

Scientific Uncertainty and Professional Ethics in Science, Law, and Journalism

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Participant Biographies

Vicki Arroyo is Executive Director of the Georgetown Climate Center at Georgetown Law, where she also serves as the Assistant Dean of Centers and Institutes and is a Professor from Practice. She oversees the Center's work at the nexus of climate and energy policy, supervising staff and student work on climate mitigation and adaptation at the state and federal level. She previously served at the Pew Center on Global Climate Change, most recently as the Pew Center's Vice President for Domestic Policy and General Counsel. In addition to teaching at Georgetown Law, she has taught courses on environmental policy and climate change at Catholic University, George Mason University's graduate public policy program, and Tulane Law School. Previously, she practiced environmental law with Kilpatrick Stockton and other private firms and served in two offices at U.S. EPA. She holds a B.S. in biology, high honors, from Emory (double major in philosophy), a Masters of Public Administration from Harvard, and a J.D., *magna cum laude*, from Georgetown Law.

Jay Austin is a Senior Attorney at the Environmental Law Institute and Editor-in-Chief of the *Environmental Law Reporter*. He directs the Institute's Program on the Constitution, Courts, and Legislation, an initiative focusing on the intersection of U.S. constitutional and environmental law and recent trends in the federal courts. In the latter role, he produces scholarly research and commentary on environmental litigation, including climate litigation; key areas of constitutional law, including the Commerce Clause, Fifth Amendment takings, and Article III standing; and on proposals to amend major federal laws like the National Environmental Policy Act and Endangered Species Act. He also helps direct ELI's Ocean Program, and has extensive experience with the Institute's international programs. Based in Portland, Oregon, he maintains specialties in water pollution law, coastal and ocean law, constitutional law, environmental impact assessment, and procedures for public participation in environmental decision-making. He holds a B.A. in political philosophy from James Madison College at Michigan State University, and a J.D. from the University of Virginia School of Law.

Mona Behl is Associate Director and Public Service Faculty at Georgia Sea Grant at the University of Georgia. She is a multicultural and interdisciplinary scientist with over a decade of experience in various aspects of science including research, education, communication, outreach, policy, and administration. Her research interests include air-sea interaction, large-scale ocean circulation, climate change adaptation, science policy, communication, and ethics. Before joining Georgia Sea Grant, she served as Research Coordinator and Climate Science Specialist at Texas Sea Grant. Previously, she was a visiting fellow with the American Meteorological Society Policy Program in Washington, D.C. and an adjunct professor at American Public University. Behl secured her Ph.D. in Physical Oceanography from Florida State University, and her bachelor and master degrees in Physics (Honors) from the Center of Advanced Studies in Physics at Panjab University in India.

Brian Bienkowski serves as editor of *Environmental Health News* and its sister site, *The Daily Climate*, where he writes stories about the intersection of the environment and human and wildlife health. He covers environmental justice, endocrine disruption, climate change, and water quality. He was part of the reporting team that won an Oakes Award honorable mention for EHN's 2012 series, *Pollution, Poverty, People of Color*. He also won 2013 and 2014 awards for Outstanding Beat Reporting from the Society of Environmental Journalists for his coverage of the Great Lakes region at EHN. His work has been published in numerous publications, including *Scientific American*, the *San Francisco Chronicle*, *Wired* and *InsideClimate News*. Bienkowski holds a master's degree in environmental journalism and a bachelor's degree in marketing from Michigan State University.

John Carey is an award-winning freelance writer and editor with three decades of experience covering science, medicine, and the environment. He writes for several publications, such as *National Wildlife*, *Yahoo News*, *Conservation*, *Yale Environment 360*, and *Scientific American*, for organizations such as the Natural Resources Defense Council (NRDC), and government agencies. Previously, he served as a senior correspondent for *Business Week* and as associate managing editor at *The Scientist*. Carey has won numerous awards and fellowships and was a National Magazine Award finalist. He earned an M.F.S. from Yale School of Forestry and Environmental Studies, a M.Sc in marine biology at the University College of North Wales, and a B.S., *magna cum laude*, from Yale University.

Leslie Carothers is a Visiting Scholar at the Environmental Law Institute. She began her career at the U.S. EPA in Washington and Boston, where she played major roles in formulating and defending EPA's lead in gasoline regulations and in administering and enforcing agency programs and rules in the New England Region. She was Commissioner of Environment for Connecticut from 1987 – 1991, focusing on Long Island Sound cleanup, implementing mandatory recycling, and upgrading enforcement programs. In the business sector, she was Vice President of Environment, Health and Safety (EHS) at United Technologies Corporation from 1991-2002 where she was responsible for setting corporate wide goals and technical standards and implementing common EHS management systems for six operating companies and over 200 factories worldwide. As President of the Environmental Law Institute from 2003-2011, she increased attention to emerging issues such as water supply, oceans governance, and nanotechnology risks and participated in the design and presentation of numerous ELI workshops and education programs. She is a graduate of Smith College (B.A. *summa cum laude*), Harvard Law School, (LLB) and George Washington University Law School (LLM with highest honors) and serves on the Board of Directors of the Center for Climate and Energy Solutions.

