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Save the Date



"Beyond Genetic Associations: Statistical Methods for Causal Discovery"

Presentation by: Siyi Chen, PhD
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Date: Tuesday, November 24, 2026
Time: Noon - 1:00 PM
Room: LEC 303 or Zoom
Refreshments will be provided

Zoom

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Beyond Genetic Associations: Statistical Methods for Causal Discovery

Genome-wide association studies have identified thousands of genetic associations, but determining causal relationships among complex traits remains challenging. Genetic pleiotropy, invalid instrumental variables, and correlated genetic effects can complicate causal inference.

In this talk, I will present my research on statistical methods for causal discovery using GWAS summary statistics. I will discuss approaches to causal network inference, bidirectional Mendelian randomization, and Bayesian methods for handling pleiotropy and identifying causal exposures. Applications to metabolic traits, cardiovascular disease, and Alzheimer's disease will illustrate these methods. I will conclