UNIVERSITY OF SYDNEY

SCHOOL OF MATHEMATICS AND STATISTICS

Statistics Seminar

Friday, 15 September, 2.00pm

Eastern Avenue Lecture Theater

Sequential Monte Carlo without likelihoods.

Dr Scott Sisson
The University of New South Wales

Abstract

Recent new methods in Bayesian simulation have provided ways of evaluating posterior densities in the presence of intractable or unknown likelihood functions. However, the mechanism that permits this inference is also responsible for very poor mixing in Markov chain simulations in regions of low density. This inefficiency generates samplers that require far more iterations than may be practical to implement. Here we introduce a novel sequential Monte Carlo sampler that is able to surmount these problems, in addition to being more efficient in terms of generating uncorrelated samples. We demonstrate its implementation through an epidemiological study of the transmission rate of tuberculosis.

Enquiries about the Statistics Seminar should be directed to
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