Elisabeth Cohen is the science communications manager at the National Oceanic and Atmospheric Administration (NOAA) in Boulder, Colorado. Prior to her work at NOAA, Cohen worked at COMET at the University Corporation of Atmospheric Research as a visiting scientist and as an associate scientist. From 2012-2014, she worked for the National Park Service's Climate Change Response Program as their education and training specialist. She completed a master's degree in public affairs with a focus on climate and environmental policy at Princeton University. Between her first and second year of her master's degree, Lis worked as part of the climate adaptation team for the White House Council on Environmental Quality. Before her enrollment in Princeton, she taught courses at the University of Utah and worked in the Utah Governor's Office on energy and climate change policy. She has a master's degree in meteorology from the University of Utah where her research focus was clouds' effects on climate. At the Museum of Science in Boston, the Franklin Institute Science Museum, the Blue Hill Weather Observatory, and in Yellowstone National Park, Lis worked as a science educator, presenter, and exhibit planner. Lis was also a reporter for Climate Central and was a columnist for the monthly

Satellite Educator's Newsletter. Lis' bachelor's degree was earned at Cornell University where she double majored in Atmospheric Science and the Science of Earth Systems with a Climate Dynamics concentration. While at Cornell, Lis worked on the Mars Exploration Rovers and taught about the mission. Learn more at weatheroutreach.org.

Margaret Davidson has been an active participant in coastal resource management issues since 1978, when she earned her J.D. from Louisiana State University. She later earned a master's degree in marine policy and resource economics from the University of Rhode Island. Davidson served as special counsel and assistant attorney general for the Louisiana Department of Justice and later as the executive director of the South Carolina Sea Grant Consortium. She joined NOAA as the founding director of the NOAA Coastal Services Center in 1995. Davidson also served as the acting assistant administrator for NOAA's National Ocean Service from 2000 to 2002. She holds a faculty appointment at the University of Charleston. Davidson has served on numerous local, state, and federal committees and provided leadership for national professional societies. She has focused her professional work on environmentally sustainable coastal development practices and the reduction of risk associated with extreme events and climate. From April 2012 to May 2014, Davidson served as acting director of the Office of Ocean and Coastal Resource Management (OCRM), and played a leading role as OCRM and the Coastal Services Center joined forces as a single organization to bring more effective products and services to constituents and coastal communities. As the reorganization received official approval, Ms. Davidson took on the challenge of establishing a newly created position as the NOAA Senior Leader for Coastal Inundation and Resilience. Among her recent professional awards: Fulbright Fellowship, American Meteorological Society Fellow, Gilbert White Fellow, and Zurich Fellow for Climate Adaptation.

Holly Doremus is the James H. House and Hiram H. Hurd Professor of Environmental Regulation at the University of California, Berkeley; Associate Dean for Faculty Development and Research; and Co-Faculty Director of the Center for Law, Energy, and the Environment. She serves on the Board of Directors of Defenders of Wildlife and on California's Ocean Protection Council Science Advisory Team. Her writing has largely concentrated on the protection of nature, biodiversity, and endangered species; conflicts between biodiversity protection and water use in the arid west; the role of science in environmental law; management of public lands and public resources; and the relationship between private property rights and environmental regulation. She takes every opportunity to cross disciplinary lines in her teaching; she has taught or been a guest presenter at the Bren School of Environmental Management at UC Santa Barbara, in the Graduate Group in Ecology at UC Davis, and in the Department of Environmental Science, Policy, and Management and the Energy and Resources Group at UC Berkeley. She holds a Ph.D. in plant physiology from Cornell University (where she was a National Science Foundation graduate fellow), and a J.D. from the University of California, Berkeley.

Chad English is a Science Program Officer at The David and Lucile Packard Foundation. He has spent the last decade working at the intersection of science, policy, and communications. He focuses on ecological and ecosystem-scale issues, including fisheries management, coastal and ocean resource use, fresh water systems, and large-scale ecosystem management. Previously, he served as Director of Science Policy Outreach at COMPASS for eight years. Chad directed COMPASS' work to build constructive dialogue between scientists and decision-makers, innovating new approaches to bring scientists and policymakers together in collaborations that drove new thinking and effective approaches to natural resource policy. He also served a John A. Knauss Marine Policy Fellowship in the Senate Committee on Commerce, Science and Transportation. English received a Ph.D. in Oceanography from

Scripps Institution of Oceanography and a B.S. degree in Physics from the University of California at Santa Cruz.

