NATIONAL ACADEMIES Sciences Engineering Medicine

Biographical Sketches of Speakers Spring 2022 Meeting

LEDIA ANDRAWES likes to integrate rigor with heart while working with diverse groups of people to co-create more equitable social futures. Mindful of how power and privilege can influence outcomes, she is guided by indigenous knowledge systems, as well as ethnographic and participatory practices to translate ideas into meaningfully co-owned action. With 14 years of experience working on new strategies and services in 10+ countries, she co-founded Sonder Collective as a space where shared values drive good work. She is currently collaborating on what decolonized peacebuilding futures might look like. Previously, she set up ThinkPlace's innovation consultancy in Kenya and developed their portfolio of work in Africa. This included co-designing a citizen-centered national health strategy with the Kenyan government, developing digital solutions for frontline community health nurses in Ghana, as well as reimagining humanitarian action with the Overseas Development Institute. She holds a PhD in Anthropology, Master in Business, and Bachelor in Design. Her interests are in how design works as an agent of political, social, and cultural change.

STEVE DEROY is from the buffalo clan, is Anishinaabe/Saulteaux and a member of the Ebb and Flow First Nation from Manitoba. He is the co-founder, director, and past president of the Firelight Group and founded the annual Indigenous Mapping Workshop. He is an award-winning Anishinaabe professional and entrepreneur with expertise in mapping and geographic information sciences, business development, natural resources management, and project management. He has applied his expertise to lead traditional knowledge and use studies for numerous Indigenous groups affected by large-scale energy developments. Since 1998, DeRoy has mentored Indigenous practitioners, conducted risk assessments, built decision-support systems and monitoring tools, supported land claims, developed best practices, established consultation processes, facilitated community engagement and planning approaches, and supported negotiations between Indigenous conferences, university lectures, and events. He is a board member of the West Coast Environmental Law Association, the Canadian Remote Sensing Society, and the Canadian Urban Institute, an advisory board member of the Institute for Integrative Conservation at William & Mary, an advisor to the Metcalf Foundation, a moderator of the Open Forum on Participatory Geographic Information Systems and Technologies, and a trainer of the Google Earth Outreach Trainers Network.

SOMAYEH DODGE is an Assistant Professor of Spatial Data Science in the Department of Geography at the University of California, Santa Barbara. She currently serves on the Board of Directors of the University Consortium for Geographic Information (UCGIS). She received her PhD in Geography with a specialization in Geographic Information Science (GIScience) from the University of Zurich, Switzerland, in 2011. She is a recipient of the prestigious 2021 CAREER award from the U.S. National Science Foundation (NSF) and the 2022 Emerging Scholar Award of the Spatial Analysis and Modeling Specialty Group of the American Associations of Geographers (AAG). Dr. Dodge's research focuses on developing data analytics, knowledge discovery, modeling, and visualization techniques to study movement behavior in dynamic human and ecological systems. Her work has appeared in a number of high-ranked journals including *Methods in Ecology and Evolution, International Journal of Geographical Information Science, Philosophical Transactions of the Royal Society B, Computers, Environment and Urban Systems (CEUS), Transactions in GIS, and Cartography and Geographic Information Science (CaGIS). Dr. Dodge is the Co-Editor in Chief of the Journal of Spatial Information Science and a member of the editorial boards of multiple other geography journals, including Geographical Analysis, CaGIS, CEUS, Journal of Location Based Services, and The Professional Geographer.*

ELIZABETH FUSSELL is Professor of Population Studies and Environment and Society at Brown University. She is a sociologist and demographer. Her research focuses on environmental drivers of migration and social inequalities in migration, health, and other post-disaster outcomes. She is also Editor-in-Chief of the Springer journal, *Population & Environment*. Since 2005, when she was an Assistant Professor at Tulane University and Hurricane Katrina hit the Gulf Coast, she has investigated the long-term effects of that disaster on the residential mobility, health, and

wellbeing of the residents of New Orleans using innovative methods and datasets. She has extended this research agenda to study the effects of hurricanes and other exogenous shocks on migration and internal migration systems in the United States, with a new focus on Puerto Rico. Her research is supported by the National Institutes of Health, the National Science Foundation, and the Russell Sage Foundation. Fussell is an author on the Fifth National Climate Assessment's Chapter on Human Social Systems, the first chapter to be authored by social scientists.

KATE HESS is a Solution Engineer on Esri's National Government team. Based in Washington, DC, she has a background in remote sensing and environmental science. Hess currently supports non-U.S. National Statistics Offices, helping them modernize their census and statistics operations using GIS.

