演講主題:
IDENTIFYING GENETIC RISK VARIANTS FOR AUTISM SPECTRUM DISORDER: A STATISTICAL FRAMEWORK WITH ERROR RATE CONTROL

日期：2025年3月7日(五)

時間：中午12點開放入場、
12：20-13：20 演講

地點：公共衛生學院1F全球廳
（臺北市中正區徐州路17號）

報名：https://reurl.cc/Nb7y4q
3/5(三)中午12：00截止

*中午備有簡易輕食，另請自行攜帶水杯。
主辦單位：國立臺灣大學健康資料研究中心
協辦單位：國立臺灣大學公共衛生學院

演講摘要：
Autism spectrum disorder (ASD) is an early-onset neurodevelopmental disorder with a strong heritable component driven by multiple genetic risk variants. A conventional method for identifying these risk variants is to use family-based association tests on trio data that consist of affected children and their parents. However, conventional methods often lack statistical power due to limited sample sizes, as trio data are more difficult to collect than case-control data. To overcome the low power of conventional methods, we propose novel statistical methods that increase power by integrating a knockoff framework and leveraging external case-control data. Moreover, our methods rigorously control the false discovery rate to guarantee that a high proportion of identified variants are true genetic risk variants for ASD. Through simulations and real-data applications to multiple ASD study cohorts, we demonstrate that our methods can identify genetic risk variants missed by conventional methods.

講者簡介：
楊屹博士是香港城市大學生物統計學系的助理教授。他於明尼蘇達大學獲得生物統計學博士及碩士學位。在加入香港城市大學之前，他曾於哥倫比亞大學生物統計學系擔任博士後研究科學家。楊博士的研究聚焦於利用仿製統計量(Knockoff Statistics)及貝葉斯分層模型研發高維數據的變量選擇方法。他研發了多種統計方法與軟體，用於識別人類疾病的致病遺傳變異，包括自閉症、骨肉瘤、克隆氏症及川崎氏病。他的研究獲香港研究資助局「傑出青年學者計劃」資助。