Gina Eosco is a Senior Social Scientist at Eastern Research Group, with experience in conducting stakeholder engagement activities, employing social science research, and translating science into policy documents. With ERG, she has worked with scientific agencies such as the National Hurricane Center and National Weather Service on evaluating visual designs, new warnings, and most notably, the hazard simplification project. Prior to ERG, she worked for the American Meteorological Society's Policy Program. After earning a B.S. in Environmental Science and Policy at the University of Maryland College Park, she earned a M.S. and a Ph.D. in Communication from Cornell University, focusing on perceptions of risk and uncertainty to different weather graphics during tornado media coverage.

Scott Fulton is the President of the Environmental Law Institute. Previously, he served as Principal at the Washington, DC law firm of Beveridge & Diamond where he worked on a variety of matters, including regulatory development and litigation, policy development, sustainability counseling, and evolving approaches to environmental protection. He also serves on a high-level advisory council to the United Nations Environment Program. He served as General Counsel of the U.S. EPA, where he represented the U.S. government at international meetings and negotiations. Fulton was recognized with the two highest awards given by the U.S. government for outstanding leadership—the Presidential Meritorious Executive Service Award and the Presidential Distinguished Executive Service Award—and has been inducted into the American College of Environmental Lawyers. He holds a B.A. in Business Management from the University of Massachusetts and a J.D. from the University of South Carolina School of Law.

Nancy Gaarder is a reporter at *The Omaha World-Herald*. A print reporter her entire career, she began at her hometown paper, *The St. Joseph, Missouri News-Press & Gazette*, as a high school copy clerk in the 1970s. She worked her way up to become the first female City Editor, News Editor and, eventually, Interim Executive Editor. In 1995, Gaarder was recruited by *The Omaha World-Herald* to join their City Desk. In 2001, Gaarder became a reporter, covering energy, the environment and weather. Today, she covers weather and social services for *The World-Herald*. Gaarder has been a member of the Society of Environmental Journalists since 2003 and was elected to the board in 2015. She is a past president of the Northwest Missouri Press Association. A graduate of the University of Missouri School of Journalism, Gaarder also served as a Peace Corps volunteer in Cameroon.

Keith Gibson is the Director of Design Consulting at Allen Communication Learning Services. There, he has several responsibilities, such as managing the team of Senior Design Consultants, directing client consultation procedures, coordinating with AllenComm development teams, and writing AllenComm blog posts on L&D issues such as consumer education and quantitative training metrics. Prior to this position, he was an adjunct faculty member at the William Mitchell College of Law, where he provided communication training, and Senior Design Consultant at Allen Communication Learning Services. Gibson also has served as an Assistant Professor at Utah State University and at Auburn University, where he taught courses on usability theory, technical communication, and document design. He earned a B.S. in Physics and Astronomy at Brigham Young University, M.A. in Rhetoric and Composition at University of Missouri-Columbia, and a Ph.D. in Technical and Scientific Communication from Penn State.

Susan Goldberg is Editor-in-Chief at *National Geographic Magazine* and Editorial Director at *National Geographic Partners*. Under her leadership, in 2015, *National Geographic* won two National Magazine Awards and the George Polk Award for Magazine Reporting. She also received the Exceptional Woman in Publishing Award from Exceptional Women in Publishing (EWIP). Goldberg previously served as Executive Editor for Federal, State and Local Government Coverage for *Bloomberg News* in Washington. She is active in professional journalism organizations, and in 2012-13 was president of the American Society of News Editors. She is on the boards of The Reporters Committee for Freedom of the Press and the College of Communication Arts and Sciences at MSU, and of the National Museum for Women in the Arts in Washington. She has worked at *USA Today*, the *San Jose Mercury News*, and *The Plain Dealer*. She earned a bachelor's degree in journalism from Michigan State University, where she now sponsors the Susan Goldberg Scholarship at the university's College of Communication Arts and Sciences.

Erica Goldman is the Director of Policy Engagement at COMPASS. She oversees COMPASS' presence in Washington D.C., coaches and trains scientists in their efforts to connect with policy audiences, and leads COMPASS' work to connect scientists to the policy discourse around oceans, ecosystem services, fire, and water. Previously, she served as a policy advisor at the White House Council on Environmental Quality, worked as a science writer for Maryland Sea Grant, served as a Knauss Fellow in the House Resources Committee, and worked as a news intern at Science Magazine. She earned a B.S. in Biology from Yale University and a Ph.D. in Zoology and Animal Biology from the University of Washington.

George Gray is a Professor at the George Washington University Milken Institute School of Public Health. In both academic and policymaking settings, Professor Gray has long been committed to the effective use of science to inform public health choices, and emphasizes the importance of communicating those choices effectively to citizens, journalists, and lawmakers. Prior to joining the Milken Institute SPH in 2010, Professor Gray served as assistant administrator for the EPA's Office of Research and Development and as the agency science advisor, promoting scientific excellence in EPA research, advocating for the continuing evolution of the agency's approach to analysis, and encouraging programs that provide academic research to support EPA's mission. From 2001 to 2005, Professor Gray was executive director of the Harvard Center for Risk Analysis, and a member of the faculty at the Harvard School of Public Health. Gray received his B.S. in Biology from the University of Michigan, and his M.S. (Toxicology) and Ph.D. from the University of Rochester School of Medicine and Dentistry.

