delivery systems. Dr. Dunnick returned to NIAID as the Antiviral Program Officer leading an extramural and intramural program that conducted preclinical and clinical studies for the development of antivirals including amantadine, rimantadine, and interferon. She is now a Toxicologist at NIEHS and is currently working on initiating two health disparity projects to understand the types of environmental exposures that impact minority populations, in collaboration with Duke-Carolinas Cord Blood Program, EPA, the Food and Drug Administration (FDA), and the Center for Disease Control (CDC). She has been the principal scientist on over 50 toxicology and cancer studies that have been used by national and international agencies as a basis for regulatory decisions and cancer classifications. She has been a reviewer for the International Agency for Research on Cancer monographs and is a reviewer for the Agency for Toxic Substances and Disease Registry (ATSDR)/CDC Toxicological Profiles that set Minimal Risk Levels. She has received outstanding performance awards from NIEHS, the National Institute of Health (NIH) awards for her toxicology research, the NIH peer award for public health studies. Her work is funded by the NTP and NIEHS federal government programs.

Ebi, Kristie

University of Washington

Dr. Kristie L. Ebi is a Professor in the Department of Global Health, University of Washington. Dr. Ebi's scientific training includes an M.S. in Toxicology and a Ph.D. and a Master of Public Health in Epidemiology, and two years of postgraduate research at the London School of Hygiene and Tropical Medicine. She has been conducting research and practice on the health risks of climate variability and change for nearly 25 years, focusing on understanding sources of vulnerability; estimating current and future health risks of climate change; designing adaptation policies and measures to reduce risks in multi-stressor environments; and estimating the health co-benefits of mitigation policies. She has supported multiple countries in Central America, Europe, Africa, Asia, and the Pacific in assessing their vulnerabilities and implementing adaptation policies and programs. Funding for her research over the past two years include the World Health Organization (WHO) and WHO regional offices for Southeast Asia and the Western Pacific; the Asia Development Bank; Wellcome Trust; Belmont Forum; and NOAA. She has edited fours books on aspects of climate change, has more than 200 publications, and has been an author on multiple national and international climate change assessments, including the fourth U.S. National Climate Assessment and the Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5C. Dr. Ebi's current service includes: 1) Chair, National Academy of Sciences, Engineering and Medicine (NASEM)-National Research Council (NRC) on Environmental Change and Society; 2) Vice-Chair, NASEM/NRC Committee to Advise the U.S. Global Change Research Program (USGCRP); 3) Earth League; 4) Earth Commission; 5) Co-Chair, Future Earth Health Knowledge Action Network; and 6) Co-Chair, International Committee on New Integrated Climate change assessment Scenarios.

Edberg, Shanna

Hispanic Access Foundation

Ms. Shanna Edberg is a longtime conservation advocate and promoter of environmental justice in the U.S. and abroad. She directs Hispanic Access Foundation's conservation programs to promote environmental stewardship in the Latino community, elevate Latino voices in conservation policy, activate Latino conservation leaders, and provide them the resources they need to create a more sustainable and just future. She earned her M.A. in Latin American Studies and International Economics from the Johns Hopkins School of Advanced International Studies (SAIS) and B.A. in International Studies from Johns Hopkins. Prior to joining Hispanic Access Foundation, Ms. Edberg's

background includes working on sustainable development at the World Bank and Global Environment Facility as well as climate policy at the nonprofit Climate Interactive. While pursuing her education, Ms. Edberg worked in Peru to protect forests in the Amazon, researched and published on civil rights in Mexico, and supported city sustainability in Baltimore.

Eisenreich, Steven

Vrije Universiteit Brussel (VUB)

Dr. Steven J. Eisenreich is a Guest Professor of Hydrology and Hydraulics (Engineering), and Analytical, Environmental and Geo-Chemistry Group (Chemistry) at the Free University Brussels (VUB) in Brussels, Belgium. He obtained his B.S. at the University of Wisconsin-Eau Claire in Chemistry (1969), an M.S. from the University of Wisconsin-Milwaukee in Analytical Chemistry (1972), and a Ph.S. in Water Chemistry (Environmental Engineering) from the University of Wisconsin–Madison (1975). He joined the University of Minnesota in Minneapolis in 1975, in the Department of Civil, Environmental and Geo-Engineering as a professor of environmental engineering andchemistry until 1995. From 1990-1995, he was Director of the Gray Freshwater Biological Institute in Navarre, MN associated with the University of Minnesota. In 1995, he became Distinguished Professor and Chair of the Department of Environmental Sciences at Rutgers University (NJ, US). Dr. Eisenreich joined the European Commission's Joint Research Center (JRC) in 2001 in its flagship research center in Ispra, Italy where he headed the Inland and Marine Waters unit leading the implementation and monitoring of the EU's Water Framework Directive. In 2005, he led the European Chemicals Bureau (ECB) and Toxicology and Chemical Substances Unit (JRC) leading the development and implementation of REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals and its new home, the European Chemicals Agency in Helsinki (FN). In 2009, he joined the European Commission-JRC Brussels Headquarters as Scientific Advisor. In 2013, Dr. Eisenreich joined the Vrije Universiteit Brussels (VUB) in Brussels where he teaches and supervises graduate students to the present. Dr. Eisenreich's research and teaching focuses on the sources, transport, and fate of organic pollutants in aquatic ecosystems, water resources management, water quality assessment, chemical oceanography, and climate change impacts on aquatic systems. Dr. Eisenreich is a member of the Editorial Board of the Society of Environmental and Toxicology and Chemistry journal, and a Guest Co-Editor of a 2021 Special Issue of the American Chemical Society's Environmental Science and Technology on Global Persistent Organic Pollutants (POP). He is a Fellow and received the Founders Award (2010) of the Society of Environmental Toxicology and Chemistry. He has received the American Chemical Society Award for Creative Advances in Environmental Science and Technology (1994), the highest career award given by the American Chemical Society in environmental chemistry. He has received funding from the US EPA, the National Science Foundation, the Dreyfus Foundation, the International Joint Commission, the Petroleum Research Fund, State of Minnesota research funds, the US Sea Grant Program, NOAA's Undersea Research Program, the Water Resources Research Program (USGS), the State of New Jersey, the Hudson Research Foundation, and the research programs of the European Commission and the Joint Research Center (Europe).

Eisinger, Douglas

Sonoma Technology, Inc.

Dr. Douglas Eisinger is Senior Vice President and Chief Scientist for Transportation Policy & Planning at Sonoma Technology, Inc. (STI), an air quality firm. He joined STI in 1995. He has a Ph.D. in Environmental Policy Analysis from the University of Wales, a Master's in Public Policy from Harvard University, and a B.A. in Government from Cornell University. He is an expert on near-road air quality, a concern for disadvantaged communities near roads, ports, and trucking facilities. He launched STI's efforts to support environmental justice projects under California Assembly Bill 617 and through industry-funded Supplemental Environmental Projects. From 2014-2019, he oversaw research for an eight-agency Near-Road Air Quality Transportation Pooled Fund. He chairs the U.S. Transportation Research Board's Air Quality and Greenhouse Gas Mitigation Committee. Resources for the Future (RFF) Press published his book, Smog Check: Science, Federalism, and the Politics of Clean Air, with a Foreword by Mary Nichols. He was an RFF Fellow in Environmental Regulatory Implementation, and a Harvard University Kennedy Fellow. For 12 years, he was Program Manager for the University of California, Davis-Caltrans Air Quality Project. For four years, he was Mobile Sources Section Chief for EPA Region 9, where he received EPA's Bronze Medal. Dr. Eisinger has published over 100 reports and numerous peer-reviewed articles, and co-authored over 60 presentations at conferences and public meetings. With University of California, Davis colleagues, he co-authored Near-Roadway Air Quality: Synthesizing the Findings from Real-World Data, a resource used around the world. Web of Science named the synthesis a "Highly Cited Paper" in the top 1% of Environment/Ecology publications. Dr. Eisinger's funding sources in the last two years include the Central California Environmental Justice Network, EPA, U.S. FHWA, Phillips 66, various State Departments of Transportation, and other industry and NGO sources. Dr. Eisinger is an Affiliate Associate Professor with the University of Washington Master of Sustainable Transportation Program; he is also an Adjunct Professor at the University of Hawaii, where he teaches Climate, Air Quality, and Policy. In 2019, he was an

invited expert for the U.S. Department of State at their New Delhi, India workshop: Confronting Air Pollution at its Source. He is a member of the Air & Waste Management Association and the Association for Environmental Studies and Sciences.

Emanuel, Ryan

NC State University; Lumbee Tribe

Dr. Ryan E. Emanuel is a Professor of Hydrology in the Department of Forestry and Environmental Resources at North Carolina State University, where he has also been recognized as a University Faculty Scholar and Alumni Distinguished Graduate Professor. He has a Bachelor's degree in Geology from Duke University, and he holds a Masters' degree and Ph.D. in Environmental Sciences from the University of Virginia. Dr. Emanuel has expertise in ecohydrology, land-atmosphere interactions, numerical modeling, geospatial analyses, environmental justice analyses, and engagement with American Indian tribes and communities. His research involves measurement and modeling of water, carbon, and nitrogen fluxes in complex environments; analysis of spatial and temporal patterns in large hydrologic datasets; remote sensing of environmental change; field and geospatial assessments of salt intrusion into freshwater-dependent coastal wetlands; historical analysis of culturally-significant landscapes; and evaluations of Indigenous peoples' participation in environmental decision-making. Dr. Emanuel also collaborates with tribal communities to address community concerns related to water resources, cultural landscapes, and environmental justice. He has been principal or co-principal investigator for 19 externally sponsored, competitive research grants. He has published nearly 50 journal articles, participated in more than 120 conference papers, written 12 technical reports, and co-authored one textbook chapter. Dr. Emanuel's funding sources in the last two years include the National Science Foundation, the U.S. Department of Agriculture, and the North Carolina Department of Environmental Quality. Dr. Emanuel is a member of the National Science Foundation's Committee on Equal Opportunities in Science and Engineering, the American Geophysical Union's Diversity and Inclusion Committee, and the American Indian Science and Engineering Society's Academic Advisory Council. He is an ex-officio member of the North Carolina Commission of Indian Affairs' Environmental Justice Committee. He served on the American Geophysical Union's Ecohydrology Technical Committee from 2011-2014.

Embertson, Nichole M.

Whatcom Conservation District

Dr. Nichole Embertson is a Nutrient Management and Air Quality Specialist with the Whatcom Conservation District, adjunct at Washington State University, and Director of the Washington Discovery Farms program. She is also Chair of the Washington State Center for Technical Development working to improve the professional capacity of Conservation District employees. She received her B.S. from Cal Poly, San Luis Obispo, M.S. from University of California at Davis, and Ph.D. from Colorado State University in Animal Science with specialties in Environmental Management of Livestock Systems and Air Quality. Dr. Embertson currently provides technical assistance on nutrient and environmental issues to farmers, agencies, and industry professionals alike. She also conducts applied research focused on finding integrated solutions to nutrient management and resource conservation challenges, as well as development of decision support tools such as her innovative manure application risk management system including a real-time manure advisory and on-line nutrient management planning resources for producers. Her goal through Discovery Farms Washington is to help producers discover new and better land management practices for protection of environmental resources. Her projects have been funded by the Washington State Department of Agriculture, Washington State Department of Health, Washington State Conservation Commission, Natural Resource Conservation Service (NRCS), and Environmental Protection Agency (EPA). Her vision, communication style and unique experience makes her very effective in developing useful materials for producers, as well as providing science-based input into policy and programing. Dr. Embertson shares her knowledge and expertise through participation on national science panels for USDA-NRCS and the EPA, and in a leadership role for the Livestock and Poultry Environmental Learning Center. She has been awarded both the Northwest and Washington State Conservation District Employee of the year award, NRCS Partnership Award, and Washington State Dairy Federation President's Appreciation Award for her outstanding work and partnership efforts.

Engel-Cox, Jill

National Renewable Energy Laboratory

Dr. Jill Engel-Cox is currently Center Director of the Joint Institute for Strategic Energy Analysis at the U.S. National Renewable Energy Laboratory. She also holds adjunct teaching positions at Johns Hopkins University and the University of Colorado Denver. She is a former American Association for the Advancement of Science Policy Fellow at EPA, in the Office of Research and Development and Office of International Activities. She has a Ph.D. in Environmental Science from University of Maryland Baltimore County, M.S. in Mechanical Engineering from Colorado State University, and B.S. in Mechanical Engineering and B.A. in Plan II (Liberal Arts) from University of Texas at

Austin. Her research focus is the application of complex scientific and engineering data to decision making, particularly on the topics of air quality, energy, and environmental systems (air, water, land), clean industry, and sustainable communities. In the past decade, she led international strategic planning for renewable energy and environmental sustainability research programs in Asia, Middle East, and North America. She is author on over 50 reviewed publications (journal articles, books, conference papers) and manager/author of over 35 technical reports for government and industry decisionmakers. She teaches graduate courses in industrial pollution prevention, environmental communication, and energy technology and management. Her current funding source is primarily the U.S. Department of Energy, but her center also receives funding from non-profit foundations, government agencies, and industry. She is Vice Chair of the Community Sustainability Advisory Board for the City of Golden, Colorado. She previously was Chair of the Metropolitan Washington Air Quality Public Advisory Committee in the Washington DC metro area. Dr. Engel-Cox is an internationally featured speaker and facilitator, including events at the Clean Energy Ministerial, Think20 (input to G20), Federal Reserve Bank, Science and Technology in Society forum, among others.

Englehardt, James

University of Miami

Dr. James D. Englehardt is Professor of Environmental Engineering at the University of Miami, appointed 1992. He received a B.S. in Chemistry from the University of Pittsburgh, after which he supervised laboratory and field service work on water treatment systems for Western Filter Company (now SUEZ Water Technologies). He then obtained an M.S. in Agricultural/Environmental Engineering from Colorado State University, and led water treatment research and development projects at the Manville Corporation (now Celite Corp.), 1983-1987. Subsequently he obtained a Ph.D. in Civil/Environmental Engineering from the University of California, Davis. Visiting faculty appointments include the US Environmental Protection Agency (EPA) and the US Department of Energy. He currently directs the University of Miami Water Quality Engineering Laboratory. The group developed the first low-cost, 100% water and energy reuse system; the artificial intelligence technology to detect health risk in drinking water in real time; an understanding of psychological motivations and barriers to net-zero water living; and a field-deployable net-zero water wash station for remote health care units. The team is now demonstrating chemical-free, energy-positive nutrient recovery, and probabilistic methods of assessing health risks of chemical mixtures and pathogens in drinking water. Nearly continuous funding for 29 years has come over the past two years from the National Science Foundation, Electric Power Research Institute, the Gulf of Mexico Research Initiative. Dr. Englehardt serves as Associate Editor for the journals ASCE-ASME Risk and Uncertainty in Engineering Systems, and PLoS ONE. Awards include the WateReuse Association 2018 Award for Excellence in Transformational Innovation; the Best Papers 2019 Award – Environmental Science: Water Research & Technology, Royal Society of Chemistry (RSC); the Science Advisor's Award, U.S. EPA National Center for Environmental Assessment; the Robert C. Barnard Environmental Science and Engineering Award, American Association for the Advancement of Science (AAAS) and U.S. EPA; the Johnson A. Edosomwan Outstanding Publication Award, University of Miami; and two Eliahu I. Jury Awards for Excellence in Research, University of Miami.

Erraguntla, Neeraja

American Chemistry Council

Dr. Neeraja K. Erraguntla, is a Director in the Chemical Products and Technology division at the American Chemistry Council (ACC). Dr. Erraguntla is a diplomate of American Board of Toxicology (DABT) and has a Ph.D. in Veterinary Medical Sciences with specialization in Toxicology and a Masters' degree in Agronomy from the Louisiana State University, Baton Rouge, Louisiana. Dr. Erraguntla has a bachelor's degree in Agriculture and a Mmasters' degree in Genetics and Plant Breeding from India. Dr. Erraguntla currently manages ACC's 1,3-Butadiene TSCA Risk Evaluation Consortium and other chemical groups. She has expertise in systematic review, toxicology, benchmark dose-response modeling, Multiple-Path Particle Dosimetry (MPPD) modeling, public health, human risk assessment, statistics, ambient air monitoring, exposure assessment, ecological risk assessment, environmental justice, uncertainty analysis, developing toxicity factors, new approach methods (NAMs), endocrine disruption, and risk communication. Dr. Erraguntla provides leadership and expert guidance and consultation to the chemical groups through in-depth investigations into causal relationships between chemical exposures in the environment and potential impacts to public health. Prior to ACC, Dr. Erraguntla was a senior regulatory toxicologist at the Texas Commission on Environmental Quality (TCEQ). At TCEQ, Dr. Erraguntla developed a position paper on how TCEQ conducts systematic reviews and evidence integration. Dr. Erraguntla also determined inhalation toxicity factors of arsenic compounds and hexavalent chromium compounds and used threshold of concern to determine acute toxicity for chemicals with limited toxicity information. Dr. Erraguntla has been a co-author of journal papers for conducting and improving risk assessments: including developing a framework for use of systematic mapping and systematic reviews in determining hazard, developing toxicity values, characterizing uncertainty, developing an improved risk assessment approach for chemicals with both endogenous and exogenous exposures, and developing approaches for describing and communicating overall uncertainty in toxicity characterizations. Other published journal papers include

updated cancer and/or non-cancer assessments for arsenic, hexavalent chromium, and ethylene. Dr. Erraguntla' s professional appointments include: Member at Large for the Cleaner Air Oregon Hazard Index Technical Advisory Committee Member (2018- 2019); Council Member - International Society of Regulatory Toxicology & Pharmacology (ISRTP- 2017 - Present); Reviewer for the National Academies report, Acute Exposure Guideline Levels for Selected Airborne Chemicals, Volume 20, from our Board on Environmental Studies and Toxicology (2016); Expert Panel member US Environmental Protection Agency (EPA) Workshop on National Research Council Recommendations Integrated Risk Information System (IRIS) program (2014); US EPA Environmental Justice Technical Guidance Panel (EJTG) Panel (2012–2015); US EPA National Advisory Committee Member, Acute Exposure Guideline Levels (AEGL) (2009 – Present); Adjunct Assistant Professor at Texas A&M School of Public Health (2009–2015).

Evans, Mary

Claremont McKenna College

Dr. Mary F. Evans is the Jerrine and Thomas Mitchell '66 Professor of Environmental Economics and George R. Roberts Fellow in the Robert Day School of Economics and Finance at Claremont McKenna College. She holds a B.A. from James Madison University and earned her Masters'and Ph.D. degrees in Economics from the University of Colorado, Boulder. Previously, she was a faculty member in the Department of Economics at the University of Tennessee and a post-doctoral researcher at North Carolina State University. Professor Evans teaches courses in introductory and environmental economics. Professor Evans's research explores issues related to the enforcement of and compliance with environmental regulations as well as environmental federalism. Her past research has examined how individual characteristics, for example age, affect how people make decisions related to the mortality risks associated with improved environmental quality. Her work has been published in the Review of Economics and Statistics, the Journal of the Association of Environmental and Resource Economists (JAERE), the Journal of Public Economics, the Journal of Environmental Economics and Management (JEEM), and Science among other outlets. Professor Evans is a member of the Mentoring Program Committee for the Association of Environmental and Resource Economists (AERE). She is a co-editor for the Review of Environmental Economics and Policy (REEP), a member of the editorial council for JEEM, and a former co-editor for JAERE. She is the founding co-chair of the External Environmental Economics Advisory Committee (E-EEAC), an independent organization dedicated to providing up-to-date, non-partisan advice on the state of economic science as it relates to the U.S. Environmental Protection Agency's programs. The E-EEAC was formed following the decision in 2018 to retire the EPA's science advisory board committee by the same name (EEAC). Professor Evans served on the EEAC at the time of its retirement. Professor Evans is the past recipient of two Science to Achieve Results grants from the U.S. EPA for her work on firm compliance with environmental information disclosure programs and the economic dimensions of environmental vulnerability.

Fannin-Hughes, Ian

City of Overland Park, Kansas

Mr. Ian Fannin-Hughes is an environmental scientist specialized in environmental planning, community resilience, and water resource protection. He has Bachelor's degrees in Geography and Environmental Science from Kansas State University, and from the University of Kansas he has a Masters' degree in Environmental Assessment and Planning. Mr. Fannin-Hughes has expertise in community planning, climate resilience, water quality, conservation biology, air quality, and environmental justice. His research includes developing vulnerability and resilience frameworks that can be implemented by local, state, and tribal governments to aid in adaptation towards climate change. His career in environmental planning and water resource protection has made him an expert in many fields of environmental science working with tribal governments, elected officials, and underserved communities to great success. Mr. Fannin-Hughes is a member of the following organizations: Mid America Regional Council, Johnson County Stormwater Management Committee, the University of Kansas Environmental Industry Board, Heartland Conservation Alliance Steering Council, and Green Works Kansas City. Mr. Fannin-Hughes does not represent an academic organization, nor does he receive outside research funding.

Filippelli, Gabriel

Indiana University - Purdue University Indianapolis

Dr. Gabriel Filippelli is a Chancellor's Professor in the Department of Earth Sciences at Indiana University-Purdue University Indianapolis (IUPUI) and the Executive Director of the Indiana University-wide Environmental Resilience Institute. Dr. Filippelli received his B.S. in Geology form the University of California, Davis, and his Ph.D. in Earth Sciences from the University of California, Santa Cruz. He specializes in environmental geochemistry, climate impacts, air quality, and environmental health sciences. He has 100+ peer-reviewed publications, including in Science, Nature, Geology, and specialized journals like Environ. Sci. & Technol., GeoHealth, and Environ. Health Perspect. He is Editor-in-Chief of the journal GeoHealth, a Fellow of the International Association of Geochemistry, the 2021 Earl Ingerson

Lecturer for the Geochemical Society, and will serve as a Fulbright Distinguished Chair of Global Health at the University of Newcastle, Australia in 2022. Dr. Filippelli has served on multiple national and international science advisory committees. National committees include serving as a member and ultimately chair of the US Science Advisory Committee to the Ocean Drilling Program, a member of the EarthChem Advisory Committee for the National Science Foundation, and as an Expert External Review Team member to the US EPA Lead Integrated Science Assessment. His international service includes as a member of and eventual chair of the Science Planning Committee for the $170M/yr International Ocean Discovery Program, a Delegate to several Arctic Council negotiations during his time as Senior Science Advisor at the US Department of State (DOS), and currently as an Air Quality Fellow for DOS, advising the Embassies of Pakistan and Ukraine. He has been funded through his career by the NSF, the NIH, the EPA, NOAA, and HUD, on projects ranging from paleoclimatic reconstructions to environmental lead contamination to current awards on childhood lead poisoning and on enhancing diversity in the geosciences, among others. Non-university funding sources (past 5 years) National Science Foundation American Chemical Society-Petroleum Research Fund Housing and Urban Development Indiana State Department of Health Indianapolis Foundation

Finkel, Adam

University of Pennsylvania

Dr. Adam M. Finkel is currently Clinical Professor of Environmental Health Sciences at the University of Michigan School of Public Health. Since leaving federal-government service in 2004, he has been on the faculty of schools of medicine (UMDNJ/Rutgers), public policy (Princeton), and law (University of Pennsylvania), and began his career doing research in environmental economics at Resources for the Future. From 2000 to 2003, Dr. Finkel was Regional Administrator for the U.S. Occupational Safety and Health Administration (OSHA) in Denver, Colorado, responsible for regulatory enforcement, compliance assistance, and outreach activities in the six-state Rocky Mountain region (Region VIII). From 1995 to 2000, he was Director of Health Standards Programs at OSHA headquarters, and was responsible for promulgating and evaluating regulations to protect the nation's workers from chemical, radiological, and biological hazards. Dr. Finkel holds an Sc.D. in environmental health sciences from the Harvard School of Public Health, a master's degree in public policy from Harvard's John F. Kennedy School of Government, an A.B. in biology from Harvard College, and is a Certified Industrial Hygienist. Dr. Finkel has pioneered methodological improvements in human health risk assessment and cost-benefit analysis for the past 35 years, primarily in the areas of quantitative uncertainty analysis, accounting for interindividual variability in susceptibility (especially to carcinogenesis), and designing regulatory processes to maximize stakeholder input and shed light on disparate public health impacts of regulatory inaction and disparate economic impacts of regulatory action. He is one of two living scholars who served on both the "Blue Book" and "Silver Book" committees of the National Academy of Sciences convened to evaluate EPA's risk assessment methods, and has served on the SAB Environmental Health Committee, the Board of Scientific Counselors National Center for Environmental Research (NCER) Standing Subcommittee, and the National Toxicology Program Executive Committee (Dept. of Labor voting representative). He has authored over 50 peer-reviewed articles in the public health, law, economics, medical, and ethics literatures, and has co-authored three books: one on regulations and unemployment, one on risk-based and other methods to set national environmental priorities, and one on increasing the safety of imported consumer products. Dr. Finkel received the Chauncey Starr Award from the Society for Risk Analysis in 1998 (outstanding contributions to the field by an analyst under 40). In 2006, he received the David P. Rall Award for Advocacy in Public Health from the American Public Health Association, for "a career in advancing science in the service of public health protection," and in 2013 received the Harvard School of Public Health Alumni Leadership Award for Public Health Practice. His recent research funding has come from the National Science Foundation, the government of Alberta, Canada, the Robert Wood Johnson Foundation, the Alfred P. Sloan Foundation, the Ewing Marion Kauffman Foundation, and the Public Welfare Foundation. He also receives funding as a plaintiffs' expert in several cases involving exposure to toxic substances in occupational, para-occupational, and community settings.

Finlayson-Pitts, Barbara

University of California-Irvine

Dr. Barbara Finlayson-Pitts is a Distinguished Professor Emerita, Professor of Chemistry Recalled, and Co-Director of AirUCI at the University of California (U.C.), Irvine. She has a B.Sc. (Hon) in 1970 from Trent University in Canada, and a M.S. (1971) and Ph.D. (1973) from U.C. Riverside. Professor Finlayson-Pitts is author or coauthor of more than 200 scientific publications and two books on atmospheric chemistry. Dr. Finlayson-Pitts' research interests are in the chemistry of processes that occur in the atmosphere and impact air quality, visibility, and climate. Current research projects include the mechanisms of formation and growth of airborne particles and the atmospheric fates of emerging contaminants and neonicotinoid pesticides. She is the recipient of a number of awards, including the American Chemistry Society (ACS) Award for Creative Advances in Environmental Science & Technology, the 2018 Polanyi Medal, and the 2019 Environment Prize of the Royal Society of Chemistry. She has been elected a Fellow of a

number of societies, including the American Geophysical Union, the Royal Society of Chemistry, the American Academy of Arts & Sciences, and the National Academy of Sciences.

Fordham, Earl W.

Washington Department of Health

Mr. Earl Fordham, CHP, is the Deputy Director for the State of Washington Office of Radiation Protection. He is a Certified Health Physicist (most recently re-certified in 2020). He is also a professional engineer in the state of Washington (Mechanical Engineer). He has B.S. degrees in Mechanical Engineering from Washington State University and in Physics from the U.S. Naval Academy. As a public employee he is not actively engaged in research and receives no research funding. Mr. Fordham has received no external research funding from either government agencies, private companies, or foundations. His engineering work included the engineering design and specifications for a low-level radioactive waste processing facility that included shielding calculations and component integration. Additionally, he assisted in the state's performance assessment for the low-level radioactive waste disposal site on the Hanford Reservation. He has worked in the radiation industry since joining the active U.S. Navy and serving on board nuclear submarines in the 1980's. While serving in the Navy, Earl qualified as a Nuclear Engineer to oversee nuclear plant operations. His civilian career includes operations at the Fast Flux Test Facility in Washington, oversight of waste operations at the Hanford Low-Level Radioactive Waste disposal site and licensing & inspecting the processing of waste at a radioactive waste broker. While in these positions, he investigated and wrote several reports on numerous radioactive material incidents that utilized the practices and principles (e.g., dose reconstructions) critical to health physics. In the most recent past, he has volunteered his time to the International Atomic Energy Agency is support of their work to develop safety cases (including safety assessments) for pre-disposal radioactive waste facilities. These week-long overseas missions require several hours of lecture preparations. While in-country Mr. Fordham typically gives 3 – 5 one-hour presentations to local experts and regulatory personnel. In 2002 Mr. Fordham became the Deputy Director for the state of Washington's radiation control program. He develops and coordinates critical policies with extensive impacts on state of Washington program operations. Through integration of his four work groups (environmental sciences, radioactive materials, waste management and radioactive air emissions) he develops state-wide policy ensuring the health and safety of the public. He has developed an extensive licensing and inspection Office policy for interactions with radioactive materials licensees. He assesses radiological events for public impact and dispatches personnel for observations and surveys. He represents the Department of Health on advisory committees including the Hanford Advisory Board and previously on the Agency for Toxic Substance & Disease Registry. He oversees a $6 million budget and a staff of 40 people.

Fowlie, Meredith

UC, Berkeley

Dr. Meredith Fowlie holds the Class of 1935 Endowed Chair in Energy at University of California (UC), Berkeley. She is an Associate Professor in the Agriculture and Resource Economics department, faculty director at the Energy Institute at Haas, an affiliated faculty of the Energy and Resources Group, and Research Associate at the National Bureau of Economic Research in the Energy and Environmental Economics group. Dr. Fowlie holds a B.Sc. and M.Sc. from Cornell University and a Ph.D. from UC Berkeley in Agricultural and Resource Economics. Before joining the faculty at UC Berkeley, she was an Assistant Professor of Economics and Public Policy at the University of Michigan. Dr. Fowlie has worked extensively on the economics of energy markets and the environment. Her research investigates real-world applications of market-based environmental regulations, the economics of air pollution, the demand-side of energy markets, renewable energy economics, and energy access in emerging economies. She currently serves as a Governor-appointed member of California's Independent Emissions Market Advisory Committee. She is also a member of the Economic Advisory Council for Environmental Defense Fund, the advisory council to the Brookings Institution Center on Regulation and Markets, a Scientific Committee Member for the Chaire Economie du Climat, and the steering committee of the National Bureau of Economic Research (NBER), Environmental and Energy Economics Program. She was a member of the External Economics Advisory Committee for the U.S. EPA. Dr. Fowlie's research has been funded in recent years by the Sloan Foundation, the Abdul Latif Jameel Poverty Action Lab, the University of California, the US EPA, and the United Kingdom Energy and Economic Growth Programme.

Frumhoff, Peter

Union of Concerned Scientists

Dr. Peter C. Frumhoff is Director of Science and Policy and Chief Climate Scientist at the Union of Concerned Scientists (UCS). A global change ecologist, Dr. Frumhoff has published widely on the regional impacts of climate change, the role of tropical forests and land-use in climate mitigation, climate attribution science, solar geoengineering research governance, and the water demands of energy in a changing climate. He serves on the Board of Atmospheric Sciences and Climate at the National Academies of Sciences, Engineering and Medicine and

Board of Editors of Elementa: Science of the Anthropocene. Previously, he served on the Advisory Committee on Climate Change and Natural Resource Science at the U.S. Department of Interior, the Board of Directors of the American Wind Wildlife Institute, and the Board of Editors of Ecological Applications. He was a lead author of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) and of the IPCC Special Report on Land Use, Land-use Change and Forestry. He has guided multiple regional climate impacts assessments, including the Northeast Climate Impacts Assessment. Dr. Frumhoff was the 2014 Cox Visiting Professor in the School of Earth Sciences at Stanford University. Previously, he taught at the Fletcher School of Law and Diplomacy, Harvard University, and the University of Maryland, and was an AAAS Science and Diplomacy Fellow at the U.S. Agency for International Development. He received a Ph.D. in Ecology and M.A. in Zoology from the University of California at Davis, and a B.A. in Psychology from the University of California at San Diego. Dr. Frumhoff's recent research has been supported by grants to UCS from the Foundation for International Law for the Environment, Grantham Foundation for the Protection of the Environment, Rockefeller Family Fund, Christopher Reynolds Foundation, and the V. Kann Rasmussen Foundation.

Fullerton, Don

University of Illinois

Dr. Don Fullerton joined the University of Illinois at Urbana-Champaign in 2008 as Gutgsell Professor in the Department of Finance and the Institute for Government and Public Affairs. He graduated from Cornell and received a Ph.D. in Economics from U.C. Berkeley. He won the Outstanding Doctoral Dissertation Award of the National Tax Association. He taught at Princeton University, the University of Virginia, Carnegie Mellon University, and the University of Texas. From 1985 to 1987, Don served in the U.S. Treasury Department as Deputy Assistant Secretary for Tax Analysis, where he received the Meritorious Service Award for his work on the Tax Reform Act of 1986. From 1995 to 2000, he was Director of the American Economic Association's Summer Minority Program. After serving as Managing Editor of The B.E. Journal of Economic Analysis and Policy for ten years, he became Co-Editor and then Editor of the Journal of the Association of Environmental and Resource Economists. Don was the founding Director of the Research Program in Environmental and Energy Economics at the National Bureau of Economic Research and served for ten years (2007-16). He was Lead Author of the 5th Assessment Report, Working Group III of the United Nations Intergovernmental Panel on Climate Change (2011-14). For the U.S. EPA Science Advisory Board, Don was a member of the Council on Clean Air Compliance Analysis (1998-2002) and a member of the Economy-Wide Modelling Panel (2015-17). He is the author of over a hundred published papers and books, including research on investment tax incentives, the incidence of all US taxes, garbage and recycling behavior, policies to control vehicle emissions, and distributional effects of environmental policies such as a carbon tax. He is currently co-PI of a National Science Foundation grant on "Collaborative Research: Convergence Around the Circular Economy" (2019-21).

Gamper-Rabindran, Shanti

Univ of Pittsburgh

Dr. Shanti Gamper-Rabindran is an Associate Professor, working in the nexus of economic development, energy, environment, and public health issues at the Graduate School of Public and International Affairs, and at the Department of Economics, University of Pittsburgh. She holds a Ph.D. in Economics from Massachusetts Institute of Technology and a B.A. in Economics and Environmental Science and Public Policy from Harvard. She completed an M.Sc. in Environmental Management and B.A. in Jurisprudence from Oxford where she was a Rhodes scholar. In 2020, she received a University of Pittsburgh's award for faculty contributions to sustainability. She served on the National Science Foundation-National Environment Research Council workshop of shale development in the United States and the United Kingdom, and in the Natural Resources Defense Council shale workshop in Chengdu, China. She organized public conferences on shale at the University of Pittsburgh, enabling dialog among researchers, NGOs, and local communities. She is serving on the National Academy of Sciences (NAS) Engineering and Medicine study in the area of Chemical Economy, including sustainability issues. Dr. Gamper-Rabindran is also serving on the Policy Council of the Association of Public Policy Analysis and Management. Her book 'America's Energy Gamble' (Cambridge University Press, 2021/2022) details necessary policies to support an equitable energy transition, including efforts to diversify local economies, entrepreneurship and workforce training, and bridge funds for local services in fossil fuel reliant regions. Her edited volume 'The Shale Dilemma: A Global Perspective on Fracking and Shale Development' (University of Pittsburgh, Press 2017) details diverse policies on shale extraction and its impacts across the world. She served as a visiting professor at the Technical University of Munich and at the Arava Institute of Environmental Studies and worked at the World Bank and Human Rights Watch. Her research has been funded by the National Science Foundation, National Institutes of Health, and the U.S. Environmental Protection Agency.

Gardella, Joseph A.

University at Buffalo

Dr. Joseph A. Gardella, Jr. is SUNY Distinguished Professor of Chemistry at the University at Buffalo (UB), SUNY. He also serves as the Director of the UB/Buffalo Public Schools Interdisciplinary Science and Engineering Partnership. He has been on the faculty at UB since 1982. He completed a dual degree program in Chemistry (B.S.) and Philosophy (B.A.) from Oakland University in Michigan, a Ph.D. in Analytical Chemistry at the University of Pittsburgh, and postdoctoral research in Physical and Analytical Chemistry at the University of Utah. His research interests include environmental analytical and surface chemistry of air pollution and soil contamination. A second research focus is controlled drug release for tissue engineering and wound healing. He has worked with communities, corporations, U.S. Army Corps of Engineers, U.S. EPA region 2 and New York Department of Environmental Conservation and Department of Health for 25 years on studies of Western New York regional environmental issues. Professor Gardella's funding over the past two years includes grants from the National Science Foundation (NSF) (2 grants) and U.S. Dept of Education (1 grant) in support of K-12 STEM teacher training and professional development. The project focuses on geographic information systems/analysis (GIS/GIA). He directs the Tonawanda Coke Soil Study, a community study funded by criminal penalties from the 2013 conviction of the Tonawanda Coke Corporation in the Western District of New York Court. Professor Gardella's significant recognition includes the U.S. EPA 2016 Environmental Champion Award from U.S. EPA Region 2 and the American Chemical Society, Division of Analytical Chemistry, J. Calvin Giddings Award for Excellence in Education. He is a Fellow of American Association for the Advancement of Science (AAAS). He has twice been awarded National Science Foundation Awards for Special Creativity. He was awarded the Presidential Award for Excellence in Science, Mathematics and Engineering Mentorship (PAESMEM) by President George W. Bush in 2005.

Gee, Gilbert

UCLA

Dr. Gilbert C. Gee is a Professor in the Department of Community Health Sciences in the Fielding School of Public Health at the University of California, Los Angeles. He has a Bachelor's degree in Neuroscience from Oberlin College, a Ph.D. in Health Policy and Management from Johns Hopkins University, and a Post-doctoral Training in Sociology from Indiana University. His expertise centers around the social determinants of health inequities related to racial/ethnic, immigrant, and low-income communities. His research includes the conceptualization and measurement of racial discrimination at multiple levels, and across the life course. He has published over 120 articles in peer review journals and participated in two committee reports from the National Academies of Sciences, Engineering, and Medicine. In the past two years, his research has been externally supported by the National Institutes of Health, the Centers for Disease Control Foundation, the California Endowment, and the Australian Research Council. His work, in collaboration with Dr. Devon Payne-Sturges, has been recognized with two Scientific and Technical Achievement Awards (STAA) from the U.S. Environmental Protection Agency. Other honors include a Group Merit Award from the National Institutes of Health, and the Award for Innovative Public Health Curriculum from the Delta Omega Honorary Society in Public Health. Dr. Gee served as the Editor-in-Chief of the Journal of Health and Social Behavior between 2013-2016.

Ghosh, Jo Kay

South Coast Air Quality Management District

Dr. Jo Kay Ghosh is the Health Effects Officer and Director of Community Air Programs at the South Coast Air Quality Management District. She received her Ph.D. in Epidemiology from the UCLA School of Public Health, as well as, a Master of Public Health (Epidemiology and Biostatistics) and Bachelor of Science (Bioengineering) from the University of California, Berkeley. In herrole, as the Health Effects Officer and Director, she oversees programs that provide science-based air quality and health information to the public, including leading the Multiple Air Toxics Exposure Study (MATES) and providing risk communication activities during high profile events. She also leads a major environmental justice community program (AB 617), collaborating closely with environmental justice communities to develop air quality action plans. She has more than 15 years of experience in health research and public health practice, including overseeing tuberculosis epidemiology at the Los Angeles County Department of Public Health, and conducting epidemiologic research focused on air pollution impacts on pregnancy outcomes and cancer risk. She has over 20 publications in peer-reviewed scientific journals, and has presented her work at local, national, and international conferences. Dr. Ghosh currently serves on the California Geologic Energy Management Division Public Health Expert Panel and the Baldwin Hills Community Advisory Panel Health Workgroup, and is a member of the American Public Health Association (APHA).

Gilmore, Elisabeth

Clark University

Dr. Elisabeth Gilmore is an Associate Professor of Environmental Science and Policy in the Department of International Development, Community and Environment (IDCE) at Clark University in Worcester, MA. Dr. Gilmore is an integrated modeler who links physical, technological, and social systems to identify risks and evaluate climate change and air quality solutions. She has applied these approaches to inform the technologies, economic viability, and policy needs of climate and air quality mitigation pathways and identify key interactions between social and economic systems, climate impacts, and adaptation efforts. She also uses qualitative methods and semi-quantitative methods, such as expert elicitation, to understand the structure of and uncertainty in these models. She holds a Ph.D. in Engineering and Public Policy and a Ph.D. in Chemical Engineering from Carnegie Mellon University in Pittsburgh, PA. Dr. Gilmore received her bachelor's and Master's in Chemical and Environmental Engineering from the University of Toronto, Canada. Currently, she is a Lead Author of the 6th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) for the North American Chapter and a Drafting Author for the Technical Summary and the Summary for Policymakers for Working Group II. From 2019-2021, she has been a Visiting Scholar and a Senior Climate Policy Advisor at Environment and Climate Change Canada. She has supported Canada's climate science and technology research strategy and the development of its net zero-emission pathways. She is also the section editor of social and economic sciences at Current Climate Change Reports and on the editorial board of Environmental Systems and Decisions. Before joining Clark University, Dr. Gilmore was an Assistant Professor in the School of Public Policy at the University of Maryland, College Park, where she still holds a position at the Earth System Science Interdisciplinary Center (ESSIC). She also served as an American Association for the Advancement of Science (AAAS) Policy Fellow hosted in the Climate Science and Impacts Branch at the US Environmental Protection Agency (EPA)..

Gold, Diane

Harvard University

Dr. Diane R Gold is Professor of Medicine at Harvard Medical School, and Professor of Environmental Health at Harvard T.H. Chan School of Public Health. Trained in pulmonary and critical care medicine, she is an Associate Physician at the Brigham and Women's Hospital and Associate Medical Staff in the Division of Immunology at Boston Children's Hospital. Dr. Gold holds a B.A. in Social Studies from Harvard University, MA; an M.D. from University of Connecticut Medical School, CT; an M.P.H from Harvard School of Public Health, MA; and a Diploma in Tropical Medicine and Hygiene from Liverpool School of Tropical Medicine, UK. As an environmental epidemiologist and physician-scientist, she has over thirty years of experience partnering with engineers, toxicologists and biostatisticians to study influences of environmental exposures (e.g., air pollutant particles and gases; climate/weather; chemicals of concern; tobacco smoke, allergens, fungi, environmental microbes/microbial components) on child and adult health. Committed to environmental justice, she investigates the relation of structural inequities to environmental exposures and health disparities. Through NIH training grants and now as Career Development Coordinator of the Harvard Chan NIEHS Center for Environmental Health, she has mentored many junior investigators in a wide range of environmental health research. She led an NIEHS-funded program project on "Cardiac Vulnerability to Particulate Exposure." Dr. Gold's research has been funded in recent years by National Institutes of Health grants, including three from the "Environmental influences on Child Health Outcomes" program. Her contributions over the years have included service on National Academies of Sciences, Engineering and Medicine/ National Research Council Committees related to indoor and outdoor air quality and health research. She was the recipient of the prestigious John Peters Award (2019) from the American Thoracic Society Environmental, Occupational and Population Health Assembly, and the World Lung Health Award (2020) from the American Thoracic Society.

Goldin, Eric

Goldin & Associates

Dr. Eric Goldin is a radiation safety specialist with over 40 years of experience in power reactor health physics supporting both worker and public radiation safety programs. He currently works as a part-time consultant supporting decommissioning planning for the San Onofre Nuclear Generating Station. He has been a Certified Health Physicist since 1984 and is active in the industry. Dr. Goldin received a B.S. in Nuclear Engineering from the University of Arizona (with Distinction and under the Honors Program), an M.S. in Nuclear Engineering (Health Physics) from Texas A&M University, and a Ph.D. in Biophysics from the University of Texas, Houston, Graduate School of Biomedical Sciences. He completed three years of post-doctoral research at Colorado State University and a year as a Research Associate at Thomas Jefferson University. Dr. Goldin has been a member of the National Council of Radiation Protection and Measurements (NCRP) Program Area Committee 2 since 2004, contributing to four

reports, and was elected to the Council in 2015. He is an active member of the Health Physics Society, served on the Board of Directors, several committees, and Sections, and as a Director of the American Board of Health Physics. He was awarded HPS Fellow status in 2012 and currently serves as the President of the Society. Dr. Goldin's radiological engineering experience includes ALARA (as low as reasonably achievable) programs, instrumentation, radioactive waste management, emergency planning, dosimetry, decommissioning, licensing, effluents, and environmental monitoring. He has no research funding sources. Dr. Goldin served on the Radiation Advisory Committee reporting to the EPA SAB from mid-2020 until activities were recently suspended. He has always supported diversity and inclusiveness in all his professional and personal activities. As Health Physics Society President, he guided the creation of a Task Force to deal with diversity issues within the Society.

Goldman, Gretchen

Union of Concerned Scientists

Dr. Gretchen T Goldman has expertise in air pollution exposure science, environmental engineering systems, atmospheric science, and environmental policy. She received a Ph.D. and M.S. in environmental engineering from the Georgia Institute of Technology and a B.S. in Atmospheric Science from Cornell University. Her research focused on Geostatistical modeling of EPA criteria pollutants and particulate matter speciation for use in epidemiologic studies of acute human health effects. Dr. Goldman is the Research Director of the Center for Science and Democracy at the Union of Concerned Scientists. She conducts technical analyses and policy assessments at the intersection of science and federal environmental policy decisions. Her areas of study have included air pollution exposure assessments, environmental justice and community risk analysis, scientific integrity at federal agencies, climate change risk assessment, and local impacts of oil and gas operations, among other topics. Dr. Goldman serves as an expert on the Public Health Rulemaking of the California Geologic Energy Management Division (CalGEM) of the Department of Conservation; the United Nations Educational, Scientific and Cultural Organization (UNESCO) and American Association for the Advancement of Science's (AAAS) Consultation Group on how the US science ecosystem compares to the UNESCO Recommendation on Science and Scientific Researchers, and has served as Chair of the Air and Climate Public Advisory Committee for the Metropolitan Washington Council of Governments.

Gomez, Manuel

Dr. Manuel R. Gómez is an environmental and occupational health scientist with extensive experience in the basic sciences and their application. He is a graduate of Harvard (Biochemistry) Hunter College of the City University of New York (environmental and occupational health), and Johns Hopkins (Dr. Public Health, Environmental Health Sciences). He was also a Certified Industrial Hygienist until his retirement. His multidisciplinary academic background is also reflected in his professional experience, which includes research in exposure assessment (National Cancer Institute, occupational health and safety (copper smelting industry, Inform), as well as extensive experience with professional organizations, both as a member of the industrial hygiene professional organizations (American Industrial Hygiene Association, member and Director of Scientific Affairs of the association for a decade), and the ACGIH (member as well as Secretary Treasurer of the association). He does not currently receive research funding, and his past research experience was supported by the agencies that employed him. Dr. Gómez's experience is all in areas relevant to the work of the EPA Science Advisory Board (SAB), and they encompass the public, private and non-profit sectors. He served as the Designated Federal Official of the SAB's Drinking Water and Indoor Air Quality/Total Human Exposure committees, and later in toxic substance exposure assessment at EPA; as staff of the American Industrial Hygiene Association; as research team leader for INFORM; and as Director of the Office of Recommendations of the U.S. Chemical Safety and Hazard Investigation Board, developing recommendations after the investigation of catastrophic chemical incidents. His experience is entirely related to toxic substances in the environment and the workplace, areas which are critical to the SAB's activities. While not directly involved in the study of environmental justice, he has avidly followed scientific developments in that arena. His entire professional experience has involved the review, interpretation, integration, and application of the scientific basis of scientific EPA documents.

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, an M.S. in Toxicology from the University of Michigan, and a Ph.D. in Toxicology from Massachusetts Institute of Technology (MIT), 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 National Institute of Environmental Health Sciences (NIEHS), National Institute of Allergy and Infectious Diseases (NIAID), National Coalition for Cancer Research, Department of Defense (DOD), Bureau of Mines, National

Aeronautics and Space Administration (NASA), Health Canada, National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC), and the Environmental Protection Agency (EPA). Dr. Gordon is past Chair of the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) 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 susceptibility 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, age, and sex susceptibility factors play a major role in environmental and occupational lung disease. 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. Dr. Gordon is an active member of the Society of Toxicology (SOT), and has served on the Program, Placement, Membership, and Awards Committees and as President of its Inhalation Specialty Section. He has served as a consultant/author to the EPA on issues of pulmonary toxicology related to the development of various documents, and served on EPA's Clean Air Scientific Advisory Committee (CASAC) Oxides of Nitrogen (NOx), PM, and Sulfur Oxides (SOx) Primary National Ambient Air Quality Standards (NAAQS) Review Panels. Dr. Gordon's current research, supported by National Heart, Lung, and Blood Institute (NHLBI), NIEHS, and National Cancer Institute (NCI), examines the adverse health effects of alternative tobacco products and underground subway air pollution. He is also the Director of NYU's NIEHS-supported Training Grant in Environmental Toxicology.

Graff Zivin, Joshua

University of California - San Diego

Dr. Joshua Graff Zivin is Professor of Economics at University of California San Diego, where he holds faculty positions in the School of International Relations and Pacific Studies and the Department of Economics. He received a Ph.D. and M.S. in Agricultural and Resource Economics from the University of California, Berkeley and a B.A. in Economics and Psychology from Rutgers University. Dr. Graff Zivin is an environmental economist, with considerable expertise in the area of human health. His recent research has focused on the relationship between the environment and human capital, including pioneering research on the impacts of air pollution on worker productivity. He is also currently engaged in work that examines the impacts of pollution on cognitive performance, which also has important long-run labor market implications. In addition to his academic work, Dr. Graff Zivin has served as Senior Economist for Health and the Environment on the White House Council of Economic Advisers and is thus quite familiar with the national environmental policy making process. He also has considerable experience working in interdisciplinary teams, including service on several National Academies Committees. Dr. Graff Zivin's research has been funded in recent years by the National Institutes of Health and the National Science Foundation.

Gribble, Matthew

Emory University

Dr. Matthew Gribble is a Diplomate of the American Board of Toxicology (since 2016) and an epidemiologist with post-doctoral training in biostatistics currently appointed as an Assistant Professor of Environmental Health, with joint appointment in Epidemiology, at Emory University Rollins School of Public Health. He has been inducted into Delta Omega Honor Society both as a distinguished alumnus by Johns Hopkins Bloomberg School of Public Health, where he completed his Ph.D. in Epidemiology, and as an outstanding faculty member at Rollins School of Public Health. Prior to Johns Hopkins he completed degrees in Earth Systems and Human Biology at Stanford University. He has been involved in United States arsenic research for nearly a decade, in particular through community-engaged research with the Strong Heart Study of American Indians, and has also taken up work in global health focused on other minerals in water. Dr. Gribble has contributed dozens of peer-reviewed manuscripts to leading environmental health, epidemiology, and toxicology journals, and has led (or co-led) research funded by the National Institutes of Health and the United States Geological Survey. He was the opening plenary speaker at the 2018 Georgia Public Health Association meeting and has also given a Spanish-language plenary talk ("Charla Magistral") at a water modeling conference in Colombia, which happened during his Fulbright Specialist Fellowship at la Pontificia Universidad Javeriana de la Compañía de Jesús. Dr. Gribble recently completed an Inter-Professional Agreement as a Science Advisor to the United States Geological Survey's Environmental Health Mission Area's Contaminant Biology and Toxic Substances Hydrology Program. He has also served as a scientific expert to the World Health Organization, Food and Agricultural Organization of the United Nations, and Intergovernmental Oceanographic Commission. He serves on the Editorial Board of UCL Open: Environment and has served on grant peer-review for the National Institutes of Health.

Grieger, Khara

North Carolina State University

Dr. Khara Grieger is an Assistant Professor in Environmental Health & Risk Assessment at North Carolina State University. Dr. Grieger holds a B.S. in Zoology and M.S. in Plant Biology and Ecology from Michigan State University, as well as a M.Sc. and Ph.D. in Environmental Engineering from the Technical University of Denmark. After her postdoc position at the Technical University, where she focused her research on developing risk assessments for engineered nanomaterials, she transitioned to RTI International where she served as a Senior Research Scholar within the Health and Environmental Risk Assessment group, working on a range of US Federally-funded grants that focused on nanomaterial risks and decision support, including those funded by the US Environmental Protection Agency, along with other projects focused on other contaminants funded by US Food and Drug Administration, US Army, and The National Institute for Occupational Safety and Health. She then transitioned to a faculty position at NC State University, where she currently serves as an Assistant Professor in Environmental Health and Risk Assessment within the Department of Applied Ecology. Her interdisciplinary risk sciences-based research focuses on best practices for risk assessment, risk management, and stakeholder engagement related to the governing of emerging risks and new technologies. Key focal areas include environmental risk analyses of emerging technologies in food and agriculture sectors, and other emerging risks, that have high degrees of complexities and uncertainties and require interdisciplinary risk approaches. Dr. Grieger is currently an External Advisory Board member for two European projects focused on nanomaterial risk governance (RiskGONE, SusNanoFab) as well as the Environmental Advisory Board for the Town of Cary, NC. She is also the U.S. Co-Chair for the Risk Management and Control Community of Research focused on nanomaterial health and safety. Further, she is a member of the Research Triangle Nanotechnology Network, which is a National Science Foundation-funded grant, as well as a member of the Center for Human Health and the Environment housed at NC State University. Dr. Grieger has been the recipient of numerous author and collaborative awards, including the Collaborative Award issued by the Research Triangle Nanotechnology Network in recent years. She also received numerous author awards as well as travel awards and scholarships for her research.

Groopman, John

Johns Hopkins University

Dr. John Groopman is the Edyth H. Schoenrich Professor of Preventive Medicine at the Johns Hopkins Bloomberg School of Public Health and the Associate Director for Population Sciences at the Sidney Kimmel Comprehensive Cancer Center in the School of Medicine. He received his Ph.D. degree in Toxicology from the Massachusetts Institute of Technology where he continued as a post-doctoral fellow. He received further training as a staff fellow at the National Cancer Institute in the Laboratory of Human Carcinogenesis. Prior to coming to Johns Hopkins, Dr. Groopman was the Associate Dean at the Boston University School of Public Health. Dr. Groopman served as a member of the National Advisory Council for the National Institute of Environmental Health Sciences and has completed an eight-year term as a member of the US Department of Defense's Defense Health Board. He has recently been appointed to a three-year term to the National Academies of Sciences, Engineering, and Medicine - Committee on Toxicology. He is a senior editor of the Journal Cancer Epidemiology, Biomarkers and Prevention. Dr. Groopman's collaborative research laboratory has been funded by the National Institutes of Health, primarily National Institute of Environmental Health Sciences and National Cancer Institute and has also received research support from the Bill and Melinda Gates Foundation. Dr. Groopman's main research interests involve the development and application of molecular biomarkers of exposure, dose, and effect from environmental carcinogens. The environmental carcinogens studied include agents that are found as air toxicants and those naturally occurring in the diet. In recognition of his contributions to cancer prevention efforts, Dr. Groopman was the recipient of the American Association for Cancer Research–Prevent Cancer Foundation Award for Excellence in Cancer Prevention Research and he gave the Ronald Herberman Memorial Lecture for National Cancer Prevention Day.

Guckenheimer, John

Cornell University

Dr. John Guckenheimer retired as Bullis Professor of Mathematics at Cornell University in 2017, where he also served terms as Director of the Center for Applied Mathematics, as Associate Dean of Computing and Information Sciences and Director of Research Programs for the Theory Center. His research investigates nonlinear dynamical systems. This subject discovered the universality of dynamics across scientific disciplines, providing explanations of emergent behaviors observed in complex systems. He received a B.A. from Harvard College and a Ph.D. from the University of California at Berkeley . Within mathematics, Dr. Guckenheimer has made substantial advances in describing bifurcations – dynamical changes that occur as system parameters are varied – and in characterizing the dynamics of systems with multiple time scales. He has studied applications in several disciplines, including ecology, chemistry,

physics, biomechanics, neuroscience, and climate science. He studied the unpredictability of El Niño in the tropical Pacific, control of locomotion from motion capture data in flies, cockroaches and humans, and dynamics within the nervous system. He cochaired a National Research Council committee that produced the 2016 report "Analytic Research Foundations for the Next-Generation Electric Grid." Dr. Guckenheimer served as President of the Society for Industrial and Applied Mathematics during 1997-98, was founding chair of its Activity Group in the Life Sciences, and was awarded its Jürgen Moser prize. He was also awarded the American Mathematical Society Steele Prize for mathematical exposition with Philip Holmes for authoring the 1983 book "Nonlinear Oscillations, Dynamical Systems and Bifurcations of Vector Fields," that has become a basic reference for the field. Prior to moving to Cornell in 1985, he was a professor at the University of California, Santa Cruz, where he led a California wide effort to create organized research units for nonlinear science..

