SDSU College of Engineering Mechanical Engineering

Mechanical Engineering Seminar Series

October 7th, 2025, 11:00AM

EIS 104

Title: Modular Truss Robots for Extreme Environments

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Abstract: The Modular Truss Robot system is a truss structure that comprises linearly actuated truss components and passive spherical joints that connect them to each other. The Variable Topology Truss (VTT) system is a truss robot system that can reconfigure the topology of itself through docking/undocking modules. During this seminar, I will introduce the research related to the VTT system, which includes the hardware design and experiments, path planning, manipulation, and self-topology reconfiguration. I will also introduce the future works on the modular truss robot systems, and field deployment in challenging environments.

Brief Bio: Andrew Jang-Ho Bae is an Assistant Professor of Mechanical Engineering at UNLV. He leads research on modular truss robots, especially the Variable Topology Truss (VTT), covering hardware, planning, manipulation, and self-reconfiguration. His prior work includes underwater vehicle–manipulator systems and various hardware design and controls. He was a postdoc at UPenn's GRASP Lab and holds a Ph.D. from Seoul National University.