Daniel Grossman is an award-winning print journalist and radio and web producer with 20 years of experience. He has reported from all seven continents, including from within 800 miles of both the south and north poles. He has produced radio stories and documentaries on science and the environment for National Public Radio, Public Radio International, the Australian Broadcasting Corporation, the BBC, the Canadian Broadcasting Corporation and many others. He is a 2008 Alicia Patterson Foundation Fellow and was awarded a Ted Scripps Fellowship in Environmental Journalism at the University of Colorado in Boulder. Dan has written for *The New York Times*, *The Boston Globe*, *Discover*, *Audubon* and *Scientific American*, among other national publications. He is coauthor of *A Scientist's Guide to Talking with the Media: Practical Advice from the Union of Concerned Scientists* (Rutgers University Press: 2006). He holds a B.S. in Physics and a Ph.D. in Political Science from MIT.

Paul Higgins is the Director of the American Meteorological Society's Policy Program. He works to increase the societal benefits from information and services relating to weather, water, and climate. His research examines climate change and its causes, consequences, and potential solutions. Higgins works with decision-makers to develop new policy options that can overcome contentious political obstacles, and informs policy makers, members of the media, and the general public about climate science and climate policy. In 2011, he was named a Google Science Communication Fellow. From 2005-2006 he was a Congressional Science Fellow of the American Association for the Advancement of Science (AAAS). During his fellowship year, Paul worked on climate policy in the United States Senate. From 2003-2005 he was a National Science Foundation postdoctoral fellow at the University of California. He received Ph.D. and M.S. degrees from Stanford University and a B.S. from the University of Michigan. He is a former fellow of the Department of Energy's Global Change Education Program.

Jim Hilbert is an Associate Professor at the Mitchell Hamline School of Law and Senior Fellow at the Dispute Resolution Institute. He is also the Co-Director of the Expert Witness Training Academy. He is an experienced civil rights attorney, negotiator, public speaker and instructor, combining all four disciplines in his approach to using principled negotiation as a tool for solving client problems and promoting social justice. Hilbert has served as a consultant and advisor to community organizations, civil rights groups, government agencies, and Fortune 500 companies throughout the world. He is a former Legal Fellow at the Institute on Race and Poverty at the University of Minnesota. Hilbert has been co-director of the LL.M. Program at William Mitchell. He holds a B.A. in Sociology and Anthropology from Carleton College and a J.D. from the University of Minnesota Law School.

Cheryl Hogue is Assistant Managing Editor for policy at *Chemical & Engineering News*. Her areas of expertise include U.S. EPA regulation of commercial chemicals and pollution, international climate change policy, global environmental treaties, and federal regulatory policies. Her reporting was awarded first place for beat reporting (small market) by the Society of Environmental Journalists in 2014. Hogue served on the SEJ board from 2004 to 2010 and is a member of the National Association of Science Writers. She was named a Carnegie Mellon University Steinbrenner Institute media fellow in 2008, an environmental media fellow at the Vermont Law School in 2005, and a science writing fellow at Woods Hole Marine Biological Laboratory in 1999. She worked a dozen years covering environmental policy for what is now Bloomberg-BNA. Hogue received an M.S. in Environmental Sciences and Policy from Johns Hopkins University and a B.S. in Biology from the College of William and Mary.

Paul Huttner has served as chief meteorologist for Minnesota Public Radio since 2007. Huttner has worked as a broadcast meteorologist for 25 years at TV and radio stations including WCCO-TV in Minneapolis, WGN-TV in Chicago, and KGUN-TV in Tucson. Paul covered the great Halloween Mega-Storm of 1991 in the Twin Cities and the deadly Chicago heat wave of 1995. Paul is a member of the American Meteorological Society (AMS) and has been awarded the AMS Television Seal of Approval. In 2008 Huttner earned AMS's Certified Broadcast Meteorologist (CBM) designation, the highest AMS professional certification for weather broadcasters. Huttner presented on The Great Duluth Flood of June 19-20, 2012 at the 2013 AMS Annual Conference. In early 2013, Huttner launched MPR's Climate Cast, a regular weekly radio segment featuring reporting and analysis on evolving climate science. Huttner was featured as a "Scientist in Focus" in the Guardian in August 2014. Paul is a graduate of Macalester College in St. Paul and holds a B.A. in Geography with an emphasis in meteorology.

