NATIONAL ACADEMIES Sciences Engineering Medicine

Climate Crossroads Summit

Speakers & Participants – July 16-17, 2024

Main Stage Speakers and Participants

Welcome and Meeting Overview

Amanda Staudt is Senior Director for the Climate Crossroads initiative at the National Academies of Sciences, Engineering, and Medicine. Climate Crossroads is a major initiative to harness the full complement of expertise and skills across the National Academies to tackle the climate crisis. Dr. Staudt provides strategic direction and leadership for this initiative, develops new partnerships and climate-related activities, and advances communications and engagement efforts to extend the reach and impact of the National Academies.

From 2013-2023, Dr. Staudt directed the National Academies' Board on Atmospheric Sciences and Climate (BASC) and Polar Research Board (PRB), leading a team that provides advice to the US government and the nation related to climate change, weather, air pollution, the Arctic, and Antarctica. Under her leadership, BASC and PRB provided stewardship for the National Academies' ongoing advice to the U.S. Global Change Research Program; convened large workshops related to Arctic research and policy; completed major studies on extreme event attribution, Antarctic research priorities, negative emissions technologies, greenhouse gas emissions, solar geoengineering, and Earth system science; ran an Academies-wide Climate Communication Initiative; and launched major roundtables on climate security and on climate and macroeconomics.

Prior to taking on this role, Dr. Staudt was a Senior Climate Scientist at the National Wildlife Federation, where she focused on communicating climate science and impacts, developing the intellectual and practical foundation for climate-informed ecosystem conservation, and advancing climate change science education. Dr. Staudt received her B.A. in environmental science and engineering and her Ph.D. in atmospheric sciences from Harvard University.

Fireside Chat with Marcia McNutt

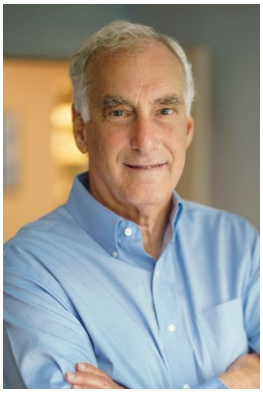
Marcia McNutt (NAS/NAE) is a geophysicist and the 22nd president of the National Academy of Sciences. From 2013 to 2016, she was editor-in-chief of Science journals. McNutt was director of the U.S. Geological Survey from 2009 to 2013, during which time USGS responded to a number of major disasters, including the Deepwater Horizon oil spill. For her work to help contain that spill, McNutt was awarded the U.S. Coast Guard's Meritorious Service Medal.

She is a fellow of the American Geophysical Union, Geological Society of America, the American Association for the Advancement of Science, and the International Association of Geodesy. McNutt is a member of the National Academy of Engineering, the American Philosophical Society and the American Academy of Arts and Sciences, a Foreign Member of the Royal Society, UK, the Russian Academy of Sciences, and the Chinese Academy of Sciences, and a Foreign Fellow of the Indian National Science Academy. In 1998, McNutt was awarded the AGU's Macelwane Medal for research accomplishments by a young scientist, and she received the Maurice Ewing Medal in 2007 for her contributions to deep-sea exploration. She obtained her bachelor's degree in physics from Colorado College and her Ph.D. in Earth sciences from Scripps Institution of Oceanography.

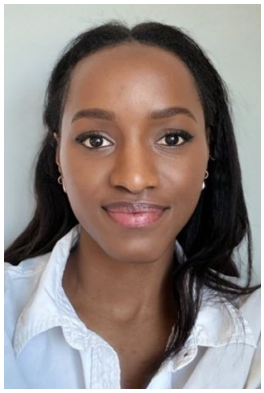
Mariette DiChristina is dean of Boston University's College of Communication and professor of the practice in journalism. Before arriving at BU in 2019, DiChristina was the first female editor-in-chief and executive vice president of Scientific American, as well as an executive vice president of its publisher, Springer Nature. In that capacity, she also oversaw the journalists for Nature's magazine, as well as the Nature Research custom content and publishing groups. She is a past co-chair for the Climate Communications Initiative committee for the U.S. National Academies of Science, Engineering, and Medicine and an elected Fellow of the American Association for the Advancement of Science. She serves on the Practice and Science of Civic Science Advisory Committee for the Civic Science Fellows program; is on the board of Society for Science, publisher of Science News; and chairs the World Economic Forum's "Top 10 Emerging Technologies" Steering Group. Previously, DiChristina was president of the National Association of Science Writers and executive editor of Popular Science. She enjoyed working with students as an adjunct associate professor and visiting scholar in the graduate Science, Health, and Environmental Reporting Program at New York University and as a science writer in residence at the University of Wisconsin-Madison.

Artificial Intelligence and Climate Change

Priya Donti is an Assistant Professor and the Silverman (1968) Family Career Development Professor at MIT EECS and LIDS. Her research focuses on machine learning for forecasting, optimization, and control in high-renewables power grids. Methodologically, this entails exploring ways to incorporate relevant physics, hard constraints, and decision-making procedures into deep learning workflows. Priya is also the co-founder and Chair of Climate Change AI, a global nonprofit initiative to catalyze impactful work at the intersection of climate change and machine learning. Priya received her Ph.D. in Computer Science and Public Policy from Carnegie Mellon University, and is a recipient of the MIT Technology Review's 2021 "35 Innovators Under 35" award, the ACM SIGEnergy Doctoral Dissertation Award, the Siebel Scholarship, the U.S. Department of Energy Computational Science Graduate Fellowship, and best paper awards at ICML (honorable mention), ACM e-Energy (runner-up), PECI, the Duke Energy Data Analytics Symposium, and the NeurIPS workshop on AI for Social Good.



