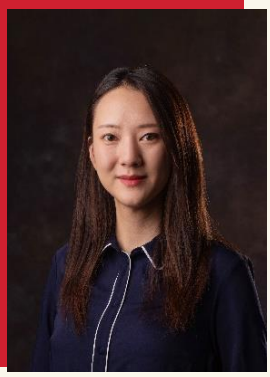
April 11, 2025

Advances in Autonomous Materials and Structures



Qianyun (Gloria) Zhang

Assistant Professor, Civil Engineering department at NMSU, Ph. D from University of Pittsburgh

ABSTRACT: The ceaseless quest to realize novel classes of intelligent materials has provided new road maps to material autonomy. Autonomous materials and structures mimic the sophisticated biology systems to perform sensing, actuation, communication and to achieve active compliance. These systems offer numerous engineering applications in robotics, intelligent infrastructures, biomedical devices, etc. This presentation introduces the recent developments in multi functional materials and structures, emphasizing their self-awareness, cognitive abilities, and the integration of related systems. Furthermore, the talk will delve into the pivotal role of data-driven materials discovery and design, as it emerges as a driving force in propelling the development of autonomous materials.

BIOGRAPHY: Dr. Gloria Zhang is an assistant professor in the Civil Engineering department at NMSU. She earned her PH.D from the University of Pittsburgh in 2022, complemented by a master's degree form the University of Southern California and a bachelor's degree from Wuhan University of Technology in China. her research focuses on developing a new generation of multi functional material and structural systems. Her research covers different important aspects related to smart materials and structures including sensing, monitoring, energy harvesting, actuation, 3D printed smart materials and structures, and machine learing-driven frameworks for materials discoveries.

Seminar Details

Friday, April 11, 2025
2:30pm – 4:00pm

UH Campus
Classroom & Business Building
Room CBB 108

Online via TEAMS
https://www.cive.uh.edu/research/seminars