

ACMS Statistics Seminar

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Tuesday, April 29, 2025

154 Hurley Hall

3:30 PM – 4:30 PM

Data Augmentation MCMC: Connections to Privacy and Advances in Convergence Analysis

This talk begins with a data augmentation (DA) Markov Chain Monte Carlo (MCMC) framework to perform Bayesian inference from the privatized data, which applies to a wide range of statistical models and privacy mechanisms. The algorithm augments the model parameters with the unobserved confidential data and alternately updates each conditional on the other, using Metropolis-within-Gibbs steps. The second part of the talk focuses on the convergence characteristic of approximate Gibbs algorithms, including hybrid random-scan Gibbs and data augmentation algorithms. The talk is based on joint works with Jordan Awan, Robin Gong, Vinayak Rao, Qian Qin, and Guanyang Wang.

The Department of Applied and Computational
Mathematics and Statistics

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