Gunasekara, Amrith S.

California Department of Food and Agriculture

Dr. Gunasekara is Science Advisor to Secretary Ross at the California Department of Food and Agriculture. He works on agricultural issues as they relate to the environment and seeks to find proactive, creative, flexible, and practical solutions. His focus areas include plant nutrient management, climate change and environmental stewardship. Dr. Gunasekara received his undergraduate and master's degrees from the University of Massachusetts, Amherst and completed his Ph.D. from the University of California, Davis, in Agricultural and Environmental Chemistry. He is the CDFA liaison to the Environmental Farming Act Science Advisory Panel which is looking at highlighting the many benefits afforded by agriculture beyond food, fiber, and economic benefits. He has been in his CDFA position since August 2011.

Gurian, Patrick

Drexel University

Dr. Patrick Gurian is a Professor in the Department of Civil, Architectural, and Environmental Engineering at Drexel University. He has an A.B. from Harvard in Chemistry, a Masters' in Environmental Engineering from Stanford University, and a Ph.D. in E-ngineering & Public Policy and Civil & Environmental Engineering from Carnegie Mellon University. He has experience in policy analysis of technological systems with particular attention to supporting regulatory decision making under uncertainty. He has been PI or co-PI of 45 sponsored projects and published 98 peer-reviewed papers. Dr. Gurian's funding sources in the last two years include the EPA, NOAA, the Philadelphia Water Department, the U.S. Dept. of State, the City of New York, the Water Research Foundation, the William Penn Foundation, and the Government of India. He is an editorial board member of the journal AWWA Water Science and has served on technical review panels for the Department of Homeland Security's Validated Sampling Plan Review and Biodefense Net Assessment.

Haas, Charles

Drexel University

Dr. Charles N. Haas is the L.D. Betz Professor of Environmental Engineering at Drexel University, where he has been since 1991. He received his B.S. (Biology) and M.S. (Environmental Engineering) from the Illinois Institute of Technology and his Ph.D. in Environmental Engineering from the University of Illinois at Urbana-Champaign. He co-directed the U.S. EPA/Department of Homeland Security University Cooperative Center of Excellence – Center for Advancing Microbial Risk Assessment (CAMRA). He is a fellow of the International Water Association, American Academy for the Advancement of Science, the Society for Risk Analysis, the American Society of Civil Engineers the American Academy of Microbiology and the Association of Environmental Engineering and Science Professors. He is a Board-Certified Environmental Engineering Member by eminence of the American Academy of Environmental Engineers. He has received the Dr. John Leal Award and the AP Black Research Award of the American Water Works Association, the distinguished achievement award from the Society of Risk Analysis and the Clarke Water Prize. In 2021 he was elected to the National Academy of Engineering. Over his career, Professor Haas has specialized in the assessment of risk from and control of human exposure to pathogenic microorganisms, and in particular the treatment of water and wastewater to minimize microbial risk to human health. He has recent and current funding from the U.S. EPA, the Water Environment Research Foundation and NSF. Professor Haas has served on numerous panels of the National Research Council. He is a past member of the Water Science and Technology Board of the National Academies, and the U.S. EPA Board of Scientific Counselors. His primary work focuses on assessment of risk from and control of microorganisms in water, wastes and other environments.

Hahn, Robert

The Technology Policy Institute

Dr. Robert Hahn is a distinguished senior fellow at the Technology Policy Institute and a senior policy scholar at the Georgetown University Center for Business and Public Policy. Dr. Hann is a former visiting professor and director of economics at the Smith School of Enterprise and the Environment at Oxford University. He has served on the faculties of Harvard and Carnegie Mellon, and also has had senior appointments at American Enterprise Institute (AEI) and Brookings. He is currently conducting several economics experiments aimed at promoting growth and sustainability, encouraging energy and water conservation, and improving productivity. He also continues to do research on government regulation, market-based approaches for protecting the environment, and understanding the benefits of breakthrough innovations. Dr. Hahn served as a commissioner on the U.S. Commission on Evidence-Based Policymaking. Many of the findings of that Commission were enacted into law as The Foundations for Evidence-Based Policymaking Act. Dr. Hahn also co-founded a school for lower income children in Providence, Rhode Island, dedicated to serving inner-city youth (the Community Preparatory School). His research has been funded through the Technology Policy Institute and Oxford University. Hahn has advanced degrees from Brown University and Caltech.

Halden, Rolf

Arizona State University

Dr. Rolf U. Halden received his M.S. in Biology from the Technical University of Braunschweig, Germany, and his M.S. and Ph.D. degrees in Civil/Environmental Engineering from the University of Minnesota. He worked as a project engineer at the Lawrence Livermore National Laboratory (1998-2001) directing soil and groundwater remediation projects before becoming Assistant/Associate Professor at the Johns Hopkins School of Public Health, where he was a co-founding member of the Water and Health program (2001-2007). He joined Arizona State University and the Biodesign Institute in 2008, where he currently serves as a tenured Full Professor in the School of Sustainable Engineering and the Built Environment, Senior Sustainability Scientist, and Founding Director of multiple initiatives, including the Biodesign Center for Environmental Health Engineering, the Human Health Observatory, and the OneWaterOneHealth nonprofit project. Dr. Halden's expertise is in public health engineering, green chemistry, and sustainability. His research and entrepreneurial activities explore the impact of anthropogenic chemicals on environmental quality and human health. Many of his 200+ publications and patents deal with the occurrence of persistent organic pollutants in the environment, routes of human exposure, and resultant body burdens and adverse health outcomes, particularly in children. Dr. Halden provided a Congressional Briefing on antimicrobials in 2011. He also served as a voting member of the Center for Drug Evaluation and Research (CDER) Nonprescription Drugs Advisory Committee. He also served as a Governor-appointed public interest member on the Maryland State Water Quality Advisory Committee (2003-2005). Halden is a cofounder and Chief Scientific Officer of the ASU startup company, AquaVitas, LLC. Halden is funded by the National Science Foundation and the National Institutes of Health for wastewater-based epidemiology to perform pioneering work on near real-time monitoring of human behavior, consumption, environmental hazards, and population health status, including research on opioids and SARS-CoV-2.

Hamburg, Steven P.

Environmental Defense Fund

Dr. Steven Hamburg is chief scientist and senior vice president of the Environmental Defense Fund (EDF) as well as executive manager of MethaneSAT LLC (non-profit subsidiary of EDF). His academic training is in ecosystem ecology and biogeochemistry. Trained at Vassar College (AB, Biology), and Yale University (MFS ecology and forestry; Ph.D, biogeochemistry and ecosystem ecology), and has also held fellowships at Stanford (post-doc, ecology), Harvard (Bullard, mid-career) and Yale (Bass Distinguished Visiting Environmental Scholar). Dr. Hamburg was on the faculty of University of Kansas (KU) for nine years followed by 16 years at Brown University, where he led several units; founding director of the Global Environment Program at the Watson Institute for International Studies (Brown), director/interim director of the Environmental Studies Program (KU/Brown) and Environmental Ombudsman (KU). He has published more than 100 scientific papers on biogeochemistry, climate change impacts, carbon accounting and methane emissions from the oil and gas value chain. He has served as a lead author for the IPCC and was acknowledged as one of the contributing recipients of the 2007 Nobel Peace Prize. He was twice awarded the U.S. EPA Environmental Merit Award from Region 1 for his climate change related work. He has supervised the research of more than 20 graduate students and 60 undergraduates. His current professional service includes: chief scientific officer, International Methane Studies, Climate and Clean Air Coalition/UN Environment Programme (UNEP); member, Implementation Committee, International Methane Emissions Observatory, UNEP; member, Advisory Board, Division on Earth and Life Sciences, National Academies of Science, Engineering and Medicine; co-chair, Solar Radiation Management Governance Initiative; member, Environment and Energy subcommittee, Federal Aviation

Administration's Research, Engineering and Development Advisory Committee. He currently serves as Principal Investigator on a grant from the Sloan Foundation.

Haney, Joseph

Texas Commission on Environmental Quality

Mr. Joseph Haney has served as a regulatory toxicologist and risk assessor at the Texas Commission on Environmental Quality for 23 years. He has extensive expertise and research interest in multiple areas, including the hazard identification, dose-response assessment, mode of action, inhalation dosimetry, toxicokinetic/toxicodynamic differences, low-dose extrapolation issues, and weight-of-evidence. Mr. Haney received his B.S. in Biology (summa cum laude) from the University of Houston and his M.S. in Environmental Science with Emphasis in Toxicology from the University of Texas School of Public Health. Mr. Haney, with extensive knowledge of remediation guidance, exposure factor and risk assessment issues made important technical contributions to state remediation rules/guidance and toxicity factor development guidance. This is even true as to EPA guidance. Importantly, some years ago he pointed out an error in Appendix D of EPA's RAGS part E that resulted in incorrect and unconservative risk-based screening value calculations for dermal exposure to carcinogens in water. An addendum was promptly issued by EPA as a result. Mr. Haney has conducted dose-response analyses for numerous air toxics (e.g., benzene, methylene chloride, formaldehyde, 1,4-dichlorobenzene, hexavalent chromium, cadmium, cobalt, ethylene oxide, nickel) and derived associated toxicity factors (e.g., unit risk factors, reference concentrations), publishing carcinogenic dose-response analyses for several. Regarding the oral route, he published three risk assessment papers on oral exposure to hexavalent chromium, as well as a paper on historical drinking water contamination and health hazard at Camp Lejeune, NC. Two of his hexavalent chromium papers received top 10 risk assessment paper awards at the 2016 Society of Toxicology (SOT) conference. He is a member of SOT and SOT's Risk Assessment Specialty Section. Mr. Haney served on the EPA Mouse Lung Tumor Workshop Planning Panel (held January 2014).

Harbison, Justin

Loyola University Chicago

Dr. Justin Harbison is an Assistant Professor of Public Health Sciences, in the Parkinson School of Health Sciences and Public Health, Loyola University Chicago. Justin holds a B.A. in Environmental Studies and Geography from Macalester College, MN, a M.S. in Entomology from the University of Florida, and Ph.D. in Public Health from the University of California – Los Angeles. During and after completing his Ph.D., Dr. Harbison worked as a public health biologist for the Vector-Borne Disease Section of the California Department of Public Health. From there, he joined the North Shore Mosquito Abatement District, IL and Loyola University Chicago as a quality control consultant and Assistant Professor respectively. Through his work with the Abatement District and from funding from the CDC, Dr. Harbison has spent much of career assessing the effectiveness of pesticide applications including larvicide and Ultra Low Volume sprays to control mosquitoes and their diseases.

Harrison, Jill

University of Colorado Boulder

Dr. Jill Lindsey Harrison is Associate Professor of Sociology at the University of Colorado Boulder. She has a Ph.D. in Environmental Studies from the University of California-Santa Cruz (2006) and a B.A. in Development Studies from the University of California-Berkeley (1997). Her research, teaching, and service work focus on environmental justice movements, environmental politics, racial environmental inequalities, racial inequalities in agriculture, and immigration politics. Her research focuses on identifying the roots of environmental injustice in the contemporary United States and ways to revise environmental regulatory agency practice in order to redress those harms. She takes seriously the concerns of members of environmentally overburdened and marginalized communities; conducts research that helps to make visible, explain, and address the injustices they experience; uses her expertise in qualitative research methods to collect data that sheds new light on the forms, scope, and consequences of injustice; draws on interdisciplinary training in environmental studies to marshal and integrate relevant scientific evidence from many fields of study; and specifies regulatory and policy reforms that would help rectify these inequalities. She primarily collects data through in-depth, confidential interviews with regulatory officials, community members, and other key stakeholders; ethnographic observation of government agency meetings and activist events; participation and collaboration with community activists; focus groups with key participants; and, occasionally, structured surveys. Her projects have focused on political conflict over agricultural pesticide drift and its public health impacts on marginalized farmworker communities, escalations in immigration enforcement and their impacts on immigrant farm workers, and government agencies' environmental justice reform efforts. She has published two award-winning books through MIT Press (Pesticide Drift and the Pursuit of Environmental Justice in 2011, and From the Inside Out: The Fight for Environmental Justice in Government Agencies in 2019), as well as dozens of peer-reviewed academic articles and chapters in edited volumes. She has been invited to present her research to countless academic

audiences as well as environmental regulatory agencies, including U.S. EPA. She has served on the Wisconsin Governor's Council for Migrant Labor, as well as the Wisconsin Migrant Coalition, both appointed volunteer advisory committees. She has also served as Chair of the American Sociological Association's Environmental Sociology Section, a three-year elected position. She has developed and regularly teaches courses on environmental justice at the undergraduate and graduate levels, helped developed an interdisciplinary graduate training program in environmental justice, and takes a leadership role in diversity, equity, inclusion, and justice initiatives at her university and other professional organizations.

Hass, Amy

Minnesota Department of Health

Ms. Amy M. Hass is a Health and Safety Analyst for the Minnesota Department of Health Environmental Health Division Indoor Environments and Radiation Section where she is responsible for the Radiological Emergency Preparedness Program. Ms. Hass holds a B.S. in Biology and Mathematics, and a M.S in Environmental Studies with a published thesis on bioremediation of hydrocarbon contaminated soils. She serves as an advisor to the Committee on Homeland Security/Emergency Response for Emergency Response Planning and as an advisor to the Committee on Interagency Environmental Data Sharing and Communications both with the Conference of Radiation Control Program Directors. She is a member of the Minnesota Intermediate Phase Task Force comprised of multi-agency response approach to an intermediate phase actions in a radiological response. As part of the recommended protective actions from the state, she provides dose assessment training for early and intermediate phases and plans for radiological sample analysis requests from agricultural product samples, drinking water samples, and air samples. Amy was awarded the Minnesota Department of Health Star Award in December 2018 for developing and coordinating the response activities associated with the program and selected as the recipient of the Health Achievement Award in June 2019 for outstanding contributions to the program. Her 20 plus year career in radiological emergency preparedness has been spent incorporating dose assessment training, radiological scenarios, and planning for state, tribal, county, and the private sector.. No research funding has occurred in the past 2 years.

Hastings-Simon, Sara

Colorado School of Mines and University of Calgary

Dr. Sara Hastings-Simon is a Senior Researcher at the Payne Institute for Public Policy at the Colorado School of Mines and a Research Fellow at the School of Public Policy at the University of Calgary. Dr. Hastings-Simon holds a B.A in Physics from Pomona College, a M.A. in Physics from the University of California at Santa Barbara, and a Ph.D. in Physics from the University of Geneva. After completing her Ph.D., she was a management consultant and practice manager for the Clean Technology group at McKinsey & Company, and then led the Clean Economy group at the Pembina Institute, a Canadian clean energy think tank. She is a macro energy system researcher and an expert in energy, innovation, and climate policy; her research is focused on understanding how energy and industrial transitions happen within different sectors of the economy, and how policy responses can improve outcomes. She is an expert member of the panel for Clean Growth with the Canadian Climate Choices Institute, an independent advisory group providing analysis for the Government of Canada. She is a member of the board of directors of Emissions Reduction Alberta, the arm's length government agency in Alberta that directs revenue from the carbon levy to GHG-reduction technology, and of the Pembina Institute. Dr. Hastings is also a Global Fellow at the Smart Prosperity Institute at the University of Ottawa.

Hattis, Dale

Clark University

Dr. Dale Hattis is a Research Professor with the Center for Technology Environment and Development (CENTED) of the George Perkins Marsh Institute at Clark University. He received his Ph.D. in Genetics from Stanford University in 1974 and an undergraduate degree in Biochemistry from the University of California at Berkeley in 1967. For the past 40 years he has been engaged in the development and application of methodology to assess the health, ecological and economic impacts of regulatory actions, including those related to the occupational exposure to lead. His work has focused on the development of methodology to incorporate interindividual variability data and quantitative mechanistic information into risk assessments for both cancer and non-cancer endpoints. Specific studies have included quantitative risk assessments, assessment of reproductive effects, neurological effects, and chronic lung function impairment, four pharmacokinetic-based risk assessments for carcinogens, an analysis of uncertainties in physiologically based pharmacokinetic (PBPK) modeling and an analysis of differences among species in processes related to carcinogenesis. Recent research has also explored age-related differences in sensitivity to carcinogenesis and other effects, and pharmacokinetics and dose response for neurodevelopmental effects of the insecticide chlorpyrifos. Dr. Hattis has published more than 200 articles and chapters in scientific journals, books, and proceedings. He has been a member of the Environmental Health Committee of the EPA Science Advisory Board, and

the Board of Scientific Counselors for the National Toxicology Program. He has also served as a member of the National Research Council Committee on Estimating the Health-Risk-Reduction Benefits of Proposed Air Pollution Regulations. Dr. Hattis has been a councilor and is a Fellow of the Society for Risk Analysis, and serves on the editorial board of its journal, Risk Analysis.

Hausman, Catherine

University of Michigan

Dr. Catherine H. Hausman is an Associate Professor in the School of Public Policy at the University of Michigan. She is also a Research Associate at the National Bureau of Economic Research. Dr. Hausman holds a B.A. from the University of Minnesota and a Ph.D. in Agricultural and Resource Economics from the University of California, Berkeley. Dr. Hausman's area of expertise is environmental and energy economics. Recent research projects have looked at inequality and air pollution; the role of battery storage in electricity markets; the natural gas sector's role in methane leaks; the impact of climate change on the electricity grid; and the effects of nuclear power plant closures. She currently serves as co-lead of a multi-year project bringing together researchers from around the country working on the "Distributional Consequences of New Energy Technologies and Policies." Dr. Hausman has experience both with interdisciplinary research and with policy-relevant research. Dr. Hausman's research has been funded in recent years by the Sloan Foundation.

Hayes, Tyrone B.

UC, Berkeley

Dr. Tyrone B Hayes is a Professor and co-chair of the Department of Integrative Biology at the University of California, Berkeley. He is a graduate of Harvard University (B.A.) and UC Berkeley (Ph.D.). He is a newly elected member of the American Academic of Arts and Sciences, among other honors. His work examines the role of hormones in development and growth in amphibians. Most significantly, he focuses on the role of sex steroid hormones in sex differentiation and reproductive physiology. A great deal of his research has focused on the role of endocrine disrupting environmental contaminants and their impact on amphibian populations. He is most known for his work on the demasculinizing and feminizing effects of atrazine on amphibians. Other interests include the effects of hormones and chemicals on growth, metamorphosis, immune function, and behavior. Dr. Hayes has a broader interest in understanding the impact of environmental chemicals on public health, with a particular interest in environmental justice and racial health disparities. His recent research has been funded by the University of California, Ceres Foundation, Marisla Foundation, and others. He is a member of several advisory boards and committees including academic, professional, and non-profit organizations.

Haygood, Lauren

The University of Tulsa

Ms. Lauren Haygood is a graduate student in the Geosciences Department at The University of Tulsa. She has a bachelor's degree in Geosciences from The University of Tulsa, and after graduating with her masters' degree, will start a Ph.D. program in the Boone Pickens School of Geology at Oklahoma State University. Ms. Haygood has experience in biogeochemistry, geoscience, analytical chemistry, geospatial analysis, water quality, programming languages (python, R, GS+, Matlab, and Mathematica), science policy, and science communication. Her current thesis research involves the measurement of the spatial and temporal distribution of trace metals in the Kiamichi River Basin in southeast Oklahoma and to evaluate their bioavailability, as well as sources. Her research funding has included the Geological Society of America Graduate Student Research Grant and The University of Tulsa, Office of Research and Sponsored Programs. Ms. Haygood was selected as part of the Science Policy 2020 cohort of the American Geophysical Union (AGU) Voices for Science program, is the current student representative of the Soil and Water Conservation Society (SWCS) Science and Policy committee, is part of the Student Resources Committee of the Society for Freshwater Science, and is part of the Climate Change Committee of the American Fisheries Society. She has expert witnessed at the Oklahoma Water Resources Board. She meets with legislators about water infrastructure legislation, water quality standards, climate-related legislation, and STEM education; over the last year, she has been involved in virtual advocacy days with members of congress. Through a microgrant from AGU Voices for Science, she started a citizen science water quality initiative in Oklahoma focusing on metals and physiochemical parameters of the Arkansas River.

Heiger-Bernays, Wendy J.

Boston University

Dr. Wendy Heiger-Bernays is a clinical professor in the Department of Environmental Health at the Boston University School of Public Health where her research, teaching and practice focus on methods to assess community exposure and health risk to legacy and emerging contaminants, with an overall objective to engage communities in their understanding and mitigation of environmental health risks. Her work focuses on technology and information transfer of the science to multiple audiences, including environmental regulatory and health agencies as well as with advocacy groups and community groups. She has trained masters and doctoral students in bench and regulatory toxicology. Her work in toxicology and risk assessment include a recent review of thyroid active chemicals, evaluation of reference doses for chemicals with developmental effects derived from traditional methods with those derived from in vitro methods, and research on the mechanisms by which individual and mixtures of endocrine active chemicals affect molecular pathways involved in changes in lipid profiles in animal models and in cell culture. All of this work involves use of EPA's ToxCast data, expanded to the National Toxicology Program's Tox21 Toolbox. Dr. Heiger-Bernays served on five EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Science Advisory Panels (2007- 2010), EPA Science Advisory Board ad hoc committee: Review of data for development of a maximum contaminant level goal (MCLG) for perchlorate (2012-2013); EPA Contaminant Candidate List (CCL) Workgroup (2002-2005); National Toxicology Program (NTP) Technical Report Peer Group. Review of NTP Toxicological Reports Evaluating Carcinogenicity (2011-2012); Science Advisory Board, Massachusetts Toxic Use Reduction Institute (2018-present); Massachusetts Department of Environmental Protection Science Advisory Committee, Office of Research and Standards, (2019-present). Dr. Heiger-Bernays is Chair of a local Board of Health and is President of the International Society for Children's Health and Environment.

Hendricks, Marccus

University of Maryland

Dr. Marccus D. Hendricks is an Assistant Professor of Urban Studies and Planning and the Director of the Stormwater Infrastructure Resilience and Justice (SIRJ) Lab at the University of Maryland. His other affiliations include the Maryland Institute for Applied Environmental Health in the School of Public Health, the Clark School of Engineering's Center for Disaster Resilience, the National Center for Smart Growth Research and Education, and the Environmental Finance Center. Dr. Hendricks holds a B.A. in Psychology and Health Promotion from the University of North Texas and a Master of Public Health and Ph.D. in Urban and Regional Science, both from Texas A&M University. Dr. Hendricks' primary research interests include infrastructure planning and management, social vulnerability to disasters, environmental justice, sustainable development, public health and the built environment, and participatory action research. To date, he has primarily worked to understand how social processes and development patterns create hazardous human-built environments and vulnerable infrastructure and the related risks in urban stormwater management and flooding. Dr. Hendricks currently serves on the board of the Bill Anderson Fund (a national interdisciplinary organization working to increase the number of underrepresented persons of color in the field of disaster research, practice, and pedagogy). He also serves as an advisory board member to the Delaware River Watershed Initiative and a co-chair of the Environmental Planning and Resource Management Track for the Association of Collegiate Schools of Planning. Dr. Hendricks has been previously appointed to the Knowledge-Based Governance Task Force on Infrastructure for the American Planning Association. Dr. Hendricks has received two early-career awards from both the National Academies of Science (NAS) Gulf Research Program and The JPB Environmental Health Fellows Program at Harvard T. H. Chan School of Public Health. Most recently, he was named as a 2021 "Fixer" by the media company Grist as part of their Annual Grist 50 Fixer List. His research has been published in several journals including the Journal of the American Planning Association, Environmental Justice, Journal of Infrastructure Systems, Risk Analysis, Landscape Journal, and Sustainable Cities and Society. Dr. Hendricks' research has been funded in recent years by the JPB Foundation, the NAS Gulf Research Program, the U.S. Environmental Protection Agency, and the University of Maryland Sustainability Fund.

Henry, Carol

Dr. Carol J. Henry is an advisor and consultant for toxicology and public and environmental health to public and private organizations, focusing on the impacts or potential impacts of chemicals on health and the environment. She received a Bachelor's degree in Chemistry from the University of Minnesota and a Ph.D. in Microbiology from the University of Pittsburgh. Dr. Henry's areas of expertise include general toxicology, inhalation toxicology, risk assessment/management, public health, environmental health, environmental health research priorities, research management, and science policy. She has over 30 publications in peer-reviewed literature, co-author of 11 book chapters, and co-editor of 3 books. She was an organizer, chair, or convener of over 50 conferences or workshops; a

member of over 45 scientific advisory boards or groups; and an invited speaker for over 70 lectures. She has received no research funding in the last 2 years. She serves as the Environmental Health Advisor to Cummins, Inc. and is the scientific liaison for Cummins to the Health Effects Institute. Dr. Henry holds an appointment as professorial lecturer in the Department of Environmental and Occupational Health of the George Washington University Milken Institute School of Public Health (2008-present). She is a member of the Science Advisory Board of SciVera LLC. Dr. Henry served on the National Academy of Science, Engineering and Medicine's Board on Environmental Studies and Toxicology and the Board on Chemical Sciences and Technology. She was a member of six National Research Council Committees. She chaired the Federal Advisory Committee for the National Children's Study, National Institute of Child Health and Human Development (2010-2012) and the North America Research on Tropospheric Ozone (NARSTO) Review Panel (2009). She is a diplomate of the American Board of Toxicology, a Fellow of the American Chemical Society, past President of the American College of Toxicology (ACT), and a recipient of ACT's Distinguished Service Award.

Henze, Daven

University of Colorado Boulder

Dr. Daven Henze is a Professor and the S. P. Chip and Lori Johnson Faculty Fellow in the Department of Mechanical Engineering at the University of Colorado Boulder (CU Boulder), and an Adjunct Senior Research Scientist at the Lamont-Doherty Earth Observatory of Columbia University. He holds a Ph.D. in Chemical Engineering from the California Institute of Technology (Caltech). Prior to joining the faculty at CU Boulder, he was an Earth Institute Postdoctoral Fellow at Columbia University, where he worked at the National Aeronautics and Space Administration (NASA) Goddard Institute for Space Studies. Dr. Henze's research focuses on air quality, long-range pollution transport, and climate change. A large part of his research stems from chemical data assimilation, the process by which both models and observations are combined to produce estimates of the atmospheric state that are often more complete than those provided by either approach alone. This encompasses more specific interests in remote sensing, adjoint sensitivity analysis, inverse problems, and source apportionment. Dr. Henze has received an Environmental Protection Agency (EPA) Early Career award, a NASA New Investigator award, and several university awards for teaching and research. He is the lead scientist for the GEOS-Chem adjoint model, a member of the GEOS-Chem Steering Committee, a member of the NASA Earth Science Advisory Committee as well as multiple NASA satellite science teams, and was a member of the EPA Clean Air Scientific Advisory Committee (CASAC) on the Secondary National Ambient Air Quality Standards (NAAQS) for Sulfur Oxides and Nitrogen Oxides.

Hernandez-Ruiz, Selene

Colorado Department of Health and Environment

Dr. Selene Hernandez-Ruiz has managed the Water Quality Program for Denver Water and is currently the Chemistry Program Manager at the Colorado Department of Public Health and Environment. In her present role, she oversees testing and response to chemical terrorism, soil, air, and water contamination. She has published work on a variety of topics including corrosion control, soil, fresh and wastewater, emerging contaminants, and disinfectant byproducts. She earned her Ph.D. in the Environmental Chemistry lab at the University of Arizona where she studied the fate of contaminants of emerging concern. She received a Master of Science in environmental science from the University of Texas at San Antonio in environmental microbiology, with a focus on spatial analysis where she gained experience using GIS, GPS, and remote sensing. She also has expertise in conducting audits and standard operating procedure adherence, quality management and laboratory finances. . Current funding sources include the U.S. FDA, CDC, U.S. EPA grants through partnership with Rivers and Streams as well as private citizen testing requests.

Higgins, Christopher P.

Colorado School of Mines

Dr. Christopher P. Higgins is a Professor of Civil and Environmental Engineering at the Colorado School of Mines. Dr. Higgins received his A.B. in Chemistry from Harvard University, and graduate degrees (M.S., Ph.D.) in Civil and Environmental Engineering from Stanford University. He was a postdoctoral fellow at the Johns Hopkins Bloomberg School of Public Health. He joined Mines in 2009, attaining the title of Professor in 2019. His research focuses on the movement and bioaccumulation of contaminants in the environment. In particular, he studies chemical fate and transport in natural and engineered systems, with a focus on poly-and perfluoroalkyl substances. He has also studied the behavior of pharmaceuticals and personal care products and engineered nanoparticles in the environment. Dr. Higgins has authored or co-authored 100 peer-reviewed publications and was a recipient of the 2019 Huber Prize for his research contributions by the American Society of Civil Engineers. Dr. Higgins was a panelist for the 2019 National Academies Environmental Health Matters Initiative Poly- and Perfluoroalkyl Substance Workshop on Understanding, Controlling, and Preventing Exposure to Poly- and Perfluoroalkyl Substances. Dr. Higgins was the lead Principal Investigator for the Strategic Environmental Research and Development Program's 2020 Environmental

Restoration Project of the Year. He is currently a member of the National Academies of Science, Engineering, and Medicine' Panel on Environmental Impact of Currently Marketed Sunscreens and Potential Human Impacts of Changes in Sunscreen Usage. Dr. Higgins has current and recent funding from the Strategic Environmental Research and Development Program, the Environmental Security Technology Certification Program, the U.S. Environmental Protection Agency, the U.S. National Science Foundation, the National Institute of Environmental Health Sciences, the Centers for Disease Control and Prevention, the Semiconductor Research Corporation, the U.S. Air Force Civil Engineering Center, and the Research Council of Norway.

Hill, Jason

University of Minnesota

Dr. Jason Hill is Professor in the Department of Bioproducts and Biosystems Engineering at the University of Minnesota. He received his A.B. from Harvard University and his Ph.D. from the University of Minnesota. His research focuses on improving the sustainability of our world's food, energy, and natural resource systems by examining them from a life cycle perspective. His research is funded by the U.S. Department of Agriculture and the U.S. Environmental Protection Agency as a project co-lead for the Center for Air, Climate, and Energy Solutions. Dr. Hill served on the U.S. Environmental Protection Agency Science Advisory Board's Biogenic Carbon Advisory Panel and was a member of the National Research Council's Committee on the Economic and Environmental Impacts of Increasing Biofuels Production and its Committee on Expanding Biofuel Production: Sustainability and the Transition to Advanced Biofuels. Dr. Hill is on the editorial board of Environmental Research Communications.

Hirzy, John

American Environmental Health Sciences Project/Fluoride Action Network

Dr. J. William Hirzy is the Washington Representative of the American Environmental Health Studies Project. He has a Bachelor's degree in Chemistry from the University of Missouri and a doctorate in the same field from the same school. He has expertise in the chemical industry ranging from research and product development, manufacturing operations and environmental management. The latter includes chemical risk assessment, environmental exposure, and economic and regulatory assessments. He used these skills while serving on the Phthalate Esters Panel of the Chemical Manufacturers Association where he developed a comprehensive environmental management plan for managing the public health risks and regulatory requirements for those products. During that time, he served as chairman of the Panel's human health research committee. He carried these fields of expertise into his position as a senior scientist in the Office of Pesticides and Toxic Substances at headquarters of the U.S. Environmental Protection Agency. He conducted complex risk assessments in support of EPA policies. He helped organize the professional employees' labor Union, focusing on promoting scientific integrity in developing Agency policies. He served as Labor Co-Chair of EPA's National Partnership Council, in which position he spearheaded development of the Agency's Principles of Scientific integrity, and he is currently working with Public Employees for Environmental Responsibility and the coalition of EPA labor unions in pursuit of an effective federal government-wide policy of scientific integrity. He also taught chemistry at the University of Missouri Extension Division in St. Louis, the St. Louis Community College as an adjunct, and chemistry, environmental science and an honors course in Science, Ethics and Law in Rulemaking at American University as an adjunct, on detail from EPA , and as full time Chemist in Residence.

Holladay, James Scott

University of Tennessee

Dr. J. Scott Holladay is an Assistant Professor in the Department of Economics in the Haslam College of Business at the University of Tennessee. He holds a B.A. in Economics and a B.S. in Computer Science from Furman University. He earned master's and Ph.D. degrees in Economics from the University of Colorado, Boulder. Previously, he was a post-doctoral researcher at New York University's School of Law. Dr. Holladay's research focuses on the intersection of environmental economics and policy. He has studied how international trade affects pollution emissions from U.S. manufacturing firms and how efforts to reduce emissions domestically affect foreign polluters. He also studies electricity markets, with a particular focus on low natural gas prices affect the electricity market and energy policy. In addition to a number of policy briefs published through the Institute for Policy Integrity at New York University, he has published peer reviewed articles in the Journal of Environmental Economics and Management, the Journal of Industrial Economics and the Journal of Economic Behavior and Organizations among others. He has received past funding from the Alfred P. Sloan Foundation, the Robert Wood Johnson Foundation, and the Appalachian Research Council.

Hollis, Adrienne

Union of Concerned Scientists

Dr. Adrienne L. Hollis is the Senior Climate Justice and Health Scientist in the Climate and Energy Program at the Union of Concerned Scientists' Washington, D.C. office. She has a Bachelor's degree in Biology from Jackson State University, a Ph.D. from Meharry Medical College, and a J.D. from the Rutgers School of Law – Newark, New Jersey. Dr. Hollis has expertise in environmental justice, toxicology, public health, environmental law, and risk assessment. Her work focuses on the intersection of public health, environmental justice and climate science, community science and environmental health. She has presented at more than 20 meetings, authored more than 20 blogposts, written a number of articles, and been featured in numerous articles for her work. Dr. Hollis has not engaged in independent research in the last two years, focusing instead on community education. Therefore, Dr. Hollis has not received any federal funding for her work and has no conflicts of interest. Dr. Hollis is an Associate Editor and reviewer for Environmental Justice journal, a member of the Environmental Protection Agency (EPA) Clean Air Act Advisory Council (CAAAC), a past member of the Negotiated Rulemaking Committee: Chemical Data Reporting Requirements for Inorganic Byproducts, a member of the Lancet Countdown U.S. Brief Working group, an Expert Reviewer for the Government and Expert Review of the First Order Draft (FOD) of the Working Group II (WGII) contribution to the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC). She is on the Steering Committee of the National Black Environmental Justice Network (NBEJN), a member of the American Public Health Association (APHA), its Environment Section and its Environmental Justice Subcommittee, Special Advisor to the Centers for Disease Control and Prevention (CDC) National Environmental Health Partnership Council (NEHPC), NEHPC Steering committee member, co-chair of the NEHPC Environmental Justice/Health Equity Workgroup and its Communication Workgroup.

Holloway, Tracey

University of Wisconsin-Madison

Dr. Tracey Holloway is the 2017-2021 Gaylord Nelson Distinguished Professor at the University of Wisconsin-Madison, appointed in the Nelson Institute for Environmental Studies and the Department of Atmospheric and Ocean Sciences. She holds a Bachelor's degree with Honors in Applied Mathematics from Brown University, and a Ph.D. in Atmospheric and Oceanic Sciences from Princeton University. Dr. Holloway is an air quality scientist, working at the intersection of air quality, energy, climate, and public health. As Team Lead of the National Aeronautics and Space Administration (NASA) Health and Air Quality Applied Sciences Team, Dr. Holloway connects NASA data with air quality management and public health. Dr. Holloway was a co-founder and first President of the Earth Science Women's Network (ESWN), supporting the scientists of today and welcoming a diverse community of scientists for tomorrow. Dr. Holloway has received multiple awards for teaching and mentoring at University of Wisconsin-Madison, and she was the first-ever recipient of the Massachusetts Institute of Technology (MIT) Clean Energy Education & Empowerment (C3E) Award in Education and Mentoring, a Stanford University Leopold Leadership Fellow, an American Association for the Advancement of Science (AAAS) Leshner Leadership Fellow, a TEDx speaker, and profiled in Nature for her work with ESWN. Over the past two years, Dr. Holloway has received research funding from NASA, Environmental Protection Agency (EPA), the Joyce Foundation, Madison Gas and Electric, and the Texas Air Quality Research Program. Her current service includes chairing Science-a-Thon, an activity of ESWN, leading engagement and outreach for the University of Wisconsin-Madison Energy Analysis and Policy graduate certificate program, serving as an Executive Board Member for the journal Environmental Research Letters, membership on the Wisconsin Department of Natural Resources Air Management Study Group and the Wisconsin Initiative on Climate Change Impacts Science Advisory Board, and serving on the advisory committees for Atmospheric Chemistry Observations and Modeling at the National Center for Atmospheric Research, University of Wisconsin-Madison Space Science and Engineering Center, University of Wisconsin-Madison Global Health Institute, and the Yale/Johns Hopkins Air Climate and Energy Research Center.

Hopke, Philip

Clarkson University

Dr. Philip K. Hopke is the Bayard D. Clarkson Distinguished Professor Emeritus at Clarkson University and an adjunct professor in the Department of Public Health Sciences at the University of Rochester Medical Center. He holds a B.S. in Chemistry from Trinity College, Hartford, CT, and an M.A. and Ph.D. in Chemistry from Princeton University. His research interests include: Chemical characterization of ambient aerosol samples; Characterization of source/receptor relationships for ambient air pollutants; Multivariate statistical methods for data analysis; Indoor air quality; Exposure and risk assessment; Emissions and properties of solid biomass combustion systems; Experimental studies of homogeneous, heterogeneous, and ion-induced nucleation. Dr. Hopke is the past Chair of U.S. EPA's Clean Air Scientific Advisory Committee and has previously served on the EPA Science Advisory Board. Professor Hopke is a

Past President of the American Association for Aerosol Research (AAAR), was a member of the more than a dozen National Research Council committees, and on their Board of Environmental Studies and Toxicology. He is a fellow of the International Aerosol Research Assembly (IARA), the American Association for the Advancement of Science, the American Association for Aerosol Research, and the Air and Waste Management Association. He is an elected member of the International Statistics Institute and the recipient of the two major international awards in chemometrics. Dr. Hopke is also a recipient of the AAAR David Sinclair Award and the IARA Fissan-Pui-TSI Award for International Research Collaboration. He served as a Jefferson Science Fellow at the U.S. Department of State during the 2008-09 academic year. His current EPA funding is the Great Lakes Fish Monitoring and Surveillance Program that examines the presence of legacy and emerging contaminants in Great Lakes fish. He also has funding from NYSERDA to analyzed air pollution data from long term monitoring in Rochester NY.

Howe, Kerry

University of New Mexico

Dr. Kerry J. Howe, P.E., BCEE is a professor specializing in environmental engineering in the Department of Civil, Construction, and Environmental Engineering at the University of New Mexico, and Director of UNM's Center for Water and the Environment. He has B.S., M.S., and Ph.D. degrees in Civil and Environmental Engineering from the University of Wisconsin-Madison, the University of Texas at Austin, and the University of Illinois at Urbana-Champaign. He has over 30 years of engineering experience (split between academia and consulting engineering firms), is a registered professional engineer, and is board certified (BCEE) by the American Academy of Environmental Engineers. His research focuses on the experimental investigation of water treatment processes. He has investigated the removal of pharmaceuticals and other contaminants of emerging concern using either reverse osmosis or ozone/biofiltration for potable reuse applications; fouling of microfiltration, ultrafiltration, and reverse osmosis membranes; selective recovery and beneficial use of minerals from desalination concentrate; and increasing water recovery in reverse osmosis by minimizing scaling. His experimental research experience includes a wide variety of water treatment processes and topics, including coagulation, flocculation, membrane filtration, reverse osmosis, chemical precipitation, ion exchange, ozonation, biofiltration, and membrane bioreactors. His research has been published in Environmental Science & Technology, Water Research, Journal of Membrane Science, Journal American Water Works Association (AWWA), and Desalination. He is the lead author of the textbook Principles of Water Treatment and a co-author of MWH's Water Treatment: Principles and Design, 3rd ed. In the last 2 years, he has received research funding from the National Science Foundation and the US Bureau of Reclamation. He is an associate editor for AWWA Water Science and recently served as guest editor for a special issue on potable reuse. He is the New Mexico state representative for the American Academy of Environmental Engineers and Scientists.

Huang, Iris

SNC-LAVALIN Inc.

Ms. Iris Huang is a senior Project manager with SNC-Lavalin, providing project management and delivery in SNC-Lavalin Water Practice. Iris brings over 21 years of domestic and international experience in design and project management of municipal and industrial wastewater treatment plants, distribution systems, wastewater collection systems, storm water drainage systems, and pump stations. Iris has co-authored four professional papers on wastewater and gas emission treatment. She possesses a masters' degree from Purdue University and a bachelor's degree from Nanchang University. Ms. Huang is registered as a professional engineer in the state of Florida, California, Texas, Nevada, Oregon, and Washington. Prior to joining SNC-Lavalin, sheprovided program management consulting services in support of multi-year Regional Wastewater Facility Capital Improvement Program. She also provided project and construction management for an Engineering, Procurement, and Construction (EPC) project that included industrial wastewater treatment and recycling projects for major semi-conductor and technology clients. Ms. Huang has served as a board member of Southern California Chinese American Environmental Protection Association (SCCAEPA) since 2010 and she is currently serving on the Water Environmental Foundation (WEF) Air Quality and Odor Control Committee. Ms. Huanghas worked on projects funded by United States Department of Agriculture, City of Los Angeles, Orange County Sanitation District, and Las Vegas Clark County Sanitation District.

Hughes, Brian

Michigan Department of Environment, Great Lakes and Energy

Dr. Brian J. Hughes has a Bachelor's degree in Biochemistry, a Mmasters' degree in Dairy Science from Michigan State University and in Epidemiology from the University of Alabama, and a doctorate degree in toxicology from Utah State University. In 1991, he served as Director, Risk Assessment and Toxicology Section in the Alabama Department of Public Health (Montgomery, AL) where he conducted human and environmental health assessments for hazardous waste sites. He has significant experience in pesticide and worker protection issues from his time at the Michigan Department of Agriculture. He provided environmental health and safety consulting to business units involved in the

production of industrial chemicals used as food additives, pharmaceutical excipients, electronic materials, amines, oxygenated solvents, and intermediates. He was a Senior Principal Toxicologist at NSF International, a global public health organization conducting product safety assessments for drinking water contaminants, medical devices, and other consumer products. Currently, he serves as Toxicology Manager at the Air Quality Division for the Michigan Department of Environment. He has 25 years of experience in the public, private, academic, and state and federal government sectors assisting businesses in fulfilling national and international regulatory requirements. He has published peer-reviewed research in the areas of pesticide worker exposure, public health risk assessment, and modes of action. Dr. Hughes has served on industry panels for a wide range of chemical classes. He served on a U.S. EPA FIFRA Scientific Advisory Panel on "Worker Exposure Assessment Methods." Dr. Hughes is a board-certified toxicologist through the American Board of Toxicology. Dr. Hughes is a full member of the Society of Toxicology and the Toxicology Forum. He currently serves as an adjunct faculty in the Department of Animal Science at Michigan State University. There has been no research funding during the past 2 years.

Ibrahim, Muhammad

Government College University Faisalabad, Pakistan

Dr. Muhammad Ibrahim is Associate Professor of Environmental Science in the Department of Environmental Sciences and Engineering at Government College University Faisalabad, Pakistan. He has Bachelor's and Mmasters' degrees in Soil Science and a Ph.D. in Soil and Environmental Sciences from the University of Agriculture, Faisalabad, Pakistan. He was awarded a prestigious South Korean postdoctoral fellowship to work with Dr. Sang Keun Ha. Dr. Ibrahim has expertise in environmental management, toxicology, atmospheric pollution, modeling, public health, risk assessment and statistics. His research includes measurement and modeling of problems related to soil-plant-atmosphere and human health impacts, heat stress, particulate pollution in urban and suburban environments. He has been principal or co-principal investigator for over 10 sponsored/funded research projects, and has published over 110 journal papers, 60 conference abstracts, 10 technical reports and 9 book chapters. Dr. Ibrahim's funding sources in the last few years include the International Environmental Research Institute (IERI)-Gwangju Institute of Science and Technology (GIST) South Korea, Higher Education Commission, Pakistan, International Center for Integrated Mountain Development (Nepal), the Wageningen University (WUR), etc. Dr. Ibrahim was a member of the editorial boards of reputed journals and served more than 5 years as editor. He chaired the International Centre for Integrated Mountain Development (ICIMOD) Committee in 2012 on hazardous materials. He has been a technical reviewer of various funding agencies including National Center of Science & Technology Evaluation, Ministry of Education & Science, Astana, Republic of Kazakhstan (since 2011). He is a reviewer of many Science Citation Index (SCI) journals and contributes in his capacity. He has been ranked at 3rd Most Productive Scientist (under 40) by Pakistan Council of Science & Technology in 2017 and included in Productive Scientists of Pakistan. He has been instrumental in organizing many seminars and conferences and symposia at the national and international levels. Dr. Ibrahim has been among the few Pakistani scientists working on atmospheric pollution and field observation. He has a good record of collaboration with fellow scientists in the developed world. He does have membership of many professional societies related to his work.

Inn, Kenneth G.W.

Independent Consultant

Dr. Kenneth G.W. Inn is an independent consultant in the determination of the concentration, distribution, speciation and measurement quality assurance/quality control of low-level actinide, fission product and activation product radionuclides in environmental and biological systems by ultra-clean radiochemistry and ultra-high sensitive and selective measurement methods. He holds a B.A. from the University of Hawaii, an M.S. from San Diego State University, and a Ph.D. from the University of Arkansas, all in Radiochemistry. Dr. Inn's has directed programs in low-level radionuclide environmental-matrix Standard Reference Materials, radionuclide speciation in soils and sediments, and emergency response [nuclear terrorism or unintentional release] and low-level radiochemistry traceability evaluations. He served as a Research Chemist at the National Bureau of Standards (NBS) between 1978-1988; a Scientific Assistant at NBS, the U.S. Department of Commerce, and at the National Institute of Standards and Technology (NIST) Center for Radiation Research between 1988-1991, a Staff Radiochemist at MACTEC Engineering Services between 1991-1992, a NIST Group Leader in the Office of Radiation Measurements between 1992-1994, and a Radioactivity Group Project Leader in Low-Level Radiochemistry from 1995-2013. Dr. Inn's honors include a Silver Medal at the United States Department of Commerce, an Award of Appreciation from the 35th Annual Bioassay, Analytical, and Environmental Radiochemistry Conference, and the W.J. Youden Award in Interlaboratory Testing from the American Statistical Association, and Lifetime Achievement Award from the 64th Annual Radiobioassay and Radiochemical Measurements Conference. Dr. Inn is a member of the American Chemical Society, the Geochemical Society, Scientific Fellow of the Institute for Nuclear Security at The University of Tennessee [2020-Present], and a former member of the EPA/SAB/RAC '15-'21, ASTM's environmental test method and radioactivity test

method 89-12; ANSI MQA for Rad. Assay Labs & Perf. Crit. for Rad.Bioassay 89-11; MARLAP writing group; DHS/ICLN-Rad Lab Capability Workgroup 06-13; FRPCC 07-13; ISO 17025 NIST assessor 08-13; and NTNFC Reference Material Committee 08-13. Dr. Inn served as an advisor for the U.S. Transuranium and Uranium Registries 1989-1995. Dr. Inn's previous research funding sources included NIST appropriations, the Federal Bureau of Investigation, the Department of Homeland Security, the Department of Health and Human Services, the U.S. Department of Energy, the U.S. Environmental Protection Agency, the Argentina Nuclear Regulatory Commission, Carlsbad Environmental Monitoring & Research Center, the Centers for Disease Control, Health Canada/Radiation Protection Bureau, Korean Institute of Radiological and Medical Sciences, N.J. Department of Health, and several National Laboratories including Idaho National Laboratory, Los Alamos National Laboratory, and Savannah River National Laboratories.

Irwin, Elena

Ohio State University

Dr. Elena Irwin is a Distinguished Professor of Food, Agricultural, and Environmental Sciences in Economics and Sustainability at Ohio State University. She is also the Faculty Director of the Sustainability Institute at Ohio State, an interdisciplinary university-wide institute that fosters sustainability research, teaching, and community engagement. Dr. Irwin holds a B.A. from Washington University in St. Louis and a Ph.D. in Agricultural, Environmental, and Resource Economics from the University of Maryland. Dr. Irwin studies land use and ecosystem services in urban, rural, and regional contexts in the U.S., including the impacts of land use change on water and air pollution. Her research includes integrated modeling of regional economic and ecological systems, climate change, and sustainability assessment of environmental policies at local, regional, and national scales. She leads or co-leads multiple programs funded by the National Science Foundation (NSF) with a focus on broadening participation, including the EmPOWERment Convergent Graduate Training Program for a Sustainable Energy Future and community-engaged research on food, energy, and water systems in the Great Lakes region. Dr. Irwin has extensive experience as a national research leader and advisor on environmental economics and sustainability topics, including as a member of the U.S. EPA Board of Scientific Councilors Sub-Committee for Sustainable and Healthy Communities and National Research Council and NSF research committees. She served on NSF's Advisory Committee for Environmental Research and Education subcommittee on Sustainable Urban Systems and co-authored a 2018 report on the long-term research agenda on sustainable regional systems. She is an elected member of the Agricultural and Applied Economics Association Executive Board and previously served on the boards of the Association of Environmental and Resource Economists and the North American Council of Regional Science. In addition to funding from the National Science Foundation, Dr. Irwin's research has received funding in recent years from the National Institutes of Food and Agriculture and the Ohio Sea Grant Program.

Iyengar, Ram

Independent Consultant

Dr. Ram K. Iyengar is a Research & Innovations Consultant, and as the President, Technovations International Inc., provided research advice to metallurgical companies. He holds doctorate in Metallurgical Engineering & Materials Science from Carnegie Mellon University. Dr. Iyengar is an expert in physical and thermal chemistry, modeling, to reduce energy consumption, and pollution in steel plants. In 2011-12, Dr Iyengar provided advice on R&D Plan for Steel Authority of India Limited. It included environment and energy projects to develop or adopt technologies for reducing energy consumption and carbon dioxide emissions; alternative energy sources; achieve low generation and recycling or utilization of steelmaking byproducts into useable products; water conservation; advanced beneficiation techniques; phytoremediation to removal of harmful components. From 2006 to 2016, Dr Iyengar served as Technical Expert Witness on litigations involving asbestos in steel plant refractories, electrostatic discharge, and energy efficiency in the extraction of zinc from electric arc furnace dust. In 2013, Dr. Iyengar developed a process for extraction of lead (Pb) from electric arc furnace dust. In 2009, he developed training modules for galvanizing plants in China, emphasizing Environmental compliance. In India, as Director General, Council of Scientific and Industrial Research (1986-1992), Dr. Iyengar directed National Technology Missions for drinking water, photovoltaic lighting for literacy centers, cold chain for transport of vaccines. In addition, he directed a project for Integrated Combined Cycle Coal Gasification, with USAID and an electric rikshaw. In 1992, he advised USAID on "Financing and implementation of Clean Coal technologies in Developing and Emerging Countries". As Chairman & Managing Director of National Industrial Development Corporation India (1981-1986), Dr. Iyengar provided direction and oversight on a project for the use of agriculture waste (bagasse) for drying.

Jacobs, Katharine

Univ of Arizona

Ms. Katharine Jacobs is the Director of the Center for Climate Adaptation Science and Solutions (CCASS) within the Arizona Institutes for Resilience at the University of Arizona. CCASS builds and supports climate change adaptation and assessment capacity at regional, national, and international scales, based on climate science and service investments across the United States. We connect science with decision-making and work with stakeholders to build collaborative, practical solutions to climate-related problems. Ms. Jacobs is a full professor in Environmental Science; she holds joint appointments in Geography and Regional Development and Hydrology and Water Resources. Her current activities include: managing projects to enhance resilience among the largest water utilities in the country; leading multiple projects related to use of climate information to support Colorado River management; providing science support for the Lower Santa Cruz River Basin Study under the Secure Water Act; planning and executing a wide range of workshops, events and symposia; and giving public presentations and addresses to multiple audiences within and outside of the university. She holds a M.L.A. in Environmental Planning from University of California-Berkeley, and her primary areas of expertise are water management and policy, climate assessment and adaptation, and connecting science and decision-making. Ms. Jacobs currently serves on 16 advisory committees, including serving as a Trustee of the University Corporation for Atmospheric Research, as chair of the Western Water Assessment Advisory Board, on the board of the Alaska Climate Change Adaptation Program, and as a board member of the Resources Legacy Fund, which makes major investments in environmental protection and social equity across the western United States.

Jacobus, James

Minnesota Department of Health

Dr. James Jacobus is a toxicologist conducting human health risk assessments for the Minnesota Department of Health (MDH). Early in his career he worked as an environmental scientist for a private firm that cleaned up leaking underground storage tanks and prior to that he performed outreach activities for the University of Wisconsin-Extension after earning his Bachelor of Science in Natural Resources and Environmental Sciences from the University of Illinois Urbana-Champaign. He has been working since 2013 on a team developing guidance values for the Drinking Water Contaminants of Emerging Concern Initiative. This Initiative develops health-based guidance for water, engages the public, and provides information on risks and strategies to reduce exposure for a wide variety of emerging contaminants. Dr. Jacobus has reviewed numerous emerging contaminants at MDH including perfluorinated chemicals, while also recently co-authoring a manuscript on the importance of placental and breastmilk transfer of perfluorooctanoic acid when setting safe water guidance values. He also led a special project investigating the occurrence of naturally occurring radionuclides polonium-210 and lead-210 in groundwater and currently leads a new special project on disinfection byproducts that have been nominated to the Contaminants of Emerging Concern Initiative. He has received no specific research funding grants in his current position, but the Drinking Water Contaminants of Emerging Concern Initiative does include mechanisms to fund investigative pilot studies as needed for topical areas of importance. In 2014, Dr. Jaobus served on West Virginia's Testing Assessment Project health effects advisory committee following the release of 4-methylcyclohexanemethanol in Charleston's drinking water supply. He is a Full Member of the Society of Toxicology which he first joined in 2007. Prior to joining MDH, he conducted research at the University of Iowa on polychlorinated biphenyl toxicity (PhD, Human Toxicology) and ionizing radiation (postdoctoral fellow)..

Jalbert, Kirk

Arizona State University

Dr. Kirk Jalbert is an Assistant Professor in the School for the Future of Innovation in Society in Arizona State University (ASU)'s College of Global Futures, as well as a Senior Sustainability Scientist in ASU's Julie Ann Wrigley Global Institute of Sustainability. Dr. Jalbert directs of the Civic Science for Environmental Futures Collaborative, a lab focused on generating participatory research projects that create equitable and just environment futures. Dr. Jalbert has a Doctor of Philosophy in Science and Technology Studies, a Master of Fine Arts in Media Arts, and a Bachelor of Science in Computer Science. He is presently a JPB Foundation Environmental Health Fellow in the Harvard T.H. Chan School of Public Health, which has funded his work since 2018. For more than a decade, Dr. Jalbert's research has examined how public engagements with environmental science and governance are shaped by uses of environmental data, citizen science and environmental monitoring tools, and community-driven risk assessment projects. This work is done in service of understanding how environmental justice coalitions seek to mitigate disproportionate harms and greater opportunity to participate in regulatory oversight of energy, petrochemical, and extraction industry related projects. Prior to his current position, Dr. Jalbert served as Manager of Community-Based Research and Engagement for the nonprofit FracTracker Alliance, organizing energy justice data

transparency and mapping projects throughout the United States. Dr. Jalbert additionally served on the Pennsylvania Department of Environmental Protection's Environmental Justice Advisory Board from 2016-2018, at a critical time when the Department launched a series of Environmental Justice listening tours and policy revisions.

