THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON STATISTICS

Dynamical Regime Changes

By

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Abstract

With the proliferation of data throughout many fields comes the challenge of detecting abrupt changes in time series that feature complex measured variables that may not be Euclidean in nature. We introduce a method for consistently estimating the number of change-points and identifying their locations in time series that are valued in Metric spaces. We further demonstrate that the estimated change points converge at an optimal rate of O_P (1/T). Analysis of a real dataset and extensive simulations show that our method outperforms state-of-the-art methods, particularly when data are non-Euclidean or covariance structures vary over time.

> **Date** : **17 August 2023 (Thursday)**
> **Time** : **3:00pm**
> **Venue** : **Room 2503 (Lifts 25/26)**

All are Welcome!