Long-term Solutions to Improve U.S. Drinking Water Services

WSTB Fall 2022 Meeting

Speaker and Panelist Biographies

Martin Doyle

Martin Doyle is a Professor and Senior Associate Dean at Duke University. His research and teaching is focused on river science and policy, from fluid mechanics and sediment transport to infrastructure finance and federal water policy. He has published two books: his first, The Source (WW Norton, 2018), is a history of America's rivers; his second book focuses on the history and practice of mitigation banking and will be published by MIT Press in 2019. Doyle worked in the Department of Interior from 2015-2016, helping establish the Natural Resources Investment Center, an initiative of the Obama Administration to push forward private investment in water infrastructure, enable water marketing, and increase the use of markets and mitigation banks for species conservation. In 2009-2010, he was the inaugural Frederick J. Clarke Scholar at the US Army Corps of Engineers –Institute for Water Resources. Doyle received a Ph.D. from Purdue University. He has received a Guggenheim Fellowship, an Early Career Award from the National Science Foundation, and was recognized as a Kavli Fellow for the Frontiers of Science from the US National Academy of Sciences.

Stephen Gasteyer

Stephen P. Gasteyer is an Associate Professor of Sociology at Michigan State University. His research focuses on community development, environmental justice, and the political ecology of landscape change, with specific attention food, energy, water, and public health. Recent research has addressed the food access and impacts urban greening in small US cities, alternative energy and community action, environmental equity in access to water and sanitation, and water governance. Dr. Gasteyer was a 2015-16 Fulbright Scholar at Birzeit University, Ramallah, Palestinian territories. Dr. Gasteyer's previous positions include: assistant professor of Human and Community Leadership Development at the University of Illinois (2005-2008); Research and Policy Director at the Rural Community Assistance Partnership in Washington, DC (2002-2005); research consultant on issues of global water governance (2001-2002); UNAIS project worker on Agroecosystem research at the Applied Research Institute Jerusalem, and the Palestine Institute for Arid Lands and Environmental Studies, Palestinian territories (1993-1996); Program Associate for the Committee on Sustainable Agriculture, World Resources Institute (1991-1993). He was a Peace Corps Volunteer in Mali from 1987 through 1990. He received a BA from Earlham College in 1987, and a Ph.D. in Sociology from Iowa State University in 2001.

Upmanu Lall

Dr. Upmanu Lall is the founding Director of the Columbia Water Center, the Alan and Carol Silberstein Professor of Engineering, and a Senior Research Scientist at the International Research Institute for Climate & Society at Columbia University. He is a Fellow of the American Geophysical Union, and of the American Academy of Arts & Sciences. He has received the Henry Darcy Award from the European Geophysical Union, and the Arid Lands Hydraulic Engineering Award from the American Society of Civil Engineers, among others. Through the Columbia Water Center, he has led projects (in countries in all major continents) on water and climate sustainability, risk analysis and mitigation, infrastructure solutions, and the integration of financial instruments. His work ranges from basic research on hydroclimatology and data science to applied research on systems design and optimization, policy analysis and innovation, and field engagement. He conceived of and has been pursuing the "America's Water Initiative" since 2014, and in this context has been developing research and advocacy towards

comprehensive national water, energy, agriculture planning informed by climate, and decentralized, "one water" solutions as the future direction for US and global water infrastructure.

Karl Linden

Karl G. Linden is a Professor of Environmental Engineering and the Mortenson Professor in Sustainable Development at the University of Colorado Boulder. He has a BS from Cornell University in Agricultural and Biological Engineering and an MS and PhD from University of California at Davis in Environmental Engineering. Dr. Linden researches and teaches on advanced and innovative water and wastewater treatment systems with a focus on UV light processes for inactivation of pathogens and degradation of organic contaminants, and applications for sustainable implementation of water and sanitation technologies in low and middle income communities. He is a member of the Water Quality Technical Advisory Group of the World Health Organization, served as Presidents of the Association of Environmental Engineering and Science Professors (AEESP) and the International Ultraviolet Association (IUVA) and is a Fellow of AAAS Linden has received numerous awards for his engineering contributions including the Pioneer Award in Disinfection and Public Health from the Water Environment Federation, the Water Research Foundation Dr. Pankaj Parekh Research Innovation Award, the Borchardt-Glysson Water Treatment Innovation Prize, and National Water Research Institute Clarke Prize.

