

Mathematics & Statistics Colloquium

Nov 24, 2017, 2:30pm, Jeff 234

Adaptive MCMC for Everyone

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Markov chain Monte Carlo (MCMC) algorithms, such as the Metropolis Algorithm and the Gibbs Sampler, are an extremely useful and popular method of approximately sampling from complicated probability distributions. Adaptive MCMC attempts to automatically modify the algorithm while it runs, to improve its performance on the fly. However, such adaptation often destroys the ergodicity properties necessary for the algorithm to be valid. In this talk, we first illustrate MCMC algorithms using simple graphical Java applets. We then discuss adaptive MCMC, and present examples and theorems concerning its ergodicity and efficiency. We close with some recent ideas which make adaptive MCMC more widely applicable in broader contexts.



Dr. Jeffery Rosenthal is a Professor in the Department of Statistical Science at University of Toronto. He receives numerous awards including 2006 CRM-SSC Prize, 2007 COPSS Presidents' Award. He was elected to Fellowship of the Institute of Mathematical Statistics in 2005, to the Royal Society of Canada in 2012 and awarded the SSC Gold Medal in 2013. He is also a prominent public figure who promotes the fields of probability and statistics; particularly, he is the author of the bestseller *Struck by Lightning: The Curious World of Probabilities*.

The colloquium will be held in the Department of Mathematics and Statistics, Jeffery Hall 234. Light refreshments will be served in the lounge at 3:30p.m.