

STATISTICS COLLOQUIUM

MONDAY, NOVEMBER 28, 2011

TALK: 4:00 PM — SCIENCE CENTER RM. 309

RECEPTION: 5:15 PM — SCIENCE CENTER, 7TH FLOOR

“An Exploration/Exploitation Approach to Adaptive MCMC”

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ABSTRACT

For complex high-dimensional target distributions, Markov chain Monte Carlo methods often require significant expertise and tuning. Adaptive MCMC methods address this by attempting to perform online learning from the sample history. Theoretical analysis of adaptive methods is complicated, and has largely focused on asymptotic behavior. We describe some results on finite sample behavior (mixing times) of several adaptive strategies, and show that they can be classified by their effect on the convergence behavior. This provides insight into design of new algorithms, where we show that a hybrid algorithm using two distinct methods of adaptation dramatically outperforms either individually.