Jayjock, Michael

Jayjock Associates LLC

Dr. Michael Jayjock is an independent consultant who retired as a Senior Research Fellow from the Rohm and Haas Company where he worked for 35 years. During his employment his responsibilities included development and management of all aspects of exposure assessment and mathematical modeling projects in the service of product safety. He developed interests and expertise in modeling the nature of indoor pollution by experimentally and theoretically characterizing sources and loss mechanisms. Dr. Jayjock has been an active participant on the committees of the American Industrial Hygiene Association; the U.S. Environmental Protection Agency (EPA) Science Advisory Committee On Chemicals (SACC) Peer Review Risk Evaluation for Asbestos and 1,4 Dioxane (2019-2020); the U.S. EPA Science Advisory Board (SAB), COVID-19 Review Panel (2020); the U.S. EPA SAB Scientific and Technological Achievement Awards (STAA) Committee (2019- 2021); the 2018 U.S. EPA peer review panel for the Draft Exposure and Use Assessment for Five Persistent Bioaccumulative Toxic (PBT) Chemicals; the 2016 U.S. EPA peer review panel for Draft Guidelines for Human Exposure Assessment; the 2014 U.S. Department of Energy (DOE) Hanford Tank Vapor Assessment Team; the 2013 U.S. EPA peer review panel for the Draft Risk Assessment for Trichloroethylene (TCE)/Degreaser Arts/Crafts Uses; the 2011 U.S. EPA Science Advisory Panel on Lead Exposure; the 2008 U.S. EPA Peer Consultation Panel for Perfluorooctanoic Acid (PFOA) Site-Related Environmental Assessment Program; the 2005 U.S. EPA Board of Scientific Counselors Peer Review Panel for the Office of Research and Development Science Program; the 2002 U.S. EPA Human Health Research Strategy Panel; a member of or consultant to the 1998-2003 U.S. EPA SAB – Integrated Human Exposure Committee (IHEC). He has also been a member of three subcommittees of the U.S. National Academy of Sciences. He is not currently a recipient of research grants from the Environmental Protection Agency, other federal agencies, or the private sector.

Jennings, Eleanor

Parsons Corporation

Dr. Eleanor Jennings is a Fellow, Subject Matter Expert (SME), and Principal Environmental Scientist at Parsons Corporation. She holds a B.S. in Biology from the University of Tulsa, an M.S. in Biology from the University of Tulsa where she researched anaerobic hydrocarbon biodegradation, and a Ph.D. from the University of Oklahoma in Microbiology, where she researched bioremediation in strict anaerobic environments. She is an environmental microbiologist and biogeochemist, internationally recognized as an expert in state-of-the-art molecular and isotopic techniques used to monitor and increase the efficiency of biological remediation as well as to perform forensic biogeochemical analyses. She has extensive experience in both the field and laboratory techniques associated with the remediation and restoration of soils, sediments, surface water, and aquifers. Remediated contaminants have included hydrocarbons, fuel oxygenates, industrial and agricultural waste, chemical/pharmaceutical products and waste, personal care products, chlorinated compounds, solvents, herbicides, pesticides, and explosives/munitions. Dr. Jennings is also an expert in the area of evaluating laboratory and characterization studies, performing site investigations, and developing and implementing remediation strategies for emerging contaminants that include 1,4-dioxane and per- and polyfluoroalkyl substances (PFAS) compounds. After obtaining her Ph.D., Dr. Jennings completed a dual post-doctoral position in the areas of geosciences and chemical engineering, and she has over 20 peer-reviewed publications and approximately 100 national and international presentations on the topic of bioremediation technologies. She has led multi-disciplinary bioremediation teams across the US and on multiple continents. In addition to these activities, Dr. Jennings is about to conclude a 9-year tenure as a National Chairperson and National Board Member for the American Society for Microbiology. She is also a designated Subject Matter Expert for the American Petroleum Institute (API), having helped to update two of their national guidance documents. Dr. Jennings continues to act as a US science advisor to the Natural Science and Engineering Council (NSERC) of Canada (which is the Canadian equivalent of the US National Science Foundation), having served on multiple NSERC grant committees since 2013 to date. Finally, she is currently working with SMEs from multiple organizations, including EPA, to write an American Society for Testing and Materials (ASTM) guidance on the use of molecular biological tools a part of environmental remediation projects.

Jin, Song

Advanced Environmental Technologies, LLC

Dr. Song Jin is the founder and Chief Technical Officer (CTO) of Advanced Environmental Technologies LLC (AET) located in Fort Collins, Colorado (a minority owned small business) and Adjunct Professor in the Department of Civil and Architectural Engineering at University of Wyoming. He has a Bachelor's degree in Biochemistry from Anhui

University (China), a Master's degree in Plant Physiology/Molecular Biology, and a Ph.D. in Zoology/Environmental Microbiology & Biogeochemistry from the University of Wyoming. He is a pioneer and leading practitioner in the niche of bioelectrochemical redox techniques (E-Redox®) for sustainable in-situ clean-up of a variety of environmental contaminants, especially for tight subsurface formations. He is also the leading inventor of the GinateTM technology, which converts low grade coal such as lignite to carbon rich organic fertilizer that replenishes lost soil organic matter, enhances plant growth, reduces carbon footprint, and promotes regenerative agriculture. Dr. Jin has decades of combined experience in academia and industries, environmental assessments, remedial designs, technology implementation, regulatory compliances, sustainability in remediation and pollution controls, and regenerative agriculture. He is an expert in sustainable remediation of environmental contaminants and waste conversion and valorization. He has been principal or co-principal investigator and project manager for over 100 applied research and field remediation projects, with a total of over $30 million. Dr. Jin's project sources are from both governmental and industrial entities. In the last 2 years he received research funding from the State of Colorado Advanced Manufacturing program and State Trade Expansion program. He has published 86 journal papers, 120+ conference papers, and 4 book chapters and authored 100+ technical reports. He also holds 33 U.S. and international patents. Prior to AET and University of Wyoming, Dr. Jin served several leading technical and managerial roles at multinational and national institutes such as MWH Americas, Western Research Institute, and Trihydro Corporation. He has been a certified hazardous materials manager (CHMM) since 2003. He has been serving on the advisory board of Association of Environmental Health and Science (AEHS) since 2007. He also serves as the President of a regional non-profit organization Colorado American and Chinese Professionals Association. Dr. Jin is an advocate of using sustainable tools to treat contaminants to restore environmental quality. He is also an innovator and practitioner of technologies for bridging the "subset" coal industry with "sunrise" regenerative agriculture by revitalizing soil quality and sustainability, replenishing organic matter, and enriching microbial communities.

Johnson, Jeremiah

North Carolina State University

Dr. Jeremiah Johnson is an Associate Professor at North Carolina State University's Department of Civil, Construction, and Environmental Engineering and a member of the Chancellor's Faculty Excellence Program in Sustainable Energy Systems and Policy. Dr. Johnson earned a B.S. degree in Chemical Engineering from Clarkson University and an M.S. and Ph.D. in Environmental Engineering from Yale University. After his graduate studies, Dr. Johnson spent six years as a management consultant advising electric utilities on renewable energy strategy and environmental compliance, after which he joined the faculty at the University of Michigan's School of Natural Resources & Environmental as a Research Scientist and Assistant Professor. His research evaluates the environmental impacts of changes to infrastructure systems, including power and transportation, with a focus on pathways to achieve deep decarbonization. Examples of current projects include (1) life cycle assessment of CO2-enabled plume geothermal and grid-scale energy storage systems; (2) integration of air pollution and power system models to optimize power plant dispatch to mitigate adverse human health impacts; and (3) building-level experiments to quantify the efficiency impacts of using cooling systems to provide power system demand response. Dr. Johnson's research has been funded in recent years by the National Science Foundation, ARPA-E, Department of Energy - Building Technologies Office, and the Sloan Foundation. He is an active member of the Student Services Committee for the Association of Environmental Engineering and Science Professors. Dr. Johnson teaches courses related to sustainable engineering, life cycle assessment, and energy systems analysis.

Johnson, Lucinda

University of Minnesota Duluth

Dr. Lucinda Johnson is an Associate Director and Water Team lead at the University of Minnesota's Natural Resources Research Institute (NRRI). She holds a B.A. in Botany from Duke University, an M.S. in Entomology from SUNY College of Environmental Science and Forestry, Syracuse NY, and a Ph.D. in Zoology from Michigan State University. As a landscape and aquatic ecologist, her research focuses on quantifying interactions between terrestrial and aquatic ecosystems, with particular emphasis on effects on communities and habitats. Dr. Johnson's current research activities involve developing a framework for an Early Warning System for the Great Lakes; assessing climate change and land use change impacts on aquatic resources; developing a Natural Resource Atlas for non-technical users of map data; developing water treatment technologies for reducing sulfate in mine-impacted waters. She serves on the Institute's Senior Leadership Team, and leads the Institute's Water Team (13 PhD scientists-environmental engineers to limnologists), while directing an active research program ($1.6M current funding from National Science Foundation and Minnesota State Legislature). Her primary interests today center on the intersection of science, management and policy; her advisory responsibilities currently include appointments as Vice Chair of the Executive Committee (and member of the Safe and Sustainable Water Resources Committee) of the US EPA's Board

of Scientific Counselors (BOSC), the Science Advisory Board of the International Joint Commission for US and Canada, and the newly organized Minnesota's Governor's Climate Change Advisory Committee. Johnson previously served two consecutive terms on the EPA's Science Advisory Board Subcommittee on Ecological Processes and Effects (2011-2017) and participated on several high-profile SAB Advisory panels (including Mountaintop Mining; Connectivity on Downstream Waters). She was named Fellow of the Society for Freshwater Science (2019) and served in leadership positions in the Society for Freshwater Science (President, 2010-2011) and the Association of Ecosystem Research Centers (President 2008-2010).

Johnston, Jill

University of Southern California

Dr. Jill Johnston is an Assistant Professor in the Division of Environmental Health at University of Southern California and Director of Community Engagement for the Southern California Environmental Health Sciences Center. Dr. Johnston holds a B.A. in Earth and Environmental Sciences from Wesleyan University and received her M.S. and Ph.D. in environmental sciences and engineering from the University of North Carolina at Chapel Hill. She completed a postdoctoral fellowship in environmental epidemiology, where she studied hazardous waste sites and industrial animal production. Dr. Johnston conducts community-driven epidemiology and exposure assessment to address inequitable exposures to contaminants that affect health disparities, including in Latinx, Black and Asian Pacific Islander communities and among the working poor. Her research examines impacts of industrial and legacy pollution on communities and children in rural and urban communities. She leads innovative efforts in risk communications through infographics and developed a novel training program to increase capacity of community health workers (promotoras) and youth to engage in environmental health research translation. Dr. Johnston is currently a Robert Wood Johnson Foundation Interdisciplinary Leader Award recipient in collaboration with communities to address long-term solutions to children's environmental health disparities in polluted communities. In 2019, she was awarded the Robert M. Zweig Memorial Clean Air Award. South Coast Air Quality Management District. Dr. Johnston serves on the community advisory board for the Department of Toxic Substance Control, the environmental justice advisory group for the South Coast Air Quality Management District, and on two technical advisory panel on health impacts of oil production for Los Angeles Department of Public Health and the State of California.

Jones, Sharon

University of Washington Bothell

Dr. Sharon A. Jones is a professor of engineering at the University of Washington Bothell where she also serves as the Vice Chancellor for Academic Affairs (chief academic officer). Dr. Jones holds a B.S. in civil engineering from Columbia University, an M.E. in civil engineering from University of Florida, an M.P.A. in public works policy from California State University Long Beach, and a Ph.D. from Carnegie Mellon University in engineering and public policy. She served as tenured faculty at Rose-Hulman Institute of Technology and Lafayette College before becoming the Dean of the Shiley School of Engineering at University of Portland between 2011 and 2019. She joined University of Washington Bothell in 2019. Dr. Jones' research portfolio includes applying decision-making methods to evaluate sustainability policies, improving engineering ethics education, broadening participation in science, technology, engineering, and mathematics, and bridging engineering and the liberal arts. Dr. Jones recently completed a seven-year term as a member of the advisory group for the Center for Engineering, Ethics, and Society at the National Academy of Engineering. She also recently served on the Journal of Engineering Education's editorial team for a special issue on engineering education ethics. She currently serves on the education committee for the American Academy of Environmental Engineers and Scientists and is a peer evaluator for ABET accreditations and the Northwest Commission on Colleges and Universities. Dr. Jones is an American Society for Engineering Education Fellow and an American Academy of Environmental Engineers and Scientists Board Certified Environmental Engineer. She received the 2007 National Society of Professional Engineers Engineering Education Excellence Award and the 2003 Indian Health Service Tribal/Urban Recognition Award. Dr. Jones' research has been recently funded by the National Science Foundation, the Katherine Bisbee II Fund of the Oregon Community Foundation, the US Department of Education, and the Kern Entrepreneurial Engineering Network.

Jones-Hall, Yava

Texas A&M University

Dr. Yava Jones-Hall is an Associate Professor of Veterinary Pathology at Texas A&M University, specializing in experimental and digital pathology. She is also the director of the university's core histology lab, which provides both diagnostic and research histology and pathology services. Dr. Jones-Hall holds a B.A. in Biology from Talladega College and a Ph.D. in Veterinary Pathology from Michigan State University, in collaboration with the National Cancer Institute at the National Institutes of Health. After 3 years in an anatomic pathology residency at Michigan State, she achieved board certification with the American College of Veterinary Pathologists. Dr. Jones-Hall studies the pathology induced in animal models that are used as predictors of human disease. She has studied the effects of many toxins and pollutants on all major animal organ systems to advance the knowledge of these agents' potential effect on humans. Dr. Jones-Hall has led or collaborated on projects that have been funded by institutes in the National Institutes of Health, as well as internal university competitive award mechanisms. She is currently a member of the American College of Veterinary Pathologists, the Digital Pathology Association and the American Society of Investigative Pathology and serves of several boards and task forces with these organizations. Her status as a veteran and scientist has made her uniquely qualified to review for the Peer Reviewed Medical Research Program (a U.S. Army initiative) and she has also served as a reviewer for grant panels for the National Institutes of Health and university funded panels.

Kanarek, Marty

University of Wisconsin-Madison

Dr. Marty Kanarek is Professor of Epidemiology in the Department of Population Health Sciences in the School of Medicine and Public Health and in the Nelson Institute for Environmental Studies at the University of Wisconsin-Madison. He has served as Director of the Graduate Program in Population Health and the Graduate Program in Epidemiology and Vice Chair of the Department of Population Health Sciences in the School of Medicine and Public Health, and Chair of the Gaylord Nelson Institute for Environmental Studies Major and Certificate for undergraduates. He has taught introduction to epidemiology, advanced epidemiology, non-infectious disease epidemiology, environmental health, and air pollution and human health and other courses to thousands of junior and senior undergraduate students, graduate students, medical students and physicians, and has mentored many Master's degree and Doctoral students. Dr. Kanarek's research has included many aspects of environmental epidemiology, including childhood lead poisoning prevention and subtle neurological and learning effects of lead at low and moderate lead exposure levels, indoor and outdoor air pollution (including nitrogen dioxide, formaldehyde and radon), PCB, dioxin and mercury contaminants from consumption of contaminated fish, drinking water and cancer, environmental tracking and other studies of the human health effects of pollution. He has been a consultant in epidemiology on the environmental and occupational disease effects of asbestos, lead and other contaminants for the United States Environmental Protection Agency (EPA), the International Agency for Research on Cancer (IARC), the Agency for Toxic Substances and Disease Registry (ATSDR), and the National Institute for Environmental Health Sciences (NIEHS). He has been on several National Institutes of Health (NIH) Study Sections. His research funding the last two years has been several projects from the Wisconsin Division of Public Health. Dr. Kanarek is a Fellow in the American College of Epidemiology.

Karasick, Andrew

FDA/CFSAN

Dr. Andrew S. Karasick is a Medical Officer and Epidemiologist for the Food and Drug Administration's Center for Food Safety and Applied Nutrition. Dr. Karasick holds a B.A. in Economics from Brandeis University, an M.B.A. from Widener Universityan MPH from Johns Hopkins University,, and an M.D. from Thomas Jefferson University. He completed 5 years of residency spread across Bassett Medical Center, Johns Hopkins University, and Rutgers University. At various times while serving as house staff, he served in research and consultative capacities at the Centers for Medicare and Medicaid Services, National Institutes of Health, and Occupational Safety and Health Administration. In 2020, he joined the FDA. Dr. Karasick utilizes his clinical experience and training to study and address microbial and chemical contaminants within the U.S. food supply chain. He served as an FDA representative to evaluate nominees for appointment to the National Advisory Committee on Microbiological Criteria for Foods, a federal advisory committee that provides impartial scientific advice to federal agencies to use in developing integrated food safety systems and to ensure food safety. Dr. Karasick is board certified in Occupational Medicine, Public Health and General Preventive Medicine. He holds New Jersey and Maryland medical licenses, is a Certified Medical Examiner for the Federal Motor Carrier Safety Administration and is a Certified Medical Review Officer. Dr. Karasick is a member of the American Medical Association (AMA), American College of Preventive Medicine (ACPM), and American College of Occupational and Environmental Medicine (ACOEM). He is serving a 3-year term on the

Current Procedural Terminology Advisory Committee of the AMA since 2019. He serves as Vice-Chair of ACPM's Advocacy Committee, amplifying the voices of over 2,000 member physicians. Dr. Karasick's research has been funded in recent years by the New York-New Jersey Education and Research Center.

Karimi, Roxanne

Stony Brook University

Dr. Roxanne Karimi holds a faculty position at the School of Marine and Atmospheric Sciences at Stony Brook University and serves as a Public Health Analyst at the Vermont Department of Health, Environmental Health Division. Dr. Karimi has a B.A. in Biology from the University of Pennsylvania, and a Ph.D. in Biology from Dartmouth College. Dr. Karimi is an environmental health scientist with expertise in aquatic ecology, exposure assessment, ecotoxicology, environmental justice, public health, predictive modeling, risk-benefit analysis, and science communication. She has led and co-led numerous research projects examining the links between aquatic ecosystems, ranging from freshwater to marine, and human health. Her research has examined how environmental factors influence nutrient and contaminant bioaccumulation and toxicity in aquatic organisms, and human exposure to these substances through diet and drinking water. Much of Dr. Karimi's research focuses on mercury and other heavy metals. Early in her career, Dr. Karimi received the Karen Wetterhahn Memorial Award from the National Institute of Environmental Health Sciences (NIEHS) Superfund Research Program for her dedication to environmental health research and outreach to underrepresented groups. In her academic position, Dr. Karimi co-led the Long Island Study of Seafood Consumption and is the lead scientist of the Seafood Mercury Database, a public aggregate of mercury data for over 2000species of fish and shellfish that informs multiple sources of consumer information, including the Food and Drug Administration and Environmental Protection Agency joint advisory on fish consumption. Currently, Dr. Karimi leads research examining the impacts of changing winter climate conditions on mercury bioavailability and bioaccumulation, and the potential impacts to subsistence anglers and priority communities. In her public health position, Dr. Karimi administers the innovative Lead in Schools program for the State of Vermont and contributes broadly to environmental health programs. Dr. Karimi has been a member of the American Society of Limnology and Oceanography, Sigma Xi, and the Ecological Society of America. Dr. Karimi has served as an expert witness to evaluate ecological and human health risk assessments due to mercury contamination. Dr. Karimi has also served as a reviewer for the NSF, international and regional funding agencies, and numerous scientific journals.

Karr, Catherine J.

University of Washington

Dr. Catherine Karr is a Professor at the University of Washington (UW) with a joint appointment in the Department of Pediatrics and the Department of Environmental & Occupational Health Sciences. She is also Adjunct Professor in the Department of Epidemiology. She has a Masters' degree in Environmental Health/Toxicology and Ph.D. in Epidemiology from the University of Washington. She is also an M.D. (UW Medical School) and Board-Certified Pediatrician (Residency, UW-Seattle Children's Hospital). Dr. Karr is a recognized pediatric environmental health and medicine leader. She received the Presidential Early Career Award for Scientists and Engineers (PECASE) Awardee in 2017 and was profiled the Lancet in 2018 for her accomplishments. Her specialty areas of interest include indoor and outdoor air pollution including wildfire smoke, pesticides and rural, agricultural health, lead exposure, community engaged research practice, pediatric asthma and working with underserved communities including children in low- and middle-income countries. She served on the American Academy of Pediatrics Council of Environmental Health Executive Committee, 2005-2011. She is co-lead author on the American Academy of Pediatrics technical reports and policy statements on air pollution and pesticides. She has been Director of the CDC/EPA sponsored Northwest Pediatric Environmental Health Specialty Unit since 2004, NIEHS P30 Center Clinical & Translational Science Unit Lead since 2015, and member of the Pacific Northwest Center for Agricultural Safety and Health Internal Advisory Team since 2011. She is a DSMB member of the Gates Foundation/NIH supported multi-nation global cooking fuel intervention trial (HAPIN Trial). Dr. Karr served on the EPA Chartered SAB from 2012 -2019 and was an EPA Star grantee (2016-2020). In addition to her largely NIH supported research program, she maintains a regular pediatric primary care practice at UW Medicine Roosevelt Primary Care Center and sees specialty environmental medicine consult patients in this setting

Keeler, Bonnie

University of Minnesota

Dr. Bonnie Keeler is a McKnight Presidential Fellow and Charles M. Denny Chair in Science, Technology, and Environmental Policy at the University of Minnesota's Humphrey School of Public Affairs. She has an undergraduate degree in Biology, a Masterd' degree in Ecology, and a Ph.D. in Natural Resources Science and Management with a specialization in Environmental Economics. Dr. Keeler has expertise in integrated assessment modeling, benefit cost analysis, water and agriculture policy, non-market valuation, and environmental justice. She integrates quantitative

modeling, economic valuation, and spatial analyses with qualitative and participatory approaches to capture multiple perspectives on complex social and environmental problems. Current projects include investigating the effects of climate change on water resources, environmental justice implications of nature-based solutions, governance dimensions of state and tribal groundwater management, and quantification of the social costs of water pollution. Her research has been published in top journals, including Science, Science Advances, The Proceedings of the National Academy of Sciences, Nature Sustainability, and the Annual Review of Resource Economics. She has been principal or co-principal investigator on 30 grants, totaling over $12 million in funding. Dr. Keeler's funding sources in the last two years include the National Science Foundation, the Joyce Foundation, the McKnight Foundation, the State of Minnesota, and the National Academies Keck Futures Initiative. Keeler is the Co-Director of the CREATE Initiative, a community-engaged research project that aims to leverage the resources of the research university in service to the needs and priorities of environmental justice organizations in urban watersheds. Keeler is a Co-Investigator of the Minneapolis-St. Paul Urban Long-Term Ecological Research site where she oversees research on contemporary and historical dynamics of green infrastructure investments and wealth distribution. Keeler also directs the Beyond the Academy network - a coalition of university leaders seeking to reform academic models to promote actionable, engaged scholarship on sustainability. A member of the External-Environmental Economics Advisory Council, Keeler and colleagues recently completed a non-partisan review of the economic analysis of the Trump Administration's Navigable Waters Protection Act. She is a frequent advisor and collaborator on state-level water planning, working closely with the Minnesota Environmental Quality Board, Minnesota Department of Health, Pollution Control Agency, Department of Natural Resources, Board of Soil and Water Resources, and the Clean Water Council.

Keiser, David

U Massachusetts Amherst

Dr. David A. Keiser is an Associate Professor of Resource Economics at the University of Massachusetts Amherst. He holds affiliations with the Dyson School at Cornell, the Center for Agricultural and Rural Development at Iowa State, and the Center for Behavioral and Experimental Agri-Environmental Research. He was previously an Assistant Professor of Economics at Iowa State and served as the Division Director of Resource and Environmental Economics at the Center for Agricultural and Rural Development. Dr. Keiser holds a Ph.D. and M.Phil. in Environmental and Natural Resource Economics from Yale University, an M.S. in Agricultural and Applied Economics from the University of Georgia, and a B.A. in Mathematics and Religious Studies from the University of Virginia. Dr. Keiser is an environmental and natural resource economist with a focus on the economics of U.S. water quality policy. His research explores both surface and drinking water quality issues. Dr. Keiser's work has appeared in leading economic and scientific journals, including Science, Proceedings of the National Academy of Sciences, Science Advances, Quarterly Journal of Economics, and the Journal of Economic Perspectives, among others. His work has been cited in Congressional testimony, incorporated in graduate training at leading universities, and appeared in major news outlets. The academic journal Science featured his 2019 co-authored paper on the Clean Water Act as an Editors' Choice. From 2019 to 2020, Dr. Keiser co-chaired a review of the economic analyses that supported the Clean Water Rule's repeal and its replacement with the Navigable Waters Protection Rule. The External Environmental Economics Advisory Committee supported this review. Dr. Keiser is a member of the Editorial Board of Land Economics and is a co-founder of the Social Cost of Water Pollution Workshop. His research's recent funding sources include the United States Department of Agriculture and the United States Environmental Protection Agency.

Kinney, Patrick

Boston University School of Public Health

Dr. Kinney has a broad background in environmental health sciences, with specific training and expertise in air pollution exposure assessment, epidemiology, and climate change. He completed his doctoral studies in Environmental Science and Physiology at the Harvard School of Public Health in 1986. As a junior faculty member at New York University, he developed and led epidemiologic research on lung function and inflammatory biomarker changes in relation to chronic exposures to ozone and other air pollutants. Moving to Columbia in 1994, he expanded his research to include community-based studies of traffic pollutant exposures and health outcomes in underprivileged neighborhoods in New York City, leading and contributing to several large-scale studies over the following 22 years. He has contributed to the periodic reviews of the National Ambient Air Quality Standards for ozone and particulate matter, and served on the EPA Clean Air Scientific Advisory Committee for reviews of the Nitrogen Dioxide and Sulfur Dioxide standards. He developed and directed the Climate and Health Program at Columbia, which trains students and postdocs in research on the health dimensions of climate variability and change. He also directed research on indoor and outdoor air quality and health in Africa, including a randomized stove trial in Ghana funded by NIEHS. Current funding sources include the National Oceanic and Atmospheric Administration, the

National Aeronautics and Space Administration. In January 2017, Dr. Kinney was named the inaugural Beverly A Brown Professor of Urban Health at Boston University.

Kirchhoff, Christine

University of Connecticut

Dr. Christine J. Kirchhoff is an Associate Professor in the Department of Civil & Environmental Engineering at the University of Connecticut and holds the honorary title of Castleman Professor in Engineering Innovation. She is also a faculty affiliate of the Connecticut Institute for Resilience and Climate Adaptation and of the Department of Natural Resources and Environment. Dr. Kirchhoff holds a B.A. in Civil Engineering and M.S. in Environmental and Water Resource Engineering from the University of Texas, Austin and a Ph.D. in Resource Policy and Behavior from the University of Michigan and is a licensed professional engineer. After three years of post-doctoral work in science and water policy research at the University of Colorado, Boulder, and the University of Michigan, she joined the faculty at the University of Connecticut in 2013. Dr. Kirchhoff received an NSF CAREER award in 2020 to study the human dimensions of resilient water and wastewater systems. Dr. Kirchhoff's work has advanced actionable knowledge production and use for environmental decision making (especially the use of climate information), water and wastewater resilience, regulatory compliance in drinking water, the use of recycled water in greenhouse agriculture, the prevalence and future risk of cyanotoxins and regulatory approaches and treatment to protect public health from their effects. Dr. Kirchhoff is an Associate Editor for the Bulletin of the American Meteorological Society and the Journal of the American Water Resources Association. Dr. Kirchhoff serves on the Long Island Sound Study Science and Technical Advisory Committee, the Advisory Board for the Connecticut National Estuarine Research Reserve, and the Water and Society Technical Committee of the American Geophysical Union. She recently completed service on the Governor of Connecticut's Climate Change Task Force, Adaptation Planning and Implementation Working Group Dr. Kirchhoff's research has been recently funded by the National Science Foundation.

Klein, Sharon

University of Maine

Dr. Sharon Klein is an Associate Professor in the School of Economics at the University of Maine. She has a Ph.D. and M.S. in Engineering and Public Policy from Carnegie Mellon University and a B.S. in Environmental Science from the University of Massachusetts, Amherst. Prior to her career in higher education, Dr. Klein worked as a high school environmental systems teacher in Quito, Ecuador, middle school science teacher and environmental technician in San Diego, California, and served as an AmeriCorps National Civilian Community Corps volunteer. Dr. Klein has expertise in energy, environmental science, environmental justice, engineering, economics, modeling, statistics, and uncertainty analysis. Her research, teaching, and service are multi-disciplinary, centering on the physical, economic, environmental, and social/cultural/equity tradeoffs inherent in sustainable energy decision-making. Dr. Klein has expertise in most sustainable energy options, especially community-based solar energy and energy efficiency, and uses a variety of research methods, including social science-based survey, interview, and focus group techniques/analysis, social benefit-cost analysis, multi-criteria decision analysis, and life cycle assessment. She has been principal or co-principal investigator for 10 externally sponsored research projects and has published 14 journal papers, 3 conference papers, 6 technical reports, 2 book chapters, and has made over 50 research presentations to local, state, national, and international audiences. Dr. Klein's external funding sources in the last 2 years include the National Science Foundation (NSF), U.S. Geological Survey, and U.S. Department of Agriculture. Dr. Klein is an active member of the National Community Solar Partnership, a Board member of the non-profit organization WindowDressers, the Chair of the Committee on Energy, Equity, and Justice for the U.S. University Energy Institute Collaborative, served on 1 NSF grant review panel (2017), completed 1 ad-hoc NSF review (2020), served on 1 U.S. Department of Energy grant review panel (2020), and was the academic representative on the Maine Legislative Commission to Study the Economic, Environmental and Energy Benefits of Energy Storage to the Maine Electricity Industry (2019).

Kleinberg, Robert

Columbia University

Dr. Robert L. Kleinberg holds appointments as Adjunct Senior Research Scholar at the Center for Global Energy Policy of Columbia University, and as Senior Fellow of the Institute for Sustainable Energy at Boston University. He was educated at the University of California, Berkeley (B.S. Chemistry, 1971) and the University of California, San Diego (Ph.D. Physics, 1978). His present activities focus on energy policy and economics, and on environmental issues connected with energy development. He has written on the effectiveness of U.S. Environmental Protection Agency regulations in controlling methane emissions from the oil and natural gas industry, and on how EPA uses the notice and comment process in crafting regulation. From 1980 to 2018, he was employed by Schlumberger, the premier oilfield service company, attaining the rank of Schlumberger Fellow, one of about a dozen who held this rank in a

workforce of 100,000. Dr. Kleinberg has served on the Board on Earth Sciences and Resources of the National Academies of Sciences, Engineering, and Medicine (2019-present), the Department of Energy Methane Hydrate Advisory Committee (2016-2019), the Department of Energy Unconventional Resources Technology Advisory Committee (2010-2013), and the Department of Energy Office of Naval Petroleum and Oil Shale Reserves Unconventional Fuels Working Group (2009). He was the primary author of the chapters on gas hydrate and oil shale in Facing the Hard Truths about Energy, the National Petroleum Council report to the Department of Energy (2006-2007). He contributed to or reviewed several stages of the Health Effects Institute study of potential impacts of oil and natural gas development on human health (2014-2015). He is a regular guest lecturer for the Harvard University engineering sciences course on energy technology (2011-present) and is a co-author of the accompanying textbook in preparation. He was also a regular guest lecturer for the Harvard Law School seminar on Contemporary Issues in Oil and Gas Law (2014-2017). Dr. Kleinberg has authored more than 120 academic and professional papers, holds 41 U.S. patents, and is the inventor of several geophysical instruments that have been commercialized on a worldwide basis. Dr. Kleinberg has served as Councilor of the U.S. Association for Energy Economics, is a recipient of the American Physical Society Distinguished Lectureship Award on the Applications of Physics and has been elected to the U.S. National Academy of Engineering.

Kleinman, Michael T.

University of California, Irvine

Dr. Michael T. Kleinman is an Adjunct Professor of Toxicology in the Department of Environmental and Occupational Health in the University of California, Irvine (UCI) College of Health Sciences, with joint appointments in the Department of Medicine and the Program in Public Health. He was previously employed by the U.S. Atomic Energy Commission (AEC) as an environmental scientist and he directed the Aerosol Exposure and Analytical Laboratory at Rancho Los Amigos Hospital in Downey, CA. He has more than 40 years of experience researching the health effects of environmental contaminants. He holds a M.S. in Chemistry (Biochemistry) from the Polytechnic Institute of Brooklyn and a Ph.D. in Environmental Health Sciences from New York University. He is the Co-Director of the Air Pollution Health Effects Laboratory at UCI. He has published more than 145 peer-reviewed journal articles on effects of environmental contaminants on cardiopulmonary and immunological systems and on global and regional distribution of toxic environmental materials including heavy metals and radioactive contaminants from nuclear weapons testing. He has directed more than 50 controlled exposure studies of human volunteers and laboratory animals to particulate matter from combustion sources, ozone and other photochemical oxidants, carbon monoxide, ambient particulate matter (PM) and laboratory-generated aerosols containing chemically or biologically reactive metals such as lead, cadmium, iron and manganese. He has served on two National Academy committees to examine issues in protecting deployed U.S. Forces from the effects of chemical and biological weapons. Dr. Kleinman's current research focuses on neurological and cardiopulmonary effects of inhaled particles, including nanomaterials and ultrafine, fine, and coarse ambient particles in humans and laboratory animals. His recent health effects studies have focused on the role of inhaled pollutants on the promotion of airway allergies, tumor growth, tumor progression and the development or exacerbation of cardiovascular disease. The mechanistic focus of this work is understanding how these effects are mediated by toxic metals, organic constituents, and elemental carbon components of PM and why there are differences in cardiovascular responses between males and females. Dr. Kleinman's recent research is supported by grants to examine the effects of inhaled particles on biochemical and behavioral changes in the brain related to Alzheimer's Disease from the California Health Effects of Air Pollution Foundation, grants from National Institutes of Health (NIH) to examine effects of e-cigarette smoke exposure on healthy and unhealthy hearts and a recently completed grant from the U.S. Forest Service to examine health effects of smoke exposure in wildland fire fighters. Dr. Kleinman has previously served on the U.S. EPA Clean Air Scientific Advisory Committee (CASAC) Ozone, PM, and Oxides of Nitrogen panels, is a member of the EPA Board of Scientific Counselors Air and Energy Subcommittee and is a member of the California Scientific Review Panel for Toxic Substances.

Knouft, Jason

Saint Louis University

Dr. Jason Knouft is a Professor in the Department of Biology at Saint Louis University in St. Louis, Missouri and a Large River Ecologist at the National Great Rivers Research and Education Center in Alton, Illinois. He received his Ph.D. from the University of Illinois, Urbana-Champaign and M.S. and B.S. degrees from Drexel University. His research focuses on the impacts of human activities on freshwater resources and ecosystems, with a focus on climate change, land use alterations, and freshwater contaminants. This work involves developing hydrologic, water temperature, and water quality models that are informed by climate and land use data to characterize the relationships between human activities and freshwater system structure and function. He has experience working in natural, agricultural, and urban systems on a range of issues related to nutrient, heavy metal, and microplastic

contamination, as well as climate adaptation strategies to mitigate the impacts of human activities in the coming decades. Dr. Knouft has served on an array of advisory committees over the past five years. Most recently, he was a member of the National Advisory Council for Environmental Policy and Technology (NACEPT) for the United States Environmental Protection Agency (EPA). He has also served as an External Review Committee Member for the South Central Climate Adaptation Science Center for the Department of the Interior. Dr. Knouft has been a Scientific Review Committee Member for the National Socio-Environmental Synthesis Center (SESYNC). He also served as a National Science Foundation appointed iDigBio External Advisory Board Member. Dr. Knouft was recently awarded a Jefferson Science Fellowship and will serve at the U.S. Department of State, Bureau of Intelligence and Research, Office of the Geographer and Global Issues.

Knox, Pamela

University of Georgia

Ms. Pamela N. Knox is the Director of the University of Georgia (UGA) Weather Network and an agricultural climatologist in UGA's Cooperative Extension. Ms. Knox holds a B.A. with majors in Physics and Mathematics from Calvin College, MI, and an M.S. in Meteorology from the University of Wisconsin-Madison. After completing her graduate degree, Ms. Knox served in the National Weather Service Office of Hydrology in Silver Spring, MD. Before returning to Wisconsin to work on a Ph.D. in Atmospheric Sciences. She completed all requirements except the dissertation and was hired as the Wisconsin State Climatologist in 1989. She left in 1998 to work at Valparaiso University as a Physics Instructor and wasCertified as a Consulting Meteorologist that year. She moved to UGA in 2001 to serve as the Assistant State Climatologist in the Faculty of Engineering. In 2011, she became a research scientist studying the impacts of climate change on crop and livestock production across the United States. In 2018, she started her current position as the Director of the UGA Weather Network. She is currently the co-Principal Investigator (PI) on two grants related to innovative methods for measuring soil moisture to improve detection of developing drought, one funded by USDA and the other by NOAA. During her career, Ms. Knox has served on numerous committees related to climate and agriculture, including the technical advisory boards of the Southeast Regional Climate Center (NOAA) and Southeast Regional Climate Hub (USDA). She was the first female president of the American Association of State Climatologists and has served on the American Meteorological Society's Boards of Continuing Professional Development and Certified Consulting Meteorologists and their Standing Committee on Applied Climatology. In 2021, Ms. Knox also testified on the impacts of climate change on the agriculture and forestry sectors before the House Agriculture Committee.

Kopp, Robert

Rutgers University

Dr. Robert Kopp is a climate scientist who serves at Rutgers University as Director of the Rutgers Institute of Earth, Ocean & Atmospheric Sciences and as a professor in the Department of Earth & Planetary Sciences. He also co-directs Rutgers' transdisciplinary Coastal Climate Risk & Resilience (C2R2) initiative, which brings graduate students in the natural sciences, social sciences, engineering, and urban planning together with coastal stakeholders to tackle the challenges that climate change poses to the world's coastlines. He is a director of the Climate Impact Lab, a multi-institutional collaboration of more than two dozen economists, data scientists, climate scientists, and policy experts, working to bring Big Data approaches to the assessment of the economic risks of climate change. He received his Ph.D. in Geobiology from the California Institute of Technology and his undergraduate degree in Geophysical Sciences from the University of Chicago. Professor Kopp's research focuses on understanding uncertainty in past and future climate change, with major emphases on sea-level change, the interactions between physical climate change and the economy, and the use of climate risk information to information decision-making. Professor Kopp is a lead author of the Intergovernmental Panel on Climate Change's forthcoming (2021) Sixth Assessment Report and on Volume 1 of the U.S. Global Change Research Program's 2017 Fourth National Climate Assessment. He is a member of the National Academies' Board on Atmospheric Sciences and Climate, and he has served on American Geophysical Union panels revising position statements on climate change and on government funding on science. He has been involved on multiple state-level assessment panels on sea-level change, including chairing a 2019 assessment undertaken for the State of New Jersey. He is a fellow of the American Geophysical Union, a past Leopold Leadership Fellow, and a recipient of the American Geophysical Union's James B. Macelwane medal.

Kotchen, Matthew

Yale University

Dr. Matthew Kotchen is a Professor of Environmental Economics and Policy at Yale University and a former Associate Dean of Academic Affairs. His primary appointment is in the Yale School of the Environment, with affiliated appointments in the Yale School of Management and the Department of Economics. He is also a faculty research

fellow at the National Bureau of Economic Research (NBER). Professor Kotchen's research interests lie at the intersection of environmental and public economics, and ongoing projects focus on program evaluation of environmental and energy policies. Dr. Kotchen joined the Yale faculty in 2009 and has held previous and visiting positions at Williams College, University of California (Santa Barbara and Berkeley), Stanford University, and Resources for the Future (RFF). He also served as the Deputy Assistant Secretary of Environment and Energy at the U.S, Department of the Treasury.

Koutrakis, Petros

Harvard T.H. Chan School of Public Health

Dr. Petros Koutrakis is a Professor of Environmental Sciences in the Environmental Health Department at the Harvard T.H. Chan School of Public Health (HSPH). He holds a B.S. degree in Chemistry from the University of Patras, Greece. He holds an M.S. degree in Atmospheric Chemistry and a Ph.D. degree in Environmental Chemistry from the University of Paris, France. Dr. Koutrakis was a doctoral researcher from 1980-1984 in the Atmospheric Physical Chemistry Laboratory at the University of Paris. From 1984-1985 he was a post-doctoral researcher at the Energy and Environmental Policy Center, Kennedy School of Government, Harvard University. He was a Lecturer/Research Associate from 1986-1988 in the Department of Environmental Science and Physiology at HSPH. From 1988-1991, he was an Assistant Professor of environmental sciences in the Department of Environmental Sciences. Dr. Koutrakis was an Associate Professor and Director of the Environmental Chemistry Laboratory, Department of Environmental Health from 1991-1995. In 1995, he was promoted to Professor of Environmental Sciences. From 2003-2012, he served as the Director of the Exposure, Epidemiology & Risk Assessment Program at HSPH. Dr. Koutrakis was Director of the HSPH-Cyprus Program for the Environment and Public Health from 2004-2014. Since 1999, Dr. Koutrakis has served as Director of the Environmental Protection Agency (EPA)-Harvard Particulate Matter Research Centers. He was the Technical Editor-in-Chief, Journal of Air & Waste Management Association from 1994-2003. Dr. Koutrakis was the winner of the 2018 Excellence in Exposure Science Award from the International Society of Exposure Science. He was the winner of the 2020 Lyman A. Ripperton Award from the Air Waste & Management Association, for distinguished achievement as an educator in the field of air pollution control. Recent funding sources include the EPA, National Institutes of Health, the Department of Veterans Affairs, and the National Aeronautics and Space Administration.

Kravitz, Ben

Indiana University

Dr. Ben Kravitz is an assistant professor in the Department of Earth and Atmospheric Sciences at Indiana University. He holds a B.A. in Mathematics from Northwestern University, an M.S. in Mathematics from Purdue University, and an M.S. and Ph.D. in Atmospheric Science from Rutgers University. He completed a postdoctoral research position at the Carnegie Institution for Science and another postdoctoral research position at Pacific Northwest National Laboratory, where he became a staff scientist in 2015. He joined the faculty at Indiana University in 2019, maintaining a joint appointment at Pacific Northwest National Laboratory. Dr. Kravitz is an international expert in climate model simulations of climate engineering. As the cofounder and long-time chair of the Geoengineering Model Intercomparison Project, he was responsible for coordinating simulations of standardized climate engineering scenarios and enabling access of the data to the international research community. He has served as a contributing author to the fifth and sixth assessment reports of the Intergovernmental Panel on Climate Change, and his work was prominently featured in a recent U.S. National Academies report on designing a federal research agenda for climate engineering.

LaFranchi, Brian

Aclima, Inc.

Dr. Brian LaFranchi leads the Science Operations group at Aclima Inc., which is responsible for sensor calibrations, deployed device performance, and overall quality control. After receiving his doctorate in Analytical Chemistry from the University of Vermont, where he was a U.S. Environmental Protection Agency (EPA) Science to Achieve Results (STAR) Fellow, Dr. LaFranchi embarked on a career in atmospheric chemistry research. As a post-doctorate, first at University of California Berkeley and then at Lawrence Livermore National Laboratory, his research touched on the impact of long-term declines in vehicle emissions on air quality over the Sierra Nevada Mountains of California and the use of radiocarbon isotope measurements as a tracer in carbon cycle studies on a regional scale. Prior to joining Aclima, Dr. LaFranchi worked in the GHG Attribution Laboratory at Sandia National Labs, leading efforts to characterize uncertainties in high precision GHG measurements as part of field studies in Barrow, AK and Livermore, CA.

Lal, Rattan

The Ohio State University

Dr. Rattan Lal is a Distinguished University Professor of Soil Science and Director of the CFAES Dr. Rattan Lal Carbon Management and Sequestration Center at The Ohio State University, as well as an Adjunct Professor of University of Iceland and the Indian Agricultural Research Institute (IARI), India. He received a B.S. from Punjab Agricultural University, Ludhiana, India; M.S. from Indian Agricultural Research Institute, New Delhi, India; and Ph.D. from the Ohio State University, Columbus, Ohio. He served as Sr. Research Fellow with the University of Sydney, Australia (1968-69), Soil Physicist at IITA, Ibadan, Nigeria (1970-87), and Professor of Soil Science at OSU (1987 to date). His research interests include soil carbon sequestration for food and climate security, conservation agriculture, soil health, principles and practices of soil erosion control, soil structure and carbon dynamics, eco-intensification of agroecosystems, soil restoration, the fate of soil carbon transported by soil erosion, and sustainable management of world soils. Prof. Lal is Editor-In-Chief of Advances in Soil Science and of the Encyclopedia of Soil Sciences. He was the Speaker for Summer 2019 commencement and TEDx speaker for the Ohio State University in 2021. He has authored/co-authored over 1000 refereed journal articles and more than 550 book chapters, has written and edited/co-edited more than 100 books. Prof. Lal has cumulative citation index of 120,000 and h-index of 159. He was included in the Thomson Reuters list of the World's Most Influential Scientific Minds (2014-2016), and he is among Clarivate's Highly Cited Researchers in Agriculture (2014-2020), as well as ranked #111 globally and #1 in Agriculture and Agronomy among the top 2% of scientists by Loannidis et al. (2019, 2020). He has received an Honoris Causa degree from nine universities throughout Europe, USA, and Asia; the Medal of Honor from UIMP, Santander, Spain (2018); the Distinguished Service Medal of IUSS (2018); and is fellow of the five professional societies. Dr. Lal has mentored 112 graduate students,54 postdoctoral researchers and 181 visiting scholars from around the world. He was President of the World Association of Soil and Water Conservation (1987-1990), International Soil and Tillage Research Organization (1988-1991), Soil Science Society of America (2006-2008), and the International Union of Soil Sciences (2017-2018). He is Chair in Soil Science and Goodwill Ambassador for Sustainability Issues for the Inter-American Institute for Cooperation on Agriculture (IICA), and member of the 2021 United Nations Food Security Summit Science Committee and Action Track 3 Committee. Dr. Lal is laureate of the GCHERA World Agriculture Prize (2018), Glinka World Soil Prize (2018), Japan Prize (2019), U.S. Awasthi IFFCO Prize of India(2019), Arrell Global Food Innovation Award of Canada (2020), World Food Prize (2020), and Padma Shri Award (2021) of the Government of India.

Landis, Wayne

Western Washington University

Dr. Wayne Landis is Professor and Director, Institute of Environmental Toxicology Huxley College of the Environment, Western Washington University. He holds a B.A. in Biology from Wake Forest University, an M.A. in Biology from Indiana University, and a Ph.D. in Zoology from Indiana University. Dr. Landis' areas of expertise and research activities include environmental toxicology, the effects of toxicants on populations, ecological risk assessment at large spatial and temporal scales, risk assessment of microplastics and development of techniques for risk assessment for synthetic biology. His research contributions also include: co-development of the Community Conditioning Hypothesis, the use of multivariate analysis in microcosm data analysis, creation of the Action at a Distance Hypothesis for landscape toxicology, the application of complex systems theory to risk assessment, and development of the Relative Risk Model and its Bayesian network derivative for multiple stressor and regional-scale risk assessment. He has also developed specialized methods for calculating risk due to invasive species and emergent diseases. Dr. Landis has authored over 200 peer-reviewed publications and government technical reports, participated in over 500 scientific presentations, edited four books, and wrote the textbook, Introduction to Environmental Toxicology, now in its sixth edition. He has consulted for industry; nongovernmental organizations as well as federal (U.S. and Canada), state, provincial, and local governments. Dr. Landis' research has been supported by grants and contracts from federal agencies (U.S. Air Force, Environmental Protection Agency, U.S. Forest Service, U.S. Fish and Wildlife Service and the National Science Foundation), industry (DuPont, Amoco, BP, and Teckcominco Ltd.), with additional grant support from state, provincial and local governments, industry, NGOs and foundations. Dr. Landis has served on the American Society of Testing and Materials (ASTM) Committee on Publications overseeing a variety of environmentally related symposia proceedings. He serves on the editorial board for Risk Analysis and is currently Deputy Editor for Integrated Environmental Assessment and Management. He is a former ecological risk area editor for Risk Analysis. Dr. Landis served on the Society of Environmental Toxicology and Chemistry (SETAC) Board of Directors from 2000-2003 and initiated the process leading to journal Integrated Environmental Assessment and Management. In 2007 he was named a Fellow of the Society for Risk Analysis and in 2016 a Fellow for the Society for Environmental Toxicology and Chemistry. He has completed his second term on the Science Panel of the Puget Sound Partnership, a state of Washington agency charged with the restoration of Puget Sound. In 2015-2016

he served on the National Academies of Sciences, Engineering, and Medicine panel that resulted in a keystone document on the future of synthetic biology and specifically the use of gene drives "Gene Drives on the Horizon: Advancing Science, Navigating Uncertainty, and Aligning Research with Public Values." Now he is presenting the utility of ecological risk assessment using Bayesian networks to the Foundation of the National Institutes of Health and Target Malaria (funded by the Gates Foundation). Since becoming an Academic Dr. Landis has served on numerous U.S. EPA review committees and committees of the EPA Science Advisory Board (SAB). In the early 1990s he served as a member of the review committees for the original Framework for Ecological Risk Assessment. Last spring, he served on the special EPA SAB effort to advise the agency on their response to COVID-19.

Landrigan, Philip

Mount Sinai Icahn School of Medicine

Dr. Philip J. Landrigan is a pediatrician and epidemiologist anddirects the Program for Global Public Health and the Common Good at Boston College. He is a member of the National Academy of Medicine. Dr. Landrigan graduated from Boston Latin School, Boston College, Harvard Medical School, and the London School of Hygiene & Tropical Medicine.Dr. Landrigan's research uses epidemiology to elucidate health effects of environmental exposures, especially neurobehavioral effects of early-life exposures to children. His studies of lead demonstrated that low-level exposure reduces children's IQ and contributed to EPA's 1975 decision to remove lead from paint and gasoline, actions that reduced lead levels in the USA by 95% and increased the IQ of all American children born since 1980. Dr. Landrigan chaired a 1993 National Academy of Sciences study that defined children's exquisite vulnerability to pesticides. It recommended revamping US pesticide law to better protect children's health. Its findings were incorporated into the Food Quality Protection Act of 1996, the only federal environmental statute containing provisions to explicitly safeguard children. In 1995-97, Dr. Landrigan served on the Presidential Advisory Committee on Gulf War Veteran's Illnesses. In 1997-98, he founded EPA's Office of Children's Health Protection. At the Icahn School of Medicine at Mount Sinai, Dr. Landrigan chaired the Department of Preventive Medicine, was Dean for Global Health, and oversaw medical follow-up of 22,000 9/11 rescue workers. From 1995-2006, Dr. Landrigan served in the Medical Corps of the US Naval Reserve, retiring at Captain. In 2015-17, he co-chaired the Lancet Commission on Pollution & Health, which found that pollution causes 9 million deaths annually and that pollution prevention is feasible, cost-effective and saves lives. Since 2019, Dr. Landrigan has led the Monaco Commission on Human Health and Ocean Pollution. His research is supported by UN Environment, Blue Climate initiative, Barr Foundation, and the Centre Scientifique de Monaco.

Lanphear, Bruce

Simon Fraser University

Dr. Bruce Lanphear isa Professor at Simon Fraser University and Investigator at BC Children's Research Institute in Vancouver, British Columbia. He is a board-certified physician in public health and preventive medicine. He has expertise in pediatric research, population health, exposure assessment, dose-response relationships, and epidemiology. Dr. Lanphear is the founding principal investigator for an ongoing 400-person cohort study in Cincinnati and a co-principal investigator for an ongoing 600-person cohort study in Canada to examine the impacts of gestational and childhood exposures to a wide array of chemicals and various health outcomes in children. He has conducted over 200 studies to quantify exposures to toxic chemicals, including lead, per- and polyfluoroalkyl substances (PFAS) and air pollution, and their health impacts. He has also conducted numerous randomized controlled trials to reduce children's exposures to toxic chemicals, including lead, phthalates, and air pollution. Over the past 25 years, Dr. Lanphear led key studies used by federal agencies to set lead standards for water, air, and dust, and to conclude that there is no safe level of lead in blood. His ongoing research is focused on how toxic chemicals, including lead, fluoride, and air pollution, elevate the risk for cognitive deficits or autism. Dr. Lanphear was a member of the North American Commission for Environmental Cooperation Expert Panel on Children's Health and the Environment (2001-2003), the U.S. Environmental Protection Agency (EPA) Clean Air Scientific Advisory Committee (CASAC) Lead National Ambient Air Quality Standards (NAAQS) Review Panel (2006-2008), the American Academy of Pediatrics Committee on Environmental Health (2011- 2016), the National Toxicology Program's Panel on Lead Toxicity (2012), and the Lancet Commission on Pollution and Health (2016-present). He served as a member or reviewer for several National Academies of Science reports. Over the past two years, Lanphear's research was funded by the National Institutes of Health, the Department of Housing and Urban Development, and the Canadian Institutes of Health Research.

Lawrence, Deborah

University of Virginia

Dr. Deborah Lawrence is Professor of Environmental Sciences and Director of the Program in Environmental Thought and Practice at the University of Virginia. She graduated from Harvard University with a B.A. in Anthropology, was trained as a biogeochemist in the Botany Program at Duke University and completed post-doctoral training at Harvard University. Dr. Lawrence's expertise is in tropical ecology, forest ecology, biogeochemistry, and climate change. She has conducted research in Indonesia, Thailand, Mexico, Costa Rica, Cameroon, and the Great Lakes region of Africa. She works with partners in climate modeling, environmental science and geography, ethics, anthropology and politics, economics, urban planning and public health to understand the impacts of land use decisions on climate and how those impacts feedback on the life support system that is our earth. Professor Lawrence's research has earned her a Guggenheim Fellowship, a Jefferson Science Fellowship from the National Academy of Sciences, two Fulbright Scholarships, and a Sustainability Science Award from the Ecological Society of America. She spent a year as a science advisor in the climate office (EGC) of the US Department of State followed by five years as a founding member of SilvaCarbon, an interagency program of the US government on forests and climate. She is Secretary of the board of trustees for The Nature Conservancy's Virginia Chapter where she has served since 2013. Dr. Lawrence is also a member of the national Trustee Council of The Nature Conservancy and a member of Climate Strategies, an international research network on climate policy that advises the European Union. She is on the advisory committee of Wahoos for Sustainability, an alumni organization that advocates for climate action at the University of Virginia.

LeBlanc, Gerald

North Carolina State University

Dr. Gerald LeBlanc is a Professor in the Department of Biological Science, North Carolina State University. Dr. LeBlanc maintains an active research program in environmental toxicology and risk assessment. This research involves elucidating processes that contribute to the endocrine regulation of reproduction and development and their disruption by environmental agents. Dr. LeBlanc has published over 165 research articles and 17 textbook chapters in toxicology. He has served on numerous federal and international science advisory committees, panels, and boards, including the National Research Council's Committee on Ecological Risk Assessment and as chairman of the USEPA Endocrine Disruptors Methods Validation Advisory Committee. He also has served as steering committee member, session chair, and keynote speaker for several national and international scientific symposia and as an associate editor or editorial board member for numerous scientific journals.

LeChevallier, Mark W.

Dr. Water Consulting, LLC

Dr. Mark LeChevallier is the principal and manager of Dr. Water Consulting LLC, a part-time consulting business, after retiring from American Water at the end of 2017. Dr. LeChevallier received his Bachelor of Science and Masters' degrees in Microbiology from Oregon State University, and his Ph.D. in Microbiology from Montana State University. His expertise is in water quality, treatment, and innovation for potable water, reclaimed water, and desalination. Research areas have included bacterial regrowth, disinfection of biofilms, corrosion, bacterial nutrients, assimilable organic carbon techniques, biological treatment, Legionella, Mycobacterium, microbial recovery and identification, modeling and impact of pressure transients on water quality, and detection, treatment and survival of Giardia and Cryptosporidium. He has authored or coauthored over 300 research papers, book chapters, or reports: most in peer-reviewed journals. He has received numerous awards for his research. He currently serves the Water Science & Technology Board for the National Academy of Science and was a member of the National Academy of Science Legionella workgroup. He is a fellow of the American Academy of Microbiology. He is a past member of the Journal of the American Water Works Association editorial advisory board. He was a negotiator representing the National Association of Water Companies on the US EPA Federal Advisory Committee for revisions to the Total Coliform Rule and served on the Research and Information Collection Partnership panel for research to develop the Distribution System Rule. He was a member of the drinking water Distribution System Committee for the National Academy of Science. He was a past member of the USEPA Science Advisory subcommittee on Drinking water. Dr. LeChevallier currently serves on a Water Research Foundation research project on reuse.

