

Workshop on Climate Change and Human Migration: An Earth Systems Science Perspective

Committee

Amir AghaKouchak

Chair

Amir AghaKouchak is a Professor of Civil and Environmental Engineering and Earth System Science at the University of California, Irvine. His research focuses on natural hazards and climate extremes and crosses the boundaries between hydrology, climatology, and remote sensing. One of his main research areas is studying and understanding the interactions between different types of climatic and non-climatic hazards including compound and cascading events. He has received several honors and awards including the American Geophysical Union's James B. Macelwane Medal and the American Society of Civil Engineers (ASCE) Huber Research Prize. AghaKouchak is currently the Editor-in-Chief of *Earth's Future* – a transdisciplinary scientific journal examining the state of the planet and the science of the Anthropocene. He received a B.S. and M.S. in civil engineering from K.N. Toonsi University of Technology in Tehran, Iran and a Ph.D. in civil and environmental engineering from the University of Stuttgart, Germany. AghaKouchak recently served on the NASEM Workshop Planning Committee on Tipping Points, Cascading Impacts, and Interacting Risks in the Earth System.

Somayeh Dodge

Member

Somayeh Dodge is an Associate Professor of Spatial Data Science in the Department of Geography at the University of California, Santa Barbara (UCSB). Before joining UCSB in 2019, she served as an Assistant Professor at the University of Minnesota (2016-2019), and the University of Colorado, Colorado Springs (2013-2016), and was a postdoctoral fellow at The Ohio State University (2012-2013). Dodge's research focuses on developing data analytics, knowledge discovery, modeling, and visualization techniques to study movement and behavior responses to environmental disruptions across multiple scales in human and ecological systems. She is a recipient of the 2021 NSF CAREER award, and the 2022 Emerging Scholar Award from the Spatial Analysis and Modeling Specialty Group of the American Associations of Geographers. She currently serves as a Director on the Board of Directors of the University Consortium for Geographic Information Science (UCGIS), the Co-Editor in Chief of the *Journal of Spatial Information Science*, and a member of the editorial boards of multiple journals, including *Geographical Analysis*, and *Cartography and Geographic Information Science*, and the *Journal of Geographical Systems*. Dodge received a Ph.D. in geography with a specialization in Geographic Information Science from the University of Zurich, Switzerland, in 2011.

Elizabeth Fussell

Member

Elizabeth (Beth) Fussell is a Professor of Population Studies and Environment and Society at Brown University. She has investigated the long-term effects of Hurricane Katrina on the residential mobility, health, and wellbeing of the residents of New Orleans using innovative methods and datasets. Fussell has extended this research to study the effects of hurricanes and other exogenous shocks on individual and household migration and internal migration systems in the United States, with a new focus on Puerto Rico. She gave the keynote to the joint meeting of the NASEM Mapping Science Committee and Geographical Sciences Committee, Humanitarian Responses to Forced Migration and Displacement: New Insights from Quantitative and Qualitative Geographic Data. Fussell has presented to the NASEM Gulf Research Program and the NASEM Committee on Population and participated in several NASEM meetings, all of which focus on leveraging data for and measuring key concepts in disaster research. She received her Ph.D. and M.A. from the Sociology Department at the University of Wisconsin-Madison, concentrating in demography, and was a NIH Postdoctoral Fellow at the University of Pennsylvania Populations Studies Center.

Lori Hunter

Member

Lori Hunter is the Director of the Institute of Behavioral Science at the University of Colorado Boulder where she also a Professor of Sociology. Hunter's research and teaching focus on links between environmental context and human population dynamics. Specific settings include rural South Africa and Mexico, where her scholarship connects rural livelihoods strategies, including migration, to local shifts in rainfall, temperature, and natural resource availability. She has been an invited speaker on the topic of migration and climate change at a variety of settings including the UN, NASEM, the Rio+20 Earth Summit, Future Earth, and the French Demographic Research Institute. Hunter received her Ph.D. from Brown University. She is a member of NASEM's Board on Environmental Change and Society and the Board's liaison to the NASEM Committee on Managed Retreat on the Gulf Coast. Hunter is a member of the NASEM's Roundtable on Macroeconomics and Climate-related Risks and Opportunities.

Shanna N. McClain

Member

Shanna N. McClain is the Disasters Program Manager for NASA's Earth Science Applied Sciences Program. She and her team promote the use of Earth observations to support decisions made across the disaster cycle. McClain endeavors to define new and innovative opportunities for applying Earth science information through the development of partnerships and projects in fragile and crisis-affected communities to build a more risk-informed global society. She joined NASA after working with the Environmental Law Institute to co-lead policy development and programming on environmental and climate-related migration and displacement and programming on environmental conflict and peace. McClain previously held consultancies with the Joint UNEP/OCHA Environment Unit focused on the integration of environmental considerations in sudden-onset and protracted humanitarian crises, including developing guidelines for how to prepare for and respond to technological, industrial, and nuclear disasters. McClain was awarded an NSF IGERT Fellowship, which provided her the opportunity to work with the International Commission for the Protection of the Danube River in Vienna, Austria. She was also awarded the American Association for the Advancement of Science, Science and Technology Policy Fellowship, which offered the opportunity to contribute evidence-based scientific knowledge and skills to the development of federal government policies and actions on disaster resilience. She earned a Ph.D. in environmental resources and policy from the Southern Illinois University.

