



統計科學研究所

INSTITUTE OF  
STATISTICAL SCIENCE



SEMINAR



STATAS

## Seminar

Title : Pattern Graphs: a Graphical Approach to Nonmonotone Missing Data

Speaker : Prof. Yen-Chi Chen

( Department of Statistics, University of Washington)

Time : 10:30 ~ 12:00, Tuesday, July 11, 2023

Place : Auditorium, B1F, Institute of Statistical Science

### Abstract

We introduce the concept of pattern graphs--directed acyclic graphs representing how response patterns are associated. A pattern graph represents an identifying restriction that is nonparametrically identified/saturated and is often a missing not at random restriction. We introduce a selection model and a pattern mixture model formulation using the pattern graphs and show that they are equivalent. A pattern graph leads to an inverse probability weighting estimator as well as an imputation-based estimator. We also study the semi-parametric efficiency theory and derive a multiply-robust estimator using pattern graphs.

※ Online live streaming through Cisco Webex will be available.

※ The tea reception will be held at 10:10.