Lee, Arthur

Chevron Services Company

Mr. Arthur Lee is Chevron Fellow and Senior Strategy Advisor – Energy Transitions Team within Chevron's Corporate Strategy and Sustainability group. He serves on the board of directors of the International Emissions Trading Association (2014 – present). Mr. Lee was founding chair of the ARPEL Climate Change Working Group (1999 –

2004). He has been involved in a wide range of climate change issues from the science to the global policy, and business impacts from 1998 to now. He participated and continues to participate in the Intergovernmental Panel on Climate Change (IPCC) process since the third assessment report (2001). The IPCC recognized him (and other researchers) with a certificate for contributions to the award of the Nobel Peace Prize (2007). Further, he continues to participate in the IPCC in its Sixth Assessment serving currently as a Review Editor of the Energy Systems chapter. Mr. Lee was appointed by the U.S. Secretary of Commerce to serve as a member of the National Climate Assessment Development and Advisory Committee (2011-2014). He continues to be an official observer on behalf of business and industry at the United Nations Framework Convention on Climate Change negotiations each year since COP5 Bonn (1999) to COP25 (Madrid, 2019), representing IPIECA, the international petroleum industry association focused on raising environmental and social performance. Mr. Lee was a regulator at the U.S. Environmental Protection Agency's Acid Rain Division (1991-1993), responsible for writing sulfur dioxide and nitrogen oxides regulations governing the electric power sector under the Clean Air Act Amendments of 1990. Since 1998, he has focused on energy and greenhouse gas emissions management, including the first corporate inventory protocol for emissions accounting, emissions analytical and carbon price forecasting processes for major capital projects, strategy planning and technology deployment. Mr. Lee was appointed Chevron Fellow by the Chairman and CEO of Chevron Corporation in 2008 in recognition of his sustained contributions on air quality and carbon management to Chevron, industry, and governments.

Lee, Linda

Purdue University

Dr. Linda S. Lee is a Purdue University Professor in the Departments of Agronomy and Environmental and Ecological Engineering, and Program Head for the Ecological Sciences and Engineering Interdisciplinary Graduate Program. She joined the Purdue faculty in 1993 with degrees in chemistry (B.S.), environmental engineering (M.S.) and soil chemistry/contaminant hydrology (Ph.D.) from the University of Florida. Her research program emphasis is on quantifying the processes that govern the environmental fate and remediation of a diverse array of chemicals as well as facilitating application of her research to aid in mitigation, decision tools and management guidelines in both industrial and agricultural settings. She also supports several efforts in understanding chemical ecotoxicity, bioaccumulation and biomagnification as well as most recently, assessing ecotoxicity of chemical alternatives. Her diverse research funding portfolio approaching $18M includes Department of Defense, US Environmental Protection Agency, US Department of Agriculture, National Academy of Sciences, National Institute of Health, US Agency for International Development and Water Research Foundation as well as other state- or industry-specific entities. She has served on multiple national and international advisory groups and as an expert reviewer addressing water quality-related issues and chemical and consumer product policies. She has mentored 32 graduate students as primary advisor and teaches introduction to environmental sciences, environmental soil chemistry, and environmental organic chemistry courses. She has served as associate editor for Journal of Environmental Quality and the Vadose Zone Journal and currently for the Frontiers in Soil Science with an emphasis on Soils and Human Health. She is a long-standing active member (> 30 years) of the American Chemical Society (ACS), Society of Environmental Toxicology and Chemistry (SETAC), the American Society of Agronomy (ASA) and Soil Science Society of America (SSSA). She is an SSSA and ASA fellow and has received several mentoring and educator awards at Purdue University.

Leggett, Harold

PPM Consultants & HLA, LLC

Dr. Harold Leggett has more than 30 years of governmental, professional, consulting and environmental management experience including: environmental compliance, regulatory negotiations, Process Safety Management and Risk Management Plans, natural resource management and assessment, National Environmental Policy Act (NEPA) and Federal Energy Regulatory Commission (FERC) coordination and compliance assessment. Dr. Leggett holds a B.S. in Agriculture and a M.S. in Biology from Southeastern Louisiana University, and a Ph.D. in Biology from the University of Southern Mississippi. Dr. Leggett brings unique professional knowledge and perspective having been gained from his time serving as Secretary and Assistant Secretary of Louisiana Department of Environmental Quality and his employment in industry (Forest Products and Interstate Natural Gas Pipeline companies), regulatory (La Department of Environmental Quality and US Navy-Industrial Hygienist) and consulting engineering firms. In addition, Dr. Leggett has been a member of the Unified Command Group (UCG) for the State of Louisiana and has served as lead contact between the state and federal agencies for emergency response and environmental and debris management recovery activities following Hurricanes Katrina, Rita, Gustav and Ike. He has served on numerous task force and appointments to develop and implement comprehensive environmental regulations for Louisiana and the United States. Dr. Leggett has presented numerous presentations, white papers, and position publications on the impact of environmental rules and regulations on Louisiana. Recently, Dr. Leggett has had a

publication in the Environmental Forum Journal which discusses the impact of environmental policy on economic and business interest in the United States. In 2013, Dr. Leggett was invited to serve as a Research Affiliate with Louisiana State University's Stephenson Disaster Management Institute..

Leung, Angela

UCLA

Dr. Angela M. Leung is an Associate Professor of Medicine at the University of California Los Angeles (UCLA) David Geffen School of Medicine and an endocrinologist at UCLA Health and the Veteran Affairs (VA) Greater Los Angeles Healthcare System. After pursuingher medical degree from the Boston University School of Medicine, Dr. Leung completed her internal medicine residency and endocrinology fellowship training at Boston University School of Medicine and Boston Medical Center. She also obtained a Master of Science degree in Epidemiology at the Boston University School of Public Health. Dr. Leung has clinical and research interests in thyroid disorders, specifically regarding environmental thyroid toxicants, iodine status, and maternal-child thyroid health. Her research has been funded by the National Institutes of Health (NIH) and the VA Clinical Science Research and Development Service; currently, she is principal investigator of a VA study examining the associations between iodinated contrast dye exposure, thyroid dysfunction, cardiac outcomes, and mortality among Veterans. Dr. Leung also serves on the board of directors of the American Thyroid Association (ATA); is Editor-in-Chief of Clinical Thyroidology, one of the ATA's journals; is president-elect of the ATA's Women in Thyroidology task force; and is past-chair of the ATA's Public Health Committee. She has served on multiple NIH study sections and draft toxicity assessment review committees for the U.S. Environmental Protection Agency (EPA) and the global Organization for Economic Cooperation and Development (OECD), in relation to the exposure risks of various environmental thyroid disruptors that include GenX, PFBS, and perchlorate.

Li, Bo

University of Illinois at Urbana-Champaign

Dr. Bo Li is a Professor and Chair in the Department of Statistics at the University of Illinois Urbana-Champaign (UIUC). She also holds a Data Science Founder Professorial Scholar and a Richard and Margaret Romano Professorial Scholar. Dr. Li received her Ph.D. in Statistics from Texas A&M University and then became a Post-Doc at National Center for Atmospheric Research before joining Purdue as an Assistant Professor. Later, she joined the faculty at the UIUC and has served as the department chair since 2019. Dr. Li's research mainly focuses on spatial and spatio-temporal statistics and environmental statistics concerning climatology, atmospheric sciences, public health, forestry, and agriculture. Her research has been funded by the NSF, NIH, and Sandia National Laboratories in the last two years. Dr. Li has served on the editorial boards of several journals including the Journal of the American Statistical Association and Environmetrics, and was guest editor for a special issue in Statistica Sinica and a special issue in Journal of Agricultural, Biological and Environmental Statistics. She has served on the American Statistical Association (ASA) Climate Change Policy Committee for five years, during which she represented ASA to meet with staffers of Senators and House representatives to illustrate climate change and its impact at Capitol Hill. She has served on the NSF and NIH review panels multiple times, and has reviewed guidance and supporting documents for EPA. She is currently serving on the Awards Committee for Committee of Presidents of Statistical Societies, and the ASA Committee on Funded Research. She is also the Chair-Elect for Caucus of Academic Representatives. Dr. Li was the recipient of the Young Investigator Award in the ASA section on statistics and the environment and is an ASA Fellow. She also received the 2020 H. O. Hartley Award from the Texas A&M University.

Link, Hildegaard

Rutgers University

Dr. Hildegaard Link is currently an assistant teaching professor in the Human Ecology department and director of the sustainability minor for the School of Environmental and Biological Sciences at Rutgers University. She received undergraduate and master's degrees in civil/environmental engineering from the Cooper Union for Advancement of Science and Art in New York City. She received her doctorate in Environmental Science from the City University of New York. Dr. Link also holds a Bachelor of Arts in Political Science from McGill University is Montreal, Quebec, Canada. Dr. Link holds a New York State Professional Engineer's License. Her expertise is in energy and water infrastructure engineering, ecosystems services and climate modeling and in community-based planning. She worked for over 25 years as an engineer in energy and water utilities in New York State. Since 2007, she has chaired Resilient Red Hook, a community-based planning not for profit advisory in Red Hook Brooklyn, serving environmental justice communities on the urban waterfront. The focus of their work is building and maintaining livable neighborhoods as continuously defined by the input of community residents. Dr. Link's doctoral research covered climate change impacts on the economics of water and energy utilities in New York State and Texas. Dr. Link's current research involves economic modeling of the impact of land use and micro-climactic variation on electric use

in environmental justice neighborhoods. Her goal is to evaluate the capacity building effectiveness of participatory climate modeling in non-affluent environmental justice communities on the urban waterfront. Dr. Link's research is currently un-funded. Dr. Link's additional service includes environment committee chair for Brooklyn Community Board 6, leadership committee member for the Gowanus Canal Remediation Citizen's Advisory Group and water quality working group member-New York New Jersey Harbor Estuary program, Sustainable Accounting Standards Board Alliance member.

Litman, Robert

Independent Consultant

Mr. Robert Litman is an independent consultant with Environmental Management Support Inc. and with ZelTech, Inc. He holds the Bachelor of Science Degree in Chemistry from Brooklyn College and the Ph.D. degree in Analytical Chemistry from the City University of New York. He was an Assistant Professor of Chemistry at the University of Lowell for six years and served in several positions related to chemistry at Seabrook Station Nuclear Power Plant for the next 22 years. In 2002 he became an independent consultant and has worked in the areas of radiochemical analysis, radiochemistry training, gamma and alpha spectrometry analysis and method development, development of rapid radiochemical techniques following a radiological emergency, developed laboratory guides for response to radiological emergencies, under contract with Environmental Management Support Inc. from 2002 to present. He has also provided guidance on nuclear power plant corrosion control, assessment of radiological data and control of radiological effluents from 2002 to 2017 with ChemStaff, Inc. From 2017 to present he has provided technical consulting support to the radiochemistry laboratory staff at Patrick AFB in Florida. Dr Litman was an independent consultant for the NRC from 1995-2011 on the evaluations and responses to GSI-191 Post-LOCA Chemical Effects in Nuclear Power Plant containment recirculation sumps. Under this contract he served as a technical reviewer for "Phenomena Identification and Ranking Table Evaluation of Chemical Effects Associated with Generic Safety Issue 191", NUREG-1918, co-author of "NRC Staff Review Guidance Regarding Generic Letter 2004-02 Closure in the Area of Plant-Specific Chemical Effect Evaluations", (March 2008), as well as several designs and chemical effects modifications at several nuclear power plants. In separate areas of contract to the NRC, Dr. Litman was co-author of Regulatory Guide 4.15 Rev 2 "QUALITY ASSURANCE FOR RADIOLOGICAL MONITORING PROGRAMS (INCEPTION THROUGH NORMAL OPERATIONS TO LICENSE TERMINATION) — EFFLUENT STREAMS AND THE ENVIRONMENT", and provided training to the NRC staff on the Multi-Agency Radiological Laboratory Analytical Protocols Manual. He is currently working on methods of analysis for NORM/TENORM in liquid and solid wastes and byproducts under contract with Environmental Management Support Inc. He is also assisting in the development and improvement of analyses for fission products and transuranics under DOD contract. Dr. Litman has participated as a volunteer in the National Analytical Management Program of DOE for the past 4 years and has delivered eight webinars related to radiochemical analyses. Dr. Litman has not received any research grants within the last two years.

Lodge, David

Cornell

Dr. David M. Lodge is the Francis J. DiSalvo Director of Cornell Atkinson Center for Sustainability, and Professor in the Department of Ecology and Evolutionary Biology at Cornell University. Lodge earned a B.S. in Biology from the University of the South, and a D.Phil. in Zoology from Oxford University as a Rhodes Scholar. Dr. Lodge has expertise in environmental risk assessment, water quality, freshwater and marine coastal ecology, ecosystem services, bioeconomics, and invasive species (including from ships' ballast and biofouling). His research includes improving ecological forecasting to better inform environmental risk assessment, natural resource management, and policy development. In recent years, Dr. Lodge's laboratory has been on the cutting edge of the development and application of aquatic environmental DNA (eDNA) for environmental surveillance and monitoring. Lodge has been principal or co-principal investigator on 93 externally sponsored research projects; in the last two years, that funding has come from Environmental Protection Agency, Department of Defense, National Oceanic and Atmospheric Administration (NOAA), and National Science Foundation. He has published over 235 journal papers and book chapters, many technical reports, and has edited two books. On numerous occasions Dr. Lodge has testified before the U.S. Congress. He was the first chair of the U.S. government's national Invasive Species Advisory Committee in 2000-01. He led research on freshwater biodiversity as part of the United Nations' Millennium Ecosystem Assessment in 2000-05. He served on the NOAA Scientific Advisory Board, 2013-2016, as a Jefferson Science Fellow in the US Department of State in 2014-15, and he was President of the Ecological Society of America in 2016-2017. In addition to his faculty role, Lodge directs the Cornell Atkinson Center for Sustainability, which is a university-wide mission driven organization to deploy Cornell University expertise with non-academic organizations to help reduce climate risks, accelerate energy transitions, increase sustainability of agriculture, and advance One Health.

Lohmann, Rainer

University of Rhode Island

Dr. Rainer Lohmann is Professor of Oceanography at the University of Rhode Island (URI)'s Graduate School of Oceanography. He obtained a Ph.D. in Environmental Science from Lancaster University (UK), and a B.Sc. in Chemical Engineering from EHICS (Strasbourg, France). His educational background combines work in chemical/ environmental engineering (postdoctoral work at the Massachusetts Institute of Technology, MIT) with marine, atmospheric, and environmental chemistry. His group conducts research on the sources, transport, and bioaccumulation of anthropogenic pollutants. Dr. Lohmann has performed work at sites contaminated with legacy hydrophobic organic contaminants using novel passive samplers to assess transport, bioavailability, and food-web magnification of these chemicals. He is Director of a NIEHS-funded Superfund Research Center at URI focused on the sources, transport, exposure, and effects of per- and polyfluorinated chemicals (PFAS). Dr. Lohmann has published over 100 articles in the leading journals in the field (notably the American Chemical Society's Environmental Science and Technology), and has given over 100 invited presentations. He serves as Editor for the Society of Environmental Toxicology and Chemistry (SETAC)'s journal Environmental Toxicology and Chemistry, and is member of several editorial advisory boards, including Environmental Science and Technology, Environmental Science and Technology Letters, and Environmental Pollution. He serves on EPA's Board of Scientific Counselor (BOSC)'s sub-committee on sustainable and healthy communities (SHC). Dr. Lohmann received the Roy F. Weston Environmental Chemistry Award by SETAC, the INNOLEC Visiting Lectureship by Masyruk University, Brno (Czech Republic) and fellowships by the Alexander-von-Humboldt foundation, the Research Center for Ocean Margins at the University of Bremen and the German Academic Exchange Service.

Lone Fight, Lisa

Montana State University; MHA Nation

Ms. Lisa Lone Fight (enrolled citizen of the Mandan, Hidatsa, and Arikara [MHA] Nation, Dripping Dirt Clan) is an environmental and remote sensing scientist and directs her nations Science Department. Her publications include, "Keeping Native American Communities Connected to the Land: Women as Change Agent," and "Rangelands and "A View from the Sky" in the book, Tribal GIS." Ms. Lone Fight lectures and presents widely on environmental science and remote sensing and was an invited presenter at the United Nations on Indigenous Women's Intellectual Property. Her current projects include the establishment of the Science, Technology, and Research Department of the MHA Nation. This will be the first governmental research department established by a tribal nation. She was also the founding Director of the Wind River Native Science Field Center, an NSF-funded project where she developed and implemented a collaborative model for creating informal science learning experiences for Native students. Her work has been profiled in the Emmy Award-winning PBS documentary, "Before They Were Parks," and in national news outlets. She has been a Sloan Fellow, Native Science Fellow, and Ph.D. student at Montana State University in the Department of Earth Sciences, Geosciences, as well as serving as the Senior Environmental Scientist for the Chairman's Office of the MHA Nation. She was selected to be one of 35 national participants in the, "Radical Innovation Summit to Advance STEM Education." Ms. Lone Fightcurrently serves on the North Dakota Advisory Committee to the U.S. Commission on Civil Rights, the MHA Nation Federal Partners Working Group, as well as the International Souris River Study Board. She has served on the boards of the American Indian Science and Engineering Society, the Indigenous Women in Science Network, and the Society of STEM Women of Color Research Review Board.

Lott, Melissa

Columbia University

Dr. Lott specializes in technology and policy research, working to increase our understanding of the impacts of our energy systems on air pollution and public health. She directly applies this understanding to help decision-makers mobilize technology and policy solutions to support the transition to low-carbon energy systems. She has authored more than 350 scientific articles, columns, op-eds, journal publications, and reports. Dr. Lott is currently the Director of Research at the Center on Global Energy Policy at Columbia University SIPA and an indicator lead author with the Lancet Countdown on Climate Change and Public Health.

Low, Jason

South Coast AQMD

Dr. Jason Low is the Assistant Deputy Executive Officer of the Monitoring and Analysis Division for Science & Technology Advancement at the South Coast Air Quality Management District (South Coast AQMD). He graduated with a B.S. in both Chemistry and Biology, and a M.S. and Ph.D. in Chemistry with a focus on Atmospheric Chemistry all from the University of California, Irvine. In his role at South Coast AQMD, role, he leads the Division of over 130

scientists, engineers and technicians responsible for conducting ambient monitoring, source testing and laboratory analysis and oversees the South Coast AQMD ambient network of over 40 air monitoring stations (supporting U.S. Environmental Protection Agency Air Monitoring Programs), laboratory, and numerous special air monitoring projects focusing on air toxics and the local impacts of air pollution. He provides direction for the innovative work conducted by the Air Quality Sensor Performance Evaluation Center (AQ-SPEC) and the advanced remote measurement programs. He has led many community air monitoring projects including the Aliso Canyon well leak, air monitoring investigation in Paramount and Newport Beach which ultimately led to the discovery of previously unknown sources of hexavalent chromium, and also refinery fence line and community monitoring. Additionally, he leads the development and implementation of the environmental justice air monitoring programs and directly works with impacted communities under the California AB 617 program. As part of his graduate work, he researched how gas measurements impacted the stratospheric ozone layer and currently authors and provides review for publications involving advanced instrumentation such as near real time metals measurements and air quality sensors. He serves on many national and state committees regarding air monitoring including the National Association for Clean Air Agencies (NACAA) monitoring steering committee, California Air Pollution Control Officers Association (CAPCOA), and Air Quality Data Exchange Committee.

Lumen, Annie

FDA

Dr. Annie Lumen is a Senior Staff Fellow and Principal Investigator in the Division of Biochemical Toxicology at the National Center for Toxicological Research of the U.S. Food and Drug Administration (FDA). She also is an Adjunct Faculty in the College of Medicine at the University of Arkansas Medical Sciences. Dr. Lumen holds a M.Sc. in Biological Sciences with a dual degree of B.E. in Chemical Engineering from the Birla Institute of Technology and Sciences, BITS-Pilani, India, and received her Ph.D. in Biological Sciences from Drexel University. Dr. Lumen joined the FDA for her postdoctoral training where she continued to develop her regulatory research career. Dr. Lumen's research focuses on developing computational tools, specifically Physiologically Based Pharmacokinetic (PBPK) modeling, in support of regulatory decision-making with a focus on perinatal life-stages. Dr. Lumen has been awarded several intramural grants from the FDA's Office of Women's Health, Medical Counter Measures Initiative, and Perinatal Health Center for Excellence. Dr. Lumen has chaired the Committee for the advancement of FDA science and is a member of the FDA modeling and simulations leadership circle leading the risk assessment interest group. She has served as a grant reviewer, subject matter expert, and external peer reviewer in toxicological review panels for the Environmental Protection Agency. Dr. Lumen is a member of the in vitro to in vivo extrapolation working group of the interagency coordinating committee on the validation of alternative methods and the toxicokinetics expert group of the Working Group of the National Coordinators of the Test Guidelines Programme, Organization for Economic Co-operation and Development. Dr. Lumen currently serves as a member of the steering committee of the PBPK working group of Health and Environmental Sciences and as an expert member of the International Agency Research on Cancer Monographs Programme of the World Health Organization.

Lunden, Melissa

Aclima, Inc.

Dr. Melissa Lunden is the Chief Scientist at Aclima, Inc. Aclima designs and deploys mobile sensor networks that measure air pollution and greenhouse gases producing maps with block-by-block spatial resolution. She received her Bachelor's degree in Mechanical Engineering from Texas Tech University and her Ph.D. in Mechanical Engineering from the California Institute of Technology with an emphasis in aerosol science. Dr. Lunden has expertise in engineering, novel air sampling technologies, pollution dynamics in the indoor environment, modeling, and exposure assessment. Dr. Lunden's career has included research into a number of fundamental air quality processes of importance to understanding source-receptor-exposure relationships, often with a significant experimental component in field locations at atmospherically relevant conditions. Prior to joining Aclima in 2013, Dr. Lunden was a staff scientist at Lawrence Berkeley National Laboratory where she directed research that included emissions measurements from a variety of sources including on-road traffic and household appliances, particle formation in the atmosphere, the transport of outdoor pollutants to the indoor environment, and airflow in buildings and subway systems. At Aclima, Melissa leads efforts to ensure the company's mobile sampling and analysis methods deliver the highest level of scientific rigor and validation and leads research into the scientific questions Aclima's data can uniquely answer. Dr. Lunden has served as a board member and treasurer of the American Association for Aerosol Science.

Ma, Lala

University of Kentucky

Dr. Lala Ma is an Assistant Professor of Economics in the Gatton College of Business and Economics at the University of Kentucky. Dr. Ma holds a B.A. and M.A. in Economics from Tufts University, a B.A. in Mathematics from Tufts University, and an M.A. and Ph.D. in Economics from Duke University. She joined the faculty at the University of Kentucky in 2014. Dr. Ma is an environmental economist whose research focuses on estimating the values placed on environmental quality as assessed through housing markets and health impacts. Her work also examines how markets potentially contribute to the inequitable distribution of pollution based on socioeconomic status. From 2019 to 2020, she was a faculty fellow with the U.S. Environmental Protection Agency's Office of Resource Conservation and Recovery. She is currently serving a five-year term on the Editorial Council for the Journal of Environmental Economics and Management. Dr. Ma's research has been funded by the U.S. Department of Agriculture and the National Institutes of Health through sub-award agreements.

MacDonald Gibson, Jacqueline

Indiana University

Dr. MacDonald Gibson chairs the Department of Environmental and Occupational Health at Indiana University–Bloomington. She also is Adjunct Professor of Public and Environmental Affairs. Dr. MacDonald Gibson holds a B.A. in Mathematics from Bryn Mawr College; an M.S. in Civil and Environmental Engineering from the University of Illinois at Urbana–Champaign; and a Ph.D. in Civil and Environmental Engineering from Carnegie Mellon University; and a Ph.D. in Engineering and Public Policy also from Carnegie Mellon. Before her academic career, she was Associate Director of the National Research Council's Water Science and Technology Board and Senior Engineer at RAND, a nonprofit policy research organization. Her research quantifies environmental risks to health and benefits of environmental policies. Recent research has focused on adverse impacts of inequitable access to safe drinking water in peri-urban U.S. communities of color and in rural areas. She recently completed three years as an elected Society for Risk Analysis Councilor, and she is currently Vice Chair of the Justice, Equity, and Risk Specialty Group. She was on the National Academies' committee for the Quality Water from Every Tap initiative and an invited speaker at the NAACP Legal Defense and Education Fund Thurgood Marshall Institute forum "Water Inequities Impacting Black Communities." She also served on the National Research Council Committee on Inherently Safer Chemical Processes. She previously was an appointed member of the Science Advisory Board for the North Carolina (NC) Departments of Environmental Quality and Health and Human Services. Awards include the National Science Foundation Graduate Research Fellowship and Robert Wood Johnson Foundation Mentored Research Scientist Development Award. Dr. MacDonald Gibson's recent research has been funded by the US Environmental Protection Agency Science to Achieve Results Program, National Science Foundation, US Department of Housing and Urban Development, NC Policy Collaboratory, NC Water Resources Research Institute, and Abu Dhabi Department of Health.

MacDonell, Margaret M.

Argonne National Laboratory

Dr. Margaret MacDonell heads the Radiological, Chemical, and Environmental Risk Analysis Department in the Environmental Science Division of Argonne National Laboratory. She holds a B.S. in Biology and M.S. in Civil/Environmental Health Engineering from the University of Notre Dame, and a Ph.D. in Civil/Environmental Health Engineering from Northwestern University. Her research focuses on environmental health risk analysis, spanning air and water quality, contaminant fate and transport, exposure and dose-response assessment, mixtures and cumulative risk assessment, radiological risk assessment, waste management, microbiology, public health, ecological risk assessment, ecosystem services on contaminated lands, community environmental health, citizen science, drinking water, water treatment unit operations, water quantity and reuse, energy and environment, sustainability, and the circular economy. Dr. MacDonell is a fellow and past president of the Society for Risk Analysis, and a fellow of the nonprofit Waste Management Symposia (per contributions to the advancement of radioactive waste management). She was honored to serve on the U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) from 2019 to spring 2021, and she has served on several National Academies Committees related to exposure and toxicity, including the Committee on Toxicology, Committee on Acute Exposure Guideline Levels, Committee on Spacecraft Exposure Guidelines, and Committee to Review the EPA Integrated Risk Information System Process. Dr. MacDonell has also served the National Council on Radiation Protection and Measurements (NCRP) Scientific Committee 94, Environmental Remediation and Radioactive Waste Management, and Scientific Committee 64-23, Cesium in the Environment. Her primary research funding is from the U.S. Department of Energy – with current funding from the Office of Environmental Management (EM) Richland Operations Office (RL) for cumulative risk and groundwater resource analyses at the Hanford site; the Office of Energy Efficiency and Renewable Energy (EERE) Bioenergy Technologies Office (BETO) for responsible innovation for bioplastics; and the EERE Building Technologies

Office (BTO) for indoor air quality and environmental assessment to support energy conservation standards for manufactured housing. Previous funding sources from several years ago include the U.S. Environmental Protection Agency and National Science Foundation through collaborative interagency agreements, and the private sector.

Madrigano, Jaime

RAND Corporation

Dr. Jaime Madrigano is a policy researcher at the nonprofit research organization, RAND Corporation. Her research focuses on environmental and social determinants of health, including environmental pollution, extreme weather and disasters, and the built environment, with an emphasis on environmental justice. Dr. Madrigano has expertise in using epidemiologic methods to inform policy and her research has been cited in multi-agency climate and health preparedness efforts within New York City. She has also worked with local health departments and community-based stakeholders to conduct health and environmental needs assessments. Dr. Madrigano is currently leading research to examine the relationship between systemic discriminatory practices and inequitable environmental burdens in the U.S., as well as work to examine heat vulnerability in New Orleans, Louisiana. In addition to epidemiologic methods, her research frequently involves community-based partnerships to incorporate community-sourced science and stakeholder perspectives. Dr. Madrigano's funding sources in the last two years include the National Institutes of Health, the U.S. Centers for Disease Control and Prevention, the U.S. Department of Homeland Security, the Robert Wood Johnson Foundation, and Prince George's County, Maryland. Prior to joining RAND, Dr. Madrigano completed interdisciplinary postdoctoral training focused on climate change and health as an Earth Institute Fellow at Columbia University and was an assistant professor at Rutgers University. She received her Sc.D. in epidemiology and environmental health from the Harvard T.H. Chan School of Public Health. Dr. Madrigano has been a member of the International Society for Environmental Epidemiology (ISEE) since 2009 and currently serves on the ISEE North America Chapter mentoring committee. She also frequently serves as a reviewer for the National Institutes of Health on special emphasis panels related to environmental disasters and environmental health disparities and is currently serving as a technical expert for an interagency-sponsored workshop on health, climate, and the social cost of carbon.

Mahowald, Natalie

Cornell University

Dr. Natalie Mahowald serves as the Irving Porter Church Professor of Engineering in the Department of Earth and Atmospheric Sciences at Cornell University, as well as co-leading the Cornell Atkinson Center for Sustainability's Working Group on Reducing Climate Risk. Her research focuses on understanding aerosols, and their impacts on climate and biogeochemistry. She actively develops new aerosol algorithms in the National Science Foundation's Community Earth System Model (CESM), where she has also led the Biogeochemistry Working Group and was a member of the Scientific Steering Committee of the CESM from 2009 to 2017. Her groundbreaking work on aerosol, biogeochemistry and climate interactions can be seen in her multiple papers in Science, Nature-Communications, Nature-Geosciences and Annual Review journals. Professor Mahowald's research productivity record is impressive, with over 190 peer-reviewed papers and an ISI-web of science h-factor of 74. Her funding in the last two years comes from the National Aeronautics and Space Association, Department of Energy and National Science Foundation. She has been widely recognized for her work, including American Meteorological Societies Houghton Award (Best Young Physical Meteorologist or Atmospheric Chemist), and is a member, and a Fellow of American Association for the Advancement of Science, American Geophysical Union and American Meteorological Society and was awarded a Guggenheim Fellowship. At the international level, Professor Mahowald has been recognized as a leader, being a lead author on two Intergovernmental Panel on Climate Change reports (5th Assessment report, Working Group 1 on Physical Science of Climate Change, and the 2018 Special Report on 1.5C). She has also served on the Global Analysis, Integration and Modeling (GAIM) and Analysis Modeling and Integration of the Earth System (AIMES) scientific task force under the International Geosphere-Biosphere Project, as well as on the World Climate Research Programs' Working Group on Climate Models..

Marion, Jason

Eastern Kentucky University

Dr. Jason W. Marion is an associate professor in the Department of Environmental Health Science at Eastern Kentucky University (EKU). He has a Baccalaureate degree in Environmental Science and a Masters' degree in Biology from Morehead State University (MSU) in Kentucky. He earned a Masters' degree and Ph.D. in Public Health in Environmental Health Science from Ohio State University (OSU). Dr. Marion's research relates to harmful cyanobacteria blooms; epidemiological studies on recreational water and drinking water; and practical water quality assessments for fecal contamination and antibiotic resistance detection, with the latter earning Unite for Sight's 2021 Global Health Innovation Prize. He has over 20 journal publications and 80 conference presentations. Dr. Marion's

funding sources since 2019 include the U.S. Geological Survey via the Kentucky Water Resources Research Institute (KWRRI), the National Institute for Environmental Health Sciences (NIH-NIEHS), and EKU. Prior to academic service, Dr. Marion served the Ohio Department of Natural Resources from 1999-2011. Dr. Marion co-chairs the One Health, One Global Environment Conference, and he is a member of the American Public Health Association. Dr. Marion is the Global Health technical advisor for the National Environmental Health Association (NEHA) and a past-president of the Association of Environmental Health Academic Programs (AEHAP). Dr. Marion has prior U.S. Environmental Protection Agency peer-reviewer service, and in 2020 he served on four NIEHS special emphasis study section panels related to COVID-19 and hazardous materials training. Dr. Marion serves on advisory boards for Kentucky Water Resources Research Institute (KWRRI) and the Kentucky Environmental Public Health Tracking Network, and on Kentucky's wastewater and drinking water operator boards. Locally, Dr. Marion is a member of the National Association for the Advancement of Colored People (NAACP) Richmond-Madison County Branch, chairing Public Relations and Environmental Justice committees. Dr. Marion's other service includes directing Kentucky's Science & Engineering Fair since 2014, and prior service to the Board of Regents at MSU (2004-06) and OSU Board of Trustees (2008-2010).

Markowitz, Ezra

Univ. of Massachusetts, Amherst

Ezra M. Markowitz is an Associate Professor of Environmental Decision-Making in the Dept. of Environmental Conservation at the Univ. of Massachusetts, Amherst. He received a Ph.D. in Environmental Sciences, Studies, and Policy from the Univ. of Oregon in 2012 and has an M.S. in Psychology from the Univ. of Oregon (2008) and B.A. in Psychology from Vassar College (2007). Dr. Markowitz's research examines the psychological, social, and contextual factors that influence individual and collective environmental decision-making; he is also an expert in risk and science communication as well as public engagement with science. His work has been supported by the National Science Foundation, U.S. Geological Survey, National Geographic Society, International Game Fish Association, and other funders. Dr. Markowitz has served as a member of the Council of Representatives of the American Psychological Association (APA), as president of the Society for Environmental, Population, and Conservation Psychology (APA Division 34) and as an advisory board member of the How We Respond project of the American Association for the Advancement of Science. He is currently a member of climate change task forces at both the APA and the Society of Behavioral Medicine.

Marples, Brian

University of Rochester

Dr. Brian Marples is a Professor of Radiation Oncology at the University of Rochester, New York. He is a member of the Wilmot Cancer Institute at the University of Rochester Medical Center. Dr. Marples received his masters' degree from St. Bartholomew's Medical College at the University of London, UK, and his Ph.D. in Radiation Biology from the University of London, UK. Dr. Marples research has focused on assessing low-dose radiation responses in cell cultures and also in subcutaneous and orthotopic tumor models. These studies investigate radiation-mediated DNA damage signaling events in cells, microenvironmental interactions between the tumor and normal tissue and the impact of irradiation on these processes, and how normal tissue toxicities develop after radiation treatment. A central theme of these studies is the role of low dose radiation responses and radiation fractionation, and the threshold level of damage needed for deleterious radiation outcomes. His current research funding is from the NIH/NCI to investigate radiation-induced normal tissue sequelae that occur after abdominal irradiation. Dr. Marples was recent past Biology Senior Editor of International Journal of Radiation Oncology Biology Physics (Red Journal), and is the Vice-Chair of the American Society for Radiation Oncology (ASTRO) Science Council. He also serves as an ASTRO Board Member.

Marshall, Julian

University of Washington

Dr. Julian Marshall is the Kiely Endowed Professor, Department of Civil and Environmental Engineering, University of Washington. He currently serves in his department as Associate Chair for Justice, Equity, Diversity, and Inclusion. He is the Director of the UW Grand Challenges Impact Lab, and he is an Adjunct Professor at UW in Global Health. Professor Marshall has a BSE (High Honors) in Chemical Engineering from Princeton, and an M.S. and Ph.D.in Energy and Resources from UC Berkeley. He completed a post-doctoral fellowship in environmental health at University of British Columbia. Professor Marshall's expertise is in models and measurement of exposure to air pollution. His current focus is environmental justice aspects of air quality engineering: understanding exposure disparities, their causes, and potential solutions. His research employs empirical models, which use statistical methods to estimate concentrations and their variability in space and time, and mechanistic models, which are based on chemistry and physics and can be used quantify the contributing emissions sources. Marshall has published or submitted more than 140 peer reviewed articles, including in top journals such as Proceedings of the National Academy of Sciences. His

funders include the Environmental Protection Agency (EPA), the Nation Science Foundation (NSF), and the National Institutes of Health (NIH). He currently co-leads the Center for Air, Climate, and Energy Solutions, a $10m US EPA-funded Air, Climate, and Energy (ACE) center. He serves on Advisory Committees for the MIT Superfund Research Program and for the EPA-funded Harvard/MIT ACE center.

Marston, Brad

Brown University

Dr. Brad Marston is a professor of physics at Brown University, Associate Director of the Brown Theoretical Physics Center, and an Elected Fellow of the Institute at Brown for Environment and Society. A graduate of Caltech, he received his Ph.D. from Princeton University and did postdoctoral work at Cornell University as an International Business Machine (IBM) Fellow. He has been a visiting professor at Massachusetts Institute of Technology (MIT), a visiting associate at Caltech, a visiting professor at École normale supérieure de Lyon (ENS-Lyon), and a General Member of the Kavli Institute for Theoretical Physics (KITP) at University of California Santa Barbara. Marston is an Alfred P. Sloan Fellow and a recipient of a National Young Investigator Award. In 2008, he was designated a National Science Foundation (NSF) American Competitiveness and Innovation Fellow, and in 2010 an American Physical Society (APS) Outstanding Referee. Marston is a fellow and lifetime member of the APS. He has chaired the Advisory Board of the KITP, and more recently served as a member of the APS Board of Directors. He helped to organize the APS Topical Group on the Physics of Climate. Dr. Marston was originally trained in theoretical condensed matter physics but has also worked on geophysical fluid dynamics since 2007, and climate science since the late 1980s. He has made contributions to the theory of quantum materials and to understanding the carbon cycle and geophysical fluid dynamics including the direct statistical simulation of the fluid Earth system using concepts adapted from non-equilibrium statistical physics and large deviation theory. Recently he showed that the mathematics and physics of topological insulators is also realized in equatorial waves in Earth's atmosphere and oceans. Dr. Marston is currently supported by 3 grants from the National Science Foundation, one grant from the Department of Energy, and one grant from the Simons Foundation.

Martin, Clyde F.

Texas Tech University

Dr. Clyde Martin received his Ph.D. in Mathematics from the University of Wyoming, worked as a National Research Council Research Associate at National Aeronautics and Space Administration (NASA) Ames Research Center and was a Paul Whitfield Horn Professor of Mathematics at Texas Tech University for 30 years. Dr. Martin's research interests include the development and analysis of mathematical and statistical models in medicine and environmental problems and in control theory. He has recently coauthored two major papers on the fate of asbestos in the human body and a paper on the occurrences of heavy metals in the meconium. He has collaborated with engineers and scientists in a number of areas including aeronautics, bioengineering, economics, analytical chemistry, public health, epidemiology, and chemical engineering on a variety of scientific topics. He is a Fellow of the Institute of Electrical and Electronic Engineers, a Fellow of the American Statistics Association, and an elected member of the International Statistics Institute. In November of 2001 he received an honorary doctorate for his contributions to systems theory from the Royal Institute of Technology in Stockholm, Sweden. He has received distinguished alumni awards from both Emporia State University and the University of Wyoming. He has directed more than 120 students to advanced degrees and published more than 400 papers in a variety of disciplines. From August 2012 to August 2013 he served as a Jefferson Science Fellow at the United States Department of State where he was a science advisor to the Feed the Future Program. He was appointed to the EPA SAB in 2016 and reappointed in 2019. He served on several subcommittees during his tenure, including the Waters of the United States and the All Ages Lead Model. His major scientific strength is his ability to see, understand and utilize the interactions between diverse areas of science and technology.

McCarthy, Matthew

Oak Ridge National Laboratory

Dr. Matthew McCarthy is currently working as a Research Associate Scientist at Oak Ridge National Laboratory (ORNL) in the Geographic Data Science Section of the National Security Sciences Directorate. With Ph.D. and M.S. degrees in Oceanography and a background in Oceanographic Remote Sensing, he has expertise in coastal, terrestrial, and open ocean environmental science, especially studying the effects of sea-level rise, tropical storms, and climate change more broadly on coastal ecosystems. He has lead research projects at ORNL and the University of South Florida with funding from the National Science Foundation, National Aeronautics and Space Administration, and National Oceanic and Atmospheric Administration to map and monitor diverse environmental and anthropogenic sectors from coral reefs and mangroves to public health drivers and land cover change. Much of his work requires high-performance computing (i.e. supercomputers) applied to Big Data problems, which led him to ORNL – home to

the world's fastest supercomputer (Frontier). He is currently serving as a Science Advisor on a 3-year project monitoring the environmental and socio-economic impacts of hurricanes on south Florida and Puerto Rico mangrove ecosystems and adjacent communities. He is also serving as a Science Communication Advisor on a Florida Fish and Wildlife Conservation Commission project to develop a state-wide communication strategy focused on informing the public about Red Tide events. In the recent past, he developed and taught graduate-level courses in Science Communication and Science Policy. He has excellent oral and written communication skills.

McCormack, Meredith

Johns Hopkins University School of Medicine

Dr. Meredith McCormack is an Associate Professor of Medicine at Johns Hopkins University School of Medicine and an Associate Professor in the Department of Environmental Health Sciences at the Johns Hopkins University Bloomberg School of Public Health. Dr. McCormack earned her M.D. from Jefferson Medical College of Thomas Jefferson University, her MHS from the Bloomberg School of Public Health, and her B.S. in Biology from Duke University. She completed her Internal Medicine residency at Thomas Jefferson University Hospital and completed Pulmonary and Critical Care Fellowship at Johns Hopkins University. Her areas of clinical expertise include asthma, chronic obstructive pulmonary disease, and pulmonary physiology. She is Medical Director of the Johns Hopkins University Pulmonary Function Laboratory and Chair of the American Thoracic Society Committee for Pulmonary Function Testing. Dr. McCormack's research focuses on health effects of air pollution and environmental determinants of respiratory disease. She has contributed to the evidence of health impacts of outdoor and indoor air pollution including studies applying national data and environmental cohort studies of susceptible populations in urban and rural areas. Dr. McCormack's research is supported by the National Institutes of Health: National Heart, Lung, and Blood Institute, National Institute of Environmental Health Sciences, National Institute of Minorities and Health Disparities, and the U.S. Environmental Protection Agency. She has served as a member on the National Academy of Sciences Committee on the respiratory health effects of airborne hazards exposures in the southwest Asia theater of military operations. Dr. McCormack is on the medical science review panel and serves as a spokesperson for the American Lung Association. She is also a member of the American Thoracic Society and the American College of Chest Physicians.

McCormick, Sabrina

George Washington University

Ms. Sabrina McCormick is an environmental health social scientist and filmmaker. She investigates the exposures and perceptions that motivate or discourage action to protect public health and well-being. McCormick was a Robert Wood Johnson Health & Society Scholar at the University of Pennsylvania and a Science & Technology Policy Fellow of the American Association for the Advancement of Science at the Global Change Research Program in the Environmental Protection Agency. Her policy experience involves advising cities and members of Congress and the Department of State, serving on climate committees run by the Office of Science & Technology Policy during the Obama Administration and for the National Academies of Science, Engineering and Medicine. She has served as Lead Author for the Intergovernmental Panel on Climate Change, and is currently a Member of the National Academies of Science, Engineering and Medicine Climate Communication Initiative. She has worked with or advised community environmental organizations such as the Louisiana Bucket Brigade and West Harlem Environmental Action. McCormick has been funded by the National Science Foundation and the Centers for Disease Control and Prevention, as well as a wide variety of private foundations such as the Robert Wood Johnson, Tinker, Rockefeller, and Children's Investment Fund Foundations. Ms. McCormick has written two books, and over fifty-five articles and book chapters, and has been producer on climate change-related scripted films and Emmy Award-winning unscripted television series. She is Associate Professor of Environmental Health at the Milken Institute School of Public Health and is currently CEO of PandemicProof Productions and Aclara Technologies.

McElmurry, Shawn

Wayne State U.

Dr. Shawn P. McElmurry is an Associate Professor in the Department of Civil & Environmental Engineering at Wayne State University in Detroit. He is a licensed Professional Engineer. Dr. McElmurry holds a B.S. in Chemistry from Central Michigan University and a M.S. and Ph.D. in Environmental Engineering from Michigan State University. Dedicated to serving urban communities his research focuses on aging urban systems, particularly systems faced with economic and population decline. Sustainable urban systems require balancing the utilization of ecological resources, economic prosperity, and anthropogenic impacts to the environment. Dr. McElmurry's research recognizes that the distribution of resources and power is rarely equitable. Social equity is an essential component of sustainable urban systems. With this understanding, Dr. McElmurry leads productive interdisciplinary collaborations focused on improving urban well-being by addressing fundamental gaps in understanding that inhibit the

sustainability of urban systems. Since joining Wayne State University (WSU) in 2008, Dr. McElmurry has assembled and led multi-disciplinary teams that facilitate tangible progress enhancing the sustainability of urban infrastructure; mitigating the impact of urban pollution on human and ecological health, and developing novel techniques for detection and assessment of toxins. This work includes: (1) Identifying and quantifying biogeochemical mechanisms responsible for the fate and transport of storm water pollutants, informing science-based management of the Great Lakes ecosystems. (2) Developing novel methods linking energy demands of large-scale water delivery systems to air quality impacts leading to optimization strategies for more sustainable water systems. (3) Advancing our understanding of contemporary sources of lead exposure and characterizing exposure risk. (4) Developing fast-scan anodic stripping voltammetry to quantify low concentrations of metals (e.g., parts-per-billion level sensitivity) in environmental waters. And (4) developing an efficient, accurate method to quantify sub-lethal effects of aquatic contaminants. The results of Dr. McElmurry's research is documented in 48 peer-reviewed journal articles and numerous invited or refereed conference presentations. Dr. McElmurry regularly serves on peer-review committees/boards for the National Science Foundation and National Institute of Environmental Health Sciences.

McGurty, Eileen

Johns Hopkins University

Dr. Eileen McGurty is an environmental consultant and the owner of Caroline Point Farm, a food production company sourcing from Montana farmers and ranchers who practice regenerative agriculture to build soils and sequester carbon. Dr. McGurty holds a Ph.D. in urban planning from the University of Illinois. For eleven years, she served as the Director of the Graduate Programs in Environmental Studies at Johns Hopkins University (JHU). She was also the Co-Director for Geographic Information Systems of the Global Center on Childhood Obesity at JHU. She is the author of 'Transforming Environmentalism: Warren County, PCBs, and the Origins of Environmental Justice.' She writes widely in the areas of environmental justice, gender and environment, and risk in waste policy. Dr. McGurty also served on the U.S. Environmental Protection Agency Science Advisory Board's Environmental Justice Technical Guidance Ad-hoc Committee. She has worked as an advisor to communities in Montana, New Jersey, New York, Maryland, and Illinois, when dealing with environmental justice and climate justice issues. She has provided expert testimony about distribution of risks from waste facilities on behalf of environmental justice organizations.. Prior to her academic career, Dr. McGurty worked in environmental regulation and compliance. She was involved in Energy Information Administration (EIA) projects, and did environmental planning in poor, urban, minority communities.

Meeker, John

University of Michigan

Dr. John Meeker is Professor of Environmental Health Sciences and Senior Associate Dean for Research at University of Michigan School of Public Health. Dr. Meeker holds a B.S. in Industrial Technology from Iowa State University, as well as M.S. and Doctor of Science (Sc.D.) degrees in Environmental Science & Engineering and Exposure, Epidemiology & Risk, respectively, from Harvard University, where he also completed a postdoctoral fellowship in Environmental and Reproductive Epidemiology. He is a Certified Industrial Hygienist (CIH). Dr. Meeker's work is wide-ranging, and focuses on defining sources, magnitudes, and consequences of human exposure to environmental and occupational contaminants, as well as identifying and evaluating strategies to control harmful exposures. Much of his current research involves human exposure science and reproductive and developmental epidemiology studies of known or suspected endocrine disrupting chemicals, such as phthalates, BPA, pesticides, PFAS, flame retardants, metals, and others. He has authored more than 275 peer-reviewed research articles and book chapters in this area of research. Dr. Meeker is principal investigator on numerous large-scale research studies, and has served on various editorial, expert peer-review and advisory boards/panels for EPA, NIH, CDC, NAS, and others in recent years. His current research is funded by the National Institutes of Health.

Meng, Kyle

UC Santa Barbara

Dr. Kyle C. Meng is an Associate Professor at the Bren School of Environmental Management and the Department of Economics at the University of California, Santa Barbara. He is a Faculty Research Fellow at the National Bureau of Economic Research and the Climate and Energy Program Director at the Environmental Markets Solutions Lab. Dr. Meng received his Ph.D. in Sustainable Development from Columbia University and his Bachelor's in Civil and Environmental Engineering from Princeton University. An environmental and resource economist with training in engineering and atmospheric physics, Dr. Meng studies the equity and efficiency consequences of environmental policies, particularly policies that address climate change, groundwater depletion, and fisheries management. Among his contributions, Dr. Meng's research has developed new empirical tools for forecasting the cost of climate policy; documented the equity consequences of climate impacts and climate policy; provided new evidence on the net benefits of groundwater markets; and examined the drivers of long-term clean energy transitions. He recently led a

$1.5 million study, funded by the State of California, to understand the equity consequences of reducing oil extraction across the state. Dr. Meng has published in leading science journals including Nature, Science, PNAS, and leading economics journals including the American Economic Review and the Journal of Political Economy. His research has been covered by the New York Times, the Washington Post, the Wall Street Journal, among other media sources; and he has appeared before the U.S. Congress.. A first-generation immigrant, Dr. Meng was a recipient of the Paul and Daisy Soros Fellowship for New Americans.

Meyerhoff, Roger

Eli Lilly and Co. - Retired

Dr. Roger D. Meyerhoff was a senior research fellow and the chief environmental scientist for Eli Lilly and Company. He has a strong background and interest in human health and ecological risk assessment. Dr. Meyerhoff earned a B.S. at University of California at Davis, and both his M.S. and Ph.D. at Oregon State University in fisheries, pharmacology, and toxicology. He was part of the leadership team for a toxicology division of several hundred scientists and head of a department responsible for environmental toxicology and chemistry, human health risk assessment, and inhalation toxicology. He created programs to set exposure limits for human and environmental safety for chemical risks in the workplace and associated with manufacturing waste discharges, including drinking water limits. He built a program to conduct laboratory and field studies with freshwater, marine and terrestrial species. He completed studies and ecological risk assessments needed to register pesticides, pharmaceuticals, and animal health products in the U.S., Canada, Europe, and Japan. Dr. Meyerhoff served as president of the Society of Environmental Toxicology and Chemistry and on the board of directors of the Water Environment Research Foundation. He provided advice to the US EPA on human health risk assessment of pharmaceuticals through presentations at the National Academy of Sciences and at the US EPA Headquarters. He was a risk assessment expert in forums for the World Organization (WHO), Health Canada, the EU Commission European Innovative Medicines Initiative, and the Health and Environmental Sciences Institute. Dr. Meyerhoff was the industry-nominated participant for the WHO review of risks from pharmaceutical residues to drinking water. He served as a risk assessment expert on several industry association science committees in the US and Europe. He was a guest lecturer at the University of Illinois and Penn State University.. Dr. Meyerhoff is now retired and has received no research funding for over 2 years.

Mickley, Loretta

Harvard University

Dr. Loretta Mickley is a Senior Research Fellow at Harvard and co-leader of the Harvard Atmospheric Chemistry Modeling Group. Her research focuses on interactions between atmospheric chemistry and climate. She seeks to understand how short-lived species affect global and regional climate and how climate, in turn, influences atmospheric composition. Key topics include (1) effects of climate change on urban smog, dust mobilization, and wildfires, (2) the impact of aerosols on regional climate, and (3) atmospheric chemistry during the preindustrial era and the last glacial period. In recent years, her research on the potential impacts of a warming climate on wildfires in the western United States and Alaska has gained attention. This research investigates not just the potential expansion in area burned under different scenarios, but also the challenges that air quality managers will likely face as the burden of smoke particulate matter increases. Dr. Mickley contributed to section 13.3, "Effects on climate," in the EPA's most recent Integrated Science Assessment of Particulate Matter (2020). She currently serves on the Board of Trustees of the Conservation Law Foundation.

Minsavage, Gary

ExxonMobil Corporation

Dr. Gary D. Minsavage is the Senior Environmental Health Advisor for ExxonMobil. He received a Ph.D. in Molecular Toxicology from the University of Rochester and an MBA from Rutgers University. Dr. Minsavage completed postdoctoral training as a US National Research Council Fellow at the US Army Medical Research Institute of Chemical Defense before joining ExxonMobil Biomedical Sciences, Inc. (2005-2008; 2011-2018). He has expertise in toxicology, human health risk assessment, chemical safety assessments and management, and strategy development with an understanding of the science-policy interface. He is a Diplomate of the American Board of Toxicology. Dr. Minsavage has broad and diverse perspectives that bring together strategic thinking and environmental health science solutions, developed through various supervisory and coordinator roles of scientific organizations. He was the Health Science Executive at CONCAWE (formerly Conservation of Clean Air and Water in Europe), Brussels, Belgium (2008-2011). In this role, he identified, coordinated, and/or granted research in areas including the health impact of air pollution, benzene worker studies, and asphalt/bitumen worker exposure and cancer epidemiology resulting in 17 journal publications. Through research supervisory roles at ExxonMobil, his teams authored 49 journal publications and over 50 conference papers and reports. Dr. Minsavage has authored 34 journal publications, reports, and

conference papers. For the past 2 years, all funding for his time and research has come from ExxonMobil. Throughout his career, he has been an active contributor to advisory and scientific committees where he has helped the world's leading scientists prioritize and tackle complex environmental health challenges and opportunities. Currently, Dr. Minsavage is a Liaison and Workshop Planning Committee Member for the National Academy of Sciences Environmental Health Matters Initiative, on the Board of the Health and Environmental Sciences Institute, and a sponsor representative for the Health Effects Institute. He is Past President for the Society of Toxicology Risk Assessment Specialty Section and collaborated on the Groundwater Protection Council's Produced Water Report initiative.

Mitsch, William

Florida Gulf Coast University

Dr. William J. Mitsch is Eminent Scholar; Director, Everglades Wetland Research Park; and Judith Sproul Chair for Habitat Restoration, Florida Gulf Coast University. Before moving to Florida in 2012, he was at Ohio State, including 20 years as founding Director of the Olentangy River Wetland Research Park and 26 years as Professor in the School of Environment and Natural Resources. Previously, he held professorships at Illinois Institute of Technology and University of Louisville. He holds a B.S. in mechanical/industrial engineering from University of Notre Dame and an M.E. and Ph.D. in environmental engineering sciences from University of Florida. He received a 1983 summer AAAS Fellowship with U.S.EPA, Washington, DC; was invited by U.S.EPA as "independent" panel chair of 1991 wetland delineation manual review; was invited on National Academy of Sciences panel funded by U.S.EPA on wetland characterization, 1993-95; U.S.EPA Science Advisory Board, 2001-07; and Nitrogen Committee, U.S.EPA Science Advisory Board, 2006-12. His career has focused on wetland biogeochemistry, wetland creation and restoration, ecological engineering, and ecosystem restoration, and solving harmful algal blooms. His research in the past 2 years was supported by the National Science Foundation; Fulbright Foundation; Stream and Wetland Foundation (Ohio); and Florida Department of Environmental Protection. He is author on 770 research papers, abstracts, or other publications with 20 books, including 5 editions of the textbook Wetlands. He founded and was editor-in-chief of Ecological Engineering. Awards include 4 Fulbrights (U.S.EPA Copenhagen, Denmark; Maun, Botswana; Bialystok, Poland; Bangor, Wales); U.S.EPA National Award for Wetland Research (1996); Einstein Professorship from Chinese Academy of Sciences (2010); Doctorate honoris causa from University of Tartu, Estonia (2010); and 2004 Stockholm Water Prize for modeling, management, and conservation of lakes and wetlands. He is a Contributor to 2020 Emmy award-winning ocean pollution film "Troubled Waters: A Turtle's Tale" produced by WLRN Public Radio and Television in Miami, Florida.

