BESR Fall Meeting 2024

Board Biographical Sketches

ISABEL P. MONTAÑEZ, NAS, Chair, is a Distinguished Professor and Chancellor's Leadership Professor of Geosciences in the Department of Earth and Planetary Sciences, University of California, Davis and the Director of the UC Davis Institute of the Environment. Dr. Montañez is a paleoclimatologist whose research focuses on geologic archives of past atmospheric gas and ocean geochemical compositions and their linkages to climate and ecosystem changes. She received her Ph.D. from Virginia Polytechnic Institute in 1990 and has received several awards including the James Lee Wilson Medal for Excellence by a Young Scientist and the Francis J. Pettijohn Medal from the Society for Sedimentary Geology (SEPM), the Laurence L. Sloss Award and Arthur L. Day Medal from The Geological Society of America, and the Jean-Baptiste Lamarck Medal from the European Geosciences Union. She is a fellow of several professional societies (AAAS, AGU, GSA, Geochemical Society, European Assoc. of Geochem., California Academy of Sciences) and a past fellow of the John Simon Guggenheim Memorial Foundation. She served as Vice President and President of The Geological Society of America from 2016 to 2018. She is a member of the National Academy of Sciences.

THORSTEN W. BECKER holds the Shell Foundation Distinguished Chair in Geophysics at the Institute for Geophysics and the Department of Earth and Planetary Sciences, Jackson School of Geosciences, and is a Faculty Associate at the Oden Institute for Computational Engineering & Sciences at The University of Texas at Austin. His main research interests are in geodynamics and seismology with a focus on interactions between mantle convection and surface tectonics —studying the inner workings of terrestrial planets and how their mantle and surface systems have co-evolved over time. He combines field, laboratory, and numerical approaches into dynamical models, focusing on the physics of plate tectonics from grain-scale deformation to earthquakes to plate-scale flow. He is a Fellow of the American Geophysical Union, and a recipient of the Humboldt Foundation's Bessel Award, IUGG's Evgueni Burov Medal, and the European Geoscience Union's Augustus Love Medal. Becker holds an M.Sc. in physics from J. W. Goethe University, a Ph.D. in geophysics from Harvard University, and was a postdoctoral scholar at the Scripps Institution of Oceanography at the University of California, San Diego.

BESR Fall Meeting 2024

MICHELE L. COOKE is a Professor of Geosciences at the University of Massachusetts Amherst. She is a fellow of the Geological Society of America. Dr. Cooke has served in leadership roles for the Southern California Earthquake Center, the Geological Society of America's Structural Geology and Tectonics division, the international analog modeling community and the Subduction Zones in 4D research collaboration network. Dr. Cooke was awarded the UMass Amherst Distinguished Academic Outreach Teaching Award in 2010, earned the UMass Amherst College of Natural Sciences Outstanding Research Award in 2018, and was awarded the International Association for Geoscience Diversity Inclusive Geoscience Education and Research Award in 2020. She holds a PhD in Earth Sciences from Stanford University.

MARY FEELEY retired as chief geoscientist from ExxonMobil Exploration Company in 2014. Her responsibilities included advising senior ExxonMobil Upstream management on strategic geoscience matters and identifying global geoscience opportunities for ExxonMobil. Dr. Feeley's graduate work was focused on understanding depositional patterns in upper slope salt basins and the Mississippi Fan using seismic stratigraphy techniques. She also spent many years working on lease sales, prospect maturation, and energy development in the Gulf of Mexico. Dr. Feeley's National Academies of Sciences, Engineering, and Medicine experience includes membership on the Ocean Studies Board from 2005 to 2010 and serving on several committees, including the 2015 Committee on Guidance for NSF on National Ocean Science Research Priorities: Decadal Survey of Ocean Sciences and most recently on the Committee on Offshore Science and Assessment for BOEM. Dr. Feeley earned her Ph.D. in oceanography from Texas A&M University.

KATHARINE (Kate) W. HUNTINGTON is a professor in the Department of Earth and Space Sciences at the University of Washington, where she holds the Endowed Professorship in Earth Systems, College of the Environment. Her research focuses on the interactions of tectonics, erosion and climate in shaping Earth's surface and crust over million-year to human timescales. Huntington's work has made contributions to understanding the dynamic interactions of surface and deep-Earth processes; paleoclimate and paleotopography; soil processes and geochemistry; and the role of extreme floods in landscape evolution. She has also developed new approaches using geochronology and isotope geochemistry to quantify erosion patterns, basin thermal histories, and fluid movement through fault zones. She is a fellow of the Geological Society of America (GSA) and a recipient of the National Science Foundation CAREER Award and the Donath Medal of the GSA. Recently she served on the GSA Council, where she Chaired the Society's Diversity Working Group. Huntington received a B.S. in geology and economics from the University of North Carolina at Chapel Hill and a Ph.D. in geology from the Massachusetts Institute of Technology. She previously served on the National Academies Committee on Catalyzing Opportunities for Research in the Earth Sciences: A Decadal Survey for NSF's Division of Earth Sciences.

