



**The Hong Kong Polytechnic University
Department of Applied Mathematics**

Colloquium

Bayesian Inference Methods for Complex Network Analysis Using Big Data

by

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Abstract

The advance of computer technologies has generated huge amount of big data that need novel statistical and mathematical methods to make testable predictions. Bayesian method is an effective tool to infer unknown parameters and structures of complex networks in social, biological and physical sciences. After a brief introduction of big data and challenges in data analysis, I will use a few biological and financial systems to illustrate how to use Bayesian methods to analyze complex networks.

Biography

Dr Tianhai Tian obtained his Bachelor and Master degrees from Huazhong University of Science and Technology in China and PhD from the University of Queensland in Australia. He worked in a number of Universities in Australia, China and the UK, and currently is an Associate Professor at the School of mathematical Sciences, Monash University in Australia. He has also obtained two research fellowships from the Australian Research Council and one fellowship from the University of Glasgow. His research interests concentrate on stochastic modelling and simulation of complex systems in biology and finance, and statistic computation for the analysis of big data. He has published more than 70 research papers in a number of research areas in applied mathematics and computational sciences.

Date : 22 February, 2016 (Monday)

Time : 3p.m. – 4p.m.

Venue : TU801, The Hong Kong Polytechnic University

***** ALL ARE WELCOME *****