Montgomery, W. David

Affiliated Consultant at National Economic Research Associates (NERA)

Dr. W. David Montgomery is an economist and independent consultant. He was formerly Senior Vice President at NERA Economic Consulting and Vice President at Charles River Associates. He is an expert on economic issues associated with petroleum and natural gas markets and climate change policy. He has provided analysis and testimony on energy and environmental issues for more than 30 years, dealing with regulation of oil, gas, and electricity markets; antitrust and mergers; contract disputes; price manipulation; and the design and evaluation of energy- and environment-related policies. His scholarly work is frequently published in peer-reviewed journals, and on numerous occasions Congressional committees have requested his testimony on climate change, environmental regulations, oil and gas markets, and other energy market and environmental issues. He advises clients on the strategic implications of changes in energy and environmental policies and energy markets. He has served as a lead economic witness in high profile litigation, including cases dealing with liability for MTBE spills, the applicability of the public trust doctrine to U.S. climate policy, an injunction against the enforcement of California's low carbon fuel standard, and in the Continental Forge antitrust litigation alleging a conspiracy to raise natural gas prices in California. Dr. Montgomery's work on economic issues associated with climate change policy has been published frequently in peer-reviewed journals. He was a principal lead author of the Second Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), Working Group III, and the author of a number of studies of climate change policy over the past 20 years. His testimony on climate change issues has been requested on numerous occasions by the U.S. Congress. Dr. Montgomery directed the development of a set of integrated economic models that set the standard for analysis of the international, national, and industry impacts of energy and environmental policies. Dr. Montgomery has led a number of strategic assessments for clients in the private sector, advising them on how future climate policies and other environmental regulations could affect their asset value, investment decisions, and strategic direction. His recent work includes studies of energy and climate legislation in the U.S. Congress, economics of oil and natural gas exports, and gasoline pricing. He has been collaborating with researchers at MIT to analyze the impacts of tax reform on the energy sector and CO2 emissions.

Morello-Frosch, Rachel

University of California, Berkeley

Dr. Morello-Frosch is an environmental health scientist, epidemiologist and professor in the School of Public Health and the Department of Environmental Science, Policy and Management at the University of California (UC), Berkeley. She has an M.P.H. in Epidemiology and Biostatistics and a Ph.D. in Environmental Health Sciences from University of California Berkeley's School of Public Health. Her research examines structural determinants of community environmental health with a focus on social inequality, psychosocial stressors and how these factors interact with multiple environmental hazard exposures to produce health inequalities. Her work explores this question in the context of environmental chemicals, climate change, air pollution, and effects on perinatal, maternal and children's health, and often applies community-based participatory research methods. She is the Principal Investigator (PI) of the first biomonitoring study, the Women Worker Biomonitoring Collaborative, to measure exposures to potential breast carcinogens and other endocrine disrupting chemicals among women firefighters, nurses and office workers in San Francisco, CA. In addition to using targeted and non-targeted biomonitoring methods, her team is assessing the impact of chemical exposures on effect biomarkers, including thyroid hormone disruption and telomere length, in these occupational groups. In collaboration with UC San Francisco, she is co-PI of the Chemicals in Our Bodies (CIOB) cohort study, which is part of the National Institute of Health's (NIH) Environmental Influences on Children's Health Outcomes (ECHO) Program, to assess the fetal growth and neurodevelopmental effects of prenatal exposures to environmental chemicals, chronic psychosocial stress, and their interactive effects. As the Community Engagement Core Lead for UC Berkeley's Superfund Center, Dr. Morello-Frosch collaborates with communities and scientists to develop science-policy tools to assess cumulative impacts of chemical and non-chemical stressors to improve regulatory decision-making and advance environmental justice for communities that are disproportionately burdened by multiple sources of pollution and social stressors. This includes California's Drinking Water Tool, and the Environmental Justice Screening Method, which served as a foundation for California-Environmental Protection Agency's CalEnviroScreen.. Dr. Morello-Frosch's research is supported by the NIH, U.S. Environmental Protection Agency (EPA), Cal-EPA and private foundations.

Morris, John

University of Connecticut

Dr. John Morris is currently a Board of Trustees Distinguished Professor Emeritus at the University of Connecticut. He received a B.S. in Chemistry from Allegheny College, and M.S. and Ph.D. degrees in Toxicology from the University of Rochester and completed a postdoctoral fellowship in Inhalation Toxicology at the New York University Institute of Environmental Medicine prior to joining the faculty of the University of Connecticut Toxicology Program in 1981. Prior to his retirement in 2015, he served at the University of Connecticut as Director of the Graduate Program in Toxicology, Head of the Department of Pharmaceutical Sciences, and Interim Dean of the School of Pharmacy. He was elected and served as Treasurer of the Society of Toxicology (2011-2013) and as President of the Society of Toxicology (2016-2017). He is currently a member of the Board of Directors of the Federation of American Societies of Experimental Biology (FASEB). Dr. Morris has served on many toxicology review panels including the State of Connecticut Hazardous Air Pollutant Advisory Panel (chair); air pollution advisory panels for the states of Vermont and Virginia; multiple EPA review panels including the review of the Methods for Derivation of Inhalation Reference Concentration panel and Toxic Substances Control Act (TSCA) Science Advisory Committee on Chemicals. He also has served on multiple National Academy of Sciences/National Research Council committees. Dr. Morris' research interests center on inhalation toxicology, nasal toxicology, Physiologically Based Pharmacokinetic (PBPK) modeling, inhalation dosimetry, and quantitative inhalation risk assessment. His research, extensively funded by National Institutes of Health (NIH), has been particularly focused on regional dosimetry of inhaled vapors and receptor mediated responses to inhaled irritants. He is the author of nearly 100 peer-reviewed publications and book chapters.

Morris, Patricia

FASEB.org; The Rockefeller University

Dr. Patricia L. Morrisis the incoming President, Federation of American Societies for Experimental Biology (FASEB, July 2021), and immediate past Vice President for Science Policy. She is a biomedical scientist trained in physiology, pharmacology (Ph.D., New York University), molecular and cell biology (Postdoctoral, Endocrinology, Cornell University Medical College; M.S., Adelphi University) with multi-disciplinary scientific expertise and senior administration in basic science discovery, pre-clinical drug development programs and translational research. She is a guest Investigator, Laboratory of RNA Molecular Biology, The Rockefeller University, New York, a Senior Scientist at Chromocell Biotech, and an Associate Editor, FASEB Journal. Morris serves as a Scientific Advisor, Chair of Public Health Outreach and a member, Board of Directors, the Research Foundation to Cure AIDS. Dr. Morris was formerly the Executive Director R&D, Reproductive Health and Senior Scientist (Professor, Emeritus), Global Reproductive

Health Program, Center for Biomedical Research, Population Council, New York. Dr. Morris was consistently funded for 30 years (1987-2017) as a NIH Principal Investigator, with her research projects focused on the roles of environmental cues on male and female germ cells, and the role of cytokine, drug, environmental chemicals and inflammatory processes in fertility regulation /infertility disorders. Her research paradigms included the use of in vivo, ex vivo, and in vitro modeling with human, rodent and drosophila tissues. She was a multi-cycle NIH lead principal investigator and the Co-Director of two National Institute of Child Health and Human Development (NICHD) Specialized Centers. Morris served as a consultant on a World Health Organization (WHO) working group for human fertility assessments. As an experienced research team and portfolio director, she remains fully committed to advancing rigor and reproducibility in research. She is focused on facilitating engagement of multidisciplinary teams in environmental sciences, climate change and innovative GeoHealth research initiatives. She has served extensively as a peer-reviewer and a study section Chair for several NICHD panels and extramural peer review for the National Institute of Environmental Health Sciences (NIEHS), including Superfund Sites and Toxicological Training Centers. Dr. Morris is a primary organizer and a co-convener of three recent GeoHealth and environmental convergence science initiatives, conference panels and workshops underpinning a newly forged professional partnership between earth and life sciences organizations. Given her background in global reproductive health and her oversight of training programs incorporating goals for increasing diversity, equity and inclusion (DEI), and through multiple year terms leading DEI committees for clinical and basic scientific societies, Dr. Morris remains focused and highly committed to ongoing efforts to ensure underrepresented and underserved people have the training and career opportunities in science, technology, engineering, mathematics and medicine (STEMM) to advance the next generation scientific workforce and reduce health disparities in economically disadvantaged communities.

Morrow, Jayne

Montana State University

Dr. Jayne Morrow has demonstrated a career working across stakeholders to foster engagement, create strategic vision and build consensus including development of standards on a range of technical program and public policy areas including national security, environmental health, public health and safety and law enforcement. She has mobilized research and policy expertise to address dynamic technical and policy challenges presented by the biosurveillance and biological threat response communities. Working across the federal agencies, industry and academia, she has assessed data and research needs and knowledge gaps to enable confident decision-making founded on scientific evidence for response to Anthrax, Ebola, SARS-CoV-2 and applied these same principles to the analytical characterization of the opioid epidemic. She has a B.Sc. degree in Civil Engineering from Montana State University as well as a M.S. and Ph.D. in Environmental Engineering with a specialty in molecular and microbiology from the University of Connecticut. Dr. Morrow formerly led national science and technology (S&T) strategic policy development as the Executive Director of the National Science and Technology Council in the Executive Office of the President during the Obama Administration. Prior to that position she led biothreat response and metrology for biological science programs at the National Institute of Standards and Technology. Her research efforts have resulted in 42 peer-reviewed articles, reports and standards; over 200 technical presentations and operational exercises. Recently, to enhance the response to COVID-19, Dr. Morrow partnered with motivated volunteers to form a non-for-profit entity, CLEAN2020 Summit, to bring together leaders from business, policy, standards development, science and engineering to better understand current knowledge and identify opportunities to work together to control viral transmission in the built environment. These efforts continue to help translate the research, standards, and guidance into practice. Dr. Morrow currently serves as the Assistant Vice President of Research and Economic Development at Montana State University where she is working to develop stronger connections between science, technology and research among academia, industry, and government agencies..

Muller-Karger, Frank

University of South Florida

Dr. Frank E. Muller-Karger is a Professor at the College of Marine Science, University of South Florida. He holds degrees in marine science and in management (Bachelor's: Florida Institute of Technology; Masters': University of Alaska, Fairbanks; Doctoral: University of Maryland; Masters'in management: University of South Florida). His field is biological oceanography with a focus on how coastal, estuarine, and marine habitats are connected among themselves and land habitats, including urban environments and how these change. He combines remote sensing and field methods to evaluate conditions in the ocean for productivity and water quality. He is responsible for projects funded by the National Oceanic and Atmospheric Administration (NOAA), the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), the State of Florida, and the Gulf of Mexico Coastal Ocean Observing System (GCOOS). He manages research teams that work with the National Marine Sanctuaries. Dr. Muller-Karger is a member of the Ocean Best Practices System Steering Committee and the Global Ocean Observing System Biological-Ecological Panel, both under the Intergovernmental Oceanographic Commission (IOC). He is co-

chair of the Marine Biodiversity Observation Network (MBON under the Group on Earth Observations Biodiversity Observation Network). He also serves as a member of the Justice, Equity, Diversity, and Inclusion Committee of The Oceanography Society. He was appointed by President George W. Bush to serve on the U.S. Commission on Ocean Policy in 2001 and was appointed in 2005 to the Ocean Studies Board of the National Research Council/National Academies. He has received the NASA Jet Propulsion Laboratory Award for Outstanding Contributions, the NASA Administrator Award for Exceptional Contribution and Service, is a Fellow of the American Association for the Advancement of Science, and twice recipient of the Gulf Guardian Award (EPA Gulf of Mexico Program). Dr. Muller-Karger is fluent in Spanish and some German.

Mundt, Kenneth

Cardno ChemRisk

Dr. Kenneth Mundt is Senior Principal Health Scientist at Cardno ChemRisk. He received a Ph.D. in Epidemiology from the University of North Carolina at Chapel Hill, a Masters' degree in Epidemiology from the University of Massachusetts at Amherst, a master's degree in English from the University of Virginia and a Bachelor's degree from Dartmouth College. He holds adjunct faculty appointments at University of South Carolina and the University of Massachusetts. He is a Fellow in the American College of Epidemiology and member of the Ethics Committee. Dr. Mundt is Secretary General for MEDICHEM, a global professional organization for occupational and environmental health in the production and use of chemicals, and a Scientific Committee of the International Commission on Occupational Health (ICOH). He also serves as Associate Director for Institutional Engagement for the University of Massachusetts Institute for Global Health and is a charter member of the Dean's Advisory Board at the School of Public Health. He has served as a member of the Board of the American University of the Caribbean in Les Cayes, Haiti since 2018. Dr. Mundt was appointed to the EPA Science Advisory Board (SAB) and was chair of the Chemical Assessment Advisory Committee (CAAC) in 2020 and released in March 2021 upon Administrator Regan's decision to reset these committees. Dr. Mundt has 35 years of experience in the application of epidemiological concepts and methods to a wide range of occupational and environmental health questions, including designing and overseeing studies on chemical exposures (including vinyl chloride, crystalline silica, carbon black, etc.) and the risk of various cancer and non-cancer outcomes. He has conducted and published several critical reviews and meta-analyses of epidemiological literature, as well as evaluations that integrate epidemiological with toxicological and mechanistic evidence (e.g., on formaldehyde, chloroprene, and ethylene oxide). He also serves primarily on behalf of defendants as an expert witness in litigation involving potential occupational, environmental and consumer product hazards. Dr. Mundt's research, funded by trade associations including the American Chemistry Council and their member companies, as well as government entities (US and Germany) and other organizations, largely has been published in peer-reviewed scientific journals.

Nachman, Keeve

Johns Hopkins Bloomberg School of Public Health

Dr. Keeve Nachman is an Associate Professor of Environmental Health and Engineering at the Johns Hopkins Bloomberg School of Public Health. He received his B.A. in the Writing Seminars from Johns Hopkins University, an M.H.S. in Environmental Health Sciences and a Ph.D. in Environmental and Occupational Health Policy from the Johns Hopkins Bloomberg School of Public Health. He is the Co-Director of the Risk Sciences and Public Policy Institute and the Director of the Food Production and Public Health Program at the Center for a Livable Future. Dr. Nachman's research focus is the application of the risk sciences to decision-making in the context of diet, drinking water, soils and dust, and other human exposure contexts. He has published on an array of environmental health topics, including food- and water-borne chemical and microbiological hazards, epidemiologic investigations of agricultural communities, soil exposure factors, and the use of epidemiology in risk assessment. His funding sources include National Institute of Health/National Institute of Allergy and Infectious Diseases, U.S. Department of Agriculture, and many foundations. Dr. Nachman has served as on numerous international, federal, and state, and non-governmental advisory and grant review panels. Dr. Nachman served as an expert for the World Health Organization Foodborne Disease Burden Epidemiology Group, an expert panelist for the U.S. Environmental Protection Agency Workshop on Temporal Exposure Issues for Environmental Pollutants, and an academic stakeholder for a U.S. Government Accountability Office report: "Food Safety: Federal Efforts to Manage the Risk of Arsenic in Rice." He serves on the Maryland Attorney General's Environmental Advisory Council and the Maryland Department of Health Food Safety Roundtable. He is currently a member of the Dartmouth Toxic Metals Superfund Research Program External Advisory Committee and served on the Collaborative on Food with Arsenic and associated Risk and Regulation Steering Committee. He sits on the Editorial Review Board for the Environmental Health Perspectives journal and a Section Editor for the Current Environmental Health Reports journal.

Naidenko, Olga

Environmental Working Group

Dr. Olga Naidenko is the Vice President for Science Investigations with the Environmental Working Group, a nonprofit research and advocacy organization headquartered in Washington, D.C. She holds a B.A. in Molecular Biology from Colgate University and a Ph.D. in Molecular Biology, with specialization in Immunology, from the University of California, Los Angeles. In her role at the Environmental Working Group, she leads an investigative team responsible for the development of health risk limits for water contaminants and risk assessment for a variety of chemical substances, including per- and polyfluoroalkyl substances, or PFAS. Together with a team of EWG scientists and data analysts, Dr. Naidenko has worked on several editions of the EWG Tap Water database, a publicly viewable database that presents information about drinking water contaminants for nearly 50,000 community water systems nationwide. Dr. Naidenko's current research projects focus on chemical contaminants, children's health, environmental health disparities, and water quality in communities across the country. Dr. Naidenko has published multiple peer-reviewed studies that address cumulative cancer risk assessment for drinking water contaminants, children's health risk assessment for nitrate in drinking water, and cancer risk assessment for disinfection byproducts. From 2014 to 2016, Dr. Naidenko was an American Association for the Advancement of Science (AAAS) Science & Technology Policy fellow at the Environmental Protection Agency Office of Water/Office of Science and Technology, where her research focused on climate change and water quality standards. Dr. Naidenko currently serves on the EPA's Children's Health Protection Advisory Committee. Dr. Naidenko receives no outside research funding separate from her position at the Environmental Working Group. As a nonprofit organization, the Environmental Working Group is supported by private foundations, individuals, online donors, and socially responsible companies.

Nairn, Robert

University of Oklahoma

Dr. Robert W. Nairn is the David L. Boren Distinguished Professor and Sam K. Viersen Family Presidential Professor in the School of Civil Engineering and Environmental Science at the University of Oklahoma. He is also the Director of the Center for Restoration of Ecosystems and Watersheds, Associate Director of the Water Technologies for Emerging Regions Center, and Adjunct Professor of Biology. He holds a B.S. in Environmental Science from Juniata College, PA and was subsequently employed as a Research Biologist with the U.S. Bureau of Mines Pittsburgh Research Center. After completing a Ph.D. in Environmental Science at The Ohio State University, he joined the Oklahoma faculty. Dr. Nairn's general research areas include watershed biogeochemistry, ecological engineering, natural infrastructure, ecosystem restoration, and wetlands science, especially how functions and services provided by natural and engineered ecosystems benefit environmental quality. His research emphasizes naturally occurring biogeochemical and ecological processes contributing to contaminant retention in passive treatment systems, receiving stream ecological recovery, watershed-scale ecological engineering technologies, and use of novel environmental monitoring techniques. He served as President of the American Society of Mining Reclamation (now American Society of Reclamation Sciences), Watershed Restoration Incorporated, and Engineers In Action, and serves on the editorial boards of the journals Ecological Engineering, Mine Water and the Environment, Water, and Reclamation Sciences. He has received the Excellence in Environmental Engineering and Science Honor Award for University Research from the American Academy of Environmental Engineers and Scientists, and the William T. Plass Lifetime Achievement and Reclamation Researcher of the Year Awards from the American Society of Mining and Reclamation. Dr. Nairn's research has been funded in recent years by the National Science Foundation, Office of Surface Mining Reclamation and Enforcement, Oklahoma Department of Environmental Quality and Grand River Dam Authority.

Naumova, Elena

Tufts University

Dr. Elena N. Naumova is a Professor of Mathematics and Chair of the Nutrition Epidemiology and Data Science Division at the Gerald J. and Dorothy R. Friedman School of Nutritional Science and Policy at Tufts University, and a Director of the Tufts Initiative for the Forecasting and Modeling of Infectious Diseases. Dr. Naumova holds a secondary professorship appointment at the Christian Medical College in Vellore, India. She is the recipient of the Doctor Honoris Causa from the Novosibirsk State Technical University, Novosibirsk, Russia, where she received her Ph.D. in Applied Mathematics and Statistics. Dr. Naumova served as Associate Dean for Research at the Tufts School of Engineering (2011-14) and Faculty Director of the Tufts Institute of the Environment (2008-12). In 2014-2019, she was a Tufts Representative for the National Federal Demonstration Partnership in Washington, DC. Dr. Naumova's research focuses on modeling transient processes in environmental epidemiology, infectious diseases, and public health; she examines the impacts of natural disasters, climate change, and extreme weather on vulnerable subpopulations. Dr. Naumova co-authored over 200 peer-reviewed publications and book chapters and served on

numerous review panels for national and international governmental agencies. She is Editor-in-Chief of the Journal of Public Health Policy, a member of the editorial board for Environmental Health Perspectives journal, and the advisory board member for International Journal of Environmental Research and Public Health. Dr. Naumova leads several large-scale projects, including training grants funded by NSF and NIFA to improve graduate education in data-rich disciplines. As part of ongoing research, she is testing modeling tools for wastewater surveillance systems. Currently, Dr. Naumova is involved in the five-year $100 million STOP Spillover project, launched by the United States Agency for International Development, to address threats posed by the emerging zoonotic diseases with the high risk of jumping from animals to humans.

Negron-Martinez, Edna

University of Puerto Rico-Medical Science Campus

Dr. Edna L. Negrón-Martínez is currently serving as a Regular Scientific member Representative of the community at large in the Institutional Review Board (IRB) of the Medical Sciences Campus of the University of Puerto Rico (MSC UPR). The IRB chartered to review all biomedical and social sciences research involving human subjects to assure compliance with institutional ethical standards and federal regulations and protect the rights of human subjects. Dr. Negrón-Martínez retired (Full) Professor from the Department of Environmental Health of the Graduate School of Public Health, Medical Sciences Campus, University of Puerto Rico. Her seasoned career of more than 30 years carried teaching graduate courses, conducting research in environmental health and public health microbiology, and pioneering funded service projects on the same disciplines. On a competitive basis, she was granted awards from the Federation of American Societies for Experimental Biology, the National Environmental Health Association jointly with the Environmental Protection Agency, the University of Athens in Georgia funded by the National Science Foundation, and the Environmental Health Sciences Department of the Harvard School of Public Health, among others. She holds hands-on expertise in Fluorescence Immunological Assays and molecular techniques for environmental microbial sampling and detection. Further, Professor Negrón holds a sound mentorships background leading more than twenty-five environmental health students' research teams during all stages, including the written thesis. Her alumni presented most of these findings in Scientific Meetings. She served in the Center for Public Health Preparedness of the Medical Sciences Campus, the Council of Education for Public Health (CEPH), and the Journal of Microbiology & Biology Education (JMBE) Editorial Board. Also designated in various Consultative Boards by the Puerto Rico Council of Higher Education to oversee, assess, and report viability to grant programs a License and Accreditation. In 2012-2015 the U.S. Environmental Protection Agency appointed her to the National Environmental Education Advisory Council (EPA-NEEAC) as a Representative of Colleges and Universities. Dr. Negrón-Martínez also writes and presents Environmental Public Health topics at Local, National, and International Research Conferences. She presented to the Virtual 16th World Congress on Public Health (WCPH2020) in Rome, Italy; the International Conference on Public Health (ICPH 2020) in London, UK; the RCMI 2019 National Conference in Bethesda, Maryland; the Caribbean Strong: Building Resilience with Equity Conference (2019) in San Juan, PR; and the XII Latin American Bioethics Biannual Conference (2019) held in PR too. Dr. Negrón is the author of the book Public Health and the Environment-Uncovering Key Social, Ecological, and Economic Connections (English language). The book's content covers a breadth of scientific evidence from primary and secondary research systematically analyzed. The MSC UPR funded this book research and its first printing edition in the years 2018-2019.

Nehme, Emilio

Remtech Europe/ Cimenterie Nationale

Mr. Emilio Nehme holds the position of Business Partner - Sustainability at Cimenterie Nationale Lebanon, ensuring the establishment, implementation, and maintenance of three integrated management systems, quality, environment and health and safety. Also, he was nominated as Ambassador for Remtech Europe to be part of a team of expertise from all around the globe to came with a sharing concept of different topics that could help pollution prevention. He holds a Master of Science in Environmental Chemistry from Holly Spirit University of Kaslik, a Master of Science in Biochemistry from Lebanese University. His research thesis was about valorization of phosphogypsum a waste product from chemicals industry into cement and clinker manufacturing and the study was published in the Journal of Environmental Science. Holding diploma in International Environmental Law and governance from United Nation training institute. Currently he is an Advisory Board member for the Chemical Engineering Department at Holy Spirit University of Kaslik (USEK), Lebanon and a Guest lecturer of Environmental Management, Cement Process and Sustainability. A Panelist and speaker for the Chemical Engineering discipline at American Institute of Chemical Engineers (AIChE) and for the Institution of Occupational Safety & Health (IOSH). Dr. Nehme is also a Technical Committee Advisory board member, of Environmental Management at Lebanese Standard Institution (LIBNOR) and Environmental and Energy at Association of Lebanese Industrialist (ALI).

Neptune, Enid

Johns Hopkins

Dr. Enid Neptune is an Associate Professor of Medicine at Johns Hopkins School of Medicine in the Division of Pulmonary and Critical Care Medicine and the Institute of Genetic Medicine/Smilow Center of Marfan Research. She holds a B.A. in Biochemistry from Princeton University and an M.D. from Harvard Medical School. She completed an Internal Medicine Residency and Pulmonary and Critical Care Fellowship at University of California San Francisco. She completed a genetics fellowship at Johns Hopkins School of Medicine. She has been an active member of the American Thoracic Society (ATS) ascending to the upcoming Chair of the Respiratory Cell and Molecular Biology Assembly, the signature basic science assembly of the organization, and member of the Board of Directors. As vice-chair of the ATS Tobacco Action Committee, she guided the formulation of policies, positions, and relevant publications for the ATS relevant to Tobacco Control Advocacy. Dr. Neptune is active in ATS and Johns Hopkins School of Medicine disparities efforts. Dr. Neptune has an extensive interest in environmental health especially as this converges onto ethnic disparities in tobacco product and air pollution exposure. She provided testimony at legislative sessions in which policies involving environmental health regulations were under consideration. Dr. Neptune is an internationally renowned expert on airspace injury and the pulmonary manifestations of genetic matrix disorders. She is on the professional advisory board of the Marfan Foundation. She is currently on the Board of Scientific Counselors of the National Institute of Health (NIH) Clinical Center and is a member of the Scientific Advisory Board of both the Tobacco-Related Disease Research Program and the American Lung Association. She is on the editorial board of journals including the American Journal of Respiratory and Critical Care Medicine (AJRCCM) and Journal of Clinical Investigation. Over the last 2 years, her research has been funded by four RO1 grants (as Principal Investigator on all) from the National Heart, Lung, and Blood Institute (NHLBI) and a Faculty Research Grant from the Marfan Foundation.

Ng, Nga (Sally)

Georgia Institute of Technology

Dr. Nga Lee (Sally) Ng is an associate professor and Tanner Faculty Fellow in the School of Chemical & Biomolecular Engineering and the School of Earth & Atmospheric Sciences at the Georgia Institute of Technology. She earned her doctorate in Chemical Engineering from the California Institute of Technology and was a postdoctoral scientist at Aerodyne Research Inc. Dr. Ng's research focuses on the understanding of the chemical mechanisms of aerosol formation and composition, as well as their health effects. Her group combines laboratory chamber studies and ambient field measurements to study aerosols using advanced mass spectrometry techniques. Dr. Ng has published over 130 journal papers and has been named among the world's most Highly Cited Researchers by Clarivate Analytics. Dr. Ng's funding sources in the last two years include the National Science Foundation, the National Oceanic and Atmospheric Administration, and the Centers for Disease Control and Prevention. Dr. Ng serves as a co-editor of Atmospheric Chemistry and Physics and a member of the Editorial Board of Nature Scientific Reports, and American Chemical Society (ACS) Earth and Space Chemistry. Dr. Ng served as Chair of Environmental Division for the American Institute of Chemical Engineers (AIChE) in 2020, and served as the Conference Chair for the 37th American Association for Aerosol Research (AAAR) conference in 2019. Dr. Ng's research contribution has also been recognized by the Sheldon K. Friedlander Award and the Kenneth T. Whitby Award from the American Association for Aerosol Research, the Environmental Protection Agency (EPA) Early Career Award, the Health Effects Institute Walter A. Rosenblith New Investigator Award, and the National Science Foundation (NSF) Faculty Early Career Development (CAREER) Award.

Noonan, Norine

University of South Florida -- St. Petersburg

Dr. Norine E. Noonan is Professor Emerita of Biological Sciences at the University of South Florida St. Petersburg (USFSP). Dr. Noonan received her Bachelor's degree summa cum laude in Zoology from the University of Vermont, and her Masters' and Ph.D. degrees in cell biology from Princeton University. She has expertise in mammalian cell biology, virology, genetics, science communication and public health. She has been a principal or co-principal investigator on a number of research projects funded by the National Science Foundation (NSF) and the National Institutes of Health (NIH). From 2008 to 2013, she served as Vice Chancellor for Academic and Student Affairs at USFSP with broad responsibilities for all academic and student programs. She previously served as the Dean of the School of Sciences and Mathematics at the College of Charleston from 2002 to 2008. From 1998 to 2001, Dr. Noonan served as the Assistant Administrator for Research and Development at the U.S. Environmental Protection Agency. During her tenure, she was intimately involved with major issues including global climate change mitigation and adaptation; safe drinking water; environmental monitoring and assessment; and dioxin and mercury risk assessments. Prior to coming to EPA, Dr. Noonan was Vice President for Research and Dean of the Graduate School

at the Florida Institute of Technology. Prior to that Dr. Noonan was a senior career executive in the Office of Management and Budget (OMB) in Washington, DC. During her decade-long tenure, she guided and fostered the basic research enterprise of the nation as well as the U.S. civilian Space Program and the early development of the United States Global Climate Change Research Program (USGCRP), including the first-ever USGCRP report on climate change. Dr. Noonan is a member and Fellow of the American Association for the Advancement of Science (AAAS) and has served in multiple governance roles within AAAS including the Board of Directors. She is a member of Phi Beta Kappa, Sigma Xi (the scientific research honor society), Phi Kappa Phi, and Omicron Delta Kappa (the leadership honor society). Her professional activities have also included membership on six NSF Advisory Committees, two of which she chaired, the NASA Advisory Council, and a number of study committees and as a member of the Board on Radioactive Waste Management of the National Academies of Science, Engineering and Medicine (NASEM). She has also served as an expert reviewer for NSF and NIH grants and programs in three states. She is a recipient of the NASA Public Service Medal, the highest civilian honor the agency can bestow.

O'Brien, John

Vista Energy Group

Dr. John N. O'Brien is a Professor of Public Administration in the Public Administration Program at Flagler College where he teaches courses on Ethics in Public Service and the Public Economy. He is also CEO of the Vista Consulting Group. Dr. O'Brien holds a B.A. in Chemistry from Syracuse University, and an M.A. (economics concentration) and a Ph.D. in Interdisciplinary Social Sciences from the Maxwell School at Syracuse University. He did postdoctoral work at the Department of Energy's Brookhaven National Laboratory where he achieved the status of Full Scientist while studying the security measures at nuclear weapons fabrication facilities and regulation of management at nuclear power plants. He studied, with DOE/NETL support, the technology and economics of coal gasification and waste coal power plants. Subsequently, through various sponsors, he studied the financing, economics, and project management of solar farms; the economics of essential minerals needs, production and processing; the integration of energy generation technologies with unconventional hydrocarbon production; and restructuring of the electric grid and markets. He was appointed by the President of the Florida Senate as Commissioner on the Florida Energy Commission and was the Co-chair of the Climate Change Subcommittee of that Commission. In the last two years he has studied the technology and economics of offshore carbon sequestration and wind energy development in the Gulf of Mexico and green hydrogen production sponsored by Cox Offshore

Odencrantz, Joseph

Tri-S Environmental

Dr. Joseph Odencrantz is internationally recognized as an environmental professional with expertise in watershed management, fate and transport processes, vapor intrusion, forensic evaluations, and water treatment technologies. He is a board-certified civil engineer in the State of California and skilled problem solver who recently received a lifetime achievement award from the University of Maine for his career-long contributions to the profession. Dr. Odencrantz obtained his M.S. and Ph.D. in Civil Engineering from the University of Illinois at Urbana–Champaign. He received his B.S. in Civil Engineering from the University of Maine at Orono. Dr. Odencrantz founded Tri-S Environmental in 1994, and continues to set new standards of excellence in the practice of water and environmental management. Dr. Odencrantz receives no research funding. His contributions to the environmental field extend from site management and cleanup level determination to water supply protection with focus on emerging contaminants and advanced water treatment technologies. Dr. Odencrantz was invited by The National Research Council, Water Science and Technology Board, to deliver his findings on impacts from the gasoline additive, MTBE, to drinking water supplies across the United States. He is also credited with providing notice to water purveyors of the impending impacts from methyl tert-butyl ether. Dr. Odencrantz is a member of the Editorial Board of Remediation-The Journal of Environmental Cleanup Costs, Technologies & Techniques, and a member of the Editorial Board of Biodegradation. Dr. Odencrantz served as a Visiting Professor at Kyoto University, Research Center for Environmental Quality Management located in Kyoto, Japan in 2007. Dr. Odencrantz was recently engaged to improve treatment efficiency of nitrosamines in advanced oxidation systems at a Superfund site in California and is actively involved with applying state-of-the-art treatment technologies for the removal of perfluorinated compounds from water.

Odo, Nnaemeka U.

Exponent, Inc.

Dr. Nnaemeka U. Odo is a physician with research training (Ph.D.) in Occupational and Environmental Epidemiology. He has 10 years of experience working with occupational health data, conducting epidemiologic research, including original observational research studies and systematic literature reviews, providing key insights on research methodology as well as well broadly tackling the question of epidemiologic association versus causality. He has presented research findings at various scientific meetings and authored peer-reviewed original research publications

on various occupational health issues. These include research on elongate mineral particles (EMP) and their potential association with pleural abnormalities, mesothelioma and other lung diseases and exposure to silica, and other respirable particles in mining, and its association with non-malignant respiratory diseases (NMRD) and pulmonary function deficits. Other pertinent research includes methodological considerations with spirometry testing; personal protective equipment (PPE) use and other personal protective practices in animal farming; research methods understanding early-life risk factors and association with mammographic density; and burnout as a workplace hazard. Dr. Odo also has experience working with electronic health records, clinical documentation practices, and generation and utilization of electronic health data for revenue cycle management in health systems. Dr. Odo conducted his doctoral research as part of the Minnesota Taconite Workers Health Study research team to understand the challenges with estimation of relevant exposures to occupational silica dust and other particles in iron mining. This work is relevant to similar industries with potential health risk due to inhaled workplace airborne particles. Part of this experience involved resolving methodological questions around exposure-disease modeling, as well as with classification of health outcomes and effect measure modification by multiple airborne agents. Dr. Odo's other relevant experience includes methodological issues around personal protective practices and personal protective equipment use. In a research study of swine and poultry farmers, Dr. Odo integrated multi-site datasets to enable robust identification of challenges in mitigating occupational risk to animal-vector-borne occupational hazards. Since joining the Center for Health Sciences at Exponent, Dr. Odo has leveraged this skill set by evaluating potential causal links between human health and occupational and/or environmental exposure to asbestos, talc, taconite, formaldehyde, diesel engine exhaust, vermiculite, methyl bromide, ozone, particulate matter, trichloroethylene (TCE), fluoride, and per- and polyfluoroalkyl substances (PFAS). He has also conducted health economics and outcomes research (HEOR), pharmacoepidemiologic research, and cancer cluster investigation, as well as providing medical expertise in human health outcome-related projects.

Oerther, Daniel

Missouri University of Science and Technology

Dr. Daniel B. Oerther, PE, CEng is a Professor of Environmental Health Engineering and Campus-coordinator of the Science Diplomacy Program at the Missouri University of Science and Technology. He holds a Ph.D. in Environmental Engineering from the University of Illinois, Urbana-Champaign. He is a Board-Certified Environmental Engineer and a Diplomat of the American Academy of Sanitarians. Dan joined the University of Missouri System in 2010 as Professor and the John A. and Susan Mathes Endowed Chair of Civil Engineering after serving for ten years on the faculty of the University of Cincinnati, including as Head of the Department of Civil and Environmental Engineering. Dr. Oerther leads convergence research linking engineering, nursing, and sanitation to advance environmental health practice and policy in partnership with developing communities, locally and globally. In 2019, he completed a 5-year term as Senior Agricultural Science Advisor in the Secretary's Office of Global Food Security at the U.S. Department of State. Dan is a Gubernatorial appointee on the Missouri Hazardous Waste Management Commission and a Director of Engineers Without Borders – USA. He is the President-elect of the American Academy of Environmental Engineers and Scientists and the Deputy-chair of the Chartered Institute of Environmental Health (CIEH). Dan is an Associate Editor of the Journal of Environmental Engineering and an International Editorial Advisor of Perspectives in Public Health. Dr. Oerther is a lifetime honorary Fellow of the American Academy of Nursing, and he is an elected Fellow of CIEH, the Association of Environmental Engineering and Science Professors, and the Royal Society for Public Health. Dan is a three-time recipient of the Fulbright Scholar Award to India (2005), Brazil (2012), and the UK (2019). In 2020, he received the Gordon Maskew Fair Distinguished Engineering Educator Medal from the Water Environment Federation, and he received the 2018 Dr. John L. Leal Award for distinguished service to the water profession from the American Water Works Association. Dr. Oerther's research has been funded in recent years by the Department of State.

Oller, Adriana

NiPERA Inc.

Dr. Adriana Oller is Toxicologist Emeritus at NiPERA, the science division of the Nickel Institute (a global association of nickel producers). After 27 years of experience in metals toxicology while employed at NiPERA, she has recently retired from the Executive Director position. She has a Masters' in Biochemistry from the University of Buenos Aires (Argentina), and a Ph.D. from the Genetic Toxicology Program at the Massachusetts Institute of Technology (MA). This was followed by two post-doctoral fellowships at the UNC Lineberger Cancer Institute and the NIEHS (NC), all focused on genetic toxicology and carcinogenesis. During her employment at NiPERA, Oller provided expertise in metals toxicology and risk assessment as well as occupational toxicology. A significant part of her work has been devoted to research focused on improving evaluation of human health effects and risk assessment of metals in general and nickel specifically. Dr. Oller served as a member of the Arts and Creative Materials Institute, Inc. Toxicological Advisory Panel for four years. She was on the editorial board of the Journal of Environmental Science:

Processes & Impacts and co-edited the Metals in Perspective column for two years. Dr. Oller has extensive international experience working with scientists from different disciplines. Currently, she is a member of the OECD Working Group of National Co-ordinators of the Testing Guidelines Programme (WNT) bioelution expert group and represents the metals industry at the European Union Competent Authorities for REACH and CLP (CARACAL) CASG-Bio expert group. She is a diplomat of the American Board of Toxicology since 1997, and a fellow of the Royal Society of Chemistry (UK) since 2005. She is also a member of the US Society of Toxicology. NiPERA funds research on human and environmental health effects of nickel and does not receive funding from other sources than the Nickel Institute.

Olmstead, Sheila

The University of Texas at Austin

Dr. Sheila Olmstead is a Professor at the Lyndon B. Johnson School of Public Affairs, University of Texas at Austin (UT), a University Fellow at Resources for the Future (RFF), and a Senior Fellow at the Property and Environment Research Center. She holds a Ph.D. in Public Policy from Harvard University, a Masters' in Public Affairs from the University of Texas at Austin, and a B.A. from the University of Virginia. Dr. Olmstead is an environmental and resource economist with expertise in water quality regulation and valuation, water pricing, water markets, the environmental impacts of energy development, adaptation to water-related climate change impacts, and market-based approaches to pollution control. From 2016-2017, Dr. Olmstead served as the Senior Economist for Energy and the Environment at the President's Council of Economic Advisers. From 2013-2016, Dr. Olmstead was Deputy Director of the Center for Reinventing Aging Infrastructure for Nutrient Management. Before joining UT in 2013, Olmstead was a Fellow and then Senior Fellow at RFF, as well as Assistant Professor and then Associate Professor of Environmental Economics at the Yale School of Forestry and Environmental Studies. Dr. Olmstead has served as Vice President and a member of the Board of Directors of the Association of Environmental and Resource Economists. She is currently an Editor of the Journal of the Association of Environmental and Resource Economists, and in the past has served as Associate Editor of Water Resources Research, Co-editor of Environmental and Resource Economics, and Book Review Editor of Water Economics and Policy..

Omer, Austin

Illinois Farm Bureau

Dr. Austin Omer is the Associate Director of Natural Resource Policy at Illinois Farm Bureau. He received a B.S. in Biological Science, a B.S. in Agricultural Animal Science, and a M.S. in Agricultural Science from Illinois State University, and his Ph.D. in Forest Resources from Mississippi State University with an emphasis in nutrient management, water quality and runoff reuse. He is an interdisciplinary hydrologist, agricultural scientist and animal scientist with research and extension experience in both agricultural and silvicultural industries. Dr. Omer's research interests include refining existing conservation practices to overcome barriers to adoption, investigating the interaction of conservation practices, and balancing the trade-offs of agriculture sustainability efforts across production systems. His research has addressed the needs of the United States Environmental Protection Agency 319 Program and the National Water Quality Initiative of the United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS). This research has focused on critical areas where working lands and water intersect including water quality issues pertaining to nutrient management and chemical transport, water quantity concerns including using surface water for irrigation as a replacement for groundwater and assessing USDA NRCS conservation practice effectiveness and costs. In conclusion of his research efforts, Dr. Omer has authored numerous peer-reviewed papers and extension materials, as well as presented at professional conferences and outreach events. He is passionate about providing agricultural producers with the information and support they need to make informed decisions when addressing environmental issues. Currently, he provides technical assistance to the agriculture industry throughout Illinois on a variety of environmental issues. He works to implement conservation by coordinating researchers and farmers through on-farm projects and expanding the impact of these efforts with additional outreach. He acts as a liaison with academic, state, and federal natural resource stakeholders and works to provide science-based input into policy by providing expertise to multiple working groups, committees, advisory boards, and forums.

Paustenbach, Dennis J.

Paustenbach and Associates

Dr. Dennis J. Paustenbach is a scientist, businessman, researcher, and author. He has a B.S. in Chemical Engineering, an M.S. in Industrial Hygiene and Toxicology, and a Ph.D. in Toxicology. He did postdoctoral research at the Wright Patterson Air Force Base and at the Harvard School of Public Health. He is currently President of a small consulting firm, Paustenbach and Associates. He was previously President and Founder of ChemRisk which, for many years, was the largest health risk assessment consulting firm in the United States. He was a Group Vice President of Exponent

for nearly four years. Prior to that, he was President/Chief Executive Officer of McLaren-Hart Environmental Engineering (a firm of about 800 professionals). He is a well-known expert in industrial hygiene, occupational disease, toxicology, environmental pollution, several aspects of chemical engineering and health risk assessment. He has received national awards from virtually all of the professional organizations in which he has been member (e.g., Society of Toxicology, Society for Risk Analysis, American Industrial Hygiene Association, American Conference of Governmental Industrial Hygienists, and others). Over the past 35 years, he has published nearly 300 peer reviewed papers in scientific journals, about 50 book chapters, and has authored nearly 500 papers which have been presented at various scientific conferences. Dr. Paustenbach has served as an expert witness in more than 300 depositions and has testified in court about 30 times. He has been accepted as an expert to give testimony in numerous cases involving dioxins, asbestos, benzene, chromium, beryllium, cobalt, chlorinated solvents, and other chemicals. His work on asbestos, benzene, chromium, dioxin (TCDD), beryllium, cobalt, formaldehyde, and the fluorinated chemicals is frequently cited within the scientific community. He has served as an adjunct professor at five different universities. He has served on science advisory boards over the years for National Institute for Occupational Safety and Health (NIOSH), Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), Centers for Disease Control and Prevention (CDC) and Agency for Toxic Substances and Disease Registry (ATSDR). He has been awarded two honorary Ph.D. degrees.

Peltier, Richard

University of Massachusetts

Dr. Richard Peltier is an Associate Professor of Environmental Health Sciences at the University of Massachusetts Amherst. He has more than 15 years of research and teaching experience in exposure science, atmospheric chemistry, measurement outreach, data analyses, and stakeholder outreach. Dr. Peltier received a B.S. in Biology from the University of Massachusetts Amherst, a Master of Public Health in Environmental Health from Columbia University, and a Ph.D. in Atmospheric Chemistry from the Georgia Institute of Technology. He completed a postdoctoral fellowship in environmental medicine and inhalation toxicology at the New York University (NYU) Langone School of Medicine before taking an appointment at the University of Massachusetts. His lab focuses on questions at the intersection of human exposure to air pollution and health impacts, with measurement domains including traditional indoor and outdoor locations, but also in understudied regions of the world. His recent work includes research in West Africa, the Indian subcontinent (with a particular focus on India and Nepal), Central Asia, remote indigenous regions of Canada, and, most recently, in the South Pacific. Dr. Peltier is also active in novel instrument development, including the development of low-cost sensing applications in health research that are meant to better characterize human exposure to air quality. Finally, Dr. Peltier is highly active in diverse public engagement beyond the academy, including leading work for the World Meteorological Organization aimed at member states who are interested in low cost sensing applications, leading workshops at the World Health Organization on the use of these sensors, and writing explainers for United Nations Children's Fund (UNICEF) to engage the range of global field office information needs. He has receiving funding from the U.S. Environmental Protection Agency (EPA), the National Institutes of Health (NIH), the Commonwealth of Massachusetts, and the National Science Foundation (NSF). He has published 58 peer-reviewed papers, has provided ad-hoc grant reviewing for the U.S. EPA, National Science Foundation (NSF), National Institutes of Health (NIH), National Aeronautics and Space Administration (NASA), and Centers for Disease Control and Prevention (CDC), is a recent Fulbright awardee, and is the Deputy Editor in Chief for the Journal of Exposure Science and Environmental Epidemiology.

Pepino, Richard

University of Pennsylvania

Mr. Richard Pepino has a long-standing interest in public policy relating to public health in vulnerable communities. During his career at the U.S. Environmental Protection Agency (EPA), he held a variety of management positions, including Director, Office of Environmental Programs, Director, Office of Watersheds, and Chief of Strategic Planning. He also served during the summer of 1993, in EPA Headquarters as the Director of Communications for the Office of Wetlands, Oceans and Watersheds. Much of his career at EPA dealt with investigating adverse environmental and social impacts in the Appalachian coalfields. He received numerous medals and honors at the EPA. He was honored to receive the Human Resource Manager of the Year award in 1990, and subsequently chaired the Mid-Atlantic Region's Human Resource Council. During his extensive academic career, he has blended his practice of public policy with his strong interest in science education teaching both undergraduate and graduate students in a broad variety of public health and policy courses. He served as the Director of the Public Policy Program at Franklin & Marshall College for 7 years. At the University of Pennsylvania, he focuses his efforts on teaching Academically Based Community Service courses. These Benjamin Franklin Honors courses require students to work with at-risk communities on topics such as urban asthma and childhood lead poisoning. He also works with high school and undergraduate students at the Perelman School of Medicine's Center for Excellence in Environmental Toxicology

promoting learning opportunities for a future generation of public health professionals. Mr. Pepino received the Barbara and Edward Netter Center for Community Partnerships award at the University of Pennsylvania for his work with the Philadelphia School District in West Philadelphia to address environmental and public health concerns. During the past two years, his research is funded by NIEHS, Philadelphia Department of Health, and the University's School of Arts & Sciences.

Pettigrew, Stacy

Albany College of Pharmacy and Health Sciences

Dr. Stacy Pettigrew is an Assistant Professor, Department of Population Health Sciences, at the Albany College of Pharmacy and Health Sciences (ACPHS), and is the co-founder and Executive Director of the Radix Ecological Sustainability Center, and urban environmental education center in the South End of Albany, NY, an Environmental Justice community. Dr. Pettigrew holds a Bachelor's degree in Political Science from the University at Albany. She earned her M.S. in Epidemiology and Ph.D. in Environmental Health Sciences from the University at Albany's School of Public Health. Dr. Pettigrew's research is centered on environmental justice and social determinants of health/health disparities. Her community-based approach is informed by participation from affected communities with the goal of returning data to the community for their empowerment. In partnership with AVillage, Inc., a South End advocacy organization, Dr. Pettigrew designed and implemented the South End Community Health Survey in response to air pollution concerns of residents of Ezra Prentice Homes, a public housing complex that straddles South Pearl Street, next to the Port of Albany. Preliminary findings of elevated asthma prevalence and associated community activism resulted in the NYS DEC's South End Neighborhood Air Quality Initiative. She will be presenting these data at the annual conference of the International Society for Environmental Epidemiology this summer. She is also PI on Innovation Blocks, a community-based greening and neighborhood leadership development program in Albany's South End. Other research interests include the health impacts of toxic trace elements, in the Peruvian Amazon as a result of artisanal gold mining, and in urban soils in the United States. Dr. Pettigrew been lead and co-author of 19 presentations/posters at academic conferences and is first author in 2 peer reviewed manuscripts. She has received Scholarship of Discovery Awards from ACPHS and independent research funding through the Radix Center.

Phalen, Robert

University of California-Irvine

Dr. Robert F. Phalen is a Professor of Medicine at the Center for Occupational and Environmental Health at the University of California, Irvine (UCI). He has a joint appointment in the Department of Environmental and Occupational Health in the School of Public Health. He is the founding director, and current co-director of the Air Pollution Health Effects Laboratory, a faculty member in the graduate program in Environmental Health Science, and a faculty member in the Occupational Medicine Residency Program, all at UCI. At San Diego State University his undergraduate major was physics with a minor in mathematics, and his masters' degree was in nuclear physics with an emphasis on inhaled nuclear reactor accident particles. At the University of Rochester (NY) School of Medicine and Dentistry, he obtained a Ph.D. in Radiation Biology and Biophysics, with an emphasis in Toxicology. His thesis was a study of inhaled nanosilver particles. His post-doctoral training was at the Lovelace Inhalation Toxicology Research Institute in Albuquerque, NM. There he was in the Aerosol Physics group and worked on a National Institute of Environmental Health Sciences (NIEHS) computer-modeling grant on inhaled particles in mammalian species, including humans. The University of California, Irvine, recruited Dr. Phalen in 1974 to direct the Air Pollution Health Effects Laboratory, and to establish a research program. The research focused on the effects of air pollution mixtures on lung defenses. He has published about 300 journal papers, book chapters, and reports related to his research. Another research interest is in the ethics of laboratory animal, and human research. He chaired the UCI Institutional Review Board (IRB), was a member and vice-chair of the Institutional Animal Care and Use Committee (IACUC), and authored an ethics textbook, "Core Ethics for Health Professionals" (Springer International Publisher, 2017). He is an elected fellow of three organizations: the Academy of Toxicological Sciences; the Southern California Academy of Sciences; and the American Association for the Advancement of Science. He is a full member of eight scientific societies and is the chair of the Board of Directors of the California Society for Biomedical Research (CSBR). He has served on review and advisory committees for Environmental Protection Agency (EPA), NIEHS, Centers for Disease Control and Prevention (CDC)/National Institute for Occupational Safety and Health (NIOSH), and the National Academy of Sciences (NAS), including the NAS Committee on Controlled Human Inhalation – Exposure Studies at EPA, and on EPA's Clean Air Scientific Advisory Committee – Particulate Material Subcommittee. He is a former member of the EPA's Science Advisory Board. He has authored and co-authored several books, including "Methods in Inhalation Toxicology" (1997); "Introduction to Air Pollution Science" (2011); and "Core Ethics for Health Professionals" (2017). His awards include "Career Achievement" (Society of Toxicology – Inhalation Section); and "Public Education" (CSBR). He has chaired and co-chaired several international conferences on the effects of air

pollutants on human health, and on modeling inhaled aerosol inhalation exposures. His salary is totally provided by the university. His research is in aerosol science, inhalation toxicology, air pollution health effects, modeling the deposition and clearance of inhaled substances, and radiation biology. His research is supported by the Charles S. Stocking (Endowment) Fund, and UCI Advancement.

Portier, Christopher

Environmental Defense Fund

Dr. Christopher J. Portier is a semi-retired expert in the design, analysis, and interpretation of environmental health data with a focus on carcinogenicity. Dr. Portier is currently a Senior Collaborating Scientist (part-time) with the Environmental Defense Fund (EDF), and an Adjunct Professor at Emory University and Maastricht University. He has authored more than 200 peer-reviewed publications and book chapters. During his 40+ years of research, Dr. Portier has focused on using systems-based approaches to understand the impact of the environment on human health. He has received numerous awards including the President's Dream Green Team Award (2010), the Spiegelman Award from the American Public Health Association and the Outstanding Practitioner of the Year Award from the International Society for Risk Analysis. He is an elected Fellow of the International Statistics Institute, the World Innovation Foundation, the American Statistical Association, and the Collegium Ramazzini. He has served on numerous advisory committees at U.S. EPA, National Council on Science and Technology, World Health Organization, European Commission, and others. Prior to his retirement, Dr. Portier served as the Director of the US National Center for Environmental Health at the Centers for Disease Control and Prevention and Director of the Agency for Toxic Substances and Disease Registry. Prior to this, Dr. Portier was at the U.S. National Institute of Environmental Health Sciences (NIEHS) where he conducted research on environmental health and served as the Director of the Environmental Toxicology Program, the Associate Director of the National Toxicology Program, and the Senior Scientific Advisor to the Director of NIEHS. His current research is focused on air pollution, climate change and risks from several chemicals funded by the EDF and risks from several environmental exposures funded by law firms globally.

Portier, Kenneth M.

Independent Consultant

Dr. Kenneth M. Portier is a retired biostatistician with a limited private consulting practice and an affiliate researcher with the University of Florida's Center for Environmental and Human Toxicology. A native of south Louisiana, Dr. Portier holds a B.S. in Mathematics from Nicholls State University in Louisiana, and an M.S. in Statistics and PH.D. in Biostatistics from the University of North Carolina, Chapel Hill. Dr. Portier was Vice President of the Statistics and Evaluation Center at the American Cancer Society, Atlanta, GA, and an Affiliate Professor of Biostatistics in the School of Public Health, Emory University (2006-2017). At the American Cancer Society, Dr. Portier evaluated the Society's patient service programs and provided statistical support to Society researchers. From 1979 to 2005, Dr. Portier was on the statistics faculty of the University of Florida, providing statistical support to agricultural and environmental research. He has coauthored over 175 publications in many of the premier journals in agriculture, environmental sciences, and public health and collaborated on research funded by federal agencies (NSF, USDA, NOAA, EPA, DOI). Dr. Portier has received no external funding for his research in the past two years. He has participated in over 50 USEPA FIFRA Scientific Advisory Panel meetings since 1999 and chaired the Panel in 2010 and 2011. He has participated on multiple USEPA IRIS review panels and was a member of the USEPA STAA Committee from 2012 to 2017. From 2018 to 2020 he chaired the USEPA TSCA Science Advisory Committee on Chemicals which completed reviews of the first 10 chemicals to be evaluated under the Lautenberg Chemical Safety for the 21st Century Act. Dr. Portier has served on expert and advisory panels for the US National Institutes of Health and the World Health Organization.

Post, Gloria

New Jersey Department of Environmental Protection

Dr. Gloria Post has been a Research Scientist in the New Jersey Department of Environmental Protection (NJDEP) Division of Science and Research since 1986. She is a toxicologist with responsibility for health effects evaluation and human health risk assessment of contaminants found in New Jersey's environment. Dr. Post holds an A.B. with honors in Biochemical Sciences from Princeton University and a Ph.D. in Pharmacology from Thomas Jefferson University, with post-doctoral research at Duke University. Since 2006, she has been a member of the NJ Drinking Water Quality Institute, an advisory body that recommends drinking water standards to NJDEP. Dr. Post has been a major contributor to the human health risk assessments of many well-known environmental contaminants including volatile organics, methyl tertiary butyl ether, arsenic, radon, perchlorate, 1,2,3-trichloropropane, per- and polyfluoroalkyl substances (PFAS), 1,4-dioxane, and cyanotoxins. She is the first author of the "Health and Aesthetic Effects of Drinking Water Contaminants" chapter in the American Water Works Association (AWWA) Handbook of

Water Quality & Treatment. Dr. Post has focused on the evaluation of PFAS in drinking water for more than 15 years, and she is the first author of five publications (including three critical reviews) and the co-author of three additional publications on this topic. She was the lead writer for the Human Health section of the Interstate Technology & Regulatory Council (ITRC) PFAS Technical and Regulatory Document and was a major contributor to the Environmental Council of the States (ECOS) white paper on states' regulatory standards for PFAS. She is frequently invited to speak on PFAS as emerging contaminants, including at national and international scientific meetings. Dr. Post served on the National Academy of Sciences Planning Committee for the Workshop on Federal Human Health PFAS Research and on two EPA Science Advisory Board groups (Exposure and Human Health Science Standing Committee; Trichloroethylene Risk Assessment Review panel). She has served on the Federal-State Toxicology and Risk Analysis Committee (FSTRAC) planning committee since 1990, and she represented state risk assessors at the 2012 EPA Integrated Risk Information System (IRIS) Public Stakeholders Meeting. She also represents NJDEP on the New Jersey Governor's Council for Prevention of Developmental Disabilities and serves on several other advisory committees. She is a frequent participant in National Institute of Environmental Health Sciences grant proposal reviews and is a reviewer for numerous journals. She has been a Diplomate of the American Board of Toxicology since 1990, a Society of Toxicology (SOT) member since 1984, and is a founding member of the SOT Mid-Atlantic Regional Chapter which she has served as an officer and on several committees. She received two NJ State Public Service Recognition Awards for commitment to public service (individually in 2020; as a member of the PFOA/PFOS Rule Development Team in 2019), three NJDEP Gail P. Carter Memorial Awards for a major contribution to environmental science (2010 as the first recipient; 2014; 2020), and the New Jersey AWWA annual award for ongoing contributions to drinking water research in 2014.

