

IROS 2020 Workshop Application-Driven Soft Robotic Systems: Translational Challenges

Video presentation of:

Margaret M. Coad CHARM Lab Stanford University

Presentation Title TBC

Presentation Abstract TBC

Biography

Margaret Coad is a PhD candidate at Stanford University in mechanical engineering with Professor Allison Okamura in the CHARM lab.

Her research focuses on design, modelling, and control of robot systems that improve human health, safety, and productivity. She is especially excited about research that has the potential to reach end users in the near future. Application areas of particular interest include robotic exploration of environments where humans cannot or do not wish to enter, robot-assisted human rehabilitation and training, human-safe robotic manipulation, and remote telepresence. Technical areas of particular interest include mechanism design, actuator and sensor design, human-robot interaction, soft robots, biologically inspired robots, teleoperation, human motor learning, and haptics.

Her PhD research is on a new class of robots called "vine robots," which move through their environment by extending from the tip, similar to how vines grow. These robots have immense potential for exploring spaces too small or dangerous for humans to enter, and she works on developing models and principles for understanding these robots and endowing them with new capabilities. In a particularly adventurous endeavor in the summer of 2018, she brought a vine robot that she built to Chavín, Peru and used it to help explore an archaeological site and take video in small spaces that were not previously viewable through other means.