# The Hong Kong Polytechnic University
# Department of Applied Mathematics

## AMA Distinguished Seminar Series in Data Science and Machine Learning

## Nonstationary Time Series Past, Present, and Beyond

**By**


**Prof. Ngai Hang CHAN**
**The Chinese University of Hong Kong**



**Abstract**

This talk reviews recent developments of nonstationary and long-memory time series. The underlying theme of recent endeavour arises from the consideration of the order of magnitude of the observed Fisher's information number. By means of a simple AR(1) model, the so-called "SNoTE", it is shown how this number affects the nonstationary behavior in a subtle and important way. The talk elaborates some of the past and present important developments of nonstationary time series from a historical perspective. This talk concludes with discussions of some of the fascinating results involving negative moment bounds of the observed Fisher's information number, which bear important applications to multi-step ahead predictions.


**Biography**

Professor Ngai Hang Chan completed his B.Sc. degree in Mathematics at The Chinese University of Hong Kong and his Ph.D. degree at the University of Maryland (College Park). Before returning to Hong Kong, he taught in the US for over two decades at Indiana University first and subsequently at Carnegie Mellon University, where he was Professor of Statistics. Professor Chan is currently the Choh-Ming Li Chair Professor of Statistics at The Chinese University of Hong Kong. Professor Chan is a world renowned statistician who made many important contributions in time series and econometrics. He was elected to the Fellows of the Institute of Mathematical Statistics and The American Statistical Society. He was also an Honorary Member of the Hong Kong Statistical Society since 2010. He is currently the Co-Editor of the Journal of Time Series Analysis, Journal of Forecasting and the International Journal of Theoretical and Applied Finance. Professor Chan has been an Associate Editor of The Journal of American Statistical Association, Statistica Sinica, Electronic Journal of Statistics and a member of the editorial boards of several other related journals.

**Date: 19 July 2022 (Tuesday)**
**Time: 14:30-15:30 (Hong Kong Standard Time GMT +8)**
**Venue: Online Talk via Zoom (Meeting ID: 977 7739 3727)**
**Speaker: Prof. Ngai Hang Chan, The Chinese University of Hong Kong**
**Host: Prof. Xingqiu Zhao, The Hong Kong Polytechnic University**
**Click to join:**
**https://polyu.zoom.us/j/97777393727?pwd=aFhocXN6aVBrMTR2dUZnd2ZkdFBpZz09**

Click to join (Zoom)

*** * * ALL ARE WELCOME * * ***

For enrolment, please send your name and email to wai-yan.moon@polyu.edu.hk on or before 18 July 2022