David Goldston became Director of the MIT Washington Office in 2017. In that role, he directs MIT's federal relations. As part of that work, he helps organize and direct efforts to bring faculty expertise to bear on policy questions, for example co-leading the development of MIT's AI policy briefs. He also served on the committee that wrote "University Engagement with China: An MIT Approach" and was an active participant in MIT's Work of the Future project. For the eight years prior to joining MIT, he was the Director of Government Affairs at the Natural Resources Defense Council (NRDC), a leading environmental group, where he helped shape NRDC's federal political strategy, policies and communications. He came to NRDC after spending more than 20 years on Capitol Hill in Washington, working primarily on science policy and environmental policy. He was Chief of Staff of the House Committee on Science from 2001 through 2006. Since retiring from government, he has taught courses on science policy at Princeton, Harvard and Georgetown. From 2007 through November 2009, he wrote a monthly column for Nature on science policy titled "Party of One." Goldston also was the project director for the Bipartisan Policy Center report "Improving the Use of Science in Regulatory Policy," which was released in August 2009. He authored the chapter on Congress in The Science of Science Policy: A Handbook (Stanford University Press, 2011). He has served on several National Academies committees and is currently a member of the advisory committee for its Climate Crossroads project and a member of its Board on Science Education. He holds a B.A. (1978) from Cornell University and completed the course work for a Ph.D. in American history at the University of Pennsylvania.



Topaz Mukulu is a Strategy Analyst on the Strategic Capital team at the Patrick J. McGovern Foundation, a philanthropy committed to bridging the frontiers of artificial intelligence, data science, and social impact. In her role, Topaz supports the Foundation's efforts to identify and support institutions leveraging human-centered AI across several portfolio areas, including climate, education, digital health, and open data.

Topaz's previous roles have centered on digital inclusion and last-mile service access for vulnerable communities, with a regional focus on sub-Saharan Africa. She has worked at non-profit and multilateral organizations, such as the UN's migration unit, where she assisted migrants in The Gambia, and as a consultant with the World Bank, working to expand internet connectivity and device access globally.

She holds a Master's degree from Georgetown University's School of Foreign Service and a Bachelor's in Economics from Mount Holyoke College. Her work is driven by a commitment to social impact and leveraging innovation and technology for equitable progress.

Uyi Stewart is currently the Chief Data and Technology Officer for data.org. Previously, he has held several positions including Executive Director of Data Science, Technical Operations for Seagen Inc., (now Pfizer); Director, Global Development's Strategy, Data, and Analytics at the Bill and Melinda Gates Foundation; and co-founder and inaugural Chief Scientist at IBM Research – Africa, Nairobi. Dr. Stewart is a trailblazing expert in interdisciplinary work in data science, artificial intelligence, systems and design thinking, human centered design, and strategic digital innovation. He has implemented hundreds of digital solutions and capacity building initiatives in healthcare, climate, water, human mobility, agriculture, oncology, and financial inclusion across Africa, Asia, Latin America, and North America.

He is a Fellow of Cambridge Commonwealth Society and was appointed a Distinguished Engineer by IBM – it's 2nd highest technical honor. Dr. Stewart has received numerous recognitions for his work in digital transformation to uplift the vulnerable and marginalized, including being named one of the top 50 African Trailblazers in 2015 (Africa Report Magazine) and Black Engineer of the Year 2014 – Outstanding Technical Contribution – Industry, USA. He holds a Ph.D. (McGill University) and MPhil. (Cambridge University) in Linguistics. He has 15 patents, published a book in "Outstanding Dissertations in Linguistics" – Garland series, and has authored over 70 academic publications. Dr. Stewart is a member of the Climate Crossroads Advisory Committee.

Nature-Based Solutions

Cynthia "Cyndi" Atherton was the inaugural director of the Science program at the Heising-Simons Foundation from 2013-2023, where she developed a portfolio in astronomy, climate change science, physics, and diversity within those fields. Prior to joining the foundation in 2013, she was a science program director at the Gordon and Betty Moore Foundation, where she oversaw portfolios that included astronomy, condensed matter physics, and seismology, as well as a large-scale commitment to Caltech. Dr. Atherton earned her doctorate in atmospheric science from the University of California, Davis, and has a master's degree in chemical engineering from Massachusetts Institute of Technology and a bachelor's degree from Caltech in engineering and applied science. She conducted research in atmospheric chemistry and physics at the Lawrence Livermore National Laboratory prior to joining the Moore Foundation. She is now a consultant on scientific research, diversity, and philanthropic efforts.