KALEV HANNES LEETARU is the found of the GDELT Project. From 2013 to 2014, he was the Yahoo! Fellow in Residence of International Values, Communications Technology & the Global Internet at Georgetown University's Edmund A. Walsh School of Foreign Service, where he was also an adjunct assistant professor. He has also served as a member on the World Economic Forum's Global Agenda Council on the Future of Government. His work has been profiled in *Nature, The New York Times, The Economist,* BBC, and the Discovery Channel as well as in the press of more than 100 nations. In 2011, *The Economist* selected his Culturomics 2.0 study as one of just five science discoveries deemed the most significant developments of 2011. Leetaru's work focuses on how innovative applications of the world's largest datasets, computing platforms, algorithms, and mind-sets can reimagine the way we understand and interact with our global world. More on his latest projects can be found at https://www.kalevleetaru.com/ or https://blog.gdeltproject.org.

MIGUEL O. ROMÁN serves as Chief Scientist at Leidos– a FORTUNE® 500 science and technology leader. As part of the Leidos Civil Group, Román is responsible for directing a \$100M portfolio of advanced Earth Observation capabilities and programs that integrate across the climate, energy, and environmental sectors. Dr. Román has served in multiple leadership and technical capacities across the federal government, academic, and nonprofit sectors. Since 2014, he has led the NASA Terra/Aqua MODIS and Suomi-NPP VIIRS Science Team, one of the most comprehensive global satellite systems to monitor our planet's vital signs. A leading expert in the field of satellite remote sensing, Román has championed translational research and data-intensive approaches to assess and address climate-related risks. His work is internationally recognized for shedding light on the disproportionate hardships experienced by socially vulnerable and underserved communities following major disasters. A native of San Juan, Puerto Rico, Dr. Román was recognized by President Barack Obama in 2016 with the Presidential Early Career Award for Scientists and Engineers (PECASE). He is also a 2014 Service to America Medal "Sammies" finalist, one of the highest honors for federal civil servants. Dr. Román holds a bachelor's degree in electrical engineering from the University of Puerto Rico at Mayagüez, a master's degree in systems engineering from Cornell University, and a PhD in geography from Boston University.

ANNA TRIANDAFYLLIDOU holds the Canada Excellence Research Chair in Migration and Integration at Toronto Metropolitan University (formerly Ryerson). She was previously based at the European University Institute (EUI) in Florence, Italy, where she held a Robert Schuman Chair on Cultural Pluralism in the EUI's Global Governance Programme. She is Editor of the *Journal of Immigrant and Refugee Studies* and Chair of the IMISCOE editorial committee, publishing a highly cited book series on international migration with Springer. Her recent books include *Rethinking Migration and Return in Southeastern Europe* (with E. Gemi, Routledge, 2021) and an edited volume on Migration and Pandemics (2022 Springer). Her recent journal publications have appeared in *Journal of Ethnic and Migration Studies* (2022), *Environment and Planning A: Economy and Society* (2022), *Ethnicities* (2022) *International Migration* (2021) and Nations and Nationalism (2020).

CASCADE TUHOLSKE is a Postdoctoral Research Scientist at the Center for International Earth Science Information Network (CIESIN), a part of the new Columbia Climate School. Dr. Tuholske's research focuses on the linkages between climate, change, urbanization, and food security, with a recent focus on assessing extreme heat exposure in low- and middle-income countries. His recent publication in the *Proceeding of the National Academy of Sciences*, titled "Global Urban Extreme Heat Exposure", received media attention worldwide, including an interactive feature produced by the Associated Press. He received his PhD in Geography from the University of California, Santa Barbara, and he will begin a faculty position in the Department of Earth Sciences at Montana State University this fall.

MARIE URBAN leads the Human Geography Group within the Geospatial Science and Human Security Division at Oak Ridge National Laboratory. Through development of data-driven, statistical, and computational methods, the human geography group seeks to discover new trends and patterns within the sociocultural landscape through population distribution and dynamics modeling at scale. For nearly 20 years, Urban has been involved in supporting research advancements within the LandScan program through data collection, spatial analysis, and remote sensing

methods to improve the spatiotemporal resolution of population estimates at national and planet scale. In addition, Urban led the development of a global building occupancy probabilistic learning system that captures the local sociocultural and economic building use dynamics contributing to the development of the LandScan high-resolution "bottom up" modeling approach for improved reporting of population estimates. High-resolution population estimates are critical for stakeholders, researchers, and policymakers to understand populations at risk whether for disaster response for affected and vulnerable populations, equitable access to basic goods and services, spatial health modeling for local or pandemic response, or sustainability and resiliency initiatives at the local, national, or planet scale.

MATTHEW WOODLIEF is a Solution Engineer on Esri's St. Louis's Business Development team and an associate lecturer at Northeastern University. Based in St. Charles, Missouri, his expertise includes geospatial data management, QA/QC of spatial datasets, report and commercial quality map production, feature data extraction, technical training, and photogrammetry. He and his team at Esri are committed to bringing the organizations they support together to learn, share, and become part of an active community focused on using geospatial technologies to solve challenges.