DREXEL UNIVERSITY
Civil, Architectural, and Environmental Engineering
College of Engineering

2019 Engineering Alumni Lecture

Michael Kane, PhD, '09

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Northeastern University, Boston, MA

Automation and Controls: The Future in Civil Infrastructure

Monday, May 6th
3:00 pm
Hill Conference Room, Room 240
LeBow Engineering Center
31st and Market Streets
Philadelphia, PA

Today, we sit on the cusp of the information age and the age of automation, where computations break free of cyberspace, ubiquitously affecting the physical world. This future of closed-loop, cyber-physical systems (CPS), moving beyond sensing and analytics, will overcome the barriers to sustainable and resilient infrastructure. This seminar will introduce everyday applications of automation and controls in civil infrastructure, and present cutting-edge innovations that will shape the future of the built environment. We will see that automation has become increasingly intimate and complex, from home control by utilities, to shared urban mobility, to increasing vulnerability from climate change. **The future of the built environment will be increasingly automated; ideally, infrastructure will serve the occupants, not the algorithms**. Designers must create these next generation civil systems to be adaptive, personalized, and trustworthy.

Michael Kane received a B.S degree in architectural engineering and a M.S. degree in civil engineering from Drexel University in 2009, a M.S. degree in electrical engineering in 2011, and a Ph.D. in civil engineering in 2014, both from the University of Michigan, Ann Arbor.

He is an Assistant Professor of Civil and Environmental Engineering at Northeastern University, Boston, prior to which he was a Fellow at the United States Department of Energy (US DOE) Advanced Research Project Agency-Energy (ARPA-E), Washington, DC. He currently directs the Automation for the Built and Living Environment (ABLE) Lab at Northeastern with research interests in areas of bi-linear and hybrid control, and human-in-the-loop control of infrastructure systems.

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