Potter, Scott

Nashville, TN Metro Water Services

Mr. Scott Potter holds a Bachelor of Engineering degree in Electrical Engineering from Vanderbilt University and a Masters' degree in Mechanical Engineering from the Naval Postgraduate School. Mr. Potter has served with distinction in the United States' Navy. He is a Professional Engineer in Tennessee, Kentucky, and Virginia. He has been Director of Nashville, TN's Metro Water Services, the water, wastewater, and stormwater utility for 18 years. Scott has served on the Board of Trustees of the Water Research Foundation, served as President of the Association of Metropolitan Water Agencies, and on the Vanderbilt University Mechanical Engineering Advisory Board.

Pullen-Fedinick, Kristi

Natural Resources Defense Council

Dr. Kristi Pullen Fedinick is the Chief Science Advisor and Senior Scientist at the Natural Resources Defense Council. She also holds a faculty appointment in the Department of Environmental and Occupational Health of the Milken Institute School of Public Health at The George Washington University. Dr. Pullen Fedinick holds a B.S. in Biochemistry and Molecular Biology from the University of Maryland Baltimore County and a Ph.D. in Molecular and Cell Biology with a focus on Biochemistry, Biophysics, and Structural Biology from the University of California, Berkeley. For her postdoctoral work, Dr. Pullen Fedinick was a Robert Wood Johnson Foundation Health and Society Scholar at the Harvard T. H. Chan School of Public Health. Dr. Pullen Fedinick's current work resides at the intersection of science and public policy and seeks to advance protections for people and communities disproportionately impacted by environmental and social impacts. She uses a combination of geospatial, statistical, and computational tools to assess the distribution and impact of chemicals in the environment, with a particular emphasis on drinking water and cumulative exposures. Her work also includes the evaluation of the use of high-throughput technologies, predictive toxicology, epidemiology, and computational approaches in chemical evaluations. Dr. Pullen Fedinick has authored multiple policy reports, peer-reviewed articles, and policy comments, and served on numerous influential committees of the National Academies of Sciences (NAS), Engineering, and Medicine - including the Committee on the Application of Systematic Review in Toxic Substances Control Act (TSCA) Risk Evaluations, the Committee on Incorporating 21st Century Science in Risk-Based Evaluations, and the Standing Committee for Emerging Science for Environmental Health Decisions. She has also participated in multiple government, academic, and professional society panels, and committees.

Raheja, Garima

Columbia University

Ms. Garima Raheja (she/hers) is a Researcher in the Department of Earth and Environmental Science at Columbia University and the Lamont-Doherty Earth Observatory. She is working towards a Ph.D. in Environmental Science (Atmospheric Science) from Columbia University, and currently holds a B.S. in Civil and Environmental Engineering and a B.A. in Data Science from the University of California, Berkeley. Ms. Raheja's work is focused on using low-cost sensor networks and novel data science techniques to understand air pollution. environmental change and

health impacts in urban regions across the United States and the Global South. Additionally, she is leading the development of methods and best practices for community- and citizen-based science production, and creating pathways and trainings about environmental justice for graduate and undergraduate students in universities around the world. As a community organizer with a deep technical background, Ms. Raheja brings science-based decision making to pressing environmental and policy discussions. She currently serves as the US State Department Air Quality Fellow. the American Geophysical Union Community Science Fellow, and the AGU Art and Science Section Lead. Previously, she has worked with NASA, NOAA, the University of Washington, the University of Hawaii, UC San Diego, the Exploratorium Science Museum, Code for America, Maui Nui Botanical Gardens, and led 100+ consultants in the Bay Area Environmentally Aware Consulting Network on 20+ social and environmental responsibility projects. Garima is a recipient of the prestigious Columbia University Dean's Fellowship, the UC Berkeley Regents' and Chancellors' Scholarship, the Koret Research Scholarship, and a four-time recipient of the Cal Berkeley Alumni Leadership Award. Her work has been featured recently at the National Academies of Science, and in The New York Times and the MIT Technology Review.

Rajendran, Narayanan

Kentucky State University

Dr. Narayanan Rajendran is a tenured full Professor at Kentucky State University where he has worked since 2004. Currently he is serving as a Fulbright Specialist. He is honored to have served as Deutscher Akademischer Austausch Dienst (DAAD) Research Ambassador (NY). He has received several fellowships and awards such as the Prestigious Humboldt Fellowship (Germany), Faculty Research Fellowship (Washington, DC), Indo-U.S. International Teaching Professorship award, DAAD fellowship and Deutsche Forschungsgemeinschaft (DFG) scholarship. Recently, he received honor as a U.S. Fulbright Specialist, and German Academic Exchange Service Research Ambassador. He received the Kansas State University (KSU) President's special award for his academic services. Dr. Rajendran completed his B.S., M.S., and Ph.D. at the St. Joseph's College, Trichy University of Madras, India and completed graduate courses aiming for a second Ph.D. at the University of California, Irvine. He had National Science Foundation (NSF), National Aeronautics and Space Administration (NASA) and BRIN research grants. He carried out his nano-particle research at the Cornell NanoSale Science and Technology Facility (CNF), Cornell University and did summer research at the National Institute of Allergy and Infectious Diseases (NIAID) National Institutes of a Health (NIH) Bethesda campus, and at University of Louisville. He did postdoctoral research at Michigan State University, University of Cincinnati, Marburg University (Germany) and Anna University. He taught an international course in Bioinformatics at Gujarat University, India. He was the principal person behind the establishment of a TB consortium between NIH and Manipal University (India). Dr. Rajendran has published several research papers, 7 book-chapters and 2 books. He has participated in more than 30 conferences in the U.S., Canada, Italy, Germany, and India. He has trained public-school teachers and high school students in Genetic Engineering through workshops. Dr. Rajendran served on public school educational committees, and several university committees, Interim councilor for Oak Ridge Associated Universities, and Vice president of the Faculty Senate.

Ramirez-Andreotta, Monica

University of Arizona

Dr. Monica Ramirez-Andreotta is an assistant professor of Environmental Science with joint appointments in in the Mel and Enid Zuckerman College of Public Health and Graduate Interdisciplinary Global Change Program at the University of Arizona (UA). She is the Director of the UA's National Institute of Environmental Health Sciences (NIEHS) Superfund Research Program's Research Translation Core. She is also the Director of two co-created citizen science programs called Gardenroots and Project Harvest. Dr. Ramirez-Andreotta holds a B.A. in Ecology and Evolutionary Biology and a B.A. in Studio Art, with a minor in Spanish from the UA. She has a M.P.A in Environmental Science and Policy from Columbia University, New York, NY and a Ph.D. in Soil, Water and Environmental Science with a minor in Art from the UA. After a yearlong postdoc in Sociology and Environmental Health at Northeastern University, Boston, MA, she joined the Northeastern University's department of Health Sciences in 2014. Starting in 2015, Dr. Ramirez-Andreotta joined the department of Environmental Science at UA. Ramirez-Andreotta's laboratory uses an environmental justice framework to investigate the fate and transport of pollutants in environmental systems, exposure pathways, cultural models of communication, and methods to improve environmental health literacy. Dr. Ramírez-Andreotta has secured funding from the National Science Foundation, NIEHS, California Breast Cancer Research Program, and Cochise County Health Department. Dr. Ramirez-Andreotta was selected for the Exploratorium's Osher Fellowship, the recipient of the 2019 American Association for the Advancement of Science Early Career Award for Public Engagement with Science, the 2018 Science and Engineering Excellence Award for Campus-Community Outreach for Science, Technology, Engineering & Math (STEM) Diversity, 14th Annual Karen Wetterhahn Award from NIEHS, and selected for the 2016 U.S.–Mexico Border Health Commission's Leaders Across

Borders Program. Currently, she is an associate editor for the Journal of Exposure Science and Environmental Epidemiology and Environmental Justice.

Randolph, Dennis A.

City of Kalamazoo

Mr. Dennis A. Randolph, P.E. is the City Traffic Engineer for the City of Kalamazoo Michigan and has held this position since January 2021. Previously he served as Director of Public Works for the City of Grandview Missouri, and was employed there since 2009. Mr. Randolph earned B.S. and M.S. degrees in Civil Engineering from Wayne State University in Detroit and an MPA from Western Michigan University in Kalamazoo. With over 50-years of local government experience. Mr. Randolph has a unique combination of practical engineering experience, and academic experience that brings a diverse view to committees and panels on which he serves. Besides developing and maintaining public infrastructure, his responsibilities include obtaining and managing federal funds for infrastructure improvements. As part of his responsibilities he develops project documents to meet NEPA (National Environmental Policy Act) requirements and has managed many air, noise, and water quality studies. Over the past 12-years, he has led efforts to protect the health of citizens in an environmental justice community by monitoring air permit applications, overseeing the review of the results of air and noise monitoring projects, and overseeing the reviews of human health risk. He has a strong technical background and research interest in hazard identification related to infrastructure improvements, especially as they relate to community development. He has extensive knowledge of local, state, and federal permitting processes, remediation of problems, and risk assessment issues, and has been responsible for issuing hundreds of permits over the past 50-years. He also takes part in public meetings and has conducted many media interviews. Mr. Randolph is also an adjunct instructor in civil engineering at the University of Missouri–Kansas City. He has published peer-reviewed articles and served on many external engineering and scientific committees. He also serves as an expert witness in engineering matters. Mr. Randolph's research for the past two years in asset management and artificial intelligence was funded by the City of Grandview.

Randtke, Stephen J.

University of Kansas

Dr. Stephen Randtke is a Professor Emeritus of Civil, Environmental, and Architectural Engineering at the University of Kansas. He holds a Bachelor's degree in Civil Engineering from Loyola Marymount University, and Masters' and Ph.D. degrees in Civil and Environmental Engineering from Stanford University. He is a licensed professional engineer and a diplomate in the American Academy of Environmental Engineers. Dr. Randtke has broad interests and experience in the field of environmental engineering and science. Areas of emphasis include reducing chemical contaminants in water (such as disinfection byproducts, pesticides, taste- and odor-causing compounds, and algal toxins) through source control, conventional treatment, and advanced treatment; lake and reservoir management; water reuse for potable and non-potable purposes; and produced water management. His research funding sources during the past two years were the National Science Foundation, the US Bureau of Reclamation, and the Kansas Water Office. He is a life member of the American Water Works Association (AWWA), the Water Environment Federation, and the Association of Environmental Engineering and Science Professors. Dr. Randtke currently serves on the Board of Directors of AWWA and as a Vice-President of AWWA. He previously served as Chair of the Research Division of AWWA; President of the Association of Environmental Engineering and Science Professors; and Technical Co-Editor of the 5th edition of Water Treatment Plant Design, a handbook of AWWA and the American Society of Civil Engineers. He previously served as a member of the Drinking Water Committee of EPA's Science Advisory Board (SAB); SAB's Hydraulic Fracturing Study Plan Review Panel; the Drinking Water Committee Augmented for Review of the Effectiveness of Partial Lead Service Line Replacements; and the Hydraulic Fracturing Research Advisory Panel. He frequently provides expert advice to utilities, consultants, public officials, and others seeking practical solutions to a broad array of environmental problems.

Richard, Thomas L.

Penn State University

Dr. Tom L. Richard is a Professor of Agricultural and Biological Engineering at Penn State University, where he also serves as Director of Penn State's Institutes for Energy and the Environment, coordinating a network of almost 500 faculty engaged in innovative interdisciplinary research. He received a Bachelor of Science in Political Economy of Natural Resources from the University of California at Berkeley, and completed his graduate studies at Cornell University where he received a Master of Science in Agricultural Engineering and a Ph.D. in Biological Engineering. Dr Richard's research and teaching focuses on the intersection of agriculture and the environment, and investigates crop, livestock, and biomass energy systems with respect to carbon and nutrient cycling, water quality, and greenhouse gas emissions. His research is currently funded by the U.S. Department of Agriculture (USDA) and the U.S. Department of Energy (DOE) as well as the Pennsylvania Department of Agriculture. He currently serves as the

director of the USDA's Northeast Sun Grant Center of Excellence and as the deputy technical director for the DOE's National Risk Assessment Partnership for carbon sequestration. Dr. Richard is the author or co-author of over 160 research and technical publications and serves on the editorial boards of three professional journals. In addition to advising 27 graduate students he has mentored over 100 undergraduate researchers, primarily women and minorities. He is Fellow and active member of the American Society of Agricultural and Biological Engineers (ASABE), a Fellow and Past President of the Institute of Biological Engineering (IBE), and a member of the Board of Directors for the Global Council for Science and the Environment (GCSE). Dr. Richard has received several awards for his research, outreach, and science communications, including from ASABE, IBE, the Korean Rural Development Administration, and the American Association of the Advancement of Science.

Richardson, David B.

University of North Carolina

Dr. David B. Richardson is Professor of Epidemiology in the Gillings School of Global 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. Dr. Richardson received a Ph.D. and M.S.P.H., both in Epidemiology, from the University of North Carolina. Dr. Richardson has a strong background in occupational epidemiology, with specific training and expertise in occupational cancer studies, radiation epidemiology, and epidemiological methods. He has conducted research on strengthening epidemiological methods for cohort studies, and laid the groundwork for the proposed research through a history of research on workers employed at U.S. Department of Energy (DOE) facilities, including prior cohort and case-control studies of workers employed at DOE's Oak Ridge, Savannah River, and Hanford facilities, as well as participation in large international collaborative studies of nuclear workers. Dr. Richardson 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 and American Journal of Epidemiology, is a member of the President's Advisory Board on Radiation and Worker Health. 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..

Ricketts, Taylor

University of Vermont

Taylor H. Ricketts is Gund Professor and Director of the Gund Institute for Environment at the University of Vermont. He is a leading ecologist who collaborates with economists, public health researchers, and decision-makers to understand and solve critical environmental issues in the U.S. and worldwide. Dr. Ricketts received a B.A. in Earth Sciences at Dartmouth College and a Ph.D. in Biology at Stanford University. He is an elected Fellow of both the Ecological Society of America and the American Association for the Advancement of Science. He has been named one of the most influential researchers in the world six years in a row. Dr. Ricketts studies the economic and other benefits from nature to people, or "ecosystem services." He co-founded the Natural Capital Project – a consortium of universities and NGOs to quantify and map ecosystem services and support policies to manage them. Increasingly, he investigates the ways that natural systems support human health, and the health costs of ongoing environmental degradation. His work ranges from field experiments to national modeling efforts to global data synthesis, and increasingly focuses on equity and justice dimensions of the supply and benefits of ecosystem services. Dr. Ricketts has served on scientific committees for the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), for the National Research Council, for the National Science Foundation's NCEAS Center, and for several NGOs. He has received recent funding for his research from the National Science Foundation, the US Fish & Wildlife Service, and the Knobloch Family Foundation.

Robinson, Lisa

Harvard University

Lisa A. Robinson is a Senior Research Scientist affiliated with the Center for Health Decision Science and the Center for Risk Analysis at the Harvard T.H. Chan School of Public Health, and Deputy Director of the Center for Health Decision Science. Ms. Robinson received her Masters' in public policy degree from the Harvard Kennedy School of

Government. Her research and teaching focus on the conduct of benefit-cost analysis, particularly for policies with outcomes that cannot be fully valued using market measures. She has led numerous assessments of the costs, benefits, and other impacts of environmental, health, and safety policies and regulations, developed related methods, and drafted guidance documents. She co-edited the National Academies book, Valuing Health for Regulatory Cost-Effectiveness Analysis, led the creation of benefit-cost analysis guidelines for the U.S. Department of Health and Human Services and the Bill & Melinda Gates Foundation, and developed approaches applied by government agencies and others to estimate the value of mortality risk reductions (the value per statistical life, VSL) and the value of morbidity risk reductions. Ms. Robinson has explored the implications of behavioral economics research and happiness (subjective well-being) measures for benefit-cost analysis, approaches for assessing employment impacts and the distribution of costs and benefits across advantaged and disadvantaged groups, the derivation of cost-effectiveness thresholds, and responses to hazard warnings. Her work addresses both high-income and low- and middle-income settings. Ms. Robinson was previously a Senior Fellow at the Mossavar-Rahmani Center for Business and Government as well as an Affiliate Fellow of its Regulatory Policy Program at the Harvard Kennedy School. She was a Principal at Industrial Economics, Incorporated, the Director of Policy, Planning, and Budget for the federal Institute of Museum Services, and an analyst at the U.S. Office of Management and Budget. She is also a past President of the Society for Benefit-Cost Analysis and served as a Councilor of the Society for Risk Analysis as well as Chair of its Economics and Benefits Analysis Specialty Group. She received the Richard J. Burk Outstanding Service Award from the Society for Risk Analysis and the Richard O. Zerbe Distinguished Service Award from the Society for Benefit-Cost Analysis, and is a Fellow of the Society for Risk Analysis. She is also on the Editorial Boards of Risk Analysis and the Journal of Benefit-Cost Analysis, which presented her with its Best Symposium award..

Robock, Alan

Rutgers University

Dr. Alan Robock is a Distinguished Professor of climate science in the Department of Environmental Sciences at Rutgers University. He has a B.A. from the University of Wisconsin, Madison, and an S.M. and Ph.D. from the Massachusetts Institute of Technology, all in Meteorology. Before graduate school, he served as a Peace Corps Volunteer in the Philippines. He was a professor at the University of Maryland, 1977-1997, and the State Climatologist of Maryland, 1991-1997, before coming to Rutgers in 1998. Prof. Robock has published more than 400 articles on his research in the area of climate change, including more than 270 peer-reviewed papers. His areas of expertise include climate intervention (geoengineering), and climatic effects of nuclear war and volcanic eruptions. He serves as Associate Editor of Reviews of Geophysics, the most highly-cited journal in the Earth Sciences. He is a Fellow of the American Geophysical Union (AGU), the American Meteorological Society (AMS), and the American Association for the Advancement of Science, and a recipient of the AMS Jule Charney Award. He is Chair-Elect of the AGU College of Fellows. His recent research funding has come from the National Science Foundation, Open Philanthropy Project, and Silverlining. Dr. Robock has served on the Climate and Atmospheric Sciences Standing Committee of the Science Advisory Board of New Jersey Department of Environmental Protection since 2010 and the Advisory Committee for Geosciences of the National Science Foundation since 2020. He was a Lead Author of the most recent Fifth Assessment Report of Working Group I of the Intergovernmental Panel on Climate Change. He has served as a member of the Board of Trustees of University Corporation for Atmospheric Research, which operates the National Center for Atmospheric Research, and on the Atmospheric Climate Models Panel, Ice Cores Panel, and Volcanic Eruptions and Their Impacts on Climate Panel of the Earth Observations Assessment, performed by the White House Office of Science and Technology Policy, in 2016.

Rodewald, Amanda D.

Cornell University

Dr. Amanda D. Rodewald is the Garvin Professor and Senior Director of the Center for Avian Population Studies at the Cornell Lab of Ornithology and the Department of Natural Resources and the Environment at Cornell University. Prior to joining Cornell in 2013, she spent 13 years as a professor at Ohio State University. Dr. Rodewald received a Bachelor's degree in Wildlife Biology from University of Montana, a Master of Science in Zoology from University of Arkansas, and a doctorate in Ecology from Pennsylvania State University. Her interdisciplinary research integrates ecology, community/citizen science, big data and computational modeling, biological indicators, and field-based studies to understand and address conservation challenges in temperate and tropical systems, especially in working landscapes that serve social and ecological needs. She has published over 160 scientific papers, 10 book chapters, and a textbook and secured >$9 million in research funding. In the last two years, she has received support from National Science Foundation, Packard Foundation, U.S. Fish and Wildlife Service, March Conservation Fund, Nespresso, Walmart Foundation, DeCoizart Trust, the Peter Wall Institute for Advanced Studies, and the Cornell Atkinson Center for a Sustainable Future. Dr. Rodewald is a fellow of the American Association for the Advancement of Science and the American Ornithological Society. She has previously served on the U.S. Environmental Protection

Agency's Science Advisory Board (SAB), the SAB Ecological Processes and Effects Committee, and SAB review panels for EPA's Report on the Environment, EPA' Geographic Information Screening Tool, and EPA's Critical Ecosystem Assessment Tool, and has chaired the SAB panel reviewing EPA's Waters of the U.S. report. Other national leadership roles include serving on the Scientific Review Committee of the National Socio-environmental Synthesis Center and the nominating committee of American Association for the Advancement of Science, as well as presenting at Congressional briefings or hearings.

Rong, Yue

Cal-environmental protection agency - water board (Los Angeles)

Dr. Yue Rong is Environmental Program Manager at the California Environmental Protection Agency, Los Angeles Regional Water Quality Control Board, in charge of site assessment and remediation of leaking underground storage tank sites, and the program of water quality control in oil and gas production fields. He once served to be the acting Assistant Executive Officer for groundwater division. Dr. Yue Rong earned his Ph.D. in Environmental Health Sciences from UCLA and MS in Environmental Sciences from the University of Wisconsin-Green Bay, and has more than 32 years' experience with the Agency in dealing with groundwater contamination problems in the Los Angeles area of California, U.S.A. His expertise includes organic pollutants fate and transport in the subsurface soil and groundwater, environmental analytical chemistry and quality assurance and quality control, environmental statistics, risk assessment, and soil and groundwater pollution assessment and remediation. The projects he worked and involved with include collaboration with USEPA at superfund sites, I-710 Corridor Project, Santa Monica methyl tertiary butyl ether (MTBE) drinking water pollution cleanup, and water quality control at oil and gas production fields in Los Angeles area. Dr. Rong is the recipient of the California Regional Water Quality Control Board Outstanding Achievement Award and Supervisory Performance Award. He also received 2011 AEHS Foundation Achievement Award, and the "Earth Caretaker" award by the University of Wisconsin-Green Bay. He is an Associate Editor for the peer-reviewed journal of Soil and Sediment Contamination and an Associate Editor for the Journal of Environmental Forensics. Dr. Rong served as chairman for the UCLA Alumni Association Outstanding Graduate Student Nominating Committee. Dr. Rong was elected as the president of the Southern California Chinese American Environmental Protection Association (SCCAEPA), and the president of the Chinese-American Engineers and Scientists Association of Southern California (CESASC), and Chairman of the board of Chinese University Alumni Association Alliance, serving the local minority community..

Rosen, Barry

Florida International University

Barry P. Rosen is Distinguished University Professor at the Herbert Wertheim College of Medicine, Florida International University in Miami, Florida and was Associate Dean for Basic Research and Graduate Programs. He received his B.S. from Trinity College, Hartford, Connecticut, M.S. and Ph.D. from the University of Connecticut and postdoctoral fellowship at Cornell University. He was Professor at the University of Maryland School of Medicine and Chair and Distinguished Professor of Biochemistry and Molecular Biology at Wayne State University School of Medicine. His research focuses on pathways of detoxification of environmental metal (Zn, Cd, Pb) and metalloid (As, Sb) contaminants. He discovered most of the known genes of arsenic biology. Most recently he identified mechanisms of detoxification and degradation of the organoarsenical herbicide monosodium methylarsenate and the synthetic growth promoter roxarsone. He has more than 350 publications and four patents. His awards include the Basil O'Connor Award from the March of Dimes, Maryland Distinguished Young Scientist Award, Josiah Macy, Jr. Faculty Scholar Award and Florida International University Top Scholar Award. He has been on advisory panels at the National Institutes of Health, National Science Foundation and American Heart Association, and most recently on the National Institutes of Health CounterACT and XNDA Study Sections. He has been on multiple journal editorial boards and was a reviewer of the Food and Drug Administration's policy on inorganic arsenic in infant rice cereal. He was elected as President of the Association of Medical and Graduate Departments of Biochemistry and is an Elected Fellow of both the American Academy for Microbiology and the American Association for the Advancement of Science. He has been continuously funded over his entire career by the National Science Foundation and National Institutes of Health. He is currently funded by a National Institutes of Health Maximizing Investigators' Research Award.

Rosenberg, Andrew A.

Union of Concerned Scientists

Dr. Andrew A. Rosenberg is director of the Center for Science and Democracy at the Union of Concerned Scientists. He has more than 30 years of experience in government service and academic and non-profit leadership. Dr. Rosenberg received his Ph.D. in Biology from Dalhousie University in Halifax, Canada, and an M.S. in Oceanography from Oregon State University. He is the author of scores of peer-reviewed studies and reports on ecology and

natural resource management and has published on the intersection between science and policy making. He has extensive expertise in environmental science, statistical modeling, the development and implementation of scientific integrity policies and transparency in government. Dr. Rosenberg previously served as Chief Scientist at Conservation International, Dean of Life Sciences and Agriculture at the University of New Hampshire and Deputy Director of National Oceanic and Atmospheric Administration's National Marine Fisheries Service. Dr. Rosenberg was appointed to serve on the U.S. Commission on Ocean Policy by President G.W. Bush. He served on the Ocean Studies Board of the National Academy of Sciences, the U.S. Navy Ocean Research Advisory Committee, and the National Academy's America's Climate Choices study. Dr. Rosenberg also served on the advisory committee for the U.S. National Climate Assessment and was the convening lead author of the oceans chapter. He was also a lead author for the U.N. World Ocean Assessment. In his current position, Dr. Rosenberg is employed by a 501c3 charitable organization entirely funded from members and private philanthropy.

Rosi, Emma

Cary Institute of Ecosystem Studies

Dr. Emma J. Rosi is a Senior Scientist at the Cary Institute of Ecosystem Studies. She holds a Ph.D. and masters' degree from the University of Georgia and a bachelor's degree from the University of Michigan. Previously, Dr. Rosi was an Assistant Professor at Loyola University of Chicago. She conducts research on factors that control and influence ecosystem function in aquatic ecosystems. Her research focuses on human modifications to freshwater ecosystems such as land use change and restoration, widespread agriculture, urbanization, the release of novel contaminants, and hydrologic modifications associated with large dams. Her research spans ecosystems from small streams to large rivers and has been conducted in rivers throughout the world. She employs methods to explore ecological processes including biogeochemistry, production ecology, food webs, carbon cycling and the effects of emerging contaminants on ecosystem processes. Dr. Rosi is the Principal or Co-Principal Investigator on competitive federal grants from the National Science Foundation (NSF) and the U.S. Department of Agriculture (USDA), as well as private foundation grants, and has published findings from these studies in diverse national and international scientific journals. Grants from USDA have supported research on measuring crop byproducts in aquatic ecosystems. With various grants from NSF, her research projects include: investigating role of wildlife in large rivers, long-term dynamics of an invasive species in the Hudson River, long-term chemistry of precipitation and stream water and stream ecology in New Hampshire, resilience to extreme events in urban ecosystems, and she is the director of the Baltimore Ecosystem Study Long-term Ecological Research Site. She conducts research investigating microplastics and pharmaceuticals effects on streams (Robert C. and Tina Sohn Foundation). She served on the board of Freshwater Biology and has served as a reviewer for proposals submitted to NSF and USDA, and for articles submitted to numerous scientific journals.

Roy, Nalanda

Georgia Southern University

Dr. Nalanda Roy is an associate professor in the Department of Political Science and International Studies at Georgia Southern University. She is the Coordinator of the Asian Studies program at the University as well as the Inclusive Excellence Faculty Fellow appointed by the Office of Inclusive Excellence. Currently, she also holds the visiting research associate professor position with the Center for the Study of Genocide and Human Rights (CGHR) at Rutgers University. Dr. Roy has a Bachelor's degree in Political Science from Jadavpur University, India, and also Masters' and M. Phil degree in International Relations, India. She also has a Masters' degree in Sociology and Anthropology from the University of Toledo, Ohio, and a Ph.D. in Global Affairs from Rutgers University. Dr. Roy completed the Women in Leadership Program from the SC Johnson College of Business at Cornell University. She. Roy has expertise in international security, international relations, comparative politics, Area Studies (South Asia, Southeast Asia, and the Asia-Pacific), China, international security and immigration, maritime security, environment, and energy security, international law and security, globalization, and social movements, human rights and security, genocide. She is devoted to excellence in research and has a strong publication record and an active research agenda that includes both publications as well as national and international conference presentations. Dr. Roy has been the principal investigator on a few sponsored research projects, has published over 24 journal articles, more than 70 invited lectures and conference papers, around 60 editorial reviews, a few book chapters, 4 books (the fifth book is forthcoming), several book reviews and encyclopedia entries, etc. Her research includes immigration and security; global climate change; the geospatial significance of maritime disputes in East Asia; ocean governance in Southeast Asia; the role of ASEAN in the Haze crisis; China's Silk Road/One Belt One Road strategy, environmental and energy security, etc. Dr. Roy's funding sources in the few years include several undergraduate student research funds, Seed grants, grants from the College of Behavioral & Social Sciences fund, College of Liberal Arts fund, Jack N. Averitt College of Graduate Studies fund, Campus Life Enrichment Committee grant at Georgia Southern University. She has been working with the City of Savannah's Greater Savannah International Alliance (GSIA) for the past six

years. The GSIA acts as a community resource and advises the Mayor and City Council on international issues and collaboration. It's a forum for identifying and addressing locally relevant international opportunities. She was appointed as the Vice-Chair of the organization and the Chair of the Asian committee and assigned specific tasks to reconnect the Asian communities in Savannah. Dr. Roy has been invited to be a part of the Climate Action Plan (CAP) committee, affiliated to the office of leadership and community engagement, and she is currently working with the team to develop the CAP-research goals with short, medium, and long term objectives. The goals are to create: Climate-woke Learning Communities; develop research and education partnerships; emphasize sustainability education and research, and finally to construct a Coastal Resilience and Sustainability Institute.

Roy, Sujoy

Tetra Tech Inc.

Dr. Sujoy B. Roy is a Director of Tetra Tech Inc., located in Lafayette, CA. He holds a B. Tech. in Civil Engineering from the Indian Institute of Technology, New Delhi, India, and an M.S. and Ph.D. in Civil and Environmental Engineering both from Carnegie Mellon University. Dr. Roy's primary research has involved model development and application across a variety of domains, including coastal, estuarine, and freshwater environments. Over his 25-year career with Tetra Tech, Dr. Roy has led several major interdisciplinary projects across the United States and internationally spanning water-resources, water quality, contaminant transport, environmental restoration, and climate change-related impact assessment. Some examples of completed studies include: emulation of hydrodynamic models using neural networks; laboratory and modeling support for addressing radiological, biological, and chemical agent contamination in landscapes; evaluation of sea level rise vulnerability and adaptation planning for the NASA Ames facility on San Francisco Bay; a national study on the role of climate change on future water withdrawals; evaluating climate change impacts to municipal water supplies from the Owens Valley watershed to Los Angeles; and support for restoration planning of the Salton Sea in California. Over 2019-2021 sources of funding included: U.S. Environmental Protection Agency, the U.S. Department of Agriculture, the California Department of Water Resources, the California State Water Resources Control Board, Metropolitan Water District of Southern California, Electric Power Research Institute, the Asian Development Bank, The Nature Conservancy, San Francisco Estuary Institute, the Southern California Coastal Water Research Project, and the City of Miami. Dr. Roy has served on National Academy of Sciences panels on Missouri River Basin restoration and on Clean Water Act Implementation across the Mississippi Basin (2008-2009). Dr. Roy served as a member of the EPA Science Advisory Board Environmental Engineering Committee (EEC) over 2009-2015.

Rumpler, Marc

Tennessee Department of Health

Dr. Marc Rumpler has previous experience as a bench level chemist, toxicologist, and environmental scientist. He has instructed courses in chemical toxicology, risk assessment and drug pharmacokinetics. He is an experienced and licensed clinical laboratory director and often consults with physicians, medical examiners and authorities regarding drug and chemical intoxications. His previous research has focused on drug pharmacokinetics and pharmacodynamics as well chemical and biological characterization of drugs and chemical compounds. Dr. Rumpler is also an experienced laboratory inspector with the College of American Pathologists in various specialties. Presently Dr. Rumpler directs the Tennessee Public Health Laboratory's Environmental Health Program which focuses in five key areas including aquatic toxicology, radiochemistry, organic/inorganic chemistry, environmental microbiology, and chemical terrorism. His research is focused on biomonitoring and public health surveillance of drugs and chemical compounds. Dr. Rumpler holds board certification each in toxicology, chemistry and laboratory management from the American Board of Clinical Chemistry, the National Registry of Certified Chemists, and the American Society of Clinical Pathology, respectively. He is an active member of several professional trade organizations. Dr. Rumpler is currently serving on the Environmental Health Committee for the Association of Public Health Laboratories (2019-Present) and the Life Sciences Advisory Committee for the Association of Laboratory Accreditation. Dr. Rumpler also serves on the Document Development Committee (EP40) for the Clinical Laboratory Standards Institute (2019-Present). Previously, he served on the Graduate Student Advisory Committee and the Ethics Advisory Committee for the National Science Foundation (2010-2012).

Sabo-Attwood, Tara L.

University of Florida

Dr. Tara Sabo-Attwood is a Professor and Chair of the Department of Environmental and Global Heath and Associate Dean for the College of Public Health and Health Professions at the University of Florida (UF). She is also a member of the Center of Environmental and Human Toxicology and Emerging Pathogens Institute at UF. She has broad expertise in environmental molecular toxicology with an emphasis on water and airborne contaminants. She earned a B.S. in genetics and Ph.D. in Biomedical Sciences, Pharmacology and Toxicology as a National Institute of Health

(NIH) Fellow from UF and was awarded a NIH Postdoctoral Fellowship at the University of Vermont in Pulmonary Pathology. Dr. Sabo-Attwood's research centers on elucidating how pollutants, both historical and emerging (asbestos, endocrine disruptors, nanomaterials) perturb molecular pathways that contribute to adverse health outcomes. Her work encompasses aquatic and mammalian models and spans-controlled laboratory approaches and field projects. Her current work focusses on the innate immune system as a target of inhaled or dietary chemical exposure with an emphasis on susceptibility of organisms to pathogenic infections. Based on her contributions she was named a Kavli Fellow in Nanotechnology by the National Academy of Sciences (NAS). Her work is currently funded by the NIH, National Science Foundation (NSF), and the US Department of Agriculture (USDA). In addition to her research contributions, Dr Sabo-Attwood teaches courses in environmental health, one health, toxicology and has trained numerous masters and doctoral students. She participates on international and national advisory committees including the International Academy of Sciences, routinely participates on Environmental Protection Agency (EPA), NIH, and NSF review panels, is an associate editor for Environmental Health Perspectives and a long standing member of Society of Toxicology and Chemistry (SETAC) and SOT. She served on the EPA Science Advisory Board from 2016-2021.

Sadd, James

Occidental College

Dr. James L. Sadd is Professor of Environmental Science at Occidental College, Los Angeles, California. For over 15 years he has been a national leader in research focused on the quantitative and statistical evaluation of questions related to environmental exposure, health risk, and environmental justice, primarily through the use of spatial analysis using geographic information systems and remote sensing tools. He holds terminal degrees in Geology (B.S. University of Southern California, M.S. University of Texas, Austin, Ph.D. University of South Carolina, Columbia). He served USEPA as a member of the Nationally Consistent Environmental Justice Screening Approaches Work Group, EPA-FIFRA Scientific Advisory Panel Member for the Approaches for Quantitative Use of Surface Water Monitoring Data in Pesticide Drinking Water Assessments, and the Science Advisory Board Risk Technology Review Method Review Panel. He has served EPA as peer reviewer and advisor for several of their screening tools (EJSEAT, CenRANK, EJSCREEN, C-PORT). Dr. Sadd and his colleagues have published widely in the environmental justice field and are also recognized for their ongoing research collaborations with numerous environmental justice organizations. He is co-developer of a cumulative impacts screening methodology that integrates GIS mapping and data analysis to identify patterns of exposure, vulnerability and risk with regard to a variety of environmental and health hazards which has informed or been adapted for use by a variety of policy and regulatory agencies, and has helped to raise awareness and impact policy at the local, state and national levels. He worked with California community-based organizations, in partnership with EPA Region 9, to pioneer a community-based participatory research model called "ground truthing." His recent research was supported by EPA Region 9, California EPA, California Air Resources Board, Los Angeles County, California Energy Commission, Hewlett, Annenberg and Energy Foundations, the California Endowment.

Sahmel, Jennifer

Cardno ChemRisk

Dr. Jennifer Sahmel is Managing Principal Scientist at Insight Exposure and Risk Sciences. She has a Bachelor's degree in International Studies from the College of William and Mary, a Master of Public Health degree in Environmental Health Sciences from the University of California at Berkeley, and a Ph.D. in Environmental Health from the University of Minnesota School of Public Health. She is a Research Fellow of the Exposure Science and Sustainability Institute at the University of Minnesota, and is a Certified Industrial Hygienist and Certified Safety Professional. She has expertise in exposure and risk assessment practice and methodologies, exposure modeling, exposure reconstruction, dermal exposure assessment, Bayesian decision analysis, product stewardship, and health risk decision making. Dr. Sahmel has previously worked for the U.S. Environmental Protection Agency's (EPA) Office of Pollution Prevention and Toxics, the Intermountain Region of the National Park Service, Comprehensive Health Services at National Aeronautics and Space Administration's (NASA) Goddard Space Flight Center, Cardno ChemRisk, FMC Corporation, and the Labor Occupational Health Program at the University of California. Dr. Sahmel is a current co-chair of the National Institute for Occupational Safety and Health-facilitated National Occupational Research Agenda Cross-Sector Council for Immune, Infectious, and Dermal Disease, and has been a member of the International Standards Organization Technical Committee 146, Subcommittee 2, Workgroup 8, Air Quality – Workplace Atmospheres – Assessment of Contamination of Skin and Surfaces from Airborne Chemicals and the National Institute for Occupational Safety and Health Expert Workgroup on Skin Notations and Dermal Exposure Issues. She has published 25 peer-reviewed journal papers, 8 book chapters, 33 invited conference presentations, and 10 published conference abstracts and posters. Dr. Sahmel has received external funding for research performed

in the last two years from the Midwest Center for Occupational Health and Safety. She is a Fellow and past member of the Board of Directors of the American Industrial Hygiene Association.

Saiers, James E.

Yale University

Dr. James Saiers is the Clifton M. Musser Professor of Hydrology at the Yale School of the Environment. He holds a B.S. in Geology from Indiana University of Pennsylvania and an M.S. and Ph.D. in Environmental Sciences from the University of Virginia. His research focuses on the movement of contaminants, nutrients, and carbon on and below the Earth's surface. This research involves laboratory experiments, collection of field-scale observations, and development of models that quantify fluid flow, mass transport, and chemical reactions. Dr. Saiers' overarching goal is to advance empirical and theoretical approaches that can be used to inform water-resource management decisions, safeguard freshwater resources, and to guide restoration plans for sites impacted by polluted groundwater or surface water. Dr. Saiers has published extensively on factors affecting groundwater and surface-water flow and on the role of coupled hydrological and geochemical processes in governing the migration of contaminants in soils, aquifers, streams, and wetlands. This research has been supported by numerous grants from federal agencies, including the National Science Foundation, the U.S. Department of Energy, the Army Research Office, the United States Environmental Protection Agency, and the United States Geological Survey. Dr. Saiers has served on the editorial boards of Water Resources Research and Geophysical Research Letters. He has chaired, and served as a member of, National Research Council Committees on Aquifer Storage and Recovery and on Everglades Restoration. He also has served on EPA's advisory board for the Study of the Effects of Hydraulic Fracturing on Drinking-Water Resources. Dr. Saiers is a member of the American Geophysical Union, American Chemical Society, and the National Groundwater Association.

Sakaji, Richard

Independent Consultant

Dr. Richard Sakaji retired as Water Quality Manager for the East Bay Municipal Utility District but is currently with the State Water Resources Control Board, Division of Drinking Water working on a variety of drinking water quality and public health issues. He has served on blue ribbon panels for the Tualatin Valley Water District and the Portland Water Bureau. His educational background includes marine biological sciences (A.B., University of California, Berkeley), engineering science (M.S. and Ph.D., University of California, Berkeley; minors in chemical engineering and biochemistry). In his former positions, his technical expertise in drinking water quality, engineering (civil and chemical), biological sciences, and chemistry have allowed him to participate in activities ranging the review and guidance on testing protocols to serving on technical committees that aided in the establishment of drinking water and water recycling regulations and public policy. His career started in the California Department of Public Health in water recycling and drinking water, as a result, he has always brought a public health perspective to advisory committees and workgroups, such as those serving the National Academy of Sciences, the National Water Research Institute, the Water Research Foundation, and the National Water Research Institute. His publications span the subject areas of drinking water quality, operations research, microbial risk assessment, analytical methods, and water recycling. Though he is currently not conducting research and is not receiving research funding, his public health and regulatory perspective coupled with his real-world experience in the operation and management of drinking water utilities can provide valuable insight to the Science Advisory Board discussions.

Samaras, Constantine

Carnegie Mellon University

Dr. Constantine Samaras is an Associate Professor in the Department of Civil and Environmental Engineering at Carnegie Mellon University. He directs the Center for Engineering and Resilience for Climate Adaptation and is Co-Director of the Power Sector Carbon Index. He is a Fellow in Carnegie Mellon's Scott Institute for Energy Innovation and by courtesy, a faculty member in the Department of Engineering and Public Policy and the Heinz College of Public Policy. He is also an Adjunct Senior Researcher at the RAND Corporation and a Non-Resident Fellow at the Payne Institute at the Colorado School of Mines. He received a joint Ph.D. in Civil and Environmental Engineering and Engineering and Public Policy from Carnegie Mellon, a M.P.A. in Public Policy from the Wagner Graduate School of Public Service at New York University, and a B.S. in Civil Engineering from Bucknell University. Dr. Samaras researches how energy and infrastructure systems affect energy use, resilience to climate change impacts, economic and equity outcomes, and life cycle environmental emissions and other externalities. He assesses uncertainty in future climate trends, and how these affect local and system-wide resilience decisions. He was a contributor to the 4th National Climate Assessment, has served on three National Academies Committees evaluating emerging energy technologies and earth systems research, served as the Chair of the ASCE Committee on Adaptation to a Changing Climate, and served on the Alternative Transportation Fuels and Technologies Committee and currently serves on the

Energy Committee of the Transportation Research Board. Dr. Samaras' research in recent years has been funded by The National Science Foundation, The U.S. Department of Energy, The U.S. Department of Transportation, The Chesapeake Bay Trust, The National Bureau of Economic Research, Virginia Institute of Marine Sciences, The Heinz Endowments, Pittsburgh Water and Sewer Authority, Google Research, Engie, and Carnegie Mellon University.

Samet, Jonathan M.

Colorado School of Public Health

Dr. Jonathan M. Samet is Dean and Professor at the Colorado School of Public Health. Dr. Samet received a bachelor's degree in Chemistry and Physics from Harvard College, an M.D. degree from the University of Rochester, School of Medicine and Dentistry, and a Master of Science degree in Epidemiology from the Harvard TH Chan School of Public Health. He is trained and boarded in the specialty of internal medicine and in the subspecialty of pulmonary diseases. Dr. Samet's research has addressed active and passive smoking, cancer and cardiovascular disease and the effects of inhaled pollutants in the general environment, both indoors and outdoors, and in the workplace. His expertise reaches broadly to include epidemiology, exposure assessment, risk assessment, and approaches to evidence evaluation, synthesis, and integration. He served as chair of the Clean Air Scientific Advisory Committee of the United States Environmental Protection Agency and also the Food and Drug Administration's Tobacco Products Scientific Advisory Committee, along with serving on and chairing numerous committees of the National Academies of Sciences, Engineering and Medicine, many addressing risk-related topics for the Environmental Protection Agency. He was appointed to the National Cancer Advisory Board in 2011. Dr. Samet is past President of the Society for Epidemiologic Research and the American College of Epidemiology. He is past editor of the American Journal of Epidemiology, Epidemiology, and Air Quality, Atmosphere and Health, and is currently editor-in-chief of Population Health Metrics. His current research funding comes from the National Institutes of Health and the State of Colorado. Dr. Samet was elected to the National Academy of Medicine in 1997.

Sanders, James

University of Georgia

Dr. James Sanders is Professor Emeritus of Oceanography at the Skidaway Institute of Oceanography, the University of Georgia. He received his B.S. from Duke University in Zoology and his Ph.D. from the University of North Carolina in Marine Sciences, then was a postdoctoral investigator at Woods Hole Oceanographic Institution. Prior to his arrival in Savannah, GA, in 2001, Dr. Sanders was on the faculty and served as Director of the Academy of Natural Sciences' Estuarine Research Center in Maryland, then was Chairman of the Department of Ocean, Earth and Atmospheric Sciences at Old Dominion University in Virginia. Dr. Sanders served as Director and Executive Director of the Skidaway Institute from 2001-2016, when he stepped down from that leadership role and assumed his professorship. Dr. Sanders is known for his interests within the area of nutrient and trace element biogeochemistry: how nutrients and trace elements are transported through coastal zones, transformed by chemical and biological reactions during transport, and how they influence growth and species composition of autotrophic organisms and in particular, the regulation of algal bloom formation. His research has been funded by the NSF (past two years), and by NOAA, EPA, and other entities over during his career. He has served as a consultant to federal and state science agencies and industrial groups in the U.S. and Europe. He was a member of numerous scientific societies, was President of the National Association of Marine Laboratories and a Trustee and Officer of the Consortium for Ocean Leadership, served on the EPA Science Advisory Board from 2007-2014, and on numerous other advisory boards for NOAA Sea Grant and other entities. He is the author of over 80 scientific publications.

Schmeltz, Michael

California State University, East Bay

Dr. Michael T. Schmeltz is an Assistant Professor in the Department of Health Sciences at California State University, East Bay. Dr. Schmeltz holds a B.S. in Biomedical Research & Clinical Sciences from Boston University, a M.S. in Environmental & Occupational Health from Hunter College, and a Doctorate in Public Health (DrPH) in Environmental & Occupational Health from the City University of New York (CUNY), Graduate Center. Dr. Schmeltz did two years of postdoctoral research as an Environmental Health Fellow at the U.S. Environmental Protection Agency (EPA) and joined the faculty at Cal State East Bay in 2018. Dr. Schmeltz's research focuses on the use of geospatial techniques, environmental and meteorological data, epidemiological methods, and risk communication to assess social and structural vulnerabilities individuals and communities face due to environmental and climate hazards, with an aim to improve adaptation and resilience in the most affected populations. Dr. Schmeltz is an active member of the American Geophysical Union's GeoHealth section, and in the American Public Health Association (APHA), where he has held various roles, including governing councilor, co-chair of the Climate & Health Topic Committee, and currently sits on the Education Board. Dr. Schmeltz's research has been funded by faculty support grants from California State University, East Bay.

Schofield, Kim

Georgia State Legislature

Rep. Kim Schofield, State House Representative District 60 was elected to the Georgia Assembly in 2017 and serves on the Small Business Development, Interstate Cooperation and the Health and Human Service and Audits and Information Committees. She was appointed to the Atlanta Commission on Women. Rep. Schofield holds leadership positions as State Lead for the National Caucus of Environmental Legislatures, National Organization of Black Elected Legislative Women (NOBEL), Executive Board member of National Caucus of Black Legislators (NBCSL) and the Georgia Legislative Black Caucus (GLBC). In the General Assembly, Rep. Kim sponsored environmental and climate legislation including "100 percent Clean Energy by 2050 (HR70)", "Banning Chemical Flame and Toxic Chemicals in Consumer Products" (HB 40) and has co-sponsored several environmental legislations including "Georgia Environmental Justice Act 2021 (HB 339)." Her youth initiative in partnership with Elequa' "Make Water" is a STEM-based program education youth in under-resourced areas about environmental science, protections and careers is gaining national attention. For more than a decade, Rep. Kim Schofield works at Emory University, School of Medicine, Division of Rheumatology on the Lupus Research Team. Her interest in Environmental Health and its impact on Chronic Disease requiring a comprehensive environmental lens with clean water, clean air, and climate as a focal point.

Schuldt, Nancy

Fond du Lac Band of Lake Superior Chippewa

Ms. Nancy Schuldt has served as the Fond du Lac Band of Lake Superior Chippewa's Water Projects Coordinator since 1997. She has a B.S. in Biology from the University of Dayton, and a Masters' degree in Aquatic Ecology from the University of Kansas. She developed the Band's water quality standards and subsequent revisions, including recently approved numeric nutrient criteria for lakes and biological criteria for streams on the reservation, located in northeastern Minnesota. She established a comprehensive long-term water quality monitoring program, initiated the Band's nonpoint source management program, and leads the Band's environmental and regulatory review of hard rock mining and petroleum pipeline impacts to reservation and treaty-protected resources. She has directed research into fish contaminants and sediment chemistry to characterize mercury impacts to Fond du Lac Band members, initiated and collaborated on broad-ranging research into wild rice ecology and toxicity, as well as watershed hydrologic modeling to inform management and restoration efforts for this culturally significant subsistence resource. More recently, she has collaborated on and co-authored cross-disciplinary studies including ecosystem service valuation, cost-benefits analysis, cumulative effects analysis, and health impact analyses that elevate understanding of tribal worldviews on human/ecosystem relationships. She has collaborated with university and tribal college faculty to provide research experiences for minority undergraduate students, working on topics relevant to the tribal community she serves. Ms. Schuldt has secured over $15 million in program and competitive grant funding for implementing the Band's water quality program, supporting tribally important research, and supporting a Region 5 tribal consortium for managing, analysis and assessment of water quality data and reporting to Water Quality Exchange (WQX). She participates in numerous local, regional, national, and binational working groups to ensure the tribal perspective is represented, including the National Tribal Water Council, National Water Quality Monitoring Council, Lake Superior Binational Partnership, Minnesota Sea Grant Advisory Board.

Schwartz, Joel

Harvard T.H. Chan School of Public Health

Dr. Joel Schwartz is a Professor in the departments of Environmental Health and Epidemiology at the Harvard School of Public Health and Director of the Harvard Center for Risk Analysis. His major research interests include health effects of air pollution, heavy metals, climate change, and drinking water, epidemiological methods, air pollution modeling, risk assessment and cost benefit analyses. He has examined the epidemiologic questions using a variety of methods including time series and case-crossover analyses (whose use in environmental epidemiology he introduced), and case-only analyses of administrative data, survival and repeated measures analyses of cohorts, repeated measures analyses of panel studies, etc. He is particularly interested in quasi-experimental designs and other causal models. His studies have included a range of outcomes including cognitive function, lung function, asthma, heart attacks, strokes, deaths, blood pressure, lipid levels, biomarkers of inflammation and oxidative stress, markers of biological aging, and epigenetic changes. He is also interested in social and other factors conveying increased susceptibility. Dr. Schwartz's benefit-cost analysis on lead in gasoline was responsible for its elimination in the United States, and his methodology for valuing the benefits of reducing toxins that have cognitive effects is widely used. He introduced ensembles of machine learners for modeling air pollution concentrations on a fine spatio-temporal scale, and his models for fine particulate matter (PM2.5), nitrogen dioxide (NO2), and ozone (O3) are widely

used. He is the recipient of a John D. and Catherine T. MacArthur Fellowship, and the John Goldsmith Award from the International Society for Environmental Epidemiology.

Seeley, Mara

Massachusetts Department of Public Health

Dr. Mara Seeley is Chief of the Exposure Assessment Unit within the Environmental Toxicology Program at the Massachusetts Department of Public Health (MDPH) where she evaluates health effects from exposure to contaminants in the environment and consumer products, prepares risk communication material for the general public, assists with biomonitoring of environmental contaminants, and evaluates exposure to radiation associated with nuclear power plant operations. She received her B.A. from Wellesley College (cum laude), and both her M.S. in Environmental Engineering and Science and Ph.D. in Environmental Health and Toxicology from the University of Washington, and prior to joiningMDPH, Dr. Seeley worked at Gradient, specializing in human health risk assessment, exposure assessment, and regulatory comment. As a senior toxicologist, Dr. Seeley performed critical reviews of animal toxicology and human epidemiology studies, conducted multi-pathway human health risk assessments, developed toxicity criteria and health-based exposure levels, and evaluated exposures for non-standard exposure scenarios. Before joining Gradient, Dr. Seeley studied health effects of nitrogen dioxide as a National Institute of Environmental Health Sciences research fellow at the University of Washington, conducting controlled human exposure studies and in vitro studies using primary cell cultures of nasal epithelial cells. She has authored or co-authored peer-reviewed articles and book chapters on a variety of topics, including risk assessment, health effects of environmental contaminants, endocrine disruption, and developmental toxicity. Dr. Seeley has served on two committees at the Institute of Medicine; as an officer of the Society of Toxicology's (SOT) Nanotoxicology, and Ethical, Legal and Social Issues Specialty Sections; as an invited participant at an SOT education summit; and as a member of the U.S. Environmental Protection Agency Science Advisory Board. Dr. Seeley is a diplomate of the American Board of Toxicology. Dr. Seeley has not received any research funding in the past two years.

Selin, Noelle

Massachusetts Institute of Technology

Dr. Noelle Eckley Selin is a professor in the Institute for Data, Systems and Society and the Department of Earth, Atmospheric and Planetary Sciences at the Massachusetts Institute of Technology (MIT). She is also the Director of MIT's Technology and Policy Program. Her research uses atmospheric chemistry modeling to inform decision-making on sustainability challenges, including air pollution, climate change and hazardous substances such as mercury and persistent organic pollutants. Her work also examines interactions between science and policy in international environmental negotiations and develops systems approaches to address sustainability challenges. Dr. Selin received her Ph.D. and M.A. in Earth and Planetary Sciences, and her B.A. in Environmental Science and Public Policy, all from Harvard University. Her specific areas of expertise include: integrated modeling of the pathway from policies to impacts for health-damaging air pollutants such as fine particulate matter and ozone; climate change and air quality; atmospheric chemistry and integrated modeling of mercury and persistent organic pollutants; sustainability science and engineering; and science-policy interactions. She is the recipient of a U.S. National Science Foundation Faculty Early Career Development (CAREER) award (2011), a Leopold Leadership fellow (2013-2014), a Kavli fellow (2015), a member of the Global Young Academy (2014-2018), and an American Association for the Advancement of Science Leshner Leadership Institute Fellow (2016-2017). She currently serves as a Principal Investigator (PI) for the Air, Climate & Energy Center (Harvard-MIT) funded by the Environmental Protection Agency, and as co-director of the MIT Superfund Research Program. Dr. Selin has served on numerous advisory committees, including the Scientific Advisory Committee for the EPA-supported Center for Air, Climate, and Energy Solutions, the International Advisory Board of the United Nations Environment Programme (UNEP) International Environmental Technology Centre (IETC), the ad hoc technical expert group for effectiveness evaluation for the Minamata Convention, and the Scientific Steering Committee for the International Conference on Mercury as a Global Pollutant. She is currently on the editorial advisory board for the journals Environmental Science and Technology and Environmental Science: Processes and Impacts, and is an Associate Editor for the journal Science Advances. She has participated in numerous international assessment processes, most recently as a chapter lead author for the Arctic Monitoring and Assessment Programme's 2021 Mercury Assessment.

Shandas, Vivek

Portland State University

Dr. Vivek Shandas is a Professor Climate Adaptation in the College of Urban and Public Affairs at Portland State University. He has a Bachelor's degree in Biology from the University of California, two Masters' degrees in Economics and Environmental Policy from Rensselaer Polytechnic Institute, and a Ph.D. in Urban Ecology from the University of Washington. Dr. Shandas is an interdisciplinary scholar whose expertise is in climate change,

environmental justice, air quality management, stormwater, green infrastructure, and spatial mapping. He brings a broad understanding of policy, planning, and environmental assessments along with deep knowledge about the intersection of race, class, and privilege in addressing systemic inequities. He has been principal or co-principal investigator for over 20 externally sponsored research projects totaling over $20M, and has published over 70 peer-reviewed articles, 50 conference papers, technical reports, a dozen technical reports, and four books. Dr. Shandas funding sources in the last two years include the US Environmental Protection Agency, National Science Foundation, National Oceanic and Atmospheric Administration, Forest Service, Energy Trust of Oregon, Robert Wood Johnson Foundation, and the Bullitt Foundation. All his projects examine the relationship between the built environment, including open space, foresters, and agricultural lands, and policies that mediate exposure to environmental insults. His focus on climate equity involves direct engagement with historically marginalized communities in describing local stressors, and effective approaches to improve accessibility to decision making systems (i.e. procedural, institutional, etc.). Of direct relevance to this nomination to EPA's Science Advisory Board is Dr. Shandas' interest in identifying the mechanisms for addressing systemic racism and improving the coping capacity of communities to environmental stressors. His research has received international acclaim by illustrating that historic planning policies are exacerbating present-day and future climate-induced stressors, including urban heat, air quality, and pluvial flooding. He currently serves on State of Oregon's Health Authority's Environmental Health Tracking Committee, Department of Land Conservation and Development Climate Equity Planning (Governor's Executive Order), Regional Bond Oversight Committee (Metro), and as Chair for the City of Portland's Urban Forestry Commission, which provides a direct mechanism for informing policies and plans with the most relevant data, analytics, and evaluation of potential environmental justice impacts.

