

ACMS Statistics Seminar

Won Chang
University of Cincinnati
Tues, February 27, 2018
154 Hurley Hall
3:30– 4:30 PM



Computer Model Emulation and Calibration Using High-dimensional and Non-Gaussian Spatial Data

I will introduce statistical methods to calibrate complex computer models using high-dimensional spatial data sets. This work is motivated by important research problems in climate science where such computer models are frequently used. Computer models play a central role in generating projections of future climate. An important source of uncertainty about future projections from these models is due to uncertainty about input parameters that are key drivers of the resulting hindcasts and projections. Computer model calibration is a statistical framework for inferring the input parameters by combining information from computer model runs and observational data. When the data are in the form of high-dimensional spatial fields, computer model emulation (approximation) and calibration can pose significant inferential and computational challenges. The goal of this research is to develop new approaches to computer model calibration that are computationally efficient, accurate, and carefully account for uncertainties.

The Department of Applied and Computational
Mathematics and Statistics

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