BESR Fall Meeting 2024

KRISTEN KURLAND is a Teaching Professor of Architecture, Information Systems, and Public Policy at Carnegie Mellon University's Heinz College of Information Systems and Public Policy and School of Architecture. She is also the president of a local consulting firm that has implemented computer technology programs in numerous organizations. She is a Past President of CMU's Andrew Carnegie Society and recently served as a Trustee of Carnegie Mellon University. Ms. Kurland's research focuses on interdisciplinary collaborations in health, the built environment, geospatial analysis, and 3D data visualization. Projects focus on addressing equity, health, urban design, economic development, sustainability, big data, and smart cities issues. She actively collaborates with healthcare, non-profit, and industry organizations in Pittsburgh and worldwide. Ms. Kurland is the co-author of a series of best-selling GIS workbooks that are used by universities, colleges, and self-learners. Her accomplishments were the focus of chapter in a recent book by Esri Press highlighting twenty-two global women of influence in GIS. She is the recipient of numerous awards, including the 2020 Carlow University Women of Spirit award; the 2012 Esri Health Communications Award; and the 2004 Esri Special Achievement in GIS Award. Ms. Kurland received a B.A. in architectural studies from the University of Pittsburgh.

MICHAEL MANGA, NAS, is professor and chair 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 Jupiter's moon Europa. He chaired the National Academies of Sciences, Engineering, and Medicine's 2017 report "Volcanic Eruptions and Their Repose, Unrest, Precursors, and Timing." 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 – the first to be issued from the Department of Earth and Planetary Science. 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 B.Sc. in solid Earth geophysics from McGill University and a M.Sc. in engineering sciences and a Ph.D. in Earth and planetary sciences from Harvard University.

BESR Fall Meeting 2024

W. ALLEN MARR, Jr., NAE, is the founder and chief executive officer of Geocomp Corporation, one of the United States' foremost providers of real-time, web-based performance monitoring of civil engineering structures, particularly large infrastructure projects. Among his technical contributions during his 45-year professional career are the development of techniques for monitoring the stability, movement, and pressure in earthwork projects using sensors, wireless communications, automated analysis, and visualization of data. By applying these techniques, Dr. Marr enabled full-scale construction projects to be built more safely and efficiently and at a lower cost. Dr. Marr and his Geocomp colleagues also developed and use the concept of Active Risk Management to help clients identify and proactively manage risks associated with construction and operation of infrastructure. Over the past 30 years, he has consulted on a number of major projects in the United States and abroad including Boston's Central Artery Tunnel, Dulles International Airport, the new World Trade Center, the Woodrow Wilson Bridge, Eastside Access and 2nd Avenue Subway, and projects in The Netherlands, Japan, Venezuela, and Korea. Dr. Marr has widely published in professional journals, edited 5 books, and serves on the committees and boards of a number of professional societies. He was elected to the National Academy of Engineering for his "innovative applications of numerical methods, risk analysis, advanced laboratory techniques, and field instrumentation to geotechnical engineering and construction." In 2018 he serves as president of the ASCE's Academy of GeoProfessionals. Dr. Marr received a B.S. degree in civil engineering from the University of California at Davis and M.S. and Ph.D. degrees in civil engineering from the Massachusetts Institute of Technology

PATRICIA McDOWELL is a physical geographer whose work has focused on fluvial geomorphology, particularly natural and human controls of river channel and floodplain morphology, response of river systems to environmental change, biogeomorphology, river restoration, and restoration monitoring. Her work has been conducted in Oregon, the Midwest U.S., New England, and Alaska. She teaches courses in geomorphology, fluvial geomorphology, and watershed science and policy. She is active in several organizations and committees charged with planning, implementing, and monitoring river restoration in various river basins of Oregon. She has served on several National Academies of Sciences, Engineering, and Medicine study committees on aspects of river management. The Geomorphology Specialty Group of the American Association of Geographers awarded her its distinguished career award. She is professor emerita of the Department of Geography and the Environmental Studies Program at University of Oregon, where she has been a faculty member since 1982. She was department head of the Department of Geography for seven years and served as Associate Vice President of Research for two years. She has degrees in architecture and city and regional planning from Illinois Institute of Technology and a Ph. D. from the University of Wisconsin-Madison.