Jessica Hellmann is Executive Director and Ecolab Chair in Environmental Leadership at the Institute on the Environment, as well as a Distinguished McKnight University Professor in the Department of Ecology, Evolution and Behavior, at the University of Minnesota. Hellmann studies the impacts of climate change on natural and human systems, greenhouse gas emission reduction, and climate adaptation. She was among the first to propose and study techniques to reduce climate impacts on species and ecosystems through ecosystem management, and she currently leads the Climate Adaptation Science Center for the US Midwest. She works with governments, corporations, and non-profits to build investments in renewable energy and adaptation and has co-authored several climate assessment and adaptation planning efforts, including the biodiversity and ecosystem portions of the Chicago Climate Action Plan and the 2014 National Climate Assessment. She is currently a coordinating lead author for the first-ever national climate and biodiversity assessment, released in 2025. In 2018, she co-founded Geofinancial Analytics, a private venture that benchmarks methane emissions in the oil and gas sector for financial investors and insurers. As leader of the Institute on the Environment, Hellmann provides strategic guidance and vision for a university-wide "think tank" committed to interdisciplinary, translational research and leadership development, helping to build a future where people and the planet prosper together. Natural capital, including membership in the international Natural Capital Project, has been a long-standing priority of the institute. Hellmann also serves on the boards of the National Audubon Society (a US conservation group), the Science Museum of Minnesota, and COMPASS (an NGO advancing societal engagement of scientists). Hellmann holds a BS from the University of Michigan and a PhD from Stanford University; she served as a postdoctoral fellow at Stanford's Center for International Security and Cooperation and the University of British Columbia's Centre for Biodiversity Research; and she was formerly a faculty member at the University of Notre Dame.

Sara Leavitt is the Global Natural Climate Solutions (NCS) Monitoring, Evaluation, and Learning lead, on TNC's Tackle Climate Change NCS Science team. Sara currently leads the NCS Prototyping Network, which builds capacity and peer learning opportunities, conducts collaborative research, and measures outcomes from a range of peatland, coastal wetland, and agroforestry NCS pilot projects across the organization. The network connects practitioners across the organization to embrace learning and adaptive management. Previous projects include spearheading the creation of the Natural Climate Solutions Handbook, available here. Sara started with TNC in the Michigan chapter.

Tee Thomas is CEO of Quantified Ventures, to which she brings 15+ years of water financing and environmental equity experience. Tee joined Quantified Ventures in 2021 and rose to CEO in January 2024. Prior to QV, she served as the Water Finance Director for the state of Vermont. In this role, she managed more than $500M worth of loans, grants, and contracts related to water financing. She wrote and helped pass Act 185 which overhauled the state's Clean Water State Revolving Fund to expand the program to fund natural infrastructure through new mechanisms, including a sponsorship program. She created the Natural Infrastructure Interim Financing Program, which deployed $15M in its first two years of operations, protecting and restoring more than 11,000 acres of land including wetlands, streams, drinking source water protection areas, and river corridor easements. Tee has also been active with the Vermont Legislature, working on water quality policy and legislation related to environmental equity.

Prior to her tenure in Vermont, Tee worked with the Iowa Department of Natural Resources' Drinking Water Program and later with the Iowa Department of Transportation as the National Environmental Policy Act Manager. Tee combines her expertise in the mechanics of the EPA's Clean Water Act Funding Programs (Clean Water and Drinking Water State Revolving Funds) with her passion for natural infrastructure. She's a strong believer in the potential power of public financing to be the catalytic super investor in this fast-emerging field of nature-based solutions, while simultaneously and aggressively advancing equity and resilience agendas across the country. Tee loves surfing, reading obscure non-fiction, and volunteering as an English teacher.

Future of Transboundary Water Management

Bunyod Holmatov is a Research Group Leader (Water, Food, Energy Nexus) at the International Water Management Institute, based in Colombo, Sri Lanka. His primary area of expertise centers around the analysis of water-food-energy linkages (Nexus). Prior to joining IWMI, Dr. Holmatov was a postdoctoral researcher at the University of Twente in the Netherlands, where he focused on identifying factors that enable synergistic solutions to tackle competing societal challenges. He holds a PhD degree in Civil Engineering from the University of Twente, and a professional master's degree in environmental management from the Yale School of Environment.

Benjamin Preston is a senior policy researcher at the RAND Corporation and director of Community Health and Environmental Policy, a program of RAND Social and Economic Well-Being. His research focuses on advancing understanding of the implications of climate change and disasters on communities and the implementation of policies and practices to reduce risk and enhance human well-being. From 2021 to 2023 he took a leave of absence from RAND to serve as the assistant director for Climate Services and Adaptation in the White House Office of Science and Technology Policy. Previously, he held research positions with Oak Ridge National Laboratory, Australia's CSIRO, and the Pew Center on Global Climate Change. Ben received a Ph.D. in environmental biology from the Georgia Institute of Technology and a B.S. in biology from the College of William & Mary.

Rosario Sanchez is a Senior Research Scientist at the Texas Water Resources and Associate Graduate Faculty of the Water Management and Hydrological Sciences Program at Texas A&M University. She is Co-Chair of the Transboundary Aquifers Commission of the International Association of Hydrogeologists and, Founder and Director of the Permanent Forum of Binational Waters. She is the PI of the Transboundary Aquifer Assessment Act Program (TAAP) for the state of Texas, founder of the Transboundary Water Portal and leader of the transboundary groundwater research team. She published the first complete map of transboundary aquifers between Mexico and the United States in 2021 and coined the term "transboundariness" that defines the strategic value of an aquifer that happens to be located at the border between two or more countries.

Sanchez has 25 years of academic and work experience on transboundary issues between Mexico and the United States both in the academia and the public sector. She is Associate Editor of the Journal of the American Water Resources Association, the Journal of Environmental Managemet and the Texas Water Journal. She is serving at international panels and committees at UNESCO, International Groundwater Resources Assessment Center (IGRAC) and the

International Water Resources Association (IWRA). She has a bachelor's degree in International Relations from Monterrey Tech, a master's degree in Diplomacy from the Institute of Diplomatic Studies Matias Romero (Foreign Service Academy), and a PhD in Water Management and Hydrological Sciences from Texas A&M University.

