Thursday, October 20, 9:00 – 10:30 AM HST

Common SENSES: Advancing equity in architecture through data science and participatory modeling

Presenters: Michelle M. Laboy, PE, AIA Assoc.; Dr. Amy Mueller; Dr. Daniel T. O'Brien; Dr. Moira Zellner

Moderator: Eileen Peppard

Buildings shape socio-ecological systems, contributing to microspatial inequities—significant local variation in climate hazard exposures, like heat, air pollution, and flooding. Green Infrastructure, a decentralized solution fitting the scale of architecture projects, may mitigate inequities and pursuant health outcomes, with cumulative impacts on climate resilience and public health. Environmental sensor networks have the potential to track the impacts of projects and related green infrastructure in space and time, but we need frameworks for integration with community infrastructure and perspectives.

This session will introduce sensor networks, data science principles and participatory modeling tools that support a data-driven and radically inclusive process, illustrating how a transformative model of practice could generate local knowledge and empower communities to transform architecture into an agent of public health. An interdisciplinary team from the fields of architecture, engineering, planning and data science, will explain the motivations, goals and methods of the project awarded the 2022 Latrobe Prize. Their research seeks to improve how we measure hazard exposure, monitor project impacts, and inform inclusive design of individual projects and, eventually, networks of projects.