

Seminar

Experimental Biomechanics: From Micro- to Nanosensing

Rebecca Taylor

September 20, 2017 | 12:00 - 1:30pm | Scott Hall 6142



Seminar abstract

Our lab investigates the mechanics of dynamic micro- and nanoscale structures that have been fabricated using top down micro- and nanofabrication techniques as well as bottom up DNA origami techniques. We are interested in studying the mechanics of micro- and nanosystems that are inspired by the structure of the heart and those reconstituted systems that mimic the function of the heart at the molecular and cellular levels. We are also interested in identifying novel applications for DNA nanotechnology, including DNA origami-assisted interfacial communication and nanorobotics.

The DSN-I Seminar Series is hosted by the Device Science and Nanofabrication Initiative. DSN-I Seminars target researchers in micro and nanofabrication technologies or devices, with the goal of strengthening the user community of the new Scott Hall nanofabrication facility and other shared infrastructure.

Speaker bio

Rebecca Taylor is an Assistant Professor in Mechanical Engineering at Carnegie Mellon University (CMU). She also holds a courtesy appointment in the Biomedical Engineering department at CMU. Prof. Taylor received her B.S.E. in Mechanical Engineering from Princeton University and her M.S. and Ph.D. in Mechanical Engineering from Stanford University. During her doctoral research she worked with Professor Beth Pruitt developing microscale force sensors for studying the mechanics of stem-cell derived heart muscle cells. She was subsequently a Postdoctoral Fellow in Biochemistry at the Stanford University School of Medicine, working under the supervision of Professor James Spudich. She is the director of the Microsystems and Mechanobiology Lab and her research team uses micro- and nanoscale structures as sensors and actuators for investigating the mechanics of cellular and molecular biosystems.