Aaron T. Wolf, PhD is a professor of geography at Oregon State University, USA, with an appointment as professor of water diplomacy at IHE-Delft Institute for Water Education in the Netherlands. He has acted as consultant to the US Government, the World Bank, and several international governments and development partners on various aspects of water resources and conflict management. A trained mediator/ facilitator, he directs the Program in Water Conflict Management and Transformation, through which he has offered workshops, facilitations, and mediation in basins throughout the world.

Fireside Chat with Victor Dzau

Victor J. Dzau (NAM) is President of the National Academy of Medicine (NAM), Vice-Chair of the National Research Council, Chancellor Emeritus of Duke University, and past CEO of Duke Health System. Previously, he was Professor and Chairman of Medicine at both Harvard and Stanford Universities. Dr. Dzau is recognized globally for a long and highly decorated career as a scientist, administrator, and leader. His research laid the foundation for development of lifesaving drugs known as ACE inhibitors, used globally to treat high blood pressure and congestive heart failure.

Under Dr. Dzau's tenure, the NAM has launched important initiatives including the Global Health Risk Framework, the Human Genome Editing Initiative, the Action Collaborative on Clinician Well-Being and Resilience, and the Healthy Longevity Grand Challenge. In 2020, the NAM launched the Grand Challenge on Climate Change, Human Health, and Equity, a multi-year global initiative to improve and protect human health, well-being, and equity by working to transform systems that both contribute to and are impacted by climate change. Dr. Dzau has actively participated in global climate and health discissions including COP 28, the Climate Week, UN General Assembly week, and the World Health Assembly in Geneva. He will be the keynote speaker for the G20 Health Ministers working group meeting in Brazil in June to inform the G20 health agenda in climate and health. Among Dzau's many honors are the Gustav Nylin Medal from the Swedish Royal College of Medicine, the Ellis Island Medal of Honor, and the Henry Freisen International Prize.

Health of the Planet and Its People

Teddie Potter is deeply committed to climate change and planetary health education. Dr. Potter is the inaugural director of the Center for Planetary Health and Environmental Justice at the School of Nursing at the University of Minnesota and a Fellow in the Institute on the Environment at the University. She is a member of the Alliance of Nurses for Healthy Environments and the American Academy of Nursing Environment and Public Health Expert Panel. She is a member of the Coordinating Committee of Columbia University's Global Consortium on Climate and Health Education, and the Steering Committee of the Planetary Health Alliance (PHA). She also chairs Clinicians for Planetary Health (C4PH) for the PHA. She serves on the National Academy of Medicine's Action Collaborative on Decarbonizing the US Health Sector; the Health and Medicine Division of the National Academy of Sciences, Engineering, and Medicine (NASEM); and the Climate Crossroads committee of NASEM. Her most recent work is founding with the International Council of Nurses, *Nursing for Planetary Health*, a global nursing movement.

Jason Rohr's research program focuses on how natural and anthropogenic environmental changes, mainly climate change, pollution, and alterations to biodiversity, affect wildlife populations, species interactions, and the spread of both wildlife and human diseases. His research makes efforts to integrate across disciplines, including ecology, global health, planetary health, agricultural sciences, toxicology, conservation biology, sociology, and economics, and to address multiple Sustainable Development Goals. The primary aim of his laboratory is to understand, and develop solutions to, environmental problems to enhance the likelihood of a sustainable existence for both humans and wildlife.

Eri Saikawa is a Professor and Winship Distinguished Research Professor of Environmental Sciences at Emory University. She serves as the Director of Graduate Studies and also of Emory Climate Talks. She holds a Bachelor's Degree in Chemistry and Biotechnology Engineering from the University of Tokyo, Japan, a Master's Degree in Environmental Policy and Natural Resource Management from Indiana University Bloomington, and a Ph.D. in Science, Technology, and Environmental Policy from Princeton University. Her research interests are focused on quantifying the sources and the magnitude of various emissions linked to air pollution and climate change, as well as the impacts of these emissions on humans and society.

Marie Studer, PhD, is the Executive Director for the Johns Hopkins Institute for Planetary Health (JHIPH) and the Planetary Health Alliance (PHA). Her career has focused on public accessibility and understanding of science to enable the creation of a safe and just future for all life on Earth. She has held government and public policy positions, and scientific and education leadership appointments for international organizations and consortia. She is especially interested in creating awareness of and action around the Planetary Health framework to support the UN SDGs, other international targets, and paradigm shifts focused on a regenerative society where all life can thrive.

She previously held positions at the Massachusetts Bays National Estuary Program, Earthwatch Institute, and Encyclopedia of Life. She holds a PhD from the University of Massachusetts Boston in Environmental Sciences and a BA in chemistry from Wheaton College, Norton, MA.

Fireside Chat with John Anderson

John L. Anderson (NAE) is the president of the National Academy of Engineering since July 1, 2019. He was born in Wilmington, DE, and received his undergraduate degree from the University of Delaware in 1967 and a PhD degree from the University of Illinois at Urbana-Champaign in 1971, both in chemical engineering. He served as president of the Illinois Institute of Technology (IIT) and Distinguished Professor of Chemical Engineering from 2007 – 2015. Before that he was provost and executive vice president at Case Western Reserve University (2004–2007), following 28 years at Carnegie Mellon University including 8 years as dean of the College of Engineering and 11 years as head of the chemical engineering department. He began his professional career as assistant professor of chemical engineering at Cornell University (1971-1976).

