

The Department of Civil and Environmental Engineering at the University of Houston presents...

CIVE 6111 Graduate Seminar

Development of Eco-Filament for 3D Printing in Construction and CO2 sequestration (can be changed)



Hee-Jeong Kim, Professor

Department of Civil and Architectural Engineering and
Mechanics at the University of Arizona

Friday, February 10, 2023

2:45pm-3:45pm

Classroom Business Building (CBB) - Room 104

Zoom: <https://uh-edu-cougarnet.zoom.us/j/94589160391>

Abstract

We face a key challenge global warming and CO₂ cause greenhouse effects to promote climate change. Each nation is trying to reach net-zero greenhouse gas (GHG) emissions by 2050. The cement industry accounts for 8% of global CO₂ emissions, and the United States has a significant cement production. This seminar will discuss how construction material research can play a significant role in Carbon Capture, Utilization, and Storage (CCUS). In addition, the future of the construction industry such as 3D concrete printing and lunar concrete will be discussed.

Bio

Hee-Jeong Kim is an assistant professor in the Department of Civil and Architectural Engineering and Mechanics at the University of Arizona. She received a B.S., M.S. and Ph.D. in civil and environmental engineering, all from the Korea Advanced Institute of Science and Technology (KAIST) and did her postdoctoral research at the Department of Civil and Environmental Engineering, MIT.

Her area of expertise is the multi-scale chemo-mechanical characterization of advanced materials in civil engineering. Kim's research involves designing and developing new construction materials based on advanced multi-scale computational modeling and experimental characterization, improving the sustainability and resilience of civil infrastructure, utilization of digital fabrication, including large-scale printing in the development and application of new construction.