Shimshack, Jay P.

University of Virginia

Jay Shimshack is Associate Professor of Public Policy and Economics, and Associate Dean for Academic Affairs, at the University of Virginia's Batten School of Leadership and Public Policy. Prior to joining the University of Virginia, he held faculty positions at Tulane University and Tufts University and held a Visiting Faculty Fellowship at the University of Michigan's Erb Institute for Global Sustainable Enterprise. Dr. Shimshack holds a Ph.D. and M.S. in Agricultural and Resource Economics from the University of California at Berkeley and a B.S. in Business Management and Applied Economics from Cornell University. His areas of interest include regulation, environmental economics, environmental disparities, the law and economics of monitoring and enforcement, corporate social behavior, water quality, and the benefits and costs of environmental and health policy. Dr. Shimshack is former co-editor of the Journal of Environmental Economics and Management. His research has been published in the Journal of the Association of Environmental and Resource Economists, the Journal of Economic Literature, the Journal of Health Economics, the Journal of Law and Economics, Science, and elsewhere. He has advised the US Environmental Protection Agency, the US Department of Agriculture, the US Food and Drug Administration, and other state and federal agencies; consulted for private organizations; and testified before the US House of Representatives. His work has been funded in recent years by the US Department of Agriculture and the University of Virginia's Environmental Resilience Institute.. As Associate Dean for Academic Affairs, Dr. Shimshack serves as the chief academic officer of the University of Virginia's Batten School.

Shindell, Drew

Duke University

Dr. Drew Shindell is Nicholas Professor of Earth Sciences at Duke University. From 1995 to 2014, he was at the National Aeronautics and Space Agency (NASA) Goddard Institute for Space Studies in New York and taught at Columbia University. He earned a B.A. at the University of California Berkeley and Ph.D. at Stony Brook University, both in Physics. He studies climate change, air quality, and links between science and policy. His research group is particularly focused on quantifying the impacts on human health, agricultural yields, climate, and the economy of policies that might be put into place to mitigate climate change or improve air quality. Dr. Shindell also studies how regional climate responds to changes in radiative forcing by different agents and in different locations. He has been an author on >275 peer-reviewed publications, received awards from Scientific American, NASA, the National Science Foundation (NSF) and the Environmental Protection Agency, and is an elected fellow of the American Geophysical Union and American Association for the Advancement of Science. He has testified on climate issues before both houses of Congress (at the request of both parties), developed a climate change course with the American Museum of Natural History, and made numerous media appearances as part of his outreach efforts. He chaired the 2011 Integrated Assessment of Black Carbon and Tropospheric Ozone from the United Nations Environment Programme (UNEP), was a Coordinating Lead Author on the 2013 Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) and on the 2018 IPCC Special Report on 1.5°C and chaired the 2021 Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions from UNEP. Dr. Shindell currently chairs the

Scientific Advisory Panel to the Climate and Clean Air Coalition of nations and organizations. His recent research has been supported by NASA, UNEP, and the NSF.

Shonkoff, Seth

Physicians, Scientists, and Engineers for Healthy Energy

Dr. Seth Shonkoff is the executive director of the research institute, PSE Healthy Energy, a visiting scholar in the Department of Environmental Science, Policy and Management at the University of California, Berkeley and an affiliate in the Environment Energy Technology Area at Lawrence Berkeley National Lab. Dr. Shonkoff has expertise in public health, environmental health science, epidemiology, air and water quality and is a widely recognized expert on the climate and health dimensions of oil and gas and other energy systems. He holds a Ph.D. in Environmental Science and Policy and a Master of Public Health (MPH) in Epidemiology from the University of California, Berkeley. He has published more than 50 peer-reviewed articles and technical reports, has testified before congress has co-authored multiple high-profile scientific assessments including the Human Health chapter of The Intergovernmental Panel on Climate Change (2014) and legislated scientific evaluations of oil and gas development, produced water management and underground gas storage facilities. Dr. Shonkoff's funding sources in the last two years include the California Air Resources Board (CARB), The California Geologic Energy Management Division (CalGEM) and the California Strategic Growth Council (SGC). Dr. Shonkoff currently co-chairs a science advisory panel convened to advise CalGEM as they revise their oil and gas development regulations to better protect public health and was also appointed to a panel convened by the California Environmental Protection Agency (CalEPA) and California Natural Resources Agency (CNRA) to review California's Underground Injection Control Program. He served on two steering committees convened by the California Council on Science and Technology (CCST), is a member of California's Central Valley Water Board Food Safety Expert Panel to advise on oil and gas produced water reuse and served as a public health expert on a health assessment and environmental justice study committee convened by the Los Angeles County Department of Public Health..

Shuster, William

Wayne State University

Dr. William Shuster is Professor and Chair of Civil and Environmental Engineering at Wayne State University (WSU), Detroit MI. He has an interdisciplinary Ph.D. in Environmental Science from The Ohio State University (2000), and a B.S. in Physics from University of Michigan – Ann Arbor (1987). Dr. Shuster previously served for 18 years with the U.S. Environmental Protection Agency, most recently as Senior Research Hydrologist in the Office of Research and Development. Dr. Shuster focuses on themes in the wider socioecological forum of urban hydrology, in the context of improving social equity and inclusion in the delivery of critical services from the built environment and its infrastructure. Dr. Shuster puts particular emphasis on the type and extent of hydrologic ecosystem services rendered from vacant landscapes and their underlying urbanized soils. Dr. Shuster has conducted community-level research and worked with USDOJ on Clean Water Act negotiations with US cities. This research and development work has led to over 70 publications in peer-reviewed journals, among many reports and presentations. Field work in U.S. urban core communities is a cornerstone of Dr. Shuster's work, and he served a detail with U.S. Department of State to investigate freshwater availability in drought-stressed atoll water cycles (Republic of the Marshall Islands). Dr. Shuster re-started the Diversity, Equity, and Inclusion Committee within the WSU College of Engineering and, after chairing for a year, was invited to serve on the WSU Presidential Social Justice Action Committee. He has developed and teaches the undergraduate course "How Cities Work", which is a social inquiry perspective on access to critical civil and environmental infrastructure and services. Dr. Shuster has most recently received funding from the State of Michigan, and multi-agency research support over his tenure at U.S. EPA.

Simon, Ted

Ted Simon, LLC

Dr. Ted W. Simon operates a solo consulting practice in Winston, GA near Atlanta. He holds a B.A. in Biology from Middlebury College and a Ph.D. in Neuroscience from Georgia State University. Dr. Simon worked at EPA's Region 4 offices from 1993 until 2006. There he served as the senior toxicologist in the Waste Management Division. At EPA, he was a lead author of Risk Assessment Guidance for Superfund: Volume III – Part A, Process for Conducting Probabilistic Risk Assessment. He also received bronze medals for his work on the Base Realignment and Closure effort and for a method for assessing the efficacy of institutional controls for risk mitigation at military facilities. After leaving EPA, he has provided consultation to clients in both the public and private sectors including the Ontario Ministry of the Environment, Health Canada, trade associations including the American Chemistry Council and the European Chemical Industry Council, and others. He serves on the editorial board of the journal Regulatory Toxicology and Pharmacology and as a peer reviewer for the journals, Environmental Health Perspectives, Human and Experimental Toxicology, Environmental Research, Critical Reviews in Toxicology, and a number of other

journals. He also previously served on the Chemical Assessment Advisory Committee of EPA's Science Advisory Board from 2019 to 2021. He has been a member of the Society of Toxicology since 1993. Dr. Simon is the author of over 40 scientific publications including two editions of a graduate level textbook, Environmental Risk Assessment: A Toxicological Approach published in 2014 and 2019 by Taylor and Francis. His scientific interests include: 1) the use of dose- response analysis to inform mode of action; 2) Bayesian methods for characterizing uncertainty in risk assessment; and 3) endocrine-active substances. Over the past five years, he has received consulting fees from attorneys, corporations and trade associations in the US, attorneys in the US, government entities such as the Los Angeles County Sanitation Division and the Fairfax County Virginia Police Department. He is not currently a recipient of research grants from the Environmental Protection Agency, other federal agencies, or the private sector.

Sinks, Thomas

University of Maryland

Dr. Thomas Sinks is Adjunct Professor in the schools of public health at University of Maryland and Emory University. He worked thirty years at the Centers for Disease Control and Prevention (CDC) and five years at the U.S. Environmental Protection Agency. He is an expert in occupational and environmental epidemiology, public health preparedness, human subject ethics, scientific integrity/misconduct, and public access to research. He has B.S. from Tulane University and both a M.S. and Ph.D. from the Ohio State University. Dr. Sinks has been a member of many advisory committees including the EPA Science and Technology Policy Committee; EPA Risk Assessment Forum; the Subcommittee on Open Science for the Office of the Executive President; U.S. and Vietnam Joint Advisory Committee on Agent Orange; and the National Toxicology Program Executive Committee. He has been a member of the Society of Epidemiologic Research, American Public Health Association, and is currently a member of the Environmental Protection Network. He has published 135 peer-reviewed or governmental documents/reports and delivered more than 100 presentations. His published research includes mortality among PCB-exposed workers, optic neuropathy in Cuba, heatwave related deaths; and injuries from the 1992 World Trade Center bombing. He helped establish CDC's human biomonitoring report, responded to the DC lead in drinking water crisis, and led the Fallon Nevada leukemia cluster response. His evaluation of dioxin exposures among C-123 Air Force Reservists led to their compensation for dioxin associated illnesses. He authored CDC's scientific misconduct policy, EPA's Plan to Increase Access to Results of EPA-Funded Research, and EPA's 2019 final human subject research regulations. Dr. Sinks wrote a Differing Scientific Opinion exposing significant failings in EPA's final draft Strengthening Transparency in Regulatory Science Regulation and authored a related opinion/editorial in the Hill. In the past two years, Dr. Sinks has not applied for nor received grants, contracts, or personal services funding.

Slayne, Martin

Slayne Consulting LLC

Dr. Martin A. Slayne is the President at Slayne Consulting LLC., an independent consulting firm providing expert support on chemical risk and science-based management, regulatory standards, food and agriculture safety, compliance, and sustainability. He holds a Bachelor's degree with honors in Applied Biological Sciences from the University of the West of England, Bristol, UK, and from the University of Wales College of Medicine, Cardiff, UK he has a Masters' degree in Microbiology and Ph.D. in Microbiology and Biofilms. He has over 30 years of leadership experience, across scientific research, government, and industry, leading on regulatory science, risk analysis (assessment, management, communication), food policy, food safety and standards, including deep expertise on chemical risks and legislative risk management. Dr. Slayne has led for US-based global food industry since 2005, heading-up Fortune 500 food company departments (PepsiCo, Mondelez International, The Hershey Company), and consulting since 2018. He previously led the EU Commission legislative Expert Committee on Industrial and Environmental Contaminants in Food, in Brussels, and was a strong proponent of 'better regulation', with wider stakeholder input for informed, science-based standards, securing ten pieces of EU legislation. Prior to the EU, at the UK Food Standards Agency, and Ministry of Agriculture, Fisheries and Food in London, he led on food and feed policy and standards, and managed the Chief Scientist's Group's Veterinary Science Research Program (veterinary medicines, animal welfare and meat hygiene). For the Agricultural Development Advisory Service (ADAS) in Cambridge, he established a research laboratory studying methanogenic micro-organisms in ruminant animals, aimed to reduce environmental methane production. His early career inspiration was a one-year research project on the microbiology of Legionnaires' disease, at the UK Public Health Laboratory Services Centre for Applied Microbiology & Research. Dr. Slayne advises and supports industry, trade associations, engaging global governments and organizations, closely cooperating with US Government on chemical risks and regulatory standards. A 20-year expert at the committees of the World Health Organization/Food and Agriculture Organization (WHO/FAO) Codex Alimentarius, where he led the 2004 global review on mercury in fish; was a linch-pin connecting governments and industry for the Codex code of practice on acrylamide in food; is a key driver for data and science on sustainable standards for heavy metals. For the Institute of Food Technologists (IFT) New York/ New Jersey Board, he serves as

Chair, Corporate Sponsorship, and on IFT Annual Meeting Scientific Advisory Panel leads on Food Law, Regulation and Policy. In addition to professional leadership, Dr. Slayne voluntarily Chairs his Township Environmental Commission in Northern NJ, driving initiatives and impact reviews on environmental matters, such as community waste and recycling, water quality, chemical pollution and environmental residues, building and planning impact, open/ green space protection and management, wildlife and plant conservation, collaborating with environmental associations and non-profit organizations.

Smith, Arthur

Sustainable Futures, L3C

Mr. Arthur Smith in the founder and President of the environmental social benefit company Sustainable Futures, L3C. He graduated from Columbia College, New York (Biology major), and subsequently obtained two Masters' Degrees from Columbia University in the environmental sciences. He remains a supporter of the Columbia University Earth Institute. After receiving a Juris Doctorate from Seattle University Law School, he served 15-years as a civil litigation specialist with USEPA (Chicago) and Clean Air Act expert. Subsequently, he was Senior Vice President and Environmental Counsel reporting directly to the Chairman to help transform the energy company NiSource, Inc. into a nationally recognized sustainability leader with major climate mitigation activity, including permitting appropriately 1,000 MW of zero/low carbon energy projects at major refinery and steel plants, developing the first domestic micro-distributed combined heat and power system that provided electricity, heating, and cooling at a Walgreens in Chesterton, IN, establishing a subsidiary to further develop similar projects, becoming an early adopter of EPA's Natural Gas Star program, and working with leadership within the natural gas sector to support energy efficiency in the then pending cap and trade legislation. He served as Chair of the US Combined, Heat, and Power Association, and board member of the Business Council for Sustainable Energy and Solar Electric Power Association. He has been a trustee at numerous environmental not for profit organizations, including the Nature Conservancy, Indiana Environmental Institute, and Chicago Living Corridors. He has authored and published numerous articles on ecosystem protection, climate change-induced flooding, wastewater management, environmental justice, and urban resiliency.

Smith, Deborah

former State of California executive

Deborah Smith is retired from over 30 years of distinguished service at the California Regional Water Quality Control Board, Los Angeles Region, which is part of the California Environmental Protection Agency. She retired as the Executive Officer of the Board. She has a Bachelor's degree in Biology from Slippery Rock State College and has a Masters degree in Zoology from Louisiana State University. Ms. Smith has extensive experience in water quality protection, including all Clean Water Act programs as well as programs operated under State water quality law in California. Her expertise includes water quality monitoring and assessment, water quality criteria development and implementation, protection of wetlands, total maximum daily load development (TMDL) and implementation, national pollutant discharge elimination system (NPDES) permits, and groundwater permitting. She has been a real visionary in California. Under her leadership, she and her staff developed the first TMDL for bacteria in the state and the first TMDL for trash in the country. She was one of two state staff selected to assist the Environmental Protection Agency in writing a document regarding priorities for the water quality standards and criteria program. She has also authored, or co-authored other publications related to toxicity, water quality standards, stormwater, and contaminants of emerging concern. In addition to her scientific and managerial expertise, she maintained good relationships with both the regulated and environmental communities. She also served on a number of national workgroups over a 20 year period with US EPA and selected states (e.g., Water Quality Standards and Management Association; Association of Clean Water Administrators; and the Southern California Coastal Research Project, an aquatic scientific research group comprised of regulators and permittees that work together to investigate and improve aquatic systems in Southern California.

Smith, Genee

Johns Hopkins Bloomberg School of Public Health

Dr. Genee Smith is an Assistant Professor in the Department of Environmental Health and Engineering at The Johns Hopkins Bloomberg School of Public Health and faculty in the Hopkins Center for Health Disparities Solutions. She has a Bachelor's degree in Biology from Fayetteville State University, and she has a Masters' degree in Public Health and Ph.D. in Epidemiology. Dr. Smith worked at the U.S. Environmental Protection Agency for eight years contributing the development of the Integrated Science Assessments for criteria air pollutants and conducting research on environmental exposures including air pollution, extreme weather events, and geographic landscape attributes. Dr. Smith has expertise in epidemiology, public health, community engaged research, climate, environmental science, exposure assessment, health disparities and environmental justice. Her research centers on

the disproportionate burden of a changing climate on vulnerable populations and the impacts of neighborhood-level exposures on health disparities. She has served as principal investigator and co-investigator on multiple environmental epidemiologic investigations, leading the development, execution, and dissemination of these research projects, receiving funding in the past two years from the SCI BAR (Support for Creative Integrated Basic and Applied Research) Initiative, Hopkins Center for Health Disparities Solutions and National Institute on Minority Health and Health Disparities. In addition, Dr. Smith has served on the Scientific Review Committee for The National Socio-Environmental Synthesis Center, has led workshops to train scientific investigators, community leaders, students and local partners in citizen science research methods and is currently an Editorial Board Member for the journal Ethnicity & Disease.

Smith, Richard

University of North Carolina

Dr. Richard L. Smith is Mark L. Reed III Distinguished Professor of Statistics and Professor of Biostatistics in the University of North Carolina, Chapel Hill. From 2010-2017, he was Director of the Statistical and Applied Mathematical Sciences Institute (SAMSI), a Mathematical Sciences Institute supported by the National Science Foundation. From January-June 2018, he was Associate Director of SAMSI. He obtained his Ph.D. from Cornell University and previously held academic positions at Imperial College (London), the University of Surrey (Guildford, England) and Cambridge University. His main research interest is environmental statistics and associated areas of methodological research such as spatial statistics, time series analysis and extreme value theory. He is particularly interested in statistical aspects of climate change research, and in air pollution including its health effects. He is a Fellow of the American Statistical Association and the Institute of Mathematical Statistics, an Elected Member of the International Statistical Institute, and has won the Guy Medal in Silver of the Royal Statistical Society, and the Distinguished Achievement Medal of the Section on Statistics and the Environment, American Statistical Association. In 2004 he was the J. Stuart Hunter Lecturer of The International Environmetrics Society (TIES). He is also a Chartered Statistician of the Royal Statistical Society. In 2020, he was elected a Fellow of the American Association for the Advancement of Science (AAAS). Dr. Smith was a member of EPA's Science Advisory Board (SAB) from December 2017 until the Board was dissolved in March 2021. He was also a member of the Board's Radiation Advisory Committee. His recent research funding has come through the National Science Federation (as Director or Associate Director, through June 2018, of the research institute SAMSI, and also as holder of a collaborative grant on climate extremes, through 2019) and the National Institutes of Health (as an investigator in a grant based at George Washington University, on the effect of air pollution on Alzheimer's disease and related dementia conditions). He also participated in an industry-funded research collaboration "A counterfactual approach to quantifying the causal effect of fine particulate matter on mortality" (the main activity took place in 2016-2018 but there is still a paper in process from that activity). He learned of this opportunity as a previous member of the SAB.

Solomon, Paul

Aclima, Inc.

Dr. Paul A. Solomon's areas of expertise and research interests have historically focused on the development, evaluation, and application of analytical laboratory and methods to measure particulate matter (PM) and the chemical components of PM in air with a focus on coarse and fine PM. Applications have included a range of domestic and international research studies designed to characterize and quantify major, minor, and trace elements and species as well as precursor gases and oxidants to elucidate source-receptor-exposure relationships and chemical and physical processes occurring in clean and polluted atmospheric environments. More recently, his interests include the development, evaluation, and deployment of micro air pollution monitors (air pollution sensors) with an emphasis on PM mass, methane, black carbon, and other PM and gaseous components in air. Dr. Solomon also has a strong desire to ensure that research results are communicated to the scientific, public, and policy arenas through coordination and publication of scientific papers in conferences and books. Dr. Solomon has over 90 peer-reviewed journal publications, about 140 presentations, holds 6 patents in air sampling methods with 5 patent applications pending, has organized 34 special peer-reviewed journal issues, including over 600 papers, and has organized and chaired four major international air quality specialty conferences.

Sonwane, Chandrashekhar

Masten Space Systems

Dr. Chandrashekhar Sonwane currently works full time as Principal Investigator and Director for various National Aeronautics and Space Administration (NASA) lunar robotics contracts at Masten Space Systems and works as part time President of an environmental consultancy firm. He is a current Environmental Protection Agency (EPA) Science Advisory Board (SAB) Chemical Assessment Advisory Committee (CAAC) member and has worked as a Lead Consultant leading various teams for engineering and environmental projects helping various industries such as Pratt

and Whitney Rocketdyne, General Electric, BP, Shell, ExxonMobil, Boeing, Rockwell and Aerojet Rocketdyne. These projects include carbon dioxide (CO2) emissions as well as other toxic/criteria pollutants. He has also helped in the hospitals related to COVID-19 pandemic health effect study and ways to combat it. Dr. Sonwane holds a bachelor's degree from University of Mumbai, Master of Technology from Indian Institute of Technology Mumbai, and a Ph.D. from University of Queensland, Brisbane, Australia all in Chemical Engineering. He is an Elected Fellow of European Academy of Sciences and Arts, Fellow of Royal Aeronautical Society, Associate Fellow of American Institute of Aeronautics & Astronautics, Fellow of Royal Astronomical Society, Fellow of the Institute of Engineering and Technology, Institute of Chemical Engineers, Fellow of Royal Australian Chemical Institute, Fellow of Engineers Australia. Dr. Sonwane was 2019-2021 elected Chair/President of American Institute of Aeronautics and Astronautics Los Angeles-Las Vegas section with a community of 15,000 Professionals and their family/friends as well as 2019-2021 Board member of American Chemical Society, Southern California and a lead for annual Earth day and annual Chemistry week. He has received numerous national and international awards, fellowships, and scholarships as well as a topmost award "Engineer of the Year" from Pratt & Whitney and was recently nominated for 2020 Rotary National Award for Space Achievement (RNASA) Stellar Award. Recently he was nominated as International Union of Pure and Applied Chemistry (IUPAC)/United Nations (UN) Board member for the Chemical Advisory board. He is inventor of about 50 device and process patents/ patent applications worldwide (U.S., China, Japan, and Europe) assigned to various companies (General Electric, Pratt & Whitney, United Technology Corporation, Aerojet Rocketdyne, Solar Reserve). Dr. Sonwane holds the following certifications: BCEE (Board Certified Environmental Engineer), QEP (Quality Environmental Professional), Master Black Belt Six Sigma for Quality Improvement, PMP (Project Management Professional), Chartered Engineer, and Chartered Chemist. Dr. Sonwane is author of 30 papers in peer reviewed international journals, 40 international conference papers and about 20 significant company reports. Dr. Sonwane's sources of research funding include: Internal corporate/company funding, U.S. Department of Energy, Defense Advanced Research Projects Agency (DARPA), Advanced Research Projects Agency-Energy, NASA, Shell, ExxonMobil & BP. He has received no direct or indirect funding from EPA.

Stevenson, David

Caesar Rodney Institute

Mr. David T. Stevenson is the Director of the Center for Energy and Environment at the Caesar Rodney Institute in Delaware. His expertise is in air quality (ozone, carbon dioxide, and refrigerants), energy efficiency, and the electric grid (emissions, reliability, cost, impact of carbon taxes, and the transition to renewable power sources). He earned a B.S. degree in Agricultural Economics at Rutgers University, and is a member of the Society for Benefit Cost Analysis. His published works on these subjects' numbers in the hundreds and include peer reviewed studies from both an economic and technical perspective. He is a co-founder of the Energy and Environment Working Group for the State Policy Network and has trained and served as consultant to policy experts in 29 states. Mr. Stevenson testified as an expert witness before Congress, in several state legislatures, and public utility commissions. He has direct experience with the EPA as a presidential transition team member, and as a frequent commenter on regulations such as Clean Power Plan, Affordable Clean Energy Rule, Strengthening Transparency in Regulatory Science Guidance, Cross State Air Pollution Rule, Increasing Consistency and Transparency in Considering Costs and Benefits in the Rulemaking Process, and the recently revised Ozone Standards. Mr. Stevenson led six major business development projects as a Technical and Business Manager at the DuPont Company and founded six businesses as an independent entrepreneur. Mr. Stevenson's main focus of research recently has been in benefit cost analysis and solution-based approaches.

Stram, Daniel O.

University of Southern California

Dr. Daniel Stram is Professor of Biostatistics at the University of Southern California Keck School of Medicine. His work has focused upon developing and applying modern biostatistical methods to a wide variety of epidemiological, and clinical studies, including large scale studies of the genetics of adult cancers, and studies of the risk of cancer and other diseases in relation to radiation exposure. Dr. Stram received his B.A. degree in Mathematics with distinction from Tufts University. He has a Ph.D. in Applied Statistics is from Temple University, and performed postdoctoral work in biostatistics at the Harvard University School of Public Health. His research interests include measurement error analysis, meta-analysis, longitudinal modeling, association-based studies of genetic susceptibility to cancer, and general exposure-response modeling in cancer epidemiology. He is currently the senior biostatistician for many of the genetic studies taking place at the University of Southern California, and is a lead investigator for statistical analysis of a large cohort of former workers in Russia who were occupationally exposed to radiation during the production of plutonium. He has contributed to the statistical design and/or analysis of numerous prospective cohort studies including the Six Cities Study, the Atomic Bomb Survivors Study, the Chinese Singapore Health Study, the Colorado Plateau Uranium Miners Study, the California Teachers Study, and the Multiethnic Cohort Study. Dr.

Stram worked for the Radiation Effects Research Foundation in Japan for 3 years studying the health of the atomic bomb survivors, and was a visiting faculty member for 6 months at the Whitehead Institute of Harvard and MIT, involved in the development of methods for the statistical analysis of large scale genetics data. His work is supported by the National Institutes of Health and the Department of Energy. He has served on numerous committees and review groups sponsored by the National Institutes of Health, the Environmental Protection Agency (EPA), and the National Academy of Sciences (NAS). He is currently a member of the Nuclear and Radiation Studies Board of the NAS, and served as chair of the EPA's Radiation Advisory Committee. Dr. Stram teaches regularly within the graduate program of the Biostatistics Division of the University. He is the author of over 200 papers, several book chapters, and of a recent book on the statistical design and analysis of genetic association studies.

Sullivan, Mazeika

The Ohio State University

Dr. S. Mažeika Patricio Sullivan is a Professor in the School of Environment and Natural Resources at The Ohio State University (OSU) and the Director of the Ramsar-designated Shiermeier Olentangy River Wetland Research Park. He received a Bachelor's degree in Anthropology and Native American Studies from Dartmouth College, and earned his Masters' degree in Biology and Ph.D. in Natural Resources from the University of Vermont. Subsequently, he was a Postdoctoral Research Fellow at the University of Idaho before joining the OSU faculty in 2008. Dr. Sullivan's research focuses on watersheds and aquatic ecosystems, water quality and quantity, and land-water linkages. His work integrates ecology, fluvial geomorphology, And biogeochemistry, from headwaters to coasts. He is particularly interested in using science to inform conservation, restoration, and policy. He has authored 64 peer-reviewed journal articles, four book chapters, and 137 conference presentations. Dr. Sullivan served as a member of the US Environmental Protection Agency's (USEPA) Science Advisory Board (SAB) "Connectivity of Streams and Wetlands to Downstream Waters" Panel (2013-2014), has reviewed for over 30 ecological and environmental journals, and currently serves on the Board of Directors for the Society for Freshwater Science. Dr. Sullivan has been recognized as a Distinguished University teacher and a Distinguished College researcher, and served as a Fulbright Distinguished Chair of Biodiversity and Sustainable Development (Colombia, 2014-2015). Since 2019, his research has been funded by several sources, including the US Fish & Wildlife Service, US Centers for Disease Control and Prevention, USEPA, US Department of Agricultural, Ohio Department of Transportation, and Ohio Division of Natural Resources.

Surratt, Jason

University of North Carolina at Chapel Hill

Dr. Jason Surratt is an Assistant Professor at the University of North Carolina-Chapel Hill in the Department of Environmental Sciences and Engineering located within the Gillings School of Global Public Health. He received his Ph.D. in Chemistry from Caltech, and his B.A. and B.S. degrees in Chemistry and Meteorology, respectively, from North Carolina State University. His current research utilizes advanced mass spectrometry and analytical techniques to understand as deeply as possible the atmospheric chemistry that occurs in both the gas and particulate phases, with special focus on the chemistry leading to the formation of organic aerosol. These techniques are combined with synthetic organic chemistry in flow tube, smog chamber, and field studies. This research approach has recently helped to derive parameterizations that could be used in models to predict levels of isoprene-derived secondary organic aerosol formation more accurately. He has also helped with understanding the role of heterogeneous chemistry in organic aerosol formation. Recently, his chemical measurements are being coupled to toxicological and systems biology approaches to assess the potential adverse biological effects that occur in human lung cells upon exposure to secondary organic aerosol mixtures. He is the 2013 recipient of the American Association for Aerosol Research (AAAR) Sheldon K. Friedlander Award and the 2012 recipient of the Health Effects Institute Walter A. Rosenblith New Investigator Award. Dr. Surratt has authored and co-authored more than 75 peer-reviewed articles in leading atmospheric chemistry, environmental science, and air pollution journals. He is currently funded by the U.S. Environmental Protection Agency (EPA), National Science Foundation (NSF), and National Oceanic and Atmospheric Administration (NOAA) as well as by the Health Effects Institute (HEI), Electric Power Research Institute (EPRI), Camille and Henry Dreyfus Foundation, and the University of Texas at Austin-Air Quality Research Program.

Szabo, Zoltan

US Geological Survey

Mr. Szabo is a Research Hydrologist at the U.S. Geological Survey NJ Water Science Center. He has an M.S. from Ohio State University in geology/geochemistry, with training in isotope geochemistry, mass spectrometry, gamma spectroscopy, and geochemical modeling. He studies aqueous occurrence and transport of radionuclides and soluble trace elements: arsenic, manganese, mercury, and lead. His research for these has taken place in 20 major aquifers nationwide, culminating in definition of groundwater radium isotope ratios, polonium-210 and lead-210 occurrence, and improved understanding of uranium, arsenic, and mercury mobility. He helped design laboratory studies

comparing the alpha and gamma spectroscopic methods for radium-224, which resulted in approval of the radium-224 gamma spectral method as Standard Method 7005-E by the American Public Health Association. He provided data to U.S. Environmental Protection Agency Radionuclide Rule Revision Team when setting radionuclide standards for drinking water in 2000; also, to the NJ Department Environmental Protection when revising their analytical requirements for standards in 2004. He led the effort to provide the National Groundwater Radium Assessment. He was a leader in demonstrating widespread occurrence of mercury in groundwater, helping refine sample collection techniques to ensure sample integrity. Mr. Szabo serves on numerous Science Advisory Board and Advisory Committees, including: National Institute Environmental Health and Safety External Advisory Committee for Health Effects of Arsenic, Manganese, and Lead; the Committee for Protocols for Measurement of Radon in Water, American Association of Radon Scientists and Technologists Consortium on National Radon Standards; and NJ Water Monitoring Council. He works with students at Rutgers University. He was awarded Researcher of the Year 2007 by American Water Works Association, NJ Chapter. His current work on occurrence in groundwater of radionuclides lead-210 and polonium-210, and trace elements arsenic and mercury is funded by the U.S. Geological Survey and the NJ Department Environmental Protection.

Tessum, Chris

University of Illinois

Dr. Christopher Tessum is an Assistant Professor in the Civil and Environmental Engineering department at the University of Illinois at Urbana-Champaign. He received a Ph.D. (2014) in Civil, Environmental and Geo- Engineering with a minor in Public Health, and a B.M.E. in Mechanical Engineering (2006), from the University of Minnesota. His research focuses on modeling air pollution and its health impacts, quantifying inequities in the distribution of those impacts, and proposing and testing solutions. He studies the relationships between emissions, the human activities that cause them, and the resulting health impacts, and he develops modeling capabilities to enable these types of analyses. Before joining UIUC, Dr. Tessum was a research scientist in the Department of Civil and Environmental Engineering at the University of Washington in Seattle and a postdoctoral researcher in the Department of Bioproducts and Biosystems Engineering at the University of Minnesota..

Thorne, Peter S.

University of Iowa

Dr. Peter S. Thorne is Professor and Head of the Department of Occupational and Environmental Health at the University of Iowa (UI) College of Public Health. He is Director of the Interdisciplinary Human Toxicology Program. Dr. Thorne served for 20 years as the Director of the Environmental Health Sciences Research Center and directs the Pulmonary Toxicology Facility. He also serves as principal investigator of a nanotoxicology research project and of the AESOP Study, a community-engaged research study of polychlorinated biphenyls and lead exposures in an environmental justice community. His research is focused on environmental risk factors for inflammatory lung diseases, bioaerosol-induced immunomodulation, the toxicity of engineered nanomaterials and persistent environmental pollutants, and novel methods for exposure assessment and modeling. Dr. Thorne completed a B.S. in Chemical Engineering, an M.S. in Biomedical Engineering, and a Ph.D. in Toxicology from the University of Wisconsin-Madison. He completed a postdoctoral fellowship in immunotoxicology at the University of Pittsburgh. Dr. Thorne is internationally recognized for his discoveries of the exacerbation of asthma and other respiratory diseases associated with exposures to endotoxin. He collaborates extensively providing exposure assessments for children's environmental health studies in North America and Europe. Dr. Thorne served six years as a member of the National Academy of Sciences Board on Environmental Studies and Toxicology. He currently serves as Chair of the Academy's Committee on Toxicology. From 2011 to 2017, he served on the Environmental Protection Agency Science Advisory Board and served as Chair from 2015-2017. Dr. Thorne was awarded the 2017 UI Scholar of the Year and the 2018 Iowa Board of Regents Award for Faculty Excellence. He teaches courses on global environmental health, health effects of climate change, human toxicology, and risk assessment. He has published over 275 peer-reviewed publications. He is funded by the Canadian Institute for Health Research and the U.S. National Institutes of Health.

Thurston, George

New York University Grossman School of Medicine

Dr. George Thurston is a tenured faculty member in the Departments of Environmental Medicine and Population Health at the NYU School of Medicine, and he directs the academic Program in Exposure Assessment and Human Health Effects there. He received his ScB in Environmental Engineering (with Honors) and his AB in Environmental Studies from Brown University, his SM and ScD from the Harvard School of Public Health. He completedhis Post-doc at the Harvard Kennedy School of Government. During his graduate work, he also studied Meteorology at MIT. Although his education and teaching encompass a wide range of public health issues and pollutant media, his research has primarily focused on the human health effects of air pollution. In 1987, he first documented the

association between fine particulate matter (PM2.5) and mortality, as well as first applying source apportionment methods to relate specific PM2.5 sources with mortality. He co-led the Backpack Study of the effect of diesel air pollution on children with asthma in the South Bronx. His research and collaborations in cities around the globe have included a study of the effects of industrial air pollution among children in Cubatao, Brazil. He has also been an author of recent Global Burden of Disease (GBD) reports providing global estimates of the life years lost due to outdoor air pollution, based in part on Dr. Thurston's ACS cohort studies. Dr. Thurston has also testified before the US Congress on dozens of occasions and testified at EPA public hearings. In 1999, he spoke at the Community of Parties (COP5) meeting regarding the clean air human health co-benefits of climate change mitigation action. In 2002, he testified before the Senate on the human health effects associated with the World Trade Center disaster. In May 2003, he organized and hosted the U.S. EPA supported international meeting: "Workshop on the Source Apportionment of PM Health Effects". He has served as a member of CASAC, and was a contributing author to past EPA Criteria Documents and ISAs. He has provided leadership in his scientific societies, and his research has been honored for its excellence. He has served on, and Chaired, the ATS Environmental Health Policy Committee. He is presently Chair of the ISEE North American Chapter's Policy Committee. Prof. Thurston was awarded the Haagen Smit Prize by the scientific journal Atmospheric Environment, and in 2018 he was awarded the American Thoracic Society's "Public Service Award." Dr. Thurston's recent research support has been from the NIH and the Heinz Foundation.

Timmes, Thomas

Virginia Military Institute

Dr. Thomas Timmes was selected for tenure and academic promotion to Professor in the Civil and Environmental Engineering Department at the Virginia Military Institute in April 2020. He holds a B.S. degree in Civil Engineering from the Virginia Military Institute, a Master of Science (MSE) degree in Environmental Engineering from Johns Hopkins University and a Ph.D. in Environmental Engineering from Penn State University. He is a Board-Certified Environmental Engineer with the American Academy of Environmental Engineers and Scientists and a Licensed Professional Engineer in Maryland and Virginia. He served as an environmental engineer for over 25 years in the U.S. Army Medical Service Corps. He most recently commanded the U.S. Army Center for Environmental Health Research at Fort Detrick, Maryland from 2013-2016 and served as the Director for Environmental Health Science and Engineering at the U.S. Army Public Health Center until his retirement from the Army in 2017. He has attained the Science and Technology Manager Level III (highest rating) Acquisition Certification. He has served on numerous panels for the National Science Foundation, the National Defense Science and Engineering Graduate Fellowship Review, and the U.S. Army Basic Science Review. He has served as a manuscript reviewer and had his research published in numerous peer-reviewed technical journals. His research interests include advanced drinking water and wastewater treatment technologies, lead and copper corrosion control, and water system vulnerability assessments. He has not received research funding in the last two years, as his focus has been on teaching and faculty development.

Tomei Torres, Francisco

Agency for Toxic Substances and Disease Registry

Dr. Francisco Tomei-Torres is an Environmental Health Scientist at the Agency for Toxic Substances and Disease Registry. There he was, for several years, Program Manager for Environmental Justice and Brownfields. Dr. Tomei-Torres has spent the last year in four different deployments dealing with COVID-19 issues, including health equity. He is scheduled to deploy in June to Texas, as a volunteer, to help in the efforts to address immigration of undocumented kids. Dr. Tomei-Torres is a graduate of the University of Puerto Rico, Mayaguez, MIT, and Harvard. His scientific background in water resources and water pollution control. He has also published on environmental factors and COVID-19, on drywall malodors generated during hurricane Katrina, and on diseases associated with excess selenium consumption in the diet. His environmental justice priorities are access to medical care, including access to medical insurance and establishment of clinical facilities for underserved populations. Dr. Tomei-Torres is a Federal employee and have not received research funds during the past two years. Dr. Tomei-Torres Is a member of the Ibero-American Society of Environmental Health.

Toor, Gurpal

University of Maryland, College Park

Dr. Gurpal S. Toor is a Professor of Soil and Water Quality in the Department of Environmental Science and Technology at the University of Maryland. Previously, he was a Professor of Soil and Water Sciences at the University of Florida. Dr. Toor studies nutrients in agricultural landscapes to minimize their impact on surface water and groundwater. He holds a B.S. in Agriculture and Chemistry, an M.S. in Soil Science, and a Ph.D. in Environmental Soil Science. He was a Post-doctoral Researcher in the Plant and Soil Science Department of the University of Delaware

and a Research Scientist in the Biological and Agricultural Engineering Department of the University of Arkansas before joining the Florida faculty in 2007. He has published over 107 refereed articles, 36 extension publications and featured magazine articles, and has given >282 professional talks, conferences, and symposia. Dr. Toor has been appointed on the State of Maryland Nutrient Management Committee and Phosphorus Management Tool Committee. He has been elected as a member of the EPA Chesapeake Bay Program Agriculture Workgroup committee. Dr. Toor serves as Academic Editors of PLoS ONE and Water, Section Editor of Current Pollution Reports, and has served as Associate Editor of the Journal of Environmental Quality. He is past chair of an international professional organization (SERA-17) of researchers working to minimize nutrient losses from agriculture. He serves as a member of the Science-Policy Committee and Book and Multimedia Committee of Crop, Agronomy, and Soil Science Societies of America. He regularly serves as a grant panelist on various national, state, and regional grant programs and has been a co-chair of six national and international conferences. Dr. Toor's research has been funded in recent years by the USDA National Institute of Food and Agriculture, EPA, and Harry Hughes Center for Agroecology.

Torres, Gerald

Yale University

Mr. Gerald Torres, Esq. is a Professor of Environmental Justice at the Yale School of the Environment and Professor at the Yale Law School. At the University of Minnesota, Professor Torres founded the Agricultural Law and Policy Institute. At Yale, he is developing the Yale Center on Environmental Justice. He is former President of the Association of American Law Schools and has taught at Stanford Law School and at Harvard Law School, where he served as the Oneida Nation Visiting Professor of Law. Professor Torres served as Counsel to the Attorney General on environmental matters and Indian affairs at the U.S. Department of Justice. Professor Torres has served on the board of the Environmental Law Institute, the U.S. Environmental Protection Agency's National Environmental Justice Advisory Council, and the National Petroleum Council. He is the Board Chair of EarthDay Network and founding Chairman of the Advancement Project, the leading Civil Rights advocacy organization in the country. He is also a trustee of the Natural Resources Defense Council. Professor Torres has just been appointed to the Advisory Council of The Connecticut Sea Grant. He has served as a consultant to the United Nations (UN) on environmental matters related to coordinating Chilean and Mexican environmental regulatory regimes with the United States. Professor Torres is a life member of the American Law Institute and the Council on Foreign Relations. Professor Torres has received funding from the Wallace Foundation, the Open Society Institute, and the Rockefeller Foundation. His domestic research has centered on agricultural environmental regulation, environmental justice, and Federal Indian Law. His international work focuses on comparative environmental regimes.

Tractenberg, Rochelle

Georgetown University

Dr. Rochelle Tractenberg is a tenured full professor at Georgetown University. She has appointments in three distinct departments: Neurology (primary appointment); Biostatistics, Bioinformatics and Biomathematics (secondary) and Rehabilitation Medicine (secondary). A research methodologist, cognitive scientist, and Accredited Professional Statistician (by the American Statistical Association), she has been at Georgetown since 2002. Prior to this she was a biostatistician and researcher with the national Alzheimer's Disease Cooperative Study, homed at the University of California, San Diego. Dr. Tractenberg has been a practicing biostatistician working on federally funded biomedical and educational research since 1997. She has two Ph.D. degrees in Cognitive Sciences (1997) and in Statistics, Measurement, and Evaluation (2009), and a Doctoral Level Certificate in Gerontology (2006). In addition to these qualifications to conduct independent scientific research, she also has master's level training in Public Health (2002) and Social Science (1996). Dr. Tractenberg is a multi-disciplinary and cross-disciplinary researcher. Her research, funded in the past two years by the Department of Defense, National Institute on Disability, Independent Living, and Rehabilitation Research, National Science Foundation, and the Michael J. Fox and Craig H. Neilsen Foundations, has three main foci: methodology and clinical trial design; psychometrics for, and measurement of, difficult-to-assess clinical entities; and curriculum development and evaluation, and the assessment of teaching and learning in higher education. She has published widely across these areas, and she has two books currently in review (April 2021) outlining how to use and practice statistics and data science ethically. She is an elected fellow of both the American Statistical Association and the American Association for the Advancement of Science and has been recognized for her commitment to ethical practice (of statistics and data science) and for her stewardship of science. She has an extensive service portfolio, bothnationally and internationally, including the Committee on Professional Ethics of the American Statistical Association (ASA, vice chair 3 years; chair 3 years); she chaired the working groups on revising the ASA ethical guidelines in all of the revisions, and is co-chairing the group for the 2021 revision. She served the European Medical Education community 2014-2016, and has served the international bioinformatics community since 2016, supporting training initiatives Europe wide (through the European Molecular Biology Laboratories (EMBL)) and serving on the Scientific Advisory Board of the Australian Bioinformatics Resource (ABR).

Treinish, Lloyd

IBM

Mr. Lloyd Treinish has expertise in numerical weather prediction, regional climate modelling and data analysis for environmentally sensitive decision support, visualization systems including visual design and data fusion, high performance computing, and scientific data management and data models. He is an IBM Distinguished Engineer and heads the Atmospheric Science team at the IBM Thomas J. Watson Research Center. He has Bachelor's degrees in Physics, and Earth and Planetary Sciences, and a Masters' degree in Physics from the Massachusetts Institute of Technology. While his early work included electric grid resiliency and integration of renewable energy resources, he later extended it to include modelling of lake watersheds for water quality and precision agriculture to improve food production. Several of these efforts were with non-profit and academic groups focused on environmental stewardship. He currently helps to lead IBM's work to predict the business and environmental impacts of climate change. This includes assessment of greenhouse gas emissions and resiliency to climate-driven hazards of food production and manufacturing supply chains as well as identification of methods for carbon capture. His work includes dynamic climate model downscaling to assess the local impact of a warming planet and to help evaluate the effectiveness of adaptation strategies. His research for the past two years has been supported by IBM. Mr. Treinish has authored over 70 scientific papers, been issued ten patents, presented extensively at external conferences, and received several awards from IBM and National Aeronautics and Space Administration (NASA) for his contributions. He is a member of the American Geophysical Union, the American Meteorological Society, the Association of Computing Machinery (ACM), ACM Special Interest Group for Computer Graphics (Computer Graphics Pioneer), the Institute of Electrical and Electronics Engineers Computer Society (Visualization Pioneer), and the IBM Academy of Technology. He is the Chair of the Board of Directors for the WaterRising Institute and a scientific advisor to the Board of Directors for GreenPRAXIS. He also advises senior IBM executives on environmental science including stewardship, business offerings, product development and academic research.

Trombulak, Stephen

Middlebury College

Dr. Stephen C. Trombulak is Professor Emeritus of Biology and Environmental Studies at Middlebury College in Vermont. Dr. Trombulak holds a B.A. in Biology from the University of California, Los Angeles and a Ph.D. in Zoology from the University of Washington, Seattle. After two years of post-doctoral research at Stanford University in Biological Sciences, he joined the Middlebury College faculty in 1985, conducting research in environmental science, sustainability studies, and conservation biology, with an emphasis on integration of environmental science with policy design and implementation for ecological integrity and sustainability. He retired from the teaching faculty in 2019, as emeritus professor after having variously been chair of Biology, director of the Environmental Studies, Associate Dean of Sciences, and director of the Middlebury School of the Environment. Since the early 1990s, he has served in a variety of capacities with government agencies, including the Northern Forest Lands Council, Vermont Forest Resources Advisory Council, Vermont Endangered Species Technical Advisory Groups, and on the SAB for the 2004 EPA Report on the Environment. His service to professional societies has been primarily to the Society for Conservation Biology, serving in various capacities on the Board of Governors over several years, including a term as the president of the North American section. Dr. Trombulak has also worked with numerous conservation organizations, such as the Vermont Natural Resources Council, primarily to provide scientific expertise to inform policy and citizen outreach initiatives. His only research grant in the past two years has been as a co-principal investigator on an internal grant from Middlebury College to study ecological controls on the incidence of Lyme disease among wild rodent vectors.

Ulrich, Julie

The Nature Conservancy

Ms. Julie Ulrich is the Director of Urban Conservation for a founding urban program at The Nature Conservancy. She has a Bachelor's degree in Civil and Environmental Engineering from The Catholic University of America and a Masters' degree in Urban and Environmental Planning from the University of Virginia. She is a graduate of University of Pennsylvania's Executive Program in Social Impact Strategy and is currently participating in the Climate and Health program at the Yale School of Public Health. Ms. Ulrich has expertise and research focus areas in engineering, ecology, climate, policy, water resources, environmental justice, urban planning, and design. She has extensive experience in climate and equity centered sustainable planning and design and has worked at the intersection of urbanism, the environment, and the public for over fifteen years. In her private and public sector roles, she has guided planning and implementation of multi-functional green infrastructure, sustainability, and community development programs across the U.S. Prior to joining The Nature Conservancy, Ms. Ulrich worked for multiple municipalities and served on numerous interdisciplinary teams across sectors to develop strategies and drive

program implementation for innovative land and water management practices through participatory planning, cultivating partnerships, and collaborative knowledge sharing. Her funding sources in the last two years include National Fish and Wildlife Foundation, the Academy of Natural Sciences of Drexel University, William Penn Foundation and Spring Point Partners. She serves on numerous local non-profit Boards and Advisory Boards centered on water justice, water quality, and climate mitigation and adaptation. She is committed to furthering environmental justice and advancing equity in the environmental field. With policy and program implementation experience at the local, state, and federal levels, she writes and speaks widely on green urbanism, equity, and the link between social and ecological resiliency. Ms. Ulrich is a Senior Fellow with the Environmental Leadership Program and was named as one of Next City's Vanguard.

Upperman, Crystal

Aclima, Inc.

Dr. Crystal Romeo Upperman leads the integration of public health information and informed risk characterization into Aclima's products. She earned a Ph.D. in Marine, Estuarine, and Environmental Science from the University of Maryland at College Park as a U.S. EPA Science to Achieve Results Fellow and a National Science Foundation Louis Stokes Alliance for Minority Participation Fellow. In addition, she holds a Master of Public Administration in Nonprofit Management from Kennesaw State University and a Bachelor of Science in Environmental Science from Spelman College. Prior to joining Aclima, she was a Senior Research Associate at the World Resources Institute on the Global Commission on Adaptation—that demonstrated that adaptation to climate change improves human well-being and results in better, more sustainable economic development and security for all. At AECOM, Dr. Romeo Upperman was the Climate Adaptation and Resilience Lead for the Southeast U.S., Latin America, and the Caribbean. She was also a consultant at the World Bank working on sustainable agricultural development in China, the Philippines, and Vietnam. Prior, she spent 4 years with the Maryland Department of Health leading the U.S. Centers for Disease Control's Building Resilience Against Climate Effects grant that identified climate impacts and associated health effects in Maryland communities. Her other prior experiences include extensive laboratory research in environmental remediation and catalyst products with years of regulatory compliance in air and radiation protection at the state levels. She began her career at BASF researching catalyst coatings for reducing vehicle emissions. Her research focus is in environmental health, exposure science and environmental epidemiology. Her research background includes a national assessment of the impact of climate change on chronic respiratory disease prevalence, that was funded by the U.S. Environmental Protection Agency (EPA). She has engaged in research projects that entail health risk assessment of climate and weather hazards, exposure assessment of pollen and extreme heat, environmental science translational research, and technical writing; particularly translating scientific findings to promote sustainability and positive environmental and public health outcomes. She served on the Biden-Harris Campaign's Climate, Energy, Environment policy committee and contributed to the Resilience and Environmental Justice Subcommittees. Dr. Romeo Upperman is a Trustee for The Nature Conservancy's Maryland/District of Columbia chapter, a member of the advisory board for American Public Health Association's Center for Climate, Health, and Equity, a Steering Committee Member for the Environmental Law Institute's Emerging Leaders Initiative, and a member of the International Society of Exposure Science..

Uzochukwu, Godfrey Arinze

North Carolina Agricultural and Technical State University

Dr. Godfrey Uzochukwu is a Senior Professor and founding director of the interdisciplinary Waste Management Institute at North Carolina Agricultural and Technical State University. He has a Bachelor's degree in General Agriculture and a Mmasters'degree in Agronomy from Oklahoma State University and from the University of Nebraska he has a Ph.D. in Agronomy – Soil Genesis, Mineralogy and Classification. Dr. Uzochukwu has expertise in soil health, geology, soil mineralogy, soil genesis and land use, environmental science, waste management, environmental sustainability, environmental justice, and environmental ethics. He has been principal or coprincipal investigator for over 20 externally sponsored multi-million-dollar research projects, and has published over 10 journal papers, 5 proceedings, 35 conference papers, 15 technical reports and 4 books. Dr. Uzochukwu's funding sources in the last two years include the U.S. Department of Energy, North Carolina Department of Environmental Quality and U.S. Department of Agriculture. He was a member of the North Carolina Legislative Commission on Global Climate Change. He served on the National Science Foundation Review Panel. He is currently serving as a reviewer for Journal of Environmental Protection, Aspects in Mining and Mineral Science and Journal of Scientific Research. Dr. Uzochukwu is a current member of the Ecological Society of America, Soil Science Society of America, American Association for Advancement of Science (AAAS), City of Greensboro's Solid Waste Management Commission and Cape Fear River Assembly.

Valentino, Michael

Boiler Room Consulting, LLC

Mr. Michael W. Valentino is owner and President of Boiler Room Consulting LLC (BRC), starting in 2017. BRC provides engineering services ranging from software development, boiler room equipment analysis and specification, to expert witness and testimony services in boiler accident and asbestos related lawsuits and litigation. He is a current member of the American Society of Mechanical Engineers Controls & Safety Devices for Automatically Fired Boilers, and is a Technical Consultant for the American Boiler Manufacturers Association (ABMA). Prior to starting up BRC, Mr. Valentino was President of Industrial Combustion from 2005 until 2017, Vice President of Engineering for Power Flame Incorporated from 1996 until 2005, and Director of Research and Development for Cleaver Brooks, Incorporated from 1989 until 1996. He received the Wisconsin Governor's Award for Best New Product of the Year and Presidents Award (Cleaver Brooks) for Outstanding Achievement. Mr. Valentino holds a BSME degree from the University of Wisconsin – Milwaukee and a MSME degree from Marquette University. He graduated with honors and is a member of Tau Beta Pi National Engineering Honor Society. Mr. Valentino has obtained Professional Engineering licenses in the States of Wisconsin and Kansas. Mr. Valentino's area of expertise is in fossil fuel combustion, heat transfer, fluid flow, thermodynamics, commercial-industrial boiler-burner modeling and design, boiler emissions, and boiler room optimization. He has co-authored several national and international publications in the fields of boiler performance modeling including flue gas recirculation for NOx emissions control in gas combustion. Mr. Valentino taught the Calculus series and other college level mathematics courses at Labette Community College in Parsons, KS.

van der Mensbrugghe, Dominique

Purdue University

Dr. Dominique van der Mensbrugghe is Research Professor and Director of the Center for Global Trade Analysis (GTAP) at Purdue University. As Director of GTAP he has responsibility for overall management of the development of the GTAP Data Base and Model, working with the GTAP Advisory Board, supervising the Center's short courses, and organizing the annual GTAP Conference. He has an undergraduate degree in mathematics from the University of Louvain in Belgium and a Ph.D. in Economics from the University of California at Berkeley. His research focuses in analyzing economic policies of a global nature such as multilateral trade agreements and climate change. His work on climate change has assessed the nature and cost of carbon regimes—carbon tax versus cap and trade, size, and composition of country coalitions, ambitious versus sub-optimal climate targets and the role of the cost and availability of 'clean' technologies. His more recent work has included looking at the 'damage' side of climate change, particularly on agriculture, and assessing the economic tradeoffs between carbon taxes and lower climate damage. His analysis relies on the development and use of a so-called integrated assessment model that integrates economics, greenhouse gas emissions, climate, and damages in a coherent modeling framework. Prior to joining Purdue University in 2014, he worked at the Organisation for Economic Co-Operation and Development in Paris, France (1988-1998), the World Bank in Washington, DC (1998-2011), and the Food and Agriculture Organization of the United Nations in Rome, Italy (2011-2014).

van der Vaart, Donald

Independent Consultant

Dr. Donald van der Vaart is an Independent Consultant. He was previously a Senior Fellow at the John Locke Foundation concentrating on Energy and Environmental Policy. As a scientist, Dr. van der Vaart worked in the areas of combustion, refining and multi-phase reactor theory. He holds a Bachelor's degree in Chemistry from the University of North Carolina - Chapel Hill, a Masters' degree in Chemical Engineering with a minor in Applied Mathematics from North Carolina State University, a Ph.D. in Chemical Engineering from Cambridge University, and a J.D. from North Carolina Central University. He is a registered engineer and a licensed attorney in North Carolina. His work included the stability analysis of catalytic converters for methanol fueled motor vehicles. Dr. van der Vaart has authored two patents. He has taught both environmental engineering and environmental law courses at North Carolina State University as adjunct professor. Dr. van der Vaart has 23 years of experience at all levels of Environmental Management with the North Carolina Department of Environmental Quality. He was the first Secretary of the Department who had risen through the ranks of the department. In these roles, Dr. van der Vaart advocated reconciling dated regulations with the latest scientific understanding including de-emphasizing the role of volatile organic compounds in the formation of ozone. He was a strong advocate for risk-based compliance options for all media and published in areas of air quality modeling in which risk-based air toxics approaches were compared with the technology-based approaches. He also developed a firmer understanding of Class I air quality modeling requirements under the Clean Air Act.

van Wijngaarden, Edwin

University of Rochester

Dr. Edwin van Wijngaarden is Professor of Public Health Sciences, Environmental Medicine, Pediatrics, Dentistry and Community Health & Prevention at the University of Rochester School of Medicine and Dentistry, Rochester, NY. He is also Associate Chair of the Department of Public Health Sciences. Dr. van Wijngaarden received an MSc in Environmental Sciences from Wageningen University in The Netherlands, and a Ph.D.in Epidemiology from University of North Carolina at Chapel Hill. He has extensive experience in managing and conducting epidemiologic studies and in academic leadership. He has authored over 140 peer-reviewed manuscripts primarily in the areas of environmental and occupational health. For the past 17 years, his research has focused on the potential effects of exposure to metals on neurodevelopment and cognitive aging, and the modifying role of nutrients and genes on metal neurotoxicity. Dr. van Wijngaarden is currently the Principal Investigator of a longitudinal cohort study investigating the potential influence of exposure to methyl mercury from fish consumption on child development. He is strategic director of research education in the University of Rochester's Clinical and Translational Sciences Institute, and co-director of the Integrated Health Sciences Facility Core in the Environmental Health Sciences Center. He has trained about 100 graduate students in public health and related disciplines. Dr. van Wijngaarden is a fellow of the American College of Epidemiology and a member of the Society for Epidemiologic Research. He has served in consulting and expert review roles at institutional, state, and national levels, including study sections for federal research programs. From 2016-2017, he was a member of the Environmental Protection Agency's Chartered Science Advisory Board. He is the Editor-in-Chief of the International Archives of Occupational and Environmental Health. His research has been supported by the National Institutes of Health and the Centers for Disease Control and Prevention.

