

SCHOOL OF STATISTICS
SEYMOUR GEISSER DISTINGUISHED LECTURE

Established in Memory of
Seymour Geisser, Director of the School of Statistics (1971-2001)

Thursday, April 26, 2012
3:35 PM
Rapson Hall 45

Jeffrey Rosenthal
Department of Statistics
University of Toronto

Adapting Metropolis Algorithms and Gibbs Samplers

Abstract

Markov chain Monte Carlo algorithms often require tuning, which is challenging in high dimension. One solution involves letting the computer automatically "adapt" the algorithm while it runs, to tune on the fly. However, such adaptive can easily destroy ergodicity if done naively. In this talk, we consider adapting the proposal distributions of Metropolis algorithms, and adapting the coordinate selection probability weights of Gibbs samplers. We present simulations which show that this can sometimes lead to tremendous improvement in performance. We also present conditions which allow us to prove ergodicity of the adaptive algorithms.

Reception following seminar at 4:30 PM - Ford Hall 300