

Environmental and Water Resources Engineering Seminar Series Presents:

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Maximizing the Value of Water Infrastructure Investments

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Abstract

Significant public spending is required to repair aging water infrastructure and prepare water systems for future changes in supply, demand, and storage driven by climate change. But recent landmark spending bills in the United States represent only a fraction of the American Society of Civil Engineers estimated \$2.5 trillion infrastructure investment deficit. How do we bridge this value gap? One answer is to “build back wiser” by investing dollars in digitized, versatile, distributed, and inclusive water infrastructure systems. This seminar will discuss advances in modern modeling techniques at the unit process, facility, and systems scale to inform wise R&D and infrastructure investments. Dr. Mauter will provide specific examples from her work with municipal utilities across California and highlight the role for implementation research to inform fundamental discovery needs in environmental science and engineering.



Background

Professor Meagan Mauter is an Associate Professor of Civil & Environmental Engineering and Global Environmental Policy at Stanford University and Senior Fellow in the Precourt Energy Institute and Woods Institute for the Environment. She directs the Water & Energy Efficiency for the Environment Lab (WE3Lab) with the mission of providing sustainable water supply in a carbon-constrained world. Ongoing research efforts include: 1) developing desalination technologies to support a circular water economy, 2) coordinating 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 Hub addressing U.S. water security issues. The Hub targets early-stage research and development of energy-efficient and cost-competitive technologies for distributed desalination of non-traditional source waters.

Professor Mauter holds bachelors degrees in Civil & Environmental Engineering and History from Rice University and a PhD in Chemical & 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, Visiting Scholar at the Mossavar Rahmani Center for Business and Government at the Harvard Kennedy School of Government, and Associate Professor at Carnegie Mellon University.