VanBriesen, Jeanne M.

Carnegie Mellon University

Dr. Jeanne M. VanBriesen is the Duquesne Light Company Professor of Civil and Environmental Engineering and Engineering and Public Policy at Carnegie Mellon University and the Director of the Center for Water Quality in Urban Environmental Systems (Water QUEST) at Carnegie Mellon University. She is a fellow of the American Society of Civil Engineering (ASCE) and of its Environmental and Water Resources Institute (EWRI) as well as a fellow of the Association of Environmental Engineering and Science Professors (AEESP). Dr. VanBriesen holds a B.S. in Education and a M.S. and Ph.D. in Civil Engineering from Northwestern University. She is a licensed professional engineer (PE) in the state of Delaware, a board-certified environmental engineer (BCEE), and a Diplomate of the American Academy of Water Resources Engineers (D. WRE). Her expertise is in water quality engineering. Her research is in environmental water systems, including urban water system sustainability and the built environment water cycle, and the energy-water nexus and watershed decision making. Dr. VanBriesen' s research has been funded by the National Science Foundation, the Department of Defense Strategic Environmental Research and Development Program, the Colcom Foundation, the Heinz Endowments, the Packard Foundation, and the Pennsylvania Infrastructure Technology Alliance. Dr. VanBriesen currently serves on the U.S. National Science Foundation Advisory Committee for the Engineering Directorate as well as on the NSF Advisory Committee for Environmental Research and Education. She is the past Chair of the Board of the Consortium of Universities for the Advancement of Hydrologic Sciences (CUAHSI) and past secretary of the Association for Environmental Engineering and Science Professors (AEESP). Dr. VanBriesen has received numerous awards, including the 2015 American Society of Civil Engineers Margaret S. Petersen Award.

Von Haefen, Roger

North Carolina State University

Dr. Roger H. von Haefen is a Professor in the Department of Agricultural and Resource Economics and Associate Director of the Center for Environmental and Resource Economics Policy at North Carolina State University (NCSU). He is also the current Co-Editor-In-Chief of the Journal of Environmental Economics and Management, a past Faculty Research Fellow of the National Bureau of Economic Research, and the lead organizer for Camp Resources, a workshop dedicated to training the next generation of environmental and resource economists. He holds a Bachelor of Arts from the University of Notre Dame and a M.A. and Ph.D. from Duke University, both in Economics. Dr. von Haefen's research spans environmental and resource economics and applied econometrics with a specialization in environmental valuation. His funded research uses nonmarket valuation methods to support natural resource damage assessments and policy evaluation for several federal, state and private sector entities, including the U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration, National Park Service, U.S. Army Corps of Engineers, and North Carolina's Coal Ash Management Commission and Department of Environmental Quality. In recent years, he has assessed the economic damages associated with the 2010 Deepwater Horizon oil spill, the impacts of climate change on outdoor recreation, the economic benefits of water quality improvements in

lakes and streams in the Southeastern United States (U.S.), and the distributional and efficiency effects of higher gasoline taxes on the U.S. economy. Dr. von Haefen has supervised twelve doctoral dissertations and four master's theses, regularly presents his research at major U.S., European, and Asian conferences, and has published peer-reviewed research articles in the Journal of Environmental Economics and Management, Journal of the Association of Environmental and Resource Economists, American Economics Review, Journal of Business of Economic Statistics, and American Economic Journal: Economic Policy.

von Lindern, Ian

TerraGraphics International Foundation

Dr. Ian von Lindern is a Senior Scientist with TerraGraphics International Foundation (TIFO), a non-profit humanitarian environmental response organization. From 1984-2014 he was Chief Executive Officer of TerraGraphics Environmental Engineering in Moscow, Idaho. His education includes a Bachelor's degree in Chemical Engineering from Carnegie-Mellon University and both Masters' and Doctoral degrees in Environmental Science and Engineering from Yale University. He has 46 years of environmental engineering/science experience, having directed more than 50 major health/environmental investigations involving mining/smelting sites. He was Project Manager for the State of Idaho at the Bunker Hill/Coeur d'Alene Basin Hill Superfund Site for 35 years, developing cleanup criteria, remedial design, and oversight. From 2005-2012, he managed an International Environmental Health Initiative with the University of Idaho, adapting lead health response lessons learned in the U.S. to low-income countries. From 2007-11, he directed cleanup projects in China, Russia, the Dominican Republic, and Senegal. In 2010-11, he designed and directed the United Nations Children's Fund (UNICEF) remediation of several remote villages in Zamfara, Nigeria, where 400 to 500 children died of acute lead poisoning associated with artisanal gold mining. Since cofounding TIFO in 2014, he has collaborated with Médecins Sans Frontiers (MSF) in joint medical, public health and environmental emergency response projects in Nigeria, Bangladesh, and Kyrgyzstan; funded by MSF and individual charitable donations. He has served on several Science Advisory Board (SAB) and Clean Air Scientific Advisory Committee (CASAC) subcommittees: National Ambient Air Quality Standard reviews in 1975-1977, 1982-1986, and 2006-2008; Assessing the Use of the Biokinetic Model for Lead Absorption in Children 1988; Assessing the Consistency of Lead Health Regulations in U.S. Environmental Protection Agency (EPA) Programs in 1992; Urban Soil Lead Abatement Demonstration Project in 1993; Ad Hoc All-Ages Lead Model (AALM) Reviews in 2005-2007 and 2019-2020; External Peer Review of Proposed Modeling Approaches for a Health-Based Benchmark for Lead in Drinking Water in 2017.

von Stackelberg, Katherine

Harvard T.H. Chan School of Public Health

Dr. Katherine von Stackelberg is a Principal at NEK Associates LTD, specialized in developing risk-based modeling tools to support sustainable environmental decision-making. She is a Research Scientist at the Harvard Center for Risk Analysis (HCRA) at the Harvard Chan School of Public Health, and is currently Director of Research Translation for a recently funded Superfund Research Program Center (hsph.harvard.edu/memcare). She is also co-leader of the Biogeochemistry of Global Contaminants Group (BGC) at Harvard University. Dr. von Stackelberg received an A.B. cum laude from Harvard College, and a Sc.M. and Sc.D. from the Harvard School of Public Health in Environmental Science and Risk Management. She has 30 years of experience designing and implementing human health and ecological risk assessments, focused on integrated, risk-based modeling approaches to support sustainable environmental decision making. She has published on ecological resilience, the use of uncertainty analysis in decision making, bioaccumulation modeling, and use of decision analytic approaches to integrate ecosystem services and risk assessment for more effective decision making. Dr. von Stackelberg is the Area Editor for Ecological Risk Assessment for the journal Risk Analysis and serves on the editorial boards of Human and Ecological Risk Assessment and Risk Analysis. She is a frequent peer reviewer for several additional journals. Dr. von Stackelberg served on the Board of Scientific Counselors at the U.S. EPA for six years and was Chair for the last three. She led the effort to explore the use of decision analytic tools and methods to support environmental decision making within the U.S. EPA Office of Research and Development. She is a member of the Scientific Advisors on Risk Assessment for the European Commission in Brussels, has served as Treasurer for the Society for Risk Analysis, and currently serves on the Board of Directors and is Treasurer for the Society for Environmental Toxicology and Chemistry (SETAC). She is a frequent peer reviewer for the U.S. EPA (e.g., ecosystem services documents, STAR grant program), and served on a National Academy of Sciences Committee on Interventions to Increase the Resilience of Coral Reefs. Dr. von Stackelberg's current and recent research funding is through a Superfund Research Program grant under the National Institute of Environmental Health Sciences (NIEHS).

Walker, Reed

UC, Berkeley

Dr. Reed Walker is the Transamerica Professor of Business and Public Policy and Economics at UC Berkeley. His research explores the social costs of environmental externalities such as air pollution and how regulations to limit these externalities contribute to gains and/or losses to the economy, with specific focuses on equity. He is the faculty co-director of UC Berkeley's Opportunity Lab - Climate and Environment Initiative. He is also a research associate at the Energy Institute at Berkeley and a faculty research fellow at the National Bureau of Economic Research. He received his Ph.D. in Economics from Columbia University and his B.A. in Mathematical Economics from Colgate University He was a recipient of the Sloan Foundation Research Fellowship and the IZA Young Labor Economist Award. He currently serves on the National Academy of Sciences committee addressing Deep Decarbonization. In addition, his work has been supported by the Environmental Protection Agency, the National Science Foundation, the Robert Wood Johnson Foundation, the Sloan Foundation, and the Smith-Richardson Foundation.

Wall, John

Cummins Inc.

Dr. John C. Wall has more than 40 years of industry experience in internal combustion engines, fuels, and emissions. John received his SB, SM and ScD in Mechanical Engineering from MIT. Throughout his career, he has worked closely with EPA and CARB regulators to align technology and product development with emissions policy and regulations to create products one could successfully sell and support in the marketplace to deliver the desired environmental benefits – the very same challenge we face now in decarbonizing transportation while continuing to reduce criteria pollutants. This challenge is his current interest and focus. He is an advisor to the DOE Joint BioEnergy Institute and Co-Optima Program, the Activate clean energy technology incubator, the International Council on Clean Transportation, and the Institute of Transportation Studies at UC-Davis. He serves on the National Academies Boards on Energy and Environmental Systems and on Science, Technology and Economic Policy and has served as a member of the EPA Mobile Sources Technical Review Subcommittee. Dr. Wall has been recognized for his technical contributions by election to the National Academy of Engineering and Fellow of the Society of Automotive Engineers, the SAE Franz F. Pischinger Powertrain Innovation Award, the ASME Soichiro Honda Medal, and the California Air Resources Board Haagen-Smit Clean Air Award and US EPA Thomas W. Zosel Individual Achievement Award for career accomplishments in diesel emission control, and has been recognized by the Health Effects Institute for technologic innovation and commitment to clean air. From 2000 until his retirement in 2015, he served as Chief Technical Officer of Cummins Inc. Prior to joining Cummins in 1986, Dr. Wall led Diesel and Aviation Fuels Research for Chevron, where his team was first to discover the important contribution of fuel sulfur to diesel particulate emissions.

Walsh, Daniel C.

City of New York Office of Environmental Remediation

Dr. Daniel Walsh is Adjunct Senior Research Scientist at Columbia University's Lamont Doherty Earth Observatory. He is a contaminant geochemist and urban environmental historian and has served for 35 years directing government regulatory programs for environmental quality protection in New York State and New York City, including Superfund, Solid Waste, Resource Conservation and Recovery Act, Brownfields, Underground Storage Tanks, and environmental emergency response. He has a B.S. in Geological Sciences from Binghamton University, a M.S. in Hydrogeology and Geophysics from University of Massachusetts at Amherst and a Ph.D. in Geochemistry from Rensselaer Polytechnic Institute. Dr. Walsh has expertise in water, soil, soil vapor and contaminant geochemistry, fate and transport; remediation methods; environmental disaster response; hydrogeology; government environmental regulatory programming; environmental justice and equity programming; environmental program financing and return on investment; and regulation of emerging pollutants. Dr. Walsh has built and operated urban environmental regulatory programs for protection of public health and quality of soil, groundwater and soil vapor and has personally directed more than 5,000 remedial actions during his career, arguably as many as anyone in U.S. history, including remediation of the world's largest landfill, and numerous environmental enforcement actions to correct pollution of terrestrial and aquatic environments. Dr. Walsh has been environmental director for urban disaster response including roles as Chief of Operations for NYS response to the World Trade disaster and NYC's response to Hurricane Sandy. His research focuses on post-industrial urban environmental pollution sources, their geochemistry and effects on environment and public health, and the history of governmental environmental response. With service principally in government, he has published 18 journal articles, 10 articles, 2 book chapters and various conference proceedings. He has authored environmental laws, regulations, intergovernmental pollution regulation agreements, and founded, designed, and operated programs for urban environmental and social equity. He founded the nation's first city-run land cleanup program (NYC Brownfield Cleanup Program) and the nation's first urban soil exchange (NYC Clean Soil

Bank) to address pollution exposure in low income communities and improve climate resilience. He has designed and operated online applications for environmental data exchange and government transparency (NYC Searchable Property Environmental Electronic Database, SPEED), directed over 1,500 community participation programs and has extensive experience communicating environmental information to the public. He served on EPA SAB Homeland Security Advisory Committee subcommittee and the EPA Board of Scientific Counselors Committee on Homeland Security. With experience as environmental regulator and appointed environmental official and a diverse background in science, academia, urban environmental history, Dr. Walsh brings the voice of state and urban government to his committee roles.

Wang, Wei-Hsung

Louisiana State University

Dr. Wei-Hsung Wang is a professor of the Center for Energy Studies at Louisiana State University (LSU), an adjunct faculty member in the Departments of Environmental Sciences and Physics & Astronomy at LSU as well as the Pennington Biomedical Research Center, and a clinical professor of radiology at LSU Health Sciences Center New Orleans. He teaches Radiation Protection and Exposure Evaluation, Environmental Radiological Evaluation and Remediation, and Nuclear Facility Safety courses. He is also Director of Radiation Safety Office at LSU and administers a comprehensive radiological control program under a broad scope radioactive material license. Dr. Wang received his B.S. in Geology from National Taiwan University, M.S. in Environmental Health Engineering from Northwestern University, and Ph.D. in health physics from Purdue University. He is certified by the American Board of Health Physics (ABHP) and the Board of Certified Safety Professionals. He is a member of the ABHP Part II Panel of Examiners (Vice Chair 2015; Chair 2016), the Health Physics Society (HPS), and Sigma Xi and served as a co-academic dean of the 2014 HPS Professional Development School on Radiation Safety in Medicine. Dr. Wang's research interests center on the development of feasible solutions to practical radiological protection, radiation detection, and environmental impact issues, through the application of a diverse background in bionucleonics, environmental health engineering, industrial hygiene, non-ionizing radiation, radiation instrumentation, and radiochemistry. The majority of his work has emphasized operational radiation safety, radiation detection instrumentation, air monitoring methodology, radioactive waste management, gamma-ray spectroscopy, radiation dosimetry, environmental radiation, and radiological emergency response planning and preparedness. He is a Fellow of the HPS and was the Herman Cember Memorial Lecturer at the 2013 American Industrial Hygiene Conference and Exhibition in Montreal, Canada. He has served as a reviewer for Health Physics, Medical Physics, Nuclear Instruments and Methods in Physics Research, and Nuclear Science and Techniques. He also holds a U.S. patent on a real-time video radiation exposure monitoring system. Dr. Wang is a technical advisor to the Secretary of the Louisiana Department of Health. He was selected to participate in the 2016 Nuclear Tour de France to promote and develop exchanges about the status and knowledge of nuclear development and achievements in France and in the U.S. in different technical fields. After the Fukushima nuclear incident in Japan, he served as a radiological expert on the U.S. National Oceanic and Atmospheric Administration Radiological Ideas Workshop. He was also an invited panelist on the U.S. Nuclear Regulatory Commission (NRC) Radiation Protection Standards Workshop to discuss the potential changes to the NRC's radiation protection regulations and guidance in light of recommendations in ICRP Publication 103. Dr. Wang's current and recent research is not supported by extramural funding.

Warheit, David

Warheit Scientific LLC

Dr. David B. Warheit is a nano/pulmonary toxicology expert who has retired from the DuPont and Chemours Companies. Dr. Warheit holds a B.A. in Psychology from the University of Michigan and a Ph.D. in Physiology from Wayne State University School of Medicine. Dr. Warheit was successfully awarded a National Institutes of Health (NIH) Postdoctoral Fellowship, and 2 years later, a Parker Francis Pulmonary Fellowship, both of which he took to the National Institute of Environmental Health Sciences (NIEHS) to study mechanisms of asbestos-related lung disease. In 1984, he moved to DuPont Haskell Laboratory to develop a pulmonary toxicology research laboratory. He is the author/coauthor of more than 140 publications and has been a recipient of the International Life Sciences Institute (ILSI) Kenneth Morgareidge Award (1993) and the Robert A. Scala Award in Toxicology (2000) and the Oklahoma State Sitlington Lecture (2007). In 2007, Dr. Warheit served on a joint DuPont and Environmental Defense Committee – to produce the "Nano Risk Framework" document. He has also attained Diplomat status of the Academy of Toxicological Sciences (2000) and the American Board of Toxicology (1988). He has served on National Institutes of Health (NIH) study section review committees, National Academy of Science Committees (1997) (2011-2013), The National Institute for Occupational Safety and Health (NIOSH) Board of Scientific Counselors (2003-2007), and the Scientific Advisory Board for National Center for Toxicology Research (NCTR-FDA) (2012-2016). He is a past president of the Society of Toxicology-related Inhalation Toxicology (1998) and Nanotoxicology Specialty Sections (2010) and past member of the Society of Toxicology Program Committee (2009-2012). More recently, he was the corresponding

author of the Nanotoxicology Chapter in Casarett and Doull's Toxicology textbook (2019). Previously, he was a Technical Fellow at the DuPont Co. and the Chemours Company. Dr. Warheit retired from Chemours in December of 2018. In 2019, he formed his own toxicology consulting Company, Warheit Scientific LLC. He has not received any major U.S. governmental research funding. His two major clients are The Carbon Black and Titanium Dioxide Science Advisory Boards.

Weintraub, June

San Francisco Department of Public Health

Dr. June Weintraub is Senior Epidemiologist and Manager of Water and Noise Regulatory Programs for the San Francisco Department of Public Health. She earned her Doctoral degree from Harvard School of Public Health; her B.S. and M.S. in civil engineering are both from Tufts University. Dr. Weintraub has current certifications as a California Registered Environmental Health Specialist, Cross Connection Control Specialist, and Backflow Assembly Tester. In her current position since 2001, she has developed a strong program of research, education, and collaboration with San Francisco's drinking water utility to address diverse issues related to drinking water including water security, quality, allocation, reuse, conservation, and sustainability. She also collaborates with the water quality laboratory, which stays on the cutting edge of analytical techniques and monitoring protocols. Between 2008 and 2012, Dr. Weintraub worked with colleagues in the City to develop and institute one of the first programs in the United States to regulate onsite treatment of alternate water sources for non-potable uses such as toilet flushing and landscape irrigation. She has researched groundwater quality in Massachusetts, irrigation water conservation methods, the use of chloramine for drinking water disinfection, and the presence of legionella in building water systems. Dr. Weintraub has worked closely with federal, state, and local agencies and community-based organizations to reach consensus on scientific, policy, planning and health equity issues. She has served on several advisory committees including the U.S. EPA's National Drinking Water Advisory Council and the National Blue Ribbon Commission for Onsite Non-potable Water Systems, and she has served as peer reviewer for manuscripts under consideration by journals such as the Journal of American Medical Association, Chemosphere and Environmental Health Perspectives. She has authored numerous peer reviewed papers, monographs, book chapters and articles in general readership

Weis, Judith S.

Rutgers University

Dr. Judith S. Weis is Professor Emerita of Biological Sciences at Rutgers University, Newark. She received her bachelor's degree from Cornell University, and M.S. and Ph.D. from New York University. Her research focuses on estuarine ecology and ecotoxicology, and she has published over 250 refereed scientific papers, a technical book on marine pollution, and several books for the general public, including one on marine pollution. Her interests are in stresses in estuaries and salt marshes and their effects on organisms, populations, and communities. Focus areas include effects of contaminants on growth, development, behavior, and trophic interactions; development of pollution tolerance in populations in contaminated areas; effects of contaminants on behavior and ecology. She has not had research funding for the past two years since she is emeritus. She is a Fellow of the American Association for the Advancement of Science, was a Congressional Science Fellow with the U.S Senate, and a Fulbright Senior Specialist (Indonesia). She has been on advisory committees for U.S. EPA (e.g., Endocrine Disruptor Screening and Testing Committee, Scientific and Technological Achievement Awards Committee), and the National Research Council. She served on the National Sea Grant Advisory Board, chairs the Science Advisory Board of the NJ Department of Environmental Protection, and co-chairs the Science/Technical Advisory Committee for the New York/New Jersey Harbor Estuary Program. She served the United Nations Environment Program as a lead author of the World Ocean Assessment 1 and 2, and author of the Intergovernmental Panel on Biodiversity and Ecosystem Services. She was Chair of the Biology Section of AAAS, served on Boards of the Society of Environmental Toxicology and Chemistry, the Association for Women in Science, and the American Institute of Biological Sciences, of which she was President 2001. She received the Merit Award from the Society of Wetland Scientists.

Wen, Jason

City of Lakewood

Dr. Jason Wen is Director of the Water Resources Department in the City of Lakewood, California. He has a B.S. in Geochemistry from University of Science and Technology of China, a M.S. in Geochemistry from California Institute of Technology, and a Ph.D. in Chemistry from University of California, San Diego. He is California registered Professional Engineer, and holds both State of California Grade 5 (the highest level) Operator Certificates of Water Treatment and Water Distribution. He has more than 30 years of experience in water resources, water quality and environmental management. Dr. Wen has unique background and experiences including academic research, engineering consulting, regulatory enforcement and drinking water utility services. He has been involved in seven drinking water research

projects either as a Project Advisory Committee member or through participating water utilities under American Water Works Association (AWWA) Research Foundation, now Water Research Foundation. He has been a frequent speaker at various water and environmental conferences and publish ten peer-reviewed papers and several chapters of a book. He has been active in regional and local water agencies and associations and is Chairperson of Capital Improvement Program Committee of the Water Replenishment District of Southern California (WRD). He is also Vice Chair of the Budget Advisory Committee of WRD. He is a Member of the Central Basin Water Rights Panel of Water Master, and is a board member of Central Basin Water Association. He is naturalized citizen and has been serving in many leadership roles in Asian-American communities especially in science and engineering associations. He was National Chair of the Chinese Institute of Engineers (founded 1917, www.cie-usa.org), President of Chinese American Engineer and Scientist Association of Southern California (founded 1962, www.cesasc.org), President of the Overseas Chinese Environmental Engineers and Scientists Association (www.oceesa.org), and President of Southern California Chinese American Environmental Protection Association (www.sccaepa.org). His current research project on smartwater is funded by Water Research Foundation.

Wendt Hess, Judy

Shell

Dr. Judy Wendt Hess leads the Center of Excellence for Epidemiology and Health Analytics at Shell Oil Company in Houston Texas. She has a Bachelor's degree in Community Health Education from the University of Texas, a Masters'degree in Public Health from the University of Michigan, and a Ph.D. in Epidemiology from the University of Texas Health Science Center at Houston. Her research interests include exposure and outcome assessment for a variety of worker and environmental health topics, including air toxics and criteria air pollutants. She has a particular interest in windows of susceptibility during pregnancy and early childhood. Dr. Hess supports Shell's health-related social investment initiatives and has been heavily involved in the company's Covid-19 response. She has authored or co-authored over 30 publications, most recently addressing exposure measurement methods used in epidemiology studies of unconventional resource development, and describing historical smoking prevalence in female industrial workers. She has also been involved as an industry stakeholder in the development of the Health Effects Institute's Energy Research Program, providing specific expertise in the areas of epidemiology and exposure assessment. Dr. Hess holds an appointment as Adjunct Assistant Professor in the Department of Epidemiology, Human Genetics and Environmental Sciences, and serves on the Board of Advisors for the Southwest Center for Occupational and Environmental Health (SWCOEH) at UTHealth, one of 17 university-based NIOSH Education and Research Centers across the US. She has also served on the Publications Committee for the American College of Epidemiology.

Werth, Charles

University of Texas at Austin

Dr. Charles J. Werth is a Professor and Bettie Margaret Smith Chair in Environmental Health Engineering in the Department of Civil, Architectural and Environmental Engineering at the University of Texas at Austin. He has a Bachelor's degree in Mechanical Engineering from Texas A&M University, Masters', and Ph.D. degrees in Civil and Environmental Engineering from Stanford University, and a Ph.D. minor in Chemistry from Stanford. Dr. Werth's areas of expertise include the fate and transport of pollutants in the environment, the development of catalytic technologies for drinking water treatment, and the mitigation of environmental impacts associated with energy production. Dr. Werth has published 137 peer-reviewed journal papers, contributed to over 200 conference abstracts or proceedings, and served as principal or co-principal investigator of 40 externally sponsored research awards. His funding sources in the last two years are the National Science Foundation (NSF), Department of Defense, Department of Energy (DOE), Texas Commission on Environmental Quality, Dupont, and an environmental engineering consulting company. Dr. Werth has been consulted by law firms litigating cleanup of hazardous waste sites, oil and gas companies treating produced water, and industry developing innovative groundwater cleanup technologies. Dr. Werth previously served on the USEPA Science Advisory Board (SAB, 2014-2017), and was chair of the SAB's Regulatory Review Working Group (2015-2017). He also previously served on the Association of Environmental Engineering and Science Professors' (AEESP) Board (and as their Secretary), the AEESP Foundation board, and the User Executive Committee for DOE's Environmental Molecular Sciences Laboratory (EMSL). His work has been recognized by appointments as a Mercator Fellow of the German Research Society (DFG), a Wiley Research Fellow at DOE's EMSL, Editor-and-Chief of Journal of Contaminant Hydrology, and a Humbolt Research Fellow. He also received the NSF CAREER Award and two Best Paper Awards from the journal Environmental Science and Technology.

West, Jason

University of North Carolina

Dr. J. Jason West is Professor of Environmental Sciences & Engineering at the University of North Carolina at Chapel Hill. Dr. West is an engineer and leader in interdisciplinary research that connects air pollution, climate change, energy, and human health, using models of atmospheric transport and chemistry at global through local scales. He earned a B.S. from Duke University, M.Phil. from the University of Cambridge, and an M.S. and Ph.D. from Carnegie Mellon University. Dr. West led some of the first studies to use computer models of the global atmosphere to assess the health impacts of ambient air pollution, addressing the global burden of air pollution on mortality, the co-benefits of greenhouse gas mitigation for global air quality and health, and the impacts of climate change on global air quality and health. He has served on the Scientific Steering Committee of the International Commission on Atmospheric Chemistry and Global Pollution, and the National Aeronautics and Space Administration (NASA) Health and Air Quality Applied Sciences Team, and is a Leopold Leadership Fellow. He is on the editorial board of Atmospheric Chemistry & Physics, and of the Reviews section of Environmental Research Letters. His research has recently been funded by the National Science Foundation (NSF), Environmental Protection Agency (EPA), and NASA. He has published in prominent journals including Nature Climate Change, and Nature Geoscience, and his work has been featured in major news outlets including New York Times and CBS News. He has written and spoken with the public extensively on global climate change and air pollution. He worked as a researcher at the Massachusetts Institute of Technology (MIT) and Princeton, was an American Association for the Advancement of Science (AAAS) Fellow at the U.S. Environmental Protection Agency, and a visiting scientist at the National Institute for Ecology in Mexico City.

Whicker, Jeffrey

Independent Consultant

Dr. Jeffrey Whicker worked at Los Alamos National Laboratory as a health physicist and scientist for over 30 years. He received a M.S. in Health Physics and a Ph.D. in Environmental and Radiological Health Science from Colorado State University and is certified by the American Board of Health Physics. Dr. Whicker is an elected Board Member of the National Council of Radiation Protection and Measurements, served as a Board Member of the Health Physics Society, consulted for the IAEA since 2018 on environmental sampling and remediation decisions, and was on the Editorial Board for the journal Radiation Protection Dosimetry for eight years. He has been the recipient of numerous achievement awards including the Department of Energy Secretary's Honor Award (2020). He is an author or co-author of hundreds of scientific publications, invited talks, book chapters, and presentations mostly on indoor and outdoor radiological air quality and measurements that span issues ranging from worker protection, homeland security, radiological dose and risk assessment for the public and the environment, and environmental quality. His research in outdoor air quality has focused on aerosol transport through wind-driven suspension of contaminated soil and the effects of ecosystem disturbance on environmental transport rates. This research has broad implications for both public and ecosystem health. Currently, Dr. Whicker is funded by the Department of Energy's Lab Directed Research and Development Program through Los Alamos National Laboratory: "Long-lived fauna as indicators of anthropogenic radionuclides." Education and experience combined, Dr. Whicker is uniquely qualified to assist the Environmental Protection Agency in areas such as air quality, dose-response assessment, ecological risk assessment, radionuclide transport modeling, radiological exposure and risk assessment, and waste management. Dr. Whicker is particularly well-qualified for the Radiation Advisory Committee.

Whittington, Dale

University of North Carolina at Chapel Hill

Dr. Dale Whittington is a Professor in the Departments of Environmental Sciences & Engineering and City & Regional Planning at the University of North Carolina at Chapel Hill and the Global Research Institute at the University of Manchester (UK). He is also a Visiting Professor at the Smith School of Enterprise and the Environment at the University of Oxford, and a Senior Research Fellow at the Institute of Water Policy at the Lee Kuan Yew School of Public Policy at the National University of Singapore. He is the author of over 150 scholarly publications, including (with Prof. Duncan MacRae) a graduate textbook on public policy analysis, Expert Advice for Policy Choice: Analysis and Discourse. Prof. Whittington is currently the President of the Society for Benefit Cost Analysis. From 2014-2018, he served as the Chair of the Board of the Environment for Development research network at the University of Gothenburg, Sweden, and from 2009-2015, as a member of the Technical Committee of the Global Water Partnership. Since 2014, Prof. Whittington and Dr. Duncan Thomas have offered the two-part Massive Open Online Course (MOOC), "Water Supply and Sanitation Policy in Developing Countries" on the COURSERA platform. Over 25,000 students have participated from 184 countries.

Wichman, Casey

Georgia Institute of Technology

Dr. Casey Wichman is an Assistant Professor in the School of Economics at Georgia Institute of Technology and a University Fellow at Resources for the Future. Dr. Wichman specializes in the economics of water demand management, including conservation, pricing, and affordability policy; climate damage estimation and valuation of non-market climate impacts; urban transportation; energy efficiency policy; and, more generally, how individual behavior interacts with environmental outcomes. Dr. Wichman has a B.A. in Economics from Ithaca College, an M.S. in Economics from North Carolina State University, and an M.S. and Ph.D. in Agricultural and Resource Economics from the University of Maryland. His dissertation subsequently received outstanding doctoral dissertation awards from both the Association of Environmental and Resource Economists (AERE) and the Agricultural and Applied Economics Association (AAEA). Dr. Wichman has participated in various technical assistance committees related to his expertise and, most notably, from 2015 - 2017 he served as a technical consultant on the National Academies of Sciences Committee on Assessing Approaches to Updating the Social Cost of Carbon (SCC), which was tasked with outlining how the federal government could update the framework for estimating the SCC to incorporate the best available science. In the past two years, Dr. Wichman has received funding from the Alfred P. Sloan Foundation to analyze how smart thermostats can aid in generating responsiveness to time-varying prices as well as assessing the performance of machine learning tools for causal inference. Prior to joining Georgia Tech, Dr. Wichman was Research Director of the University of Chicago's Energy & Environment Lab and a Fellow at Resources for the Future.

Wiener, Jonathan

Duke University

Mr. Jonathan B. Wiener is the William R. and Thomas L. Perkins Professor of Law at Duke Law School. He is also Professor of Environmental Policy at the Nicholas School of the Environment, and Professor of Public Policy at the Sanford School of Public Policy, at Duke University. He is the Co-Director of the Duke Center on Risk, based in the Science & Society Initiative. (He previously co-directed the Rethinking Regulation program at Duke and started the Duke Center on Environmental Solutions.) He has published several books and more than 100 articles on topics including environmental law, climate change policy, Environmental Protection Agency (EPA) policymaking, comparing and borrowing policies across countries, risk regulation and oversight, disregard of ancillary impacts and underrepresented groups, and adaptive regulatory learning to address change in science, technology and society. He is a University Fellow of Resources for the Future (RFF). He is a public member of the Administrative Conference of the United States (ACUS), and an advisory board member of the International Risk Governance Council (IRGC), the Climate Economics Chair (CEC), the Society for Benefit-Cost Analysis (SBCA), the Harvard Center for Risk Analysis, and the NYU Institute for Policy Integrity. He was a chapter lead author of the Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report, WG III (2014). In 2008, he served as President of the Society for Risk Analysis (SRA) (the first lawyer or law professor to lead SRA); in 2003 he received SRA's Chauncey Starr Young Risk Analyst Award, in 2012 he co-chaired SRA's World Congress on Risk in Sydney Australia, and in 2014 he received SRA's Richard J. Burk Outstanding Service Award. His funding sources in the last two years include the National Science Foundation (NSF), RFF, ACUS, and Duke. Before working at Duke, he served at the White House Council of Economic Advisers (CEA), the Office of Science and Technology Policy (OSTP), and the US Department of Justice (DOJ); he helped negotiate the Framework Convention on Climate Change (FCCC), and he helped draft Executive Order 12866 on Regulatory Review. He was a law clerk for federal judges Stephen G. Breyer and Jack B. Weinstein. He received degrees in economics and law from Harvard University, where he was a research assistant at the National Bureau of Economic Research (NBER) and an editor of the Harvard Law Review.

Williams, Roberton

University of Maryland

Dr. Roberton C. Williams III is a Professor in the Department of Agricultural and Resource Economics at the University of Maryland, College Park, Chief Economist for the Climate Leadership Council, a University Fellow of Resources for the Future, and a Research Associate of the National Bureau of Economic Research. He holds a Ph.D. from Stanford University and an A.B. from Harvard College, both in Economics. Dr. Williams's research focuses primarily on the effects of environmental policy, covering broad theoretical questions such as how to measure the effects of policy on economic efficiency and how to design policy to accommodate uncertainty, as well as specific policy issues. His recent work has focused heavily on the effects of climate policy, looking specifically at effects on employment (and unemployment) and the distribution of gains and losses from policy across geography and income groups. His recent funding sources include the Climate Leadership Council, Resources for the Future's Carbon Pricing Initiative, the Environmental Protection Agency (EPA), the Hamilton Project, the US Department of Agriculture, and the National Bureau of Economic Research. Dr. Williams has served as a Co-Editor of the Journal of Public Economics

and the Journal of Environmental Economics and Management, and on a range of panels, including a National Academies study of the effects of the tax code on greenhouse gas emissions and an EPA Science Advisory Board (SAB) panel on economy-wide modeling of the costs and benefits of environmental policy.

Wilson, Gregory

G. M. Wilson Consulting, LLC

Dr. Gregory M. Wilson is an expert in photovoltaics, renewable and zero-carbon hydrogen, dense hydrogen carriers as well as decarbonization strategies for the power, industrial and transportation sectors in the U.S. and abroad. Dr. Wilson left the National Renewable Energy Laboratory (NREL) in 2018 where he was the Director of the National Center for Photovoltaics and started his own consulting practice focused on the technology and business opportunities associated with the rapid decarbonization of the global energy system. Dr. Wilson currently provides consulting services to a number of national and international clients that are primarily focused on the production of "green" hydrogen (from renewable energy powered electrolysis) and "blue" hydrogen (from conventional methane processes with carbon capture, utilization or sequestration) as well as hydrogen transport in the form of dense energy carriers such as ammonia. He continues to serve on advisory boards in the U.S. (Energy, Environmental and Chemical Engineering Department at Washington University) and in Australia (Australian Centre for Advanced Photovoltaics) and he maintains research collaborations with investigators at institutions in the U.S., Europe, and Australia. Dr. Wilson routinely supports several U.S. Department of Energy offices (Solar Energy Technology Office and Advanced Research Projects Agency – Energy [ARPA-e]) as an expert reviewer, and he maintains close ties with traditional energy and renewable energy experts in both industry and academia. Although Dr. Wilson no longer receives public or private research grants, his consulting work over the last 2 years has been funded by institutions including the Iowa Economic Development Authority, the Australian Renewable Energy Agency (ARENA), Australian Centre for Advanced Photovoltaics (ACAP) and both public and private companies located in the U.S. and Japan.

Wilson, Robyn S.

Ohio State University

Dr. Robyn Wilson is the Professor of Risk Analysis and Decision Science in the School of Environment and Natural Resources at The Ohio State University. She received her B.A. in Environmental Studies with Honors from Denison University, and her M.S. and Ph.D. degrees in Environment and Natural Resources from The Ohio State University. She hasauthored over 70 peer-reviewed journal articles, and several book chapters. Since beginning her academic career at Ohio State in 2007, her work has focused primarily on the interplay between intuitive and analytic information processing and the influence this has on risk perception and ultimately judgment or choice behavior. She is also interested in the development of risk communication and decision support tools to inform decision making and risk management. Her current research focus is on adaptation to climate-exacerbated hazards (e.g., wildfire, eutrophication), and what motivates and constrains different land use and land management decisions on private and public lands. Dr. Wilson is very active as a leader on campus and in her professional organizations as demonstrated by her service on several committees and advisory boards related to behavioral decision-making and environmental science. She serves on the Ohio State Sustainability Institute Faculty Advisory Board and the President and Provost's Council for Sustainability, both of which advise University administration on issues related to the environment and sustainability. She is currently serving as the President of the Society for Risk Analysis and is a member of the National Academies of Science, Engineering and Medicine (NASEM) Board on Environmental Change and Society. She is a former member of the EPA Chartered Science Advisory Board but was removed during the previous administration due to previous funding from the EPA. Dr. Wilson's research over the past several years has been supported by the National Science Foundation (Innovations in Food, Energy, Water Systems; Coupled Natural Human Systems; Decision, Risk and Management Science), the National Institute of Food and Agriculture (Resilient Agroecosystems in a Changing Climate; Water for Food), the U.S. Fish and Wildlife Service Joint Fire Sciences Program, The U.S. EPA Great Lakes Restoration Initiative, The Nature Conservancy, The Great Lakes Protection Fund, The Great Lakes Observing System, and The Fertilizer Institute (4R Research Fund).

Wilson, Sacoby

University of Maryland

Dr. Sacoby Miguel Wilson is a Research Assistant Professor at the University of South Carolina with appointments at the Institute for Families in Society, Department of Epidemiology and Biostatistics, and College of Social Work. Dr. Wilson is also a visiting professor with the Maryland Institute for Applied Environmental Health, School of Public Health, University of Maryland. He received his B.S. degree in Biology/Ecotoxicology from Alabama Agricultural and Mechanical University and both his M.S. and Ph.D. degrees in Environmental Health from the University of North Carolina at Chapel Hill. He received his postdoctoral training as a Robert Wood Johnson Health and Society Scholar at the University of Michigan Center for Social Epidemiology and Population Health. Dr. Wilson has over ten years of

experience performing environmental health research in the areas of environmental justice science, environmental health disparities, exposure assessment, Geographic Information Systems, air pollution monitoring, built environment, climate change, and community-based participatory research. He has several funded National Institute of Environmental Health Sciences (NIEHS) projects including a project to assess human exposure to environmental stressors in North Charleston, SC, in partnership with the Low Country Alliance for Model Communities. He is also working with the West End Revitalization Association in Mebane, NC to assess infrastructure disparities and exposure and health issues related to the lack of basic amenities. Dr. Wilson is Chair of the Environment Section of the American Public Health Association, a member of a National Academy of Sciences (NAS) committee on the Development of Exposure Science for the 21st Century, a member of the Board of Scientific Counselors for Center for Disease Control National Center for Environmental Health (CDC/NCEH), and is on the Board for Community Campus Partnerships for Health.

Woodley, James

JAPRI.Org

Mr. James Woodley originally began on a professional trajectory toward a neuroscience research career. His personal research addressed the physiology and morphology of acetylcholine receptors in the rat brain. Mr. Woodley received a B.S. in Zoology from University of North Carolina-Chapel Hill, and a Master of Science from Old Dominion University, in Norfolk, VA. He worked on a Ph. D. at University of North Carolina-Chapel Hill, Neurobiology Department. He worked a number of years in the U.S. Environmental Protection Agency (EPA) Office of Water addressing freshwater and marine water quality issues. After his retirement from EPA, he has worked with the Sierra Club on many issues associated with climate change. He co-led the Club's Climate Policy that received the 2020 National Special Achievement award. Currently, he is on the Board of Directors for the United States Climate Action Network (USCAN) and he is a former Board member of Dogwood Alliance. Mr. Woodley also established a non-profit organization named-Jail and Prison Rehabilitation Information (JAPRI) Community Outreach Program. JAPRI addresses environmental, health, and social justice issues within North Carolina and has received several small grants totaling $50,000.

Woodruff, Tracey

University of California, San Francisco

Dr. Tracey Woodruff is the Director of and Alison S. Carlson Endowed Professor for PRHE and is a Professor in the UCSF Department of Obstetrics, Gynecology and Reproductive Sciences and the Philip R. Lee Institute for Health Policy Studies. Dr. Woodruff has an MPH from the University of California, Berkeley and a Ph.D. in Bioengineering from a joint program between the University of California, Berkeley and San Francisco. She has extensive research expertise in measuring maternal and fetal chemical exposures and their relationship to adverse developmental health effects and has published novel findings on multiple chemical exposures in pregnant women across the US and pioneered methods for measuring and interpreting prenatal chemical exposures. She is a recognized expert on environmental pollution exposures and impacts on health, with a focus on pregnancy, infancy and childhood, and her innovations in translating and communicating scientific findings for clinical and policy audiences. She has over twenty-five years of experience in all aspects of environmental epidemiology and exposure analysis research, including exposure assessment, environmental epidemiology, in vitro and in silico methods, and risk assessment of environmental chemicals. Dr Woodruff has published over 160 peer-reviewed scientific articles. Her current funding is from the NIH, CalEPA and the JPB Foundation. She is the Director of a NIEHS Environmental Health Core Center grant, the Environmental Research and Translation for Health (EaRTH) Center at UCSF. Before joining UCSF, Dr. Woodruff was a senior scientist and policy advisor for the U.S. EPA's Office of Policy. She was appointed by the governor of California in 2012 and currently serving on the Science Advisory Board of the Developmental and Reproductive Toxicant (DART) Identification Committee. She is currently serving on the California Air Resources Board (CARB) Expanded Health Advisory Group.

Woods, Courtney G.

UNC

Dr. Courtney Woods is an assistant professor in the Department of Environmental Sciences and Engineering. Dr. Woods serves a lead for the Master of Public Health (MPH) program's Environmental Health Solutions concentration and co-lead for the Health Equity, Social Justice and Human Rights concentration, which she helped develop. She received B.S. and M.S. degrees in Chemical Engineering from University of Tennessee-Knoxville and Georgia Institute of Technology, respectively and a Ph.D. from University of North Carolina at Chapel Hill in Environmental Sciences and Engineering. Dr. Woods spent 4 years as a postdoctoral fellow and researcher scientist at the Hamner Institutes for Health Sciences conducting toxicology research. She joined the faculty at UNC- Chapel Hill in 2012. For over a decade, Dr. Woods has been involved in community-driven research aimed at enhancing the quality of life, health,

and self-determination of communities of color that live near environmental hazards. She has led and supported mixed methods research on a wide range of exposure and health risks, including landfills, industrial animal agriculture facilities, petrochemical refineries, asphalt plants and hurricanes. Dr. Woods currently leads the Environmental Justice Action Research Clinic, which offers research and technical assistance to residents facing urgent environmental health threats. She collaborates annually with local grassroots leaders on a course that teaches graduate students about environmental justice issues across NC, examines published EJ studies, and helps students develop the skills to be effective partners in community-engaged research. In 2021, Dr. Woods received the UNC Provost's Award for Engaged Research. In recent years, she was funded by Z. Smith Reynold Foundation, North Carolina Area Health Education Centers, Carolina Center for Public Service and Fulbright Association. Dr. Woods is also a founding member of the Earthseed Land Collective, a BIPOC-led organization that applies cooperative principles to land stewardship.

Wright, Rosalind

Icahn School of Medicine at Mount Sinai

Dr. Rosalind Wright is the Horace W. Goldsmith Professor in Children's Health Research in the Departments of Pediatrics and Environmental Medicine and Dean for Translational Biomedical Sciences at the Icahn School of Medicine at Mount Sinai in New York. She is a physician and internationally recognized life course epidemiologist with transdisciplinary training in perinatal environmental programming of chronic disease risk. Dr. Wright received a Bachelor's in Science degree in Human Genetics at the University of Michigan and received her medical degree from the University of Michigan Medical School. Dr. Wright completed an internship in Internal Medicine at the Beth Israel Hospital, Harvard Medical School, and a residency in Internal Medicine at Northwestern University. She then pursued fellowship training in Pulmonary and Critical Care Medicine at Harvard Medical School during which time she also obtained a Master of Public Health degree from the Harvard School of Public Health focused on environmental epidemiology. She was on the faculty at Harvard Medical School prior to being recruited to Mount Sinai. Dr. Wright has a primary interest in early life (prenatal and early childhood) predictors of outcomes including asthma, sleep and neurobehavioral development, obesity, birth outcomes, and mental health of mothers and children. These studies consider the role of social (e.g., psychosocial stress, racism/discrimination, trauma, other socioeconomic risk factors), nutritional, and physical (e.g., air pollution, chemicals, allergens) environmental factors in explaining health disparities based on co-occurring risks across individuals, socioeconomically and ethnically diverse groups and neighborhoods/communities. Her research explores underlying mechanisms through which chemical and non-chemical stressors program adverse health and development by incorporating biomarkers of physiological pathways (e.g., endocrine. immune, and autonomic nervous system disruptions, telomeres, mitochondriomics, epigenetics, extracellular vesicles) using an exposomics framework. This work has been supported by uninterrupted funding from the National Institutes of Health for more than 23 years.

Wu, Felicia

Michigan State University

Dr. Felicia Wu is the John A. Hannah Distinguished Professor of Food Safety, Toxicology, and Risk Assessment at Michigan State University (MSU). She earned her bachelor's and master's degrees in Applied Mathematics and Medical Sciences at Harvard University, and her Ph.D. in Engineering and Public Policy at Carnegie Mellon University. Dr. Wu's expertise spans computational modeling, risk analysis, cancer, maternal/child health, and economics. Her research focuses on estimating the national and global burden of environmental and foodborne disease; the influence of in utero chemical exposures on infant health; and the cost-effectiveness of strategies to improve food safety worldwide. She has published over 130 journal articles, book chapters, and professional reports: including in Science, Nature, and Proceedings of the National Academy of Sciences. For her research on how aflatoxin regulations affect global liver cancer risk, Dr. Wu was awarded a U.S. National Institutes of Health EUREKA Award. She was commissioned by the World Health Organization (WHO) to estimate global disease burdens caused by aflatoxin and arsenic, and co-authored the WHO 2015 report The Global Burden of Foodborne Disease. For over a decade, Dr. Wu has served as an expert advisor to the Joint Expert Committee on Food Additives (JECFA) of WHO and the Food and Agriculture Organization of the United Nations. She is an area editor for the journals Risk Analysis and World Mycotoxin Journal. Recently, she served on the U.S. National Academy of Sciences panel on the future of animal agriculture research. She was an invited reviewer for the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report on land use change and food security. In the last two years, Dr. Wu has received funding from the U.S. Department of Agriculture, Grand Challenges Canada, the International Life Sciences Institute, and the U.S. Agency for International Development. In 2020, Dr. Wu was honored with the MSU William J. Beal Outstanding Faculty Award, and was elected a Fellow of the Society for Risk Analysis.

Wu, JunJie

Oregon State University

Dr. JunJie Wu is the E. N. Castle Professor of Resource and Rural Economics at Oregon State University. He is currently a member of the editorial council of the Journal of Environmental Economics and Management and an associate editor of American Journal of Agricultural Economics. He received his Ph.D. from the University of Connecticut in 1992. Dr. Wu's research areas include optimal design of environmental and conservation policy, interactions between agricultural production and water quality, land use economics and policy, and rural-urban interface. He has studied a variety of policy issues related to agricultural production, resource conservation, and environmental management at the national, state, and local levels. His recent projects include optimal allocation of conservation funds in the presence of threshold effects and ecosystem linkages; optimal design of conservation payments under asymmetric information; the slippage effect of conservation programs; environmental and distributional impacts of alternative conservation targeting strategies; mandatory versus voluntary environmental regulations; the impacts of farm policies on agricultural production and water quality; relative efficiency of alternative policy instruments to reduce nonpoint-source water pollution; dynamic interactions between urban development, land use regulations, and municipal structure; and natural resource endowments and economic development in rural America. Dr. Wu has received several awards for quality research, including the 2002 American Agricultural Economics Association Quality of Research Discovery Award and the 2004 Western Agricultural Economics Association Outstanding Published Research Award.

Yoder, R. Craig

Independent Consultant

Dr. R. Craig Yoder is currently an independent consultant specializing in ionizing radiation dosimetry having retired in 2015 from his position as Senior Vice President, Technology, and Innovation at Landauer Inc., a dosimetry services company. He received a B.S. degree in Pre-Medicine from Davidson College, and M.S and Ph.D. degrees in Bionucleonics from Purdue University. Dr. Yoder is an internationally recognized expert in radiation dosimetry, radiological calibrations, and uncertainties in dosimetry measurements as they pertain to external sources of radiation. His scientific career has focused on the development of radiation measurement technologies used by tens of thousands of institutions to monitor more than 1.7 million workers. This experience provided him an expansive perspective on radiation exposures received by radiation workers. His most recent focus has been to support various epidemiology studies including the Million Person Study of Radiation Workers and Veterans coordinated by the National Council on Radiation Protection and Measurements (NCRP). Dr. Yoder's past research was fully supported by Landauer and he has not received outside funding from government sources during the past three years. He began his research career at the Pacific Northwest National Laboratory and was a corporate health physicist for the Pennsylvania Power and Light Company supporting the construction and early operation of the Susquehanna Steam Electric Station, a nuclear-powered electric generating plant. Dr. Yoder is a council member of the NCRP and recently co-chaired Scientific Committee 6-11 regarding the derivation of organ doses for medical radiation workers. He is a member of the Health Physics Society and American Association of Physicists in Medicine. Dr. Yoder has been certified in Comprehensive Health Physics since 1982 by the American Academy of Heath Physics.

Young, S. Stanley

CGStat

Dr. S. Stanley Young is currently the Chief Executive Officer (CEO) of CGStat and previously worked at Eli Lilly, GlaxoSmithKline, and the National Institute of Statistical Sciences. His current interest is studying methods used in the evaluation of observational studies. Dr. Young graduated from North Carolina State University, where he received a B.S., M.E.S. and a Ph.D. in Statistics and Genetics. He worked in the pharmaceutical industry on all phases of pre-clinical research. He has authored or co-authored over 70 papers including six "best paper" awards, and a highly cited book, Resampling-Based Multiple Testing. Dr. Young is a Fellow of the American Statistical Association and the American Association for the Advancement of Science. He is an adjunct professor of statistics at North Carolina State University, the University of Waterloo, and the University of British Columbia where he has co-directed thesis work. He is also an adjunct professor of biostatistics in the Jiann-Ping Hsu College of Public Health at Georgia Southern University. Dr. Young previously served on the Science Advisory Board of the U.S. Environmental Protection Agency. His funding sources include a grant from the National Association of Scholars.

Zhou, XIin-Gen (Shane)

Texas A&M AgriLife Research Center

Dr. Xin-Gen (Shane) Zhou is Associate Professor of Plant Pathology at Texas A&M AgriLife Research and in the Department of Plant Pathology and Microbiology at Texas A&M University. He has a Bachelor's degree in Plant Protection and a Masters' degree in Plant Pathology from Zhejiang Agricultural University (currently Zhejiang University), and a PhD degree in Plant Pathology from Oklahoma State University. Dr. Zhou's expertise and focus research areas are in biology, epidemiology, and integrated management of economically important diseases of rice, including organic rice, and other crops. He evaluates, develops, and utilizes effective fungicides and bactericides, improved genetic host resistance, innovative biological control methods, and effective cultural practices for disease management. He has been principal or co-principal investigator for over 40 externally sponsored research projects totaling over $7.2 million. His funding sources in the last two years include USDA NIFA OREI, United Soybean Board, Mid-South Soybean Promotion Board, and Texas Rice Research Foundation. Dr. Zhou supports underrepresented student education by providing graduate student mentoring and guest lectures. He has produced a cumulative total of 650 publications over career, including 64 peer-reviewed journal articles and six book chapters. He has given 273 oral presentations, including 79 invited talks at national and international meetings. Dr. Zhou is a senior editor of four top scientific journals, including Plant Disease. He has been invited to serve as a grant review panelist for six national and international competitive grants. He serves on USDA ARS National Rice Plant Germplasm Committee with the task of providing disease-related advisories on the use of the US rice germplasm. Dr. Zhou co-chairs the Integrated Disease Management Committee of American Phytopathological Society.

Zhu, Chen

Indiana University

Dr. Chen Zhu is a Professor of Earth and Atmospheric Sciences (College of Arts and Sciences), and an Adjunct Professor of Environmental Sciences (School of Public and Environmental Affairs) and Environmental Health (School of Public Health) at Indiana University. He holds a Ph.D. from The Johns Hopkins University, an MSc from the University of Toronto, a BS from the Chengdu University of Technology, and a postdoctoral fellowship at the Woods Hole Oceanographic Institution. Dr. Zhu's expertise is geochemical modeling of reactions of water with minerals, soils, sediments, and rocks. These reactions are closely related to water quality and safe storage of carbon dioxide in geological formation and CO2 mineralization. Dr. Zhu's book "Environmental Applications of Geochemical Modeling" was published by Cambridge University Press in 2002 and has been used in many countries as a textbook. In the last two years, his research has been funded by grants from the National Science Foundation, American Chemical Society/Petroleum Research Fund, and Indiana University. He has served on numerous committees and review panels for the National Science Foundation, NASA, Department of Energy, SAB, the National Ground Water Association, and the Marie Curie Research Training Network in the European Union, and as an Associate Editor for Geochimica et Cosmochimica Acta—the flagship journal in the field of geochemistry. He gave an invited public presentation before Advisory Committee on Nuclear Waste at U.S. Nuclear Regulatory Commission, and 118 invited colloquia at universities around the world. He also consulted for the US Nuclear Regulatory Commission and US EPA. Dr. Zhu has received numerous recognitions, including a Fulbright Scholarship in Norway in 2008-09, the 2006 recipient of the John Hem Award from the National Ground Water Association in recognition of his significant contributions in modeling the chemical evolution of water, and a senior associate award from the National Research Council. He was elected a Fellow of the Geological Society of America in 2005, the Mineralogical Society of America in 2016, and the American Association for the Advancement of Science in 2017. Dr. Zhu is the Henry Darcy Distinguished Lecturer in 1/2021-6/2022, sponsored by the Groundwater Foundation.