



UNIVERSITY OF DELAWARE
DATA SCIENCE
INSTITUTE

Data Science Seminar Series



Data-driven Modeling and Analysis in Biophysics

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Center for Biological Physics
Arizona State University

Thursday, January 24, 2019

10:00am

311 Pearson Hall

Modern experiments monitor biological systems with high resolution that may reach the molecular level. Excessive noise caused by the measuring hardware and the experimental procedures or unaccounted processes demand the formulation of specialized methods for the analysis and interpretation of the acquired datasets. Nevertheless, physical limitations and the inherent uncertainties in the underlying systems, such as unknown parameters, states, or dynamics pose unique conceptual and computational challenges that lead to intractable model selection problems. In this talk, I will present an overview on the difficulties that are commonly encountered and highlight recent advances including novel Bayesian non-parametric approaches which provide elegant alternatives to model selection.

Ioannis Sgouralis is a Postdoctoral Scholar in the Center for Biological Physics at Arizona State University. Previously, he completed a postdoctoral fellowship in the National Institute for Mathematical and Biological Synthesis (NIMBioS) at the University of Tennessee, Knoxville.

Ioannis completed his Ph.D. at Duke University and his undergraduate studies at the National Technical University of Athens, Greece. His research is in the foundational aspects of Data Science and his interests range from theory to implementation in several areas including Physics, Chemistry, Biology, and Medicine