Dr. Anderson was elected to the NAE in 1992 for contributions to the understanding of colloidal hydrodynamics and membrane transport phenomena. He was elected an NAE Councillor in 2015 and served on the Executive Compensation Committee and Temporary Nominating Committee on Member Diversity. He has also served on the Membership Policy Committee, Nominating Committee (chair), Chemical Engineering Section (chair, vice chair, section liaison, member), Chemical Engineering Peer Committee (chair), and Committee on Membership (immediate past chair, chair, vice chair, peer committee chair). His service also includes numerous National Academies activities, such as the Committee on Determining Basic Research Needs to Interrupt the Improvised Explosive Device Delivery Chain (chair); Committee on Review of Existing and Potential Standoff Explosives Detection Techniques (chair); Organizing Committee for the National Security and Homeland Defense Workshop (co-chair); Board on Chemical Sciences and Technology (co-chair); and Ford Foundation Minority Postdoctoral Review Panel on Physical Sciences, Mathematics, and Engineering.

In addition to his NAE membership, Dr. Anderson is a fellow of the American Academy of Arts and Sciences and the American Association for the Advancement of Science. He was appointed to the National Science Board in 2014 for a six-year term. He received the Acrivos Professional Progress Award from the American Institute of Chemical Engineers (AIChE) and an award from the Pittsburgh Section of AIChE for "Outstanding Professional Accomplishments in the Field of Academics," and he is listed on the Alumni Wall of Fame at the University of Delaware. In 2012 he received the National Engineering Award from the American Association of Engineering Societies. He has held visiting professorships at the Massachusetts Institute of Technology (fellow of the John Simon Guggenheim Foundation), University of Melbourne (Australia), and Landbouwuniversiteit Wageningen (the Netherlands). He has presented guest lectures at universities throughout the United States and is the author of numerous journal articles and book chapters. He has received honorary doctorates from Case Western Reserve University, Illinois Institute of Technology, Rensselaer Polytechnic Institute, and the University of Delaware.

Higher Education Transformative Climate Action

Blythe Coleman-Mumford is a master relationship builder and strategist. She brings an intentionally intersectional lens to the justice and equity-driven work she does, in order to catalyze compassionate, collaborative relationships, initiatives, and projects. She has expertise in developing partnerships and understanding nuanced dynamics in multicultural, multiracial, and intergenerational leadership, as well as leadership amongst people of varying sexualities and gender expressions. Blythe's environmental science, climate, and food justice educational background allows her to understand and act on a variety of political and social issues. A passion of hers is connecting BIPOC communities to impactful opportunities with aligned values, and aid in the advocacy of healing and restoration processes of these communities needed to sustain justice work over time.

Blythe's work in Atlanta and the southeast and Atlantic coast regions over the last six years has focused on building deep relational capital and capacity within key issues including food justice, climate action and resilience planning, energy systems and power building, and just transition advocacy. In her current role as Second Nature's Climate Programs Manager, she's worked to support internal and external culture building. She notably created the Intersectional Climate Action Leaders Working Group, a think tank for BIPOC people within and connected to HBCU, MSI, and Tribal Colleges. Within this working group, she catalyzes relationships, cultivates guidance on institutional sustainability practices, climate action and resilience plan building, and generates and amplifies resources for working group members' personal and professional development.

Aside from her work at Second Nature, she serves as the food justice co-chair for the board of Slow Food Atlanta. She's also a inaugural member of the United Negro College Fund's Institute

for Capacity Building's Climate Action Advisory Board. She's passionate about holistic health, nutrition, and physical movement.

Erica Harvey is Abelina Suarez Professor Emerita and Campus Sustainability Consultant, Fairmont State University. Her professional efforts as a chemistry professor for 34 years focused on student-centered, active learning. From 2013 – 2020, she and over 100 research students made Fairmont State University the headquarters of the West Virginia Brigade of the Solar Army, a nationwide research effort to store solar energy in the form of a chemical fuel. Dr. Harvey's Abelina Suarez Professorship project initiated an interdisciplinary, campus-wide Creative Sustainability Council of students, faculty and staff who support student-led design and implementation of creative, science-rich sustainability initiatives to enhance the campus and local community. National Science Foundation funded projects have included collaborations to increase persistence of rural, first-generation students in STEM; develop an electronic quantum mechanics text; and create online intercollegiate learning communities in physical chemistry. After retiring as a chemistry professor in 2023, Harvey is continuing work at Fairmont State on sustainability and student success initiatives. She is a principal investigator for the First2 Network NSF INCLUDES Alliance.

David Kay is the Extension faculty leader in Cornell's Global Development Department. Initially trained as an agricultural economist, David provides applied social science leadership in his Department in the areas of energy, land use and environment, community development and regional economics. As Extension faculty leader in an interdisciplinary Department within a land-grant university, his work involves connecting the research and teaching missions of the university with its public serving mission. His own research and Extension programming in recent years has focused on the individual, community and policy implications of energy transitions (especially utility scale solar development) and of climate change (especially flood risk and insurance) and on the associated relationships between the "local" and the "global". He is particularly concerned with building informed decision making capacity in the context of community controversy. David is a mediator active in the Climate Change Project of Mediators Beyond Borders International and with his area's community mediation center. He has served on a variety of non-profit as well as local, state and national governance and advisory boards. He currently chairs his city's Sustainability and Climate Justice Commission, serves on the New York State (NYSERDA) Agricultural Technical Working Group on utility scale solar development, and leads the land-grant university affiliated National Extension Climate Initiative (NECI).

