

*For favour of posting*

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE  
THE UNIVERSITY OF HONG KONG

Seminar

## **Professor Howell TONG**

London School of Economics and Political Science, U.K.  
Distinguished Visiting Professor, The University of Hong Kong, H.K.

will give a talk

entitled

### **FEATURE MATCHING IN TIME SERIES MODELLING**

Abstract

Using a time series model or a chain model to mimic an observed time series has a long history. However, with regard to this objective, conventional estimation methods for discrete-time dynamical models are frequently found to be wanting. In fact, very often they are misguided in at least three respects: (i) assuming that there is a true model, and the real time series are free from measurement errors; (ii) evaluating the efficiency of the estimation as if the postulated model is true; (iii) often losing sight of the more important global features.

In the absence of a true model or uncontaminated data, we prefer to focus on feature matching rather than conventional model fitting. The primary purpose of matching is to capture the main features of the dynamics that underpin the data, such as cycles, dynamic ranges and others. In feature matching, the method should be robust against such occurrences as model mis-specification and data contamination.

In this talk, we propose a new approach to empirical time series analysis, in which our aim is to postulate discrete-time dynamical models to match some observed features that are deemed significant. Both linear models and nonlinear models are postulated and discussed. Numerical results, based on both simulations and real data, suggest that the proposed feature matching approach has several advantages over the conventional methods, especially when the time series is short or with strong cyclical fluctuations.

on

**Wednesday, April 28, 2010**

**2:00 p.m. – 3:00 p.m.**

at

**Room 524, Meng Wah Complex  
(behind the Chong Yuet Ming Amenities Centre)**

**Visitors Please Note that the University has limited parking space. If you are driving please call the Department at 2859 2466 for parking arrangement.**

All interested are welcome