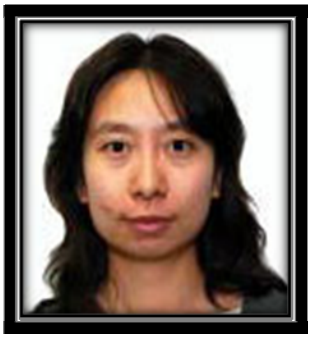
NANYANG TECHNOLOGICAL UNIVERSITY

SEMINAR ANNOUNCEMENT

Memory Indicators And Their Incorporation Into Dynamic Models



Ms Li Wen
PhD Candidate
Department of Statistics
Iowa State University
Ames, USA

Date : **29 May 2009 (Friday)**
Time : **9 am – 10 am**
Venue: **SPMS-Executive Classroom 1, MAS-03-06**
School of Physical and Mathematical Sciences

Data collected over time exhibit some type of memory structure, such as a short or long term memory. Two commonly used indicators of memory are the Hurst exponent and the self-similarity index. We investigate the relationship between the Hurst exponent and the self-similarity index and show that the two are connected for some time series such as fractional Brownian motion. We also employ windowing techniques to study the over-time behavior of the memory structure in a subset of the S&P500 series. Further, we incorporate the memory indicators into dynamical models. In particular, and due to their popularity in terms of use, we look at two continuous-timed dynamical systems – the Log Ornstein-Uhlenbeck (LogOU) and the Cox-Ingersoll-Ross (CIR) models and investigate how to extend them. We will also explore the memory structures underlying these two models and discuss how to estimate the memory indicators and other model parameters simultaneously in the two model systems within a Bayesian framework.

Speaker Biography

Li Wen holds a B.S in Applied Mathematics and a B.A in Economics (double) from Peking University, China in 2003. She got her M.S in Statistics from Iowa State University, USA in 2005 and is expecting to get her PhD this summer. During her period of graduate studies, she was an intern with the Financial Research Centre of Well Fargo Bank and the headquarters of Eli Lilly and Company. Her dissertation is about the long time memory process with application in finance, which involves probability and stochastic differential equation.

Host: Prof. Chee Yeow Meng, Division of Mathematical Sciences, School of Physical and Mathematical Sciences

Queries to: Ms Denise Lim, deniselimrj@ntu.edu.sg, Tel: 6513 7428

SCHOOL OF PHYSICAL AND MATHEMATICAL SCIENCES
NANYANG TECHNOLOGICAL UNIVERSITY
SPMS-MAS-03-01, 21 NANYANG LINK, SINGAPORE 637371
FAX: +65 6515 8213 TEL: +65 6513 7423