Ira A. Fulton Schools of Engineering
Arizona State University

SCHOOL OF SUSTAINABLE ENGINEERING AND THE BUILT ENVIRONMENT

# NEW FACULTY RESEARCH SHOWCASE

## Friday, November 13, 2020

### 1:00-2:00 PM (Arizona Time USA)

### Webcast Live on Zoom: https://asu.zoom.us/j/86245698724

*Sergi Garcia-Segura – Assistant Professor*

**Cleaning Water With Electricity**

Accessible clean water for all is a sustainable development goal for our society. Electrification of water treatment processes may be a stepstone that guides us towards this utopic equal access to water of quality anywhere.

*Tianfang Xu – Assistant Professor*

**Can Machine Learning and Big Data Help Us Improve Groundwater Modeling?**

Groundwater is an important component of the water cycle and critical source of water supply particularly in arid regions. I use a combination of physical process-based models and machine learning to study groundwater and its role within the water cycle under human interferences and climate change.

*Thomas Czerniawski – Assistant Professor*

**Creating Digital Twins With Computer Vision**

The builders and stewards of infrastructure use digital models for simulation, automation, and information sharing. I automate the creation of these models with computer vision technologies that digitize and abstract the built environment.

*Hasan Ozer – Associate Professor*

**Long-Lasting Pavements Using Modern Computational Tools and Testing Strategies**

Extreme climate events, increasing travel demand, and automated vehicle and trucking technologies is expected to intensify pressure on transportation infrastructure primarily comprised of state and local pavements. The use of advanced computational tools and testing technologies are essential to understand pavements' response and design against those stressors.

*Ruijie Zeng – Assistant Professor*

**Towards Better Understanding and Management of Watersheds as Coupled Human-Nature Systems**

Natural dynamics, human activities, and the feedbacks between them together shape the performance and evolution of watersheds. My research focuses on combining simulation models and decision-making models to improve the understanding of watershed dynamics and provide scientific support for sustainable management of water resources.