Meagan Mauter

Professor Meagan Mauter is appointed as an Associate Professor of Civil & Environmental Engineering and as a Center Fellow, by courtesy, in the Woods Institute for the Environment. She directs the Water and Energy Efficiency for the Environment Lab (WE3Lab) with the mission of providing sustainable water supply in a carbon-constrained world through innovation in water treatment technology, optimization of water management practices, and redesign of water policies. Ongoing research efforts include: 1) developing automated, precise, robust, intensified, modular, and electrified (A-PRIME) water desalination technologies to support a circular water economy, 2) identifying synergies and addressing barriers to coordinated operation of decarbonized water and energy systems, and 3) supporting the design and enforcement of water-energy policies. Professor Mauter also serves as the research director for the National Alliance for Water Innovation, a $110-million DOE Energy-Water Desalination Hub addressing water security issues in the United States. The Hub targets early-stage research and development of energy-efficient and cost-competitive technologies for desalinating non-traditional source waters. Professor Mauter holds bachelor's degrees in Civil & Environmental Engineering and History from Rice University, a Masters of Environmental Engineering from Rice University, and a PhD in Chemical and Environmental Engineering from Yale University. Prior to joining the faculty at Stanford, she served as an Energy Technology Innovation Policy Fellow at the Belfer Center for Science and International Affairs and the Mossavar Rahmani Center for Business and Government at the Harvard Kennedy School of Government and as an Associate Professor of Engineering & Public Policy, Civil & Environmental Engineering, and Chemical Engineering at Carnegie Mellon University.

Lauren Patterson

Lauren works as a senior water policy associate at the Nicholas Institute using data to create information around the effect of policies and management efforts on a range of water resource topics including flooding, reservoir operations, and the affordability of water services. Lauren is passionate about creating interactive visualization tools to foster new insights and conversations. Lauren is a co-founder of the Internet of Water project and Confluence Water Advisors, LLC. She has a Ph.D. in geography from the University of North Carolina.

Greg Pierce

Greg Pierce (he/him) is the co-director of the Luskin Center for Innovation and the director of the **Human Right to Water Solutions Lab** within the center. He is also the co-director of the UCLA Water Resources Group within the Institute of the Environment and Sustainability, and serves as faculty in the department of urban planning. Since joining the Luskin Center in 2015, he has been instrumental in guiding the Center's leadership to produce rigorous, engaged research which informs Human Right to Water policy in California, as well as across the United States. He has authored 40+ peer-reviewed journal articles and numerous major research reports. His broader research interests lie at the intersection of public finance, infrastructure planning and environmental justice. Greg holds a PhD in Urban Planning from UCLA.

Darrin Polhemus

Darrin Polhemus is a Deputy Director for the State Water Board and in charge of the Division of Drinking Water since 2016. The Division of Drinking Water administers the federal and California Safe Drinking Water Acts, regulating over 7,400 public water systems throughout the State to assure the delivery of pure and wholesome drinking water to all Californians. The Division is also a key part of implementing the Safe Affordable Funding for Equity and Resilience (SAFER) program that is designed to ensure Californians who lack safe, adequate, and affordable drinking water receive it as quickly as possible, and that the water systems serving them establish sustainable solutions. In addition, the Division permits recycled water usage, manages the Environmental Laboratory Accreditation Program, oversees the work of county health departments that have been delegated the authority to regulate small water systems, and develops regulations pertaining to drinking water. Darrin has also served as Deputy Director for the Division of Water Quality, Division of Administrative Services, and Division of Financial Assistance. In addition he has led technical teams on special assignments such as the Drinking Water Arrearage program; leading a cross-organization, multi-discipline team to develop the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems; as well as working on several assignments related to nitrates in groundwater and regulation of irrigated lands.

Zeno Roller

Zeno Roller is a city planner, researcher, and community organizer whose work focuses on infrastructure and water justice. Zeno led nationwide projects with the US Water Alliance on preventing water shutoffs, developing equitable utility policy, and bringing infrastructure to communities living without water and sanitation access. Prior to this, they spent several years in Brazil working on environmental justice issues in informal settlements. Currently, Zeno lives in Los Angeles and organizes for tenant's rights, immigration justice, and prison abolition.

