

CHEMICAL & BIOMEDICAL ENGINEERING GRAD STUDENT SEMINAR

Systems Biomedicine and Pharmaceutics: Multiscale Modeling of Tissue Remodeling and Damage

Friday, October 2
11:00 AM
COE B221

Ashlee N. Ford Versypt, Ph.D.

PROFESSOR

Department of Chemical and Biological Engineering
University at Buffalo, SUNY

ABSTRACT: Dr. Ford Versypt leads the Systems Biomedicine and Pharmaceutics Lab, which develops and uses multiscale systems engineering approaches including mathematical modeling and computational simulation to enhance understanding of the mechanisms governing tissue remodeling and damage as a result of diseases and infections and to simulate the treatment of those conditions to improve human health. The lab specializes in (a) modeling mass transport of biochemicals through heterogeneous porous materials—primarily extracellular matrices and engineered biomaterials—that change morphology dynamically due to the influence of chemical reactions and (b) modeling dynamic, multi-species biological systems involving chemical, physical, and biological interactions of diverse, heterogeneous cell populations with these materials and the chemical species in tissue microenvironments. In this seminar, vignettes of research will be highlighted from the two of the five organ systems currently under investigation in the lab: lung fibrosis and eye drug delivery. The seminar will conclude with a brief survey of the lab's broader impacts and educational scholarly work.



This event is sponsored by FAMU-FSU College of Engineering and
Department of Chemical & Biomedical Engineering

