THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

MATHEMATICS COLLOQUIUM

Autoregressive Networks and Some Stylized Features of Network Data

By

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Abstract

We propose a first-order autoregressive model for dynamic network processes in which edges change over time while nodes remain unchanged. The model depicts the dynamic changes explicitly. It also facilitates simple and efficient statistical inference such as the maximum likelihood estimators which are proved to be (uniformly) consistent and asymptotically normal. The model diagnostic checking can be carried out easily using a permutation test. We also elucidate how the AR model can accommodate node heterogeneity, edge sparsity, transitivity, homophily and other stylized features in network data.

Biography

Prof. Qiwei YAO is a Professor of Statistics in Department of Statistics at The London School of Economics and Political Science. He is is a distinguished statistician, who has made significant constirbutions in the areas of time series analysis, high-dimensional data, and financial econometrics. Over his academic career, he has held various positions in prestigious institutions and has been actively involved in research that intersects with many practical fields, such as economics and finance. He is a fellow of IMS, ISI and ASA. He has been in the editorial boards of many top journals of statistics and is currently the co-editor of JRSSB.

Date : **12 January 2024 (Fri)**
Time : **3:00pm – 4:00pm**
Venue : **Lecture Theater F (Lifts 25/26)**

All Are Welcome!