



DEPARTMENT OF BIOMEDICAL ENGINEERING

# 2021 SEMINAR SERIES

## DR. ROSALYN ABBOTT

Assistant Professor, Biomedical  
Engineering

*Carnegie Mellon University*

**10/22/21**

[Zoom link HERE](#)

Passcode: 2010

**10:30 AM EST**

### ABSTRACT:

## *ADIPOSE TISSUE ENGINEERING FOR REGENERATIVE APPLICATIONS AND DISEASE MODELING*

There is a critical need for developing physiologically relevant, sustainable, human adipose tissues in vitro to gain new insights into metabolic diseases and for regenerative applications. In Professor Abbott's lab, human adipose microenvironments are being developed and tested for responsiveness to stimuli hypothesized to alter disease mechanisms (i.e. the transition of obese tissues to insulin resistant type II diabetic tissues), metabolic behavior, and therapeutic potential. The lab focuses on integrating biomaterials with tissue engineering techniques and perfusion bioreactors. Specifically, silk is used as a natural biomaterial to support long term culture of adipose micro-environments in vitro. The ultimate goal is to use these adipose tissue systems to inform preventative and therapeutic measures for patients.

### BIOGRAPHY:

Rosalyn Abbott is an Assistant Professor in Biomedical Engineering with a courtesy appointment in Materials Science and Engineering at Carnegie Mellon University. Professor Abbott received her B.S. and M.S. degrees in Biomedical Engineering from Rensselaer Polytechnic Institute and her Ph.D. degree in Bioengineering from the University of Vermont under the guidance of James Iatridis and Helene Langevin. She was subsequently a postdoctoral fellow in the Biomedical Engineering Department at Tufts University working under the supervision of Professor David Kaplan, where she developed adipose tissue engineered models. Her lab at CMU focuses on leveraging biomaterials and tissue engineering approaches to develop better soft tissue regenerative therapeutics and to study metabolic dysregulation during the complex transition of obesity to insulin resistant type II diabetes.



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