Robert Kopp is a climate scientist who serves at Rutgers University as a Distinguished Professor in the Department of Earth & Planetary Sciences. He directs the Megalopolitan Coastal

Transformation Hub, a National Science Foundation-funded consortium that advances coastal climate adaptation and the scientific understanding of natural and human coastal climate dynamics. He is also a founding co-director of the Climate Impact Lab, a multi-institutional collaborating advancing data-driven approaches to estimating the social and human costs of climate change. From 2021-2023, he served as founding co-director of the Rutgers University Office of Climate Action. Professor Kopp's research focuses on past and future sea-level change, the interactions between physical climate change and the economy, the use of climate risk information to inform decision-making, and the role of higher education in supporting societal climate risk management. He was a lead author of the Intergovernmental Panel on Climate Change's recent (2021) Sixth Assessment Report. Professor Kopp received his Ph.D. in Geobiology from the California Institute of Technology and his undergraduate degree in Geophysical Sciences from the University of Chicago. He is a fellow of the American Geophysical Union and the American Association for the Advancement of Science, and a 2024 Guggenheim Fellow. He co-chairs the National Academies' Roundtable on Macroeconomics and Climate-related Risks and Opportunities.

Aradhna Tripati (she/they) is a Professor in the Institute of the Environment and Sustainability; Department of Earth, Planetary, and Space Sciences; Department of Atmospheric and Oceanic Sciences; and California Nanosystems Institute, and an affiliate of the American Indian Studies Center. She is the founder and director of the Center for Diverse Leadership in Science at the University of California, Los Angeles. She is an American geoscientist, climate scientist, and advocate for inclusive diversity, equity, justice, and belonging. She is recognized for her innovative research on climate change and clumped isotope geochemistry, where she advances new chemical tracers for the study of environmental processes and studies the history of climate change and Earth systems. She also is known for the support of community-led research and education and policy initiatives to further climate and environmental justice.

She has been elected to the California Academy of Science. She is a Fellow of the American Geophysical Union, the Geochemical Society, European Association of Geochemistry, and the Geological Society of America, and received a Presidential Early Career Award in Science and Engineering under President Obama. She held the Chair International D'Excellence in Stable isotopes and paleoceanography, was a Distinguished Lecturer at the National Science Foundation, and received the American Geophysical Union Presidential Citation for No Time for Silence Contributing Author, led by Vernon Morris. Tripati received a Ph.D. in Earth sciences from the University of California, Santa Cruz. She is a member of the U.S. National Committee for the International Union for Quaternary Research and the National Academies Board on Atmospheric Sciences and Climate.

Inequality and Climate Change

Pedro Conceição has served as Director of the Human Development Report Office and lead author of the United Nations Development Programme's flagship Human Development Report since January 2019. He served previously as Director, Strategic Policy, at the UNDP Bureau for Policy & Programme Support (from October 2014), and Chief Economist and Head of the Strategic Advisory Unit at the Regional Bureau for Africa (from 1 December 2009). Before that, Pedro was Director of the UNDP Office of Development Studies (ODS) from March 2007 to November 2009, and Deputy Director from October 2001 to February 2007.

His work on financing for development and on global public goods was published by Oxford University Press in books he co-edited (The New Public Finance: Responding to Global Challenges, 2006; Providing Global Public Goods: Managing Globalization, 2003).

Pedro has published on inequality, the economics of innovation and technological change, and development in, amongst other journals, the African Development Review, Review of Development Economics, Eastern Economic Journal, Ecological Economics, Environmental Economics and Policy Studies, Food Policy, and Technological Forecasting and Social Change. He has co-edited several books, including: Innovation, Competence Building, and Social Cohesion in Europe- Towards a Learning Society (Edward Elgar, 2002) and Knowledge for Inclusive Development (Quorum Books, 2001).

Prior to joining UNDP, Pedro was Assistant Professor at the Instituto Superior Técnico, Technical University of Lisbon, Portugal, teaching and researching on science, technology, and innovation policy. He holds degrees in Physics from Instituto Superior Técnico and in Economics from the Technical University of Lisbon and a Ph.D. in Public Policy from the Lyndon B. Johnson School of Public Affairs at the University of Texas at Austin, where he studied with a Fulbright scholarship.

Gina McCarthy was the first White House National Climate Advisor and a former U.S. EPA Administrator. She headed the Climate Policy Office under President Biden and her leadership resulted in aggressive action on climate in the United States, including through the Bipartisan Infrastructure Law and Inflation Reduction Act, new U.S. national targets on cutting greenhouse gas emissions, and U.S. climate leadership on the global stage.

Gina is a Senior Advisor at Bloomberg Philanthropies, the Managing Co-Chair of the America Is All In coalition, and a Senior Fellow at The Fletcher School's Climate Policy Lab at Tufts University. She is also an Operating Advisor at Pegasus Capital Advisors and a Senior Advisor at

TPG Rise Climate Fund. She serves as co-chair of the India-U.S. Track II Dialogue on Energy and Climate Change, and on the Board of Directors for the Energy Foundation and the Resources Legacy Foundation.

