Mohammad Nooranidoost

Florida State University

"Mathematical modeling and uncertainty quantification of biofilm structure"

Monday, December 4, 2023
Talk at 4:30 - Hilles 109
Tea at 4:00 – Foyer outside of Hilles 109

Abstract:

Mathematical tools such as partial and differential equations, data assimilation, and topological data analysis techniques can be used to describe the complex structure of biological systems. In this talk, we will discuss the use of these mathematical tools to capture the physical aspects and spatiotemporal organization of bacterial communities and biofilm component across different scales. Additionally, we will explore how Bayesian statistics can help quantify uncertainties in model parameters that are hard to measure in experiments.

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