

Colloquium announcement

“Bayesian model calibration for generalized linear models: An application in radiation transport”

Presented by
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Thursday, April 20, 2017
300 Seitz Hall
3:30 p.m.

Abstract: Using computer models (simulators) to explore physical systems is commonplace in scientific applications. Statistical computer model calibration uses outputs from a simulator and field data to estimate unknown parameters that govern the computer model and to build a predictive model for the system. The conventional approach to model calibration assumes that the observations are continuous outcomes. In many applications this is not the case. In this talk, new methodology that allows the conventional calibration framework to be embedded into different Bayesian hierarchical models that reflect the structure of the observation error and scientific understanding of the generating processes is presented. The proposed methodology was motivated by an application in modeling photon counts at the Center for Exascale Radiation Transport at Texas A&M University. There, high performance computing is used for simulating the flow of neutrons through graphite and a requirement to characterize the distribution of impurities within the graphite.

Hosted by the
Department of Statistics
Virginia Tech

Please join us after the colloquium for refreshments at
Top of the Stairs (217 College Ave.)