



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

**SEMINAR ON STATISTICS AND
DATA SCIENCE**

Disease outcome classification in complex data

By

Prof. Jean YANG
The University of Sydney

Abstract

With the advancement of many high-throughput biotechnologies, a research interest of many scientists has been to utilize multiple data sources to gain further insights into biology and deeper understanding of complex diseases. Data integration not only enables scientists to address and ask very specific questions, it also allows them to explore and understand the complex relationships among different phenotypes. In this talk, we will explore two exemplars of complex data structures that have emerged in distinct sub-fields. The first example examines diet and microbiome data in nutriomics, while the second focuses on spatially resolved transcriptomics and histology data in single-cell research. We will discuss how data discovery approaches can uncover hidden patterns and insights within these data structures, and how recent statistical and computational advances can reveal cohort heterogeneity, leading to improved predictions of disease phenotypes and outcomes.

Date : 11 September 2024 (Wednesday)

Time : 11:00am

Venue : Room 4475 (Lifts 25/26)

All are Welcome!