

For favour of posting

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Departmental Seminar

Dr. Wentao LI

School of Mathematics, Statistics and Physics
Newcastle University
UK

will give a talk

entitled

SIMULATION-BASED BAYESIAN INFERENCE FOR MODELS WITH INTRACTABLE LIKELIHOOD

Abstract

The likelihood function is key to many statistical methods, including maximum likelihood estimation and Markov chain Monte Carlo. But for many realistic models in modern applications, it is difficult to evaluate the likelihood functions due to high model complexity, e.g. models with nonlinear dynamics and latent structure. Approximate Bayesian computation (ABC) method implements Bayesian inference without evaluating the likelihood function, only requiring the ability to simulate pseudo datasets from the model. More specifically, the inference is based on simulated datasets that are close to the observed data. ABC has been popular within population genetics and ecology over a decade, and has recently found wide applications in other areas involving financial time series and stochastic differential equation. This talk will discuss the limitation of standard implementation of ABC, in the sense that it can perform well in terms of point estimation, but will over-estimate the uncertainty about the parameters. If we use the regression correction of Beaumont et al. (2002), then ABC can also accurately quantify this uncertainty, hence achieve the same asymptotic accuracy as the likelihood-based methods.

on

Monday, March 5, 2018

(Refreshments will be served from 11:45 a.m. outside Room 301 Run Run Shaw Building)

12:00 noon – 1:00 p.m.

at

Room 301, Run Run Shaw Building

Visitors Please Note that the University has limited parking space. If you are driving please call the Department at 3917 2466 for parking arrangement.

All interested are welcome