



FACULTY RESEARCH TALKS

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Zoom talk | Friday, March 13, 2026 | Noon to 1 p.m.



Presenter 1:
WEN SHEN
ASSISTANT
PROFESSOR
Mechanical
and Aerospace
Engineering,
Nanoscience
Technology Center

Additively Manufactured Functional Materials

This talk will present recent advances in additively manufactured functional materials developed in Wen Shen's group. The first part of this talk will focus on hydrogel-based sensors with tailored sensing capabilities, while the second part will introduce additively manufactured smart composites capable of wireless strain detection for structural monitoring applications.

Shen's research interests are in the development of functional materials-based microelectronics for biomedical interfacing, agricultural sensing and structural health monitoring. Her current research is funded by the National Science Foundation, the U.S. Department of Energy and the U.S. Department of Agriculture.



Presenter 2:
ROSHAN
VENKATAKRISHNAN
ASSISTANT
PROFESSOR
Computer Science

Improving Object Manipulation Interactions through Avatar Representations in Extended Reality

Extended reality (XR) technologies are increasingly used for training in areas like surgery, industrial operations and circuit assembly. These applications often involve users exercising fine motor control requiring precise perception-action coordination. In this talk, Roshan Venkatakrishnan will briefly cover the effects of self-avatar hand representations on facilitating effective interactions in virtual and augmented reality, highlighting how such representations affect performance. He will then outline some of his future thrusts that involve conversational interactions with artificially intelligent virtual humans in XR.

Venkatakrishnan researches people's experiences of using immersive XR technologies, including virtual, augmented and mixed reality. He broadly aims to understand and enhance the user experience of these technologies to deploy them with major impact. His research spans a wide range of XR-related topics, including self-avatars, virtual humans, interactions, cybersickness and collaboration with AI agents. Through interdisciplinary research, he aims to increase the use cases of immersive technologies, ultimately making the promise of XR a reality.