



DEPARTMENT OF MATHEMATICS

Colloquium

April 10, 2018

Refreshments will be served at 10:30 a.m. in 302 GP.

The presentation will begin at 11:00 a.m. in 346 Gordon Palmer Hall

Dr. Julie Mitchell

Deputy Director of the Biosciences Division,
Oak Ridge National laboratory

Topic: Big Data in Biophysics

Abstract: Data science has transformed our understanding of biology, but knowledge-based predictive modeling in structural biology and biophysics has lagged behind more data-rich fields such as genetics. We will present several examples of machine learning predictive models related to protein-protein binding and mutagenesis effects, allosteric communication and nucleic acid binding sites. Recasting fundamental questions about protein energetics in terms of supervised learning leads to reliable predictive models for important biophysical questions.