Gregory Jaffe is the Director of the Project on Biotechnology for CSPI. Jaffe came to CSPI after serving as a trial attorney for the U.S. Department of Justice's Environmental and Natural Resources Division

and as Senior Counsel with the U.S. EPA, Air Enforcement Division. He is a recognized international expert on agricultural biotechnology and biosafety and has published numerous articles and reports on those topics. He has worked on biosafety regulatory issues in the U.S. and throughout the world, including the African countries of Kenya, Uganda, Tanzania, Mali, Ghana, Malawi, South Africa, Burkina Faso, and Nigeria. He was a member of the Secretary of Agriculture's Advisory Committee on Agricultural Biotechnology and 21st Century Agriculture from 2003-2008 and was reappointed to a new term in 2011. He was also a member of FDA's Veterinary Medicine Advisory Committee from 2004-2008. In addition, he has provided his biosafety expertise for projects involving the International Food Policy Research Institute, the World Bank, and the UNEP-GEF Biosafety Project. Jaffe earned his B.A. with High Honors from Wesleyan University in Biology and Government and received a J.D. from Harvard Law School.

Samantha Joye is the Georgia Athletic Association Distinguished Professor of Arts and Sciences in the Department of Marine Sciences in the University of Georgia's Franklin College of Arts and Sciences. She is an expert in biogeochemistry and microbial ecology and works in open ocean and coastal ecosystems. She has been studying natural seepage of oil and gas in the Gulf of Mexico for over twenty years. She was one of the first scientists on scene to respond to the Deepwater Horizon oil well blowout in the Gulf of Mexico (in 2010) and currently directs the "Ecosystem Impacts of Oil and Gas Inputs to the Gulf" consortium, which continues to track the long term impacts of and recovery from the DWH incident. She joined the faculty of the University of Georgia after serving briefly as a research associate at San Francisco State University and an assistant professor of oceanography at Texas A&M. She was awarded a fellowship at the Hanse Institute for Advanced Study in Delmenhorst, Germany, where she served as a visiting professor at the Max Planck Institute for Marine Microbiology in Bremen. She earned her Ph.D. in Marine Sciences from the University of North Carolina-Chapel Hill.

Dan Kahan is the Elizabeth K. Dollard Professor of Law & Professor of Psychology at Yale Law School. His primary research interests are risk perception, science communication, and the application of decision science to law and policymaking. In studies funded by the National Science Foundation, his research has investigated public disagreement over climate change, public reactions to emerging technologies, and conflicting public impressions of scientific consensus. Prior to coming to Yale, he was on the faculty of the University of Chicago Law School. He served as a law clerk to Justice Thurgood Marshall, of the U.S. Supreme Court, and to Judge Harry Edwards of the United States Court of Appeals for the D.C. Circuit. After earning a B.A., *magna cum laude*, at Middlebury College he earned a J.D., *magna cum laude*, from Harvard Law School.

Michael Kavanaugh, Ph.D., P.E., BCEE, WEF Fellow, is a principal environmental engineer based in California with more than 35 years of consulting experience in the areas of water quality, water treatment, and groundwater remediation. He currently serves as a consultant with Geosyntec. He has served a highly diverse group of private and public sector clients directly, through industry associations, and through attorneys. Dr. Kavanaugh has contributed to over 80 technical publications and more than 150 presentations to audiences that included congressional and state committees. Currently, he is an instructor for the Princeton Groundwater Course and a consulting professor in the Stanford University Civil and Environmental Engineering Department. He also serves on the Board of Directors for the Environmental Law Institute and as the chair of the National Research Council's Committee on Future Options for the Nation's Subsurface Remediation Efforts. Dr. Kavanaugh received his B.S. in Chemical Engineering, *cum laude*, from Stanford University. He received an M.S. in Chemical Engineering and a Ph.D. in Civil/Sanitary Engineering from the University of California, Berkeley.

Lawrence Liebesman is a Senior Advisor with Dawson & Associates with more than 35 years of experience, including 11 years at the U.S. Justice Department. He has handled cases under a range of federal environmental statutes, including NEPA, the CWA, CERCLA, the CAA and the ESA. He also served on detail to the General Counsel's staff at the Council on Environmental Quality (CEQ) during the Carter Administration working on CEQ's NEPA regulations. He specializes in federal Clean Water and Endangered Species Acts and the National Environmental Policy Act (NEPA). He has testified before Congress on proposed legislation to reform the ESA and is co-author of the *Endangered Species Act Desk Book: A Guide to Endangered Species Law* (2nd ed., 2010). Liebesman is an adjunct professor at George Washington University Law School, where he teaches a course on wildlife and ecosystem law.

