

STATISTICS COLLOQUIUM

MONDAY, APRIL 7, 2014

TALK: 4:15 PM — SCIENCE CENTER RM. 705

RECEPTION: 3:50 PM — SCIENCE CENTER, 7TH FLOOR

“Efficient Implementation of MCMC When Using an Unbiased Likelihood Estimator”

**Arnaud Doucet
Department of Statistics
University of Oxford**

ABSTRACT

When an unbiased estimator of the likelihood is used within an MCMC scheme, it is necessary to tradeoff the number of samples used against the computing time. Many samples for the estimator will result in a MCMC scheme which has similar properties to the case where the likelihood is exactly known but will be expensive. Few samples for the construction of the estimator will result in faster estimation but at the expense of slower mixing of the Markov chain. By harnessing a non-standard representation of the Integrated Autocorrelation Time, we provide guidelines on the number of samples to select for a general Metropolis-Hastings algorithm.