

Earth Systems and Resources Program Area

Committee

Michael Manga

Chair

Michael Manga (Chair), is a professor in the Department of Earth and Planetary Science at the University of California, Berkeley (UCB). His research focuses on the processes that control the storage, ascent, and eruption of magmas and the impacts of those eruptions on surface environments. Current projects also include studies of geysers, the interactions between hydrological processes and earthquakes including the origin of induced seismicity, the evolution of hydrological systems on Mars, and the tectonics of ocean worlds in the outer solar system. He is the recipient of several awards including a MacArthur fellowship in 2005, The Geological Society of America's Donath Medal, the American Geophysical Union's Macelwane Medal, the European Geoscience Union's Bunsen Medal for research in geochemistry, mineralogy, and petrology, and UCB's campus Distinguished Teaching Award in 2017. In 2018, he was elected to the National Academy of Sciences for internationally recognized work including elegant experimental and theoretical work and creative field studies. Dr. Manga received a Ph.D. in Earth and planetary sciences from Harvard University, a M.Sc. in engineering sciences and a B.Sc. in solid Earth geophysics from McGill University. He currently serves as chair of the National Academies' Board on Earth Sciences and Resources and previously, as chair of their Committee on Improving Understanding of Volcanic Eruptions.

Claudia Benitez-Nelson

Member

Claudia Benitez-Nelson is the senior associate dean and a Carolina Distinguished Professor in the McCausland College of Arts & Sciences at the University of South Carolina. Her research focuses on nutrient, carbon, and contaminant biogeochemistry, sinking particle fluxes, and the application of naturally occurring radionuclides in understanding coastal and open-ocean processes. Over the past two decades, Benitez-Nelson has authored or co-authored more than 150 peer-reviewed articles, including lead-author publications in *Science* and *Nature*, and has been continuously supported by substantial, multi-year research and education grants. She is a fellow of the AAAS, the Association for the Sciences of Limnology and Oceanography, and the Oceanography Society and serves on the White House Ocean Research Advisory Panel. Highly regarded as a teacher and mentor, Benitez-Nelson received the University of South Carolina's Distinguished Professor of the Year Award, SEC Faculty Achievement Award, and Outstanding Faculty Advisor of the Year as well as the American Geophysical Union's Sulzman Award for Excellence in Education and Mentoring and the Oceanography Society's Mentoring Award for Excellence and/or Innovation in Mentoring the Next Generation of Ocean Scientists. Benitez-Nelson earned B.S. degrees in chemistry and oceanography from the University of Washington and a Ph.D. in oceanography from the Woods Hole Oceanographic Institute/Massachusetts Institute of Technology Joint Program. She is the currently chair of the National Academies' Ocean Studies Board and U.S. National Committee for the Decade of Ocean Science for Sustainable Development.

Bradley R. Colman

Member

Bradley R. Colman served as director of Weather Strategy for Bayer/The Climate Corporation (retired 2022) where he oversaw and guided the design and execution of the Bayer global enterprise weather programs. Most recently (2023), Colman, served as president of the American Meteorological Society (AMS). Before joining Bayer/Climate, Colman worked on a new Microsoft consumer weather service team to consolidate and serve weather information across the entire Microsoft ecosystem. Previously, Colman had a diverse career with the National Oceanic and Atmospheric Administration (NOAA) where he worked at The National Weather Service's forecast office in Seattle, Washington; NOAA's Environmental Research Laboratory; and was the Acting Director of NOAA's Meteorological Development Laboratory in Silver Spring, Maryland. Colman is a member and fellow of the AMS, a member of the Washington State Academy of Sciences, and vice-chair of NOAA's Science Advisory Board. Colman received a B.S. in Earth sciences and mathematics from Montana State University and an Sc.D. in atmospheric sciences from the Massachusetts Institute of Technology. He currently chairs the National Academies' Board on Atmospheric Sciences and Climate. Previously, he served as a member of the National Academies' Roundtable on Macroeconomics and Climate Change; and the workshop planning Committee on Advancing Risk Communication with Decision-Makers for Extreme Tropical Cyclones.

