



DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

40th Anniversary Seminar Series

Professor Lu LIN

*School of Mathematics and System Sciences
Shandong University
China*

will give a talk

entitled

**MODEL-DATA-ADAPTIVE CONFIDENCE
REGIONS FOR REGRESSION**

Abstract

We introduce and construct model-data-adaptive confidence regions for nonparametric component functions in regression. Here the model-data-adaptability is a synthetic criterion for assessing confidence region. With given coverage probability, the obtained confidence region satisfies that its size adapts automatically to submodels of nonparametric functions in a rate-optimal way and its shape is determined automatically by data. By combining the modern adaptive methods with profile empirical likelihood, the procedures of constructing model-data-adaptive confidence regions for nonparametric components are introduced. In the procedures, the shape of confidence region is constructed via profile empirical likelihood and then it adapts to data automatically; the size of the confidence region is determined by selected U-statistic rather than by the asymptotic distribution of asymptotic pivotal quantity and thus it adapts automatically to submodels of nonparametric functions in a rate-optimal way.

on

Wednesday, March 5, 2008

2:00 p.m. – 3:00 p.m.

at

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

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