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DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Seminar

Professor Ruey S. TSAY

H.G.B. Alexander Professor of Econometrics and Statistics
Booth School of Business, University of Chicago
USA

will give a talk

entitled

ANALYSIS OF HIGH-FREQUENCY SPATIO-TEMPORAL TIME SERIES WITH APPLICATIONS

Abstract

Analysis of high-frequency spatio-temporal data is challenging in many ways. First, the data often come from many locations and over a long period of time, giving rise to the case of big dependent data with large p (dimension) and large T (sample size). Second, the data often exhibit various seasonal and cyclical patterns. Some of the periodicities can be large rendering the conventional state-space formation impractical. Third, there are missing values and, in some cases, there exists left-censoring. Fourth, separable models commonly used in the literature may fail as there is likely to have space and time interaction. In this talk, I use hourly air pollution PM2.5 indexes of 15 monitoring stations over a period of 10 years to demonstrate the difficulties encountered. Some simple models are proposed for exploratory data analysis. We also propose some test statistics for checking the space and time interaction. Finally, a multivariate model based on clustering analysis is employed.

on

Thursday, December 8, 2016

(Refreshments will be served from 11:15 a.m. outside Room 301 Run Run Shaw Building)

11:30 a.m. – 12:30 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