Before joining the Biden administration, McCarthy was President and CEO of the Natural Resources Defense Council, one of the nation's largest and most influential environmental advocacy organizations. Prior to NRDC, she was a Professor of the Practice of Public Health in the Department of Environmental Health at Harvard T.H. Chan School of Public Health where she served as the Director of the Center for Climate, Health, and the Global Environment. She was also a fellow at the Harvard Kennedy School of Government.

From 2013–2017, McCarthy was the Administrator of the U.S. Environmental Protection Agency (EPA) under President Obama. Under McCarthy, the EPA established tighter standards on mercury pollution, a new EPA Clean Water Rule to protect rivers and streams that supply drinking water, the first national standards requiring reductions in greenhouse gas emissions for fossil-fuel-fired power plants, and many other policies. Internationally, McCarthy spearheaded U.S. international engagements that resulted in the passage of the Kigali Amendment to the Montreal Protocol to phase out the use of high global warming chemicals and engaged in efforts leading to the adoption of the Paris Climate Agreement.

Before serving as EPA Administrator, McCarthy held the position of Assistant Administrator in the Office of Air and Radiation. Prior to her Presidential appointment, McCarthy was the Commissioner of the Connecticut Department of Environmental Protection, where she served as Chair of the Governor’s Climate Advisory Council, developed the state’s Climate Action Plan, began an initiative called “No Child Left Inside” to introduce families to the natural world by visiting state parks, helped design and implement the nine-state Regional Greenhouse Gas Initiative (RGGI), the nation’s first cap and trade program to reduce greenhouse gas emissions for power plants. She also held senior positions in the administration of five Massachusetts governors, including Deputy Secretary of the Office of Commonwealth Development and Undersecretary for Policy for the Executive Office of Environmental Affairs.

McCarthy earned a Bachelor of Arts in Social Anthropology from the University of Massachusetts at Boston and a joint Master of Science in Environmental Health Engineering, Planning and Policy from Tufts University.

Carlton Waterhouse is a Professor of Law and the founding director of the Environmental and Climate Justice Center at the Howard University School of Law School. In 2021, Carlton was appointed by President Joe Biden as Deputy Assistant Administrator for the Office of Land and Emergency Management at the Environmental Protection Agency and nominated to the United

States Senate to serve as the Assistant Administrator for the office. During his two years leading the office, he oversaw the nation's programs for toxic waste site remediation, community revitalization and redevelopment through contaminated site cleanup, hazardous and solid waste materials management, chemical plant safety, and emergency response to toxic spills, fires, and explosions. Carlton is an international expert on environmental law and environmental justice, as well as reparations and redress for historic injustices. He is a Fulbright research scholar and is a former board member of the Environmental Law Institute and the Natural Resources Defense Counsel. Carlton holds a Ph.D. from Emory University in Social Ethics; a J.D. from the Howard University School of Law, a Master of Theological Studies degree from the Candler School of Theology at Emory University, and a Bachelor of Science Degree from the Pennsylvania State University.

Transportation Infrastructure

Josh DeFlorio is Chief, Resilience and Sustainability at the Port Authority of New York and New Jersey (PANYNJ). He leads a team of over 20 staff that focuses on ensuring that the aviation, port, urban rail, tunnel, bridge, terminal, and real estate facilities called for in the agency's $37 billion capital plan are planned, designed, and delivered to be both environmentally sustainable and climate resilient. He is a Transportation Chapter Author on the 5th National Climate Assessment.

Chris Hendrickson is the Hamerschlag University Professor of Engineering Emeritus and Director of the Traffic 21 Institute at Carnegie Mellon University, member of the National Academy of Engineering, Editor-in-Chief of the ASCE Journal of Transportation Engineering Part A (Systems) and Chair of the Division Committee of the Transportation Research Board. His research, teaching and consulting are in the general area of engineering planning and management, including transportation, sustainability, system performance, robotics, finance and computer applications. He has co-authored eight books and numerous articles in the professional literature. He has served on numerous study committees for the National Research Council. He is a fellow of AAAS, emeritus member of TRB, member of the National Academy of Construction and a former Rhodes Scholar.

Cris Liban serves as Chief Sustainability Officer at the Los Angeles County Metropolitan Transportation Authority (LA Metro). He has worked at LA Metro since 2003 and has grown his agency's environmental and sustainability practice into the most progressive and forward-looking in the country, implementing over 150 sustainability initiatives to date. Dr. Liban was the Transportation Chapter Lead of the recently completed Fifth National Climate Assessment. He has previously held political appointments in the U.S. Environmental Protection Agency's National Advisory Council for Environmental Policy and Technology and the California Climate Safe Infrastructure Working Group. He is the current President of the City of Los Angeles Board of Transportation Commissioners. In 2016 he received the Philippines' highest civilian honor for Filipinos living overseas, the *Pamana ng Pilipino*Award. He was also awarded the Engineering-News Record's (ENR) 2020 Award of Excellence; and in 2021 was elected to the National Academy of Construction. In 2022, he was honored as a Distinguished Member of the American Society of Civil Engineers. Cris received degrees in geology, civil engineering, and environmental science and engineering. Dr. Liban is also a licensed professional engineer in California. He recently served on the National Academies' Committee on Repurposing Plastics Waste in Infrastructure. He is starting another National Academies' Committee work on State-of-the-Science and the Future of Cumulative Impact Assessment.