Kristen Kurland

Member

Kristen Kurland is a university professor of architecture, information systems, and public policy at Carnegie Mellon University (CMU)'s Heinz College and School of Architecture and holds courtesy appointments in civil and environmental engineering and University of Pittsburgh Medical School. She is president of a consulting firm and has implemented technology programs in federal, state, and local organizations. She is past president of CMU's Andrew Carnegie Society, served as a trustee of Carnegie Mellon University, and recently served as a community committee member for the McCune Foundation. Kurland's research focuses on interdisciplinary collaborations in health, the built environment, geospatial analysis, and 3D visualization. Her projects address building performance, economic development, healthcare, smart cities, and sustainability. Kurland is the co-author of a series of GIS workbooks that are used by universities, colleges, and self-learners. Her accomplishments were showcased in a book chapter by Esri Press highlighting women of influence in GIS. She is the recipient of numerous awards, including the Carlow University Women of Spirit award; the Esri Health Communications Award; and the Esri Special Achievement in GIS Award. Kurland received a B.A. in architectural studies from the University of Pittsburgh. She is a current member of the National Academies' Board on Earth Sciences and Resources and chair of the Geographical and Geospatial Sciences Committee.

Anupma Prakash

Member

Anupma Prakash was conferred the title of provost and executive vice chancellor emerita at the University of Alaska Fairbanks (UAF) in May 2025, following seven years of distinguished service as an executive administrator. At UAF she also served as a science dean, a research director, and as the project director for the National Science Foundation funded Alaska Established Program to Stimulate Competitive Research, a large initiative to increase research capacity in the State of Alaska. Prakash's research expertise is in applying remote sensing technology and geographic information systems for mapping natural resources, geohazards, and changing landscapes, particularly in high latitudes. She is also internationally recognized for her research on underground coal mine fires. Prakash served on the science team for NASA's planned HypSIRI satellite mission, established an airborne and field-based hyperspectral imaging facility in Alaska, and has worked with several Indigenous leaders. Her research is well-published in peer-reviewed literature and in popular media, and she is invited frequently to share expertise on Arctic issues. She conducted her post-doctoral research at the University of Twente, Netherlands and has a Ph.D. in Earth Sciences from the Indian Institute of Technology - Roorkee. She is a current member of the National Academies' Polar Research Board.

David L. Sedlak

Member

David L. Sedlak is vice chair for Graduate Studies and Plato Malozemoff distinguished professor in the Department of Environmental Engineering at the University of California, Berkeley. Sedlak's research focuses on the fate of chemical contaminants, with the long-term goal of developing cost-effective, safe, and sustainable systems to manage water resources. He is particularly interested in the development of local sources of water. Sedlak's research has addressed water reuse--the practice of using municipal wastewater effluent to sustain aquatic ecosystems and augment drinking water supplies--as well as the treatment and use of urban runoff to contaminated groundwater from contaminated industrial sites as water supplies. He pursues these efforts through research coordinated through the National Science Foundation's Engineering Research Center for Reinventing the Nation's Urban Water Infrastructure (ReNUWIt), the Berkeley Water Center, and the National Alliance for Water Innovation. In 2016, he was elected to the National Academy of Engineering for contributions to environmental aqueous chemistry, especially in the areas of water reuse, water contaminants, and urban water infrastructure. Sedlak also received the Fulbright Specialist Award for New Zealand in 2019. Sedlak received a B.S. in environmental science from Cornell University and a Ph.D. in water chemistry from the University of Wisconsin, Madison. Sedlak is the current chair, and previous member, of the National Academies' Water Science and Technology Board.

Michael Vandenberg

Member

Michael P. Vandenberg is the David Daniels Allen distinguished chair in law, director of the Climate Change Research Network, and co-director of the Energy, Environment and Land Use Program at Vanderbilt University School of Law. He has been a visiting professor at the University of Chicago Law School, Harvard Law School, and the Wharton School at the University of Pennsylvania. He teaches courses in environmental law, energy, and property. Vandenberg is a leading scholar in environmental and energy law whose research explores the relationship between formal legal regulation and informal social regulation of individual and corporate behavior. His work with interdisciplinary teams focuses on the reduction of energy and environmental costs from the individual and household sector, private environmental governance, and the influence of private standards and social norms on firm behavior. Before joining Vanderbilt's law faculty, Vandenberg was a partner at a global law firm in Washington, D.C. He served as chief of staff of the U.S. Environmental Protection Agency from 1993 to 1995. He began his career as a law clerk for Judge Edward R. Becker of the U.S. Court of Appeals for the Third Circuit in 1987-88. A recipient of teaching awards at Vanderbilt and Wharton. He earned his J.D. at the University of Virginia School of Law, where he served as editor in chief of the Virginia Law Review. Previously, he served as chair of the National Academies' Board on Environmental Change and Society.

Deborah Glickson

Staff Officer