Diego Pons

Member

Diego Pons is a Research Associate Scientist at the University of Denver. He is an applied climatologist with a background in biology and paleoclimatology. Pons taught physical geography at Colorado State University after spending the last two years as a Postdoctoral Research Scientist fellow at Columbia University. At Columbia University, he worked at the intersection between climate and society co-developing seasonal and sub-seasonal forecast systems to support decision-making processes at the farm level in rain-fed agricultural landscapes in Latin America. Pons's research in mountainous regions of Mesoamerica has been funded by the NSF, including climate reconstructions in tropical settings using tree-rings and assessing the relationship between climate and migration. He uses the climate information at different timescales (from months to millennia) to investigate historical and future human-environment interactions and the implications to policy-making and development. Pons's research interests are dendrochronology; climate variability and change; seasonal to sub-seasonal climate forecasts; climate impacts on agriculture; climate-health-migration interactions and satellite-derived vegetation monitoring. Pons graduated from the University of Denver as a geographer funded by a Fulbright scholarship.

Danielle N. Poole

Member

Danielle Poole, ScD MPH is an Associate Research Scientist at the Yale School of Public Health and Research Group Leader at Heidelberg University. She is a data scientist notable for her contributions to the evidence base for public health decision-making in conflict- and disaster-affected settings. Within the broader field of humanitarian health research, her work is centered around measuring and responding to the health needs of displaced populations and adapting and developing novel research methods for complex settings. Dr. Poole's transdisciplinary approach provides evidence of the dynamic interaction of individual, social, structural, and "place" determinants of health. Her findings have been featured in numerous academic meetings and journals such as *The Lancet* and *Nature*. Dr. Poole is a member of the International Organization for Migration's Migration Health and Development Research Initiative, has served as a Fellow with the United Nations Office for the Coordination of Humanitarian Affairs, and has led independent research with numerous intergovernmental agencies including the International Organization for Migration, World Food Programme, the World Health Organization, and the United Nations Population Fund, as well as nongovernmental organizations. She holds a Ph.D. from Harvard University, a M.P.H. from Brown University, a B.A. from Seattle University, and completed postdoctoral training at the Neukom Institute for Computational Science at Dartmouth College.

Jackie Qatalina Schaeffer

Member

Jackie Qataliña Schaeffer, an Iñupiaq from Kotzebue, Alaska, is the Director of Climate Initiatives program at the Alaska Native Tribal Health Consortium under the division of Community Environment and Health. For decades she has worked across Alaska holistically infusing indigenous knowledge into a variety of sectors she has experience in, including comprehensive planning, energy, housing, water security, sanitation and climate change adaptation for rural communities. Her passion is to serve the indigenous people of Alaska and provide an indigenous perspective to all her work, including the importance and recognition of traditional philosophies, knowledge and world views. Her current work includes climate change assessments, community engagement, community relocation oversight, and overseeing the Center for Climate and Health and the Center for Environmentally Threatened Communities within the Climate Initiatives program.

Qataliña has co-authored six regional Energy Plans for the State of Alaska, the Oscarville Tribal Adaptation Plan, 2019, and currently works with Newtok and Kivalina on community relocation due to climate change. She is a Co-PI on the Human Wellbeing team for the Study of Environmental Arctic Change, an NSF funded project through UAF.

Kilaparti Ramakrishna

Member

Kilaparti (Rama) Ramakrishna is the Director of Marine Policy Center and Senior Advisor to the President on Ocean and Climate Policy at the Woods Hole Oceanographic Institution. Prior to this he worked extensively with the United Nations (UN), as Head of Strategic Planning at Green Climate Fund; head of the Economic and Social Commission for Asia and the Pacific: Subregional Office for East and North-East Asia (ESCAP-ENEA) Office, covering six member States of ESCAP- China, Democratic People's Republic of Korea, Japan, Mongolia, Republic of Korea and Russian Federation, and two Associate members – Hong Kong and Macao; as Chief of Cross Sectoral Environmental Issues and Principal Policy Advisor to the Executive Director of UNEP. Ramakrishna also provided secretariat services to the North-East Asian Subregional Programme for Environmental Cooperation (NEASPEC) and was a lead author of the fifth assessment (and many before it) by the Intergovernmental Panel on Climate Change (IPCC); coordinating lead author of the Millennium Ecosystem Assessment; and lead author of the Interlinkages Assessment. Before joining the UN, Ramakrishna worked for many years as Director of Science in Public Affairs and Vice President at the Woods Hole Research Center in Massachusetts. During this time, he taught at several law schools including at the Fletcher School of Law and Diplomacy, Harvard Law School, Boston University and Boston College Law Schools, Brandeis and Yale Universities. Ramakrishna is an elected life member of the US Council on Foreign Relations. He is also the Chair of Strategic Advisory Group of the Nippon Foundation-GEBCO Seabed 2030 Project, Member of the Advisory Board of Back to Blue – a global initiative of Economist Impact, a Member of Board of Directors of the Woodwell Climate Research Center and the Consensus Building Institute. Ramakrishna holds B.Sc. and B.L degrees in sciences and law, M.S. and Ph.D. degrees in international law.