Tom Lininger is the Orlando John and Marian H. Hollis Professor at the University of Oregon School of Law. Lininger's latest research focuses on the intersection of environmental law, ethics and criminal procedure. He has worked as a federal prosecutor, as counsel to a subcommittee in the U.S. Senate, and as a litigation attorney with the law firm Skadden, Arps, Slate, Meagher and Flom in San Francisco. Lininger is interested in customizing ethical and procedural rules for the unique context of environmental advocacy. He has served on the state board of directors for the Oregon Natural Resources Council and is the ethics advisor for the Sustainable Future Section of the Oregon Bar. In 2006, he received the Ersted Award for Distinguished Teaching. In 2008, he received the Lokey Award for Faculty Excellence and, in 2010, he won the Hollis Teaching Award. He earned his undergraduate degree at Yale and his J.D. at Harvard.

Paul Locke is an Associate Professor at the Department of Environmental Health Sciences of the Johns Hopkins Bloomberg School of Public Health. He is an environmental health scientist and attorney. His research and practice target the intersection of environmental health sciences, policy and law in the areas of radiation policy and law and toxicity testing. His areas of study include alternatives to animals in biomedical testing and toxicology, radon risk science and policy, radiation risk analysis, high-level radioactive waste disposal and the application of low dose radiobiology to policy making and. He is the author and co-author of several book chapters and numerous papers, and has published in policy and scientific journals as well as law reviews. He holds an MPH from Yale University School of Medicine and a DrPH from the Johns Hopkins University Bloomberg School of Public Health. He is also a graduate of Vanderbilt University School of Law and is licensed to practice before the bars of the states of New York, the District of Columbia, the United States District Court for the Southern District of New York and the United States Supreme Court.

Martha Marrapese is Partner at Keller and Heckman LLP. She focuses on emerging technologies in the industrial chemicals, alternative energy, antimicrobial pesticides, plastic recycling and food sectors. She has an expertise in the Toxic Substances Control Act (TSCA) and its counterparts in Canada, the European Union, and China. She provides legal counsel related to EPA, FDA, and associated regulatory needs for bio-based products and their production platforms including yeast, algae, bacteria and plants. She is the immediate past Chair of the Pesticide, Chemical Regulation and Right-to-Know Committee of the American Bar Association Section on Energy, Environment and Resources. Prior to joining Keller and Heckman, she was on staff with the EPA's Solid Waste office and worked as a legislative aide for environmental matters on Capitol Hill. She holds a B.S. from the University of Vermont and a J.D. from the Columbus School of Law of the Catholic University of America.

Scott McCreary is the Managing Principal at CONCUR, serving as senior facilitator and mediator specializing in multiparty deliberations involving marine resources, land use, species protection and other complex natural resources. His professional work focuses on finding effective ways to bring research and analysis into the environmental decision making process. He has dual experience in science and policy and in the full range of facilitation and mediation processes for collaborative resource planning and management. Building on 32 years of work as an environmental planner and 25 years of experience as a facilitator and mediator, he has facilitated deliberations among diverse agencies, businesses, community groups, and conservation organizations. He holds a B.A. in Biology and Environmental Planning from the UC Santa Cruz, a Masters of Environmental Planning from UC Berkeley, and a Ph.D. in Environmental Policy from MIT.

Sunshine Menezes is executive director of Metcalf Institute for Marine & Environmental Reporting at the University of Rhode Island Graduate School of Oceanography (URI GSO) and associate director for communication in the URI GSO Office of Marine Programs. Menezes is also co-lead of the Engagement Team for the Deep Carbon Observatory, a global research program to transform our understanding of carbon's forms, origins, quantities, and movements in Earth's interior. She currently serves on the selection committee for the American Geophysical Union's Walter Sullivan Award for Excellence in Science Journalism and is a member of a National Socio-Environmental Synthesis Center working group to create a pedagogical framework for integrating natural and social sciences in graduate education. Prior to focusing her communication efforts on improving news coverage of the environment at Metcalf Institute, she developed national and state-level environmental policy, first as a Dean John Knauss National Sea Grant Marine Policy Fellow with Congressman Frank Pallone, Jr. and later as part of a multidisciplinary team at the URI Coastal Resources Center and Rhode Island Sea Grant. Menezes received a B.S. in Zoology from Michigan State University, a Ph.D. in Biological Oceanography from the URI Graduate School of Oceanography, and was a Rhode Island Foundation Fellow from 2013-2014.

Kathryn Mengerink, Senior Attorney at the Environmental Law Institute, brings her marine biology and legal expertise to bear on Ocean Program projects. She has led the Program since founding it in 2006. Under her leadership, the Program has launched law and policy projects related to regional ocean management, fisheries management and enforcement, aquaculture, ocean and coastal restoration, offshore energy development, marine protection, and more. She has led a number of projects, including evaluating the legal ramifications of, opportunities for, and obstacles to coastal and marine spatial planning; assessing state and local authority for marine protection; supporting the role of subsistence communities in ocean management in the U.S. Arctic; and examining the legal framework for deep ocean stewardship, among others. In addition to her role at ELI, she is a Lecturer and Academic Coordinator at Scripps Institution of Oceanography, where she teaches ocean law and policy, deep sea policy, and runs a 9-week graduate summer course on marine biodiversity, conservation and global change. Dr. Mengerink holds a B.S. in Zoology (Texas A&M University), Ph.D. in Marine Biology from SIO (UC San Diego) and a J.D. with a certificate of specialization in environmental law from Boalt Hall, School of Law (UC Berkeley).

