# Colloquium

Michigan State University
Department of Statistics and Probability

Jingchen Liu
Columbia University

## Rare-event Analysis and Simulations for Gaussian and Its Related Processes

Tuesday, October 2, 2012
10:20 a.m. - 11:10 a.m.
Refreshments 10:00am
C405 Wells Hall

Abstract

Gaussian processes are employed to model spatially varying errors in various stochastic systems. In this talk, we consider the analysis of the extreme behaviors and the rare-event simulation problems for such systems. In particular, the topic covers various nonlinear functionals of Gaussian processes including the supremum norm, integral of convex functions, and stochastic partial differential equations with random coefficients. We present the asymptotic results and the efficient simulation algorithms for the associated rare-event probabilities.