BESR Fall Meeting 2024

JESSICA MOORE is the West Virginia State Geologist and Director of the West Virginia Geological and Economic Survey (WVGES). Prior to her appointment in 2021, she managed the agency's Oil and Gas program for ten years and worked as a geologist for the North Carolina Geological Survey from 2003 to 2007. Moore's primary professional expertise is subsurface geology, with emphasis on sequence stratigraphic analysis, conventional and unconventional petroleum systems, and geologic storage. Her research is included in several regional cooperative projects, including the North Carolina Coastal Cooperative, the Utica Shale Play Book, the Appalachian Storage Hub for Natural Gas Liquids, and the Midwest Regional Carbon Sequestration Partnership. Her current research focuses on carbon sequestration, geothermal energy, hydrogen production and storage, and critical minerals in coal and coal waste. She has been recognized for achievement by a USGS S.T.A.R award and an Imperial Barrel award from the American Association of Petroleum Geologists as well as fellowships from the National Science Foundation and West Virginia University's Distinguished Doctoral program. Moore currently serves as President-Elect of the Association of American State Geologists and East Region Vice President of the U.S. Potential Gas Committee. A first-generation college student, she received a B.S. in geology from West Virginia University, an M.S. in geology from the University of North Carolina at Wilmington, and was a Ph.D. candidate in geology at West Virginia University before joining WVGES.

ANN S. OJEDA is an Assistant Professor in the Geosciences Department at Auburn University. Her research focus is water resources, and she studies geology, environmental science, and health science to cumulatively understand ways in which the geosphere and humans are connected through groundwater. Dr. Ojeda leads the Auburn Contaminants Group, where she focuses on integrating geochemistry and public health to address questions related to water quality and water contamination from organic compounds. Two of her research foci are potential contamination of drinking water aquifers that contain low-rank coal and the transformation of toxic organic compounds in groundwater and soils. She earned a Ph.D. from the University of Oklahoma in 2017.

DAVID B. SPEARS retired as the State Geologist of Virginia in December of 2022. David began his professional career as a petroleum geologist for Chevron USA in 1983. In 1993, he joined Virginia's geological survey as an economic geologist. From 2005 to 2009, David served as the Policy Manager for Virginia's Department of Mines, Minerals and Energy, where he facilitated revisions to Virginia's regulations covering mining, drilling, and energy. He was named State Geologist in 2009, a role in which he was called upon to provide a scientific perspective in developing Virginia's policies on offshore drilling, mining, hydraulic fracturing, earthquake response, landslide preparedness, and groundwater management. David is a member of the Geological Society of America, the American Association of Petroleum Geologists, and is a past President of the Association of American State Geologists. He served as a member of the Committee on Earth Resources at the National Academies of Sciences, Engineering, and Medicine from 2015 to 2021. David holds a B.S. in Geology from Lafayette College and an M.S. in Geology from Virginia Tech. He has been a certified Professional Geologist since 2002 and was named a Fellow of the Geological Society of America in 2020.

DAVE SZYMANSKI is Professor of Geology at Bentley University. His work as a scientist spans igneous petrology, elemental cycling in watersheds, forensic chemistry, and climate and sustainability policy. His current research is in transdisciplinary sustainability curriculum development, leading a multi-institutional NSF-funded project, BASICS, or Business and Science: Integrated Curriculum for Sustainability. Before starting at Bentley, he served as environmental and energy policy adviser to U.S. Senator Jon Tester (D-MT) as the 2008-09 AAAS/USGS/GSA Congressional Science Fellow. He served as a contract trace evidence analyst for the Michigan State Police (2004-2008) and continues to practice as a consulting forensic geologist for Forensic Science Consultants, Inc. He is an elected Fellow of the American Association for the Advancement of Science (AAAS), as well as the Geological Society of America (GSA). Szymanski received an M.S. and Ph.D. in geological sciences, as well as an M.S. in forensic chemistry, from Michigan State University.

JOLANTE VAN WIJK serves as Group Leader for the Energy and Natural Resources Security group at Los Alamos National Laboratory and as the Laboratory's Program Manager for the Department of Energy's Office of Fossil Energy and Carbon Management and Geothermal Technologies Office. She holds a joint appointment at New Mexico Institute of Mining and Technology as Professor of Geophysics. Prior to joining the Laboratory in 2021, her academic career included positions at University of Houston and New Mexico Institute of Mining and Technology. She founded and was co-PI of an industry consortium, and spent a sabbatical at a natural resources company. Van Wijk's research areas include geodynamics, sedimentary basins and petroleum systems, carbon capture, utilization, and storage, energy transition, and natural hazards. She is a Fellow of the Geological Society of America. Van Wijk received a combined B.S./M.S. in geophysics from Utrecht University, Netherlands and a Ph.D. in geophysics from Vrije University Amsterdam, Netherlands.