Bruce Myers is a public interest lawyer at Animals | Environment PLLC. Until recently, he served as a senior attorney at the Environmental Law Institute, where he worked on the Institute's U.S. and international programs. His domestic legal and policy research at ELI centered on industrial agriculture, constitutional environmental law in the courts, and protection of water resources. He has researched federal jurisdiction under the Clean Water Act and technical aspects of the federal pollution permitting

and TMDL programs. His international focus was on Africa, where he played a key role in work to reform Liberia's post-conflict forest sector through implementation of a comprehensive program of legal and institutional reforms. He is an adjunct member of the faculty of the American University Washington College of Law. He previously practiced law at a large Washington, DC, law firm, and he served as a law clerk to Senior Judge Edward Rafeedie of the U.S. District Court for the Central District of California, in Los Angeles. Myers received his J.D. and a B.A. in International Relations and French from the University of Virginia.

Colin Nackerman is a Research and Administrative Assistant in the Department of Atmospheric, Oceanic, and Earth Sciences at George Mason University. He was recently an intern at the University Corporation for Atmospheric Research (UCAR). He was also a Teaching Assistant in Climatology at George Mason University and an intern at the Center for Climate Change Communication (4C). He holds a Bachelors in Environmental and Sustainability Studies, Politics and Policy from George Mason University and is interested in climate variability & change, predictability, science communication, and climate mitigation policy.

Jay Odenbaugh is an Associate Professor of Philosophy in the Department of Philosophy at Lewis & Clark College and Fulbright Visiting Research Chair in the Department of Philosophy at the University of Calgary. His focus areas are philosophy and history of science, as well as aesthetics and ethics. Particularly, he investigates human emotions and their expression in the context of psychology, behavioral ecology and evolutionary biology. Currently, he is researching moral psychology and climate skepticism to offer ways to de-politicize this and other environmental issues. After earning his B.A. in Philosophy at Belmont University, he secured a Ph.D. in Philosophy at the University of Calgary.

Lisa Palmer is a writer, editor, and multi-media journalist. Since becoming a freelance writer 14 years ago, she has written on everything from biotechnology and dramatic medical narratives to green tech and sustainable agribusiness. She has written for publications such as *The Guardian*, *The New York Times*, *Slate Magazine*, *Scientific American*, *The Yale Forum*, *Fortune*, *Yale E360*, and many others. Her writing also appears in both academic media as well as research journals including *Nature Climate Change*. In addition to working as a freelance journalist, Palmer is currently a fellow at the National Science Foundation-funded National Socio-Environmental Synthesis Center (SESYNC), studying interdisciplinary science research. Palmer is a professional member of the Society of Environmental Journalists, the National Association of Science Writers and the Society of American Business Editors and Writers, and the American Society of Journalists and Authors. She is a graduate of Boston University and earned her master's degree at Simmons College in Boston.

Meaghan Parker is the Senior Writer/Editor for the Environmental Change and Security Program. She is the editor of the award-winning ECSP Report—named one of the Top 10 Think Tank Policy Reports of 2013--and the founding editor of the *New Security Beat*, a daily blog. She was the supervising producer of "Healthy People, Healthy Environment," three short documentary films filmed in Tanzania, Nepal, and Ethiopia. She was the lead editor of "A New Climate for Peace," an online platform and independent study commissioned by the G7 Foreign Ministers. A frequent speaker and moderator on panels about media and communications, she is currently serving a three-year term as the associate board member of the Society of Environmental Journalists, the premier North American professional membership association for environment and energy reporters and editors. Prior to joining the Center, she was Manager of Research and Internal Communications at the Fortune 500 energy company PPL Global, where she researched international investments and renewable energy policy.

Sara Peach is an independent environmental journalist and has served as a faculty member of the University of North Carolina at Chapel Hill. She produces freelance stories and videos for clients including *National Geographic*, *The Associated Press*, *Grist Magazine*, *Chemical & Engineering News*, and *Yale Climate Connections*. Since 2009, she has coached participants in the MJ-School's Emmy-nominated *Powering A Nation* project, mentoring student journalists as they travel across the U.S. to tell stories about pressing environmental issues. Peach has earned awards from the National Press Photographers Association, Pictures of the Year International, the Society of Professional Journalists and the Society of Environmental Journalists. In 2014, she and a team from the Reese News Lab won a Knight Prototype Fund grant to develop Capitol Hound, a product that offers rapid transcripts and alerts for government sessions. She holds a B.A. in Environmental Studies and a M.A. in Journalism and Mass Communication from the University of North Carolina at Chapel Hill.