Meena Sankaran

Meena Sankaran is an entrepreneur striving to create change in the world through the power of technology and innovation. She has driven strategy and execution with her unique blend of business and technical acumen in several leadership roles globally. Currently, she is the Founder & CEO of KETOS, a water intelligence startup that delivers actionable metrics and predictions on water safety and overall availability to help transform how businesses and people think about water. She is a board member across several early-stage start-ups, advises and mentors entrepreneurs at Stanford, Berkeley, Northwestern and is regularly invited to speak at various conferences and events. This includes the United Nations panel on SDG #6 (Sustainable Development Goals) during the High-Level Political Forum Summit in 2018 and White House session in 2019 during the Lead & Copper Rule strategy discussions. Meena has been highlighted by Forbes as one of eight Awe-Inspiring Women Founders. She was chosen by Nasdaq as one of the 2017 Milestone Makers, recently published as one of the few women CEOs differentiating leadership in a book “When Women Lead” by renowned CNBC author, Julia Boorstin and also won the 2019 Builders & Innovators award as one of the 100 most inspiring Entrepreneurs by Goldman Sachs.

KETOS has also won several awards for its innovation both across India and the US including the Start-Up Disruption Award at the World Open Innovation Conference, Accenture's Top 12 companies poised for GTM scale and recognition by E&Y for 1 of the 10 companies excelling in the sustainable/climate category to name a few. KETOS also recently won the Top 50 global technologies for smart cities and was nominated as the 2020 Breakthrough technology of the year at the Global Water Summit.

Bridget Scanlon

Bridget Scanlon is a Senior Research Scientist at the Bureau of Economic Geology, Jackson School of Geosciences, University of Texas at Austin. Her degrees are in Geology with a focus on hydrogeology with a B.A. Mod. from Trinity College, Dublin (1980); M.Sc. from the Univ. of Alabama (1983), and Ph.D. from the Univ. of Kentucky (1985). She has worked at the Univ. of Texas since 1987. Her current research focuses on various aspects of water resources, including global assessments using satellites and modeling, management related to climate extremes, and water quality issues. Her recent research emphasizes linkages between drinking water quality violations and social vulnerability in the US. She serves an Associate Editor for Water Resources Research and Environmental Research Letters and has authored ~ or co-authored ~170 publications. Dr. Scanlon is a Fellow of the American Geophysical Union and the Geological Society of America and a member of the National Academy of Engineering.

Manny Teodoro

Manny Teodoro works at the intersection of politics, public policy, and public management. His research focuses on U.S. environmental policy and implementation, including empirical analyses of environmental justice. He also pursues a line of applied research on utility management, regulation, and finance. He has developed novel methods for analyzing utility rate equity and affordability, and he works on these issues directly with governments and water sector leaders across the United States. His most recent book, The Profits of Distrust (2022, Cambridge University Press), links the meteoric rise of the bottled water industry to basic service problems and declining trust in government. Teodoro also studies public management and bureaucratic politics, emphasizing labor markets as political phenomena and predictors of organizational performance. His award-winning book, Bureaucratic Ambition (2011, Johns Hopkins), argues that career systems and ambition shape administrators' decisions to innovate and engage in politics, with important consequences for innovation and democratic governance.

Amber Wutich

Amber Wutich is a President's Professor of Anthropology and Director of the Center for Global Health at Arizona State University. Her two decades of community-based fieldwork are concerned with how inequitable and unjust resource institutions impact people's well-being, especially under conditions of poverty. An expert on water insecurity and mental health, she directs the Global Ethnohydrology Study, a cross-cultural study of water knowledge and management. Wutich maintains longstanding ties in her field sites in Paraguay and Bolivia, and manages a strategic alliance between la Universidad Nacional de Itapúa (Paraguay) and ASU. An ethnographer and methodologist, Wutich has authored 150+ peer-reviewed publications, co-authored 4 books, edits the journal Field Methods, and directs the NSF Cultural Anthropology Methods Program. Her teaching has been recognized with awards such as Carnegie CASE Arizona Professor of the Year. Wutich has raised over $44 million in research funds, as part of collaborative research teams, from the National Science Foundation, USDA, and other funders.