Shoshanna Saxe is an Associate Professor in the University of Toronto's Department of Civil & Mineral Engineering, Canada Research Chair (Tier II) in Sustainable Infrastructure and the Director or the Centre for the Sustainable Built Environment In her research Dr. Saxe investigates the relationship between the infrastructure we build and the society we create to identify opportunities – and pathways – to better align infrastructure provision with sustainability. Her research focuses around two main questions: 1) What should we build? and 2) how should we build it?
Saxe is a former Action Canada fellow, sits on Waterfront Toronto's Capital Peer Review Panel and Metrolinx Project Evaluation Advisory Panel. She serves on the Board on Infrastructure and the Constructed Environment at the National Academies of Sciences, Engineering, and Medicine. Her research and commentary have been featured in media outlets such as The New York Times, The Toronto Star, The Financial Post, and Wired, including "What We Really Need Are Good 'Dumb' Cities" (New York Times, July 2019).

Climate Science in the Courts

Michael Burger is the Executive Director of the Sabin Center for Climate Change Law, where he leads a dynamic team that is at the forefront of domestic and international efforts to reduce greenhouse gas emissions and promote climate change adaptation through pollution control, resource management, land use planning and climate finance. Past and present projects involve collaborations with a wide range of institutions in the public, private and academic sectors, including local and national environmental groups and government representatives, as well as international organizations. Michael is a widely published scholar, a frequent speaker at conferences and symposiums, and a regular source for media outlets, as well as an editor of Global Climate Change and U.S. Law (Third Edition), Combating Climate Change with Section 115 of the Clean Air Act: Law and Policy Rationales; and Climate Change, Public Health, and the Law, and co-author of Urban Climate Law. Michael is also Of Counsel at Sher Edling LLP, a boutique plaintiffs firm that represents states, cities, public agencies, and businesses in high-impact, high-value environmental cases.

Camila Bustos is an Assistant Professor at the Elisabeth Haub School of Law at Pace University. Prior to joining Pace, Professor Bustos was a Visiting Assistant Professor of Human Rights at Trinity College and a Clinical Supervisor in human rights practice at the University Network for Human Rights. She also served as a term law clerk to Justice Steven D. Ecker of the Connecticut Supreme Court and as a consultant for the International Refugee Assistance Project (IRAP) and the Center for Climate Integrity (CCI).

Professor Bustos is a graduate from Yale Law School, where she received the Francis Wayland Prize and was a Switzer Foundation Fellow and a Paul & Daisy Soros Fellow. During law school, she worked at the Center for Climate Integrity, the Climate Litigation Network, and EarthRights International. Professor Bustos also co-founded Law Students for Climate Accountability, a national law student-led movement pushing the legal industry to phase out fossil fuel representation and support a just, livable future. Prior to law school, she worked as a human rights researcher at the Center for the Study of Law, Justice, and Society (Dejusticia) in Colombia.

Peter Frumhoff teaches environmental science and public policy at Harvard University and is the senior science policy advisor at the Woodwell Climate Research Center. A global change ecologist, his research extends from the role of forests in climate mitigation to the climate responsibilities of fossil fuel companies to the responsible governance of solar geoengineering research. Dr. Frumhoff served through 2023 on the Board of Atmospheric Sciences and Climate at the National Academies of Sciences, Engineering and Medicine. He is a Fellow of the American Association for the Advancement of Science and the 2022 Richman Distinguished Fellow in Public Life at Brandeis University.

Through 2021, he was the longtime director of science and policy and chief climate scientist at the Union of Concerned Scientists. There, he led strategies and initiatives to bring robust climate science to bear on informing public understanding and motivating public policies; guided science, equity and innovation post-doctoral fellowships; and served as senior liaison with the scientific community, policymakers, funders and the media. He was a lead author of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), which was awarded the Nobel Peace Prize in 2007, and lead author of the IPCC Special Report on Land Use, Land-use Change and Forestry. He has guided multiple regional climate impacts assessments, including the 2007 Northeast Climate Impacts Assessment.

Dr. Frumhoff has taught at Stanford University, the Fletcher School of Law and Diplomacy at Tufts University and the University of Maryland. He was a AAAS Science and Diplomacy Fellow at the US Agency for International Development. He received a PhD in ecology and an MA in zoology from the University of California, Davis, and a BA in psychology magna cum laude from the University of California, San Diego.

Sabrina McCormick, MA, Ph.D., is a sociologist and filmmaker dedicated to transforming how societies act on climate change. Dr. McCormick spans the worlds of science and filmmaking, both serving on the Intergovernmental Panel on Climate Change and as a producer on Emmy Award-winning climate television. She has worked with the Environmental Protection Agency, the National Academies of Science, Engineering and Medicine, and served on climate committees run by the Office of Science & Technology Policy in the Obama Administration. She was founding CEO of PandemicProof Productions, playing a key role in using public health science to bring the film industry back online during the COVID crisis, and of Aclara Advanced Materials, a revolutionary personal protective mask.

Her research on climate has spanned lawsuits, health, social movements, audience effects of climate media, and other topics with over fifty-five publications and two books. Employing these findings in filmmaking, she has founded Resilience Creative, a venture dedicated to producing climate entertainment that leads to quantifiable positive change. Dr. McCormick

holds a B.A. from Wesleyan University, Ph.D. from Brown University, and conducted post-doctoral training at the University of Pennsylvania. She is formerly tenured professor at George Washington University and Senior Fellow at the Wharton Risk & Decision Center at the University of Pennsylvania, amongst other roles.