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Dave Poulson is the Senior Associate Director of the Knight Center for Environmental Journalism at Michigan State University. He teaches environmental, investigative, computer-assisted, science and public affairs reporting to graduate and undergraduate students and organizes workshops for professional journalists. Before teaching at Michigan State, Poulson was a reporter and editor for more than 20 years, mostly reporting on the environment. He is the founder and the editor of GreatLakesEcho.org, a now 7-year old nonprofit regional environmental news service. His research interests include non-traditional methods of gathering and delivering news, reader engagement, climate change communications and nonprofit journalism. Poulson received his B.A. in Journalism from Michigan State University.

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Jason Samenow is *The Washington Post's* weather editor. Prior to working at the *Post*, he spent ten years working as a climate change analyst for the federal government, monitoring, analyzing and communicating the science of climate change. He is the founder of CapitalWeather.com, which was incepted by the *Post* in 2008. Jason is a past chairman of the D.C. Chapter of the American Meteorological Society and a Weather and Society Integrated Studies Fellow. At the University of Virginia, he earned a degree in environmental science, focusing in atmospheric science. He went on to earn a M.S. in Atmospheric Science at the University of Wisconsin-Madison.

Eileen Scallen is the Associate Dean of Curriculum and Academic Affairs and Adjunct Professor of Law at UCLA School of Law. Following law school, she clerked for the Honorable A. Wallace Tashima of the U.S. District Court in the Central District of California, and then became an associate with Latham & Watkins. Scallen began her academic career at the University of California, Hastings College of Law, where she earned tenure, an "Outstanding Faculty Member Award" in 1992, and served as Associate Academic Dean from 1996-98. In 2000, Scallen returned to Minnesota for family reasons, joining the faculty at William Mitchell College of Law as Professor of Law. In 2013, Scallen returned to California, this time to serve UCLA School of Law. Scallen received her M.A. from the University of Minnesota, Twin Cities and her J.D., *magna cum laude*, from the University of Minnesota Law School where she also served as Editor-in-Chief of the Minnesota Law Review.

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David Verardo joined the National Science Foundation (NSF) in 2000 and has led the Paleoclimate Program, served as the Head of the Atmosphere Section in the Division of Atmospheric and Geospace Sciences, worked in the NSF Office of Diversity and Inclusion, and has been involved in a number of NSF cross-divisional and cross-directorate research activities. Dr. Verardo joined the NSF after serving as deputy to Dr. Robert Watson, Chair of the United Nations Intergovernmental Panel on Climate Change (IPCC), for the Special Report on Land Use, Land Use Change, and Forestry. Dr. Verardo also served as a Congressional Science Fellow in the Office of U.S. Senator Ron Wyden of Oregon working on science-based carbon sequestration strategies and nuclear waste contamination and disposal issues. Dr. Verardo holds a Ph.D. in Earth and Environmental Sciences from the Graduate School and University Center of the City University of New York, J.D. from Concord Law School, and B.A. in Geology from C.W. Post College of Long Island University. He served six years in the U.S. Coast Guard in charge of search and rescue vessels.

Bud Ward is Founding Editor at the *Yale Climate Connections*, where he has served as writer since 2007. In 2009, he was named Climate Change Communicator of the Year by the George Mason University's Center for Climate Change Communications. His rich career in environmental journalism started as Managing Editor of The Bureau of National Affairs' *Environment Reporter*. Then, after serving as Assistant Director of the U.S. Congress's National Commission on Air Quality, he founded the policy magazine *The Environmental Forum*, and he established the Environmental Health Center and *The Environment Writer*, a newsletter for reporters and editors covering environmental issues. He is a co-founder of the Society of Environmental Journalists and has founded and managed the Central European Environmental Journalism Program. In 2010, he was elected a Fellow of the American Association for the Advancement of Science, AAAS. He is a member of the American Geophysical Union and the American Meteorological Society. He earned bachelors and masters degrees in journalism and in mass communications from Penn State University.

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Merideth Wright joined ELI as a Distinguished Judicial Scholar in February 2012. Wright retired in 2011 as one of the two environmental judges for the State of Vermont. She had presided over the Vermont Environmental Court (now known as the Environmental Division of the Vermont Superior Court) since its creation in 1990. She has taught courses at the Vermont Law School, the University of Vermont, and Pace University School of Law, and has given presentations on judicial and environmental topics at international and U.S. conferences. Before her appointment to the bench, Wright worked for nine years in the environmental section of the Vermont Attorney General's Office, and as a staff attorney for the Vermont Supreme Court. Before moving to Vermont in 1978, she worked for the U.S. EPA, for a small Washington, D.C. law firm, and for a prosecutor's office. Wright earned her J.D. degree from the University of Chicago and her B.A., *magna cum laude*, from Yale University, in an independent Environmental Studies major.