

# SEMINAR DEPARTMENT OF STATISTICS THE CHINESE UNIVERSITY OF HONG KONG

## Multi-dimensional domain generalization with low-rank structures

#### **INVITED SPEAKER**

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#### TIME

April 29th, 2025 (Tue) · 2:30 pm - 3:30 pm

### VENUE

SC L2 (1/F)· Science Centre L2 · CUHK

#### ABSTRACT

In conventional statistical and machine learning methods, it is typically assumed that the test data are identically distributed with the training data. However, this assumption does not always hold, especially in applications where the target population are not well-represented in the training data. This is a notable issue in health-related studies, where specific ethnic populations may be underrepresented, posing a significant challenge for researchers aiming to make statistical inferences about these minority groups. In this work, we present a novel approach to addressing this challenge in linear regression models. We organize the model parameters for all the sub-populations into a tensor. We establish rigorous theoretical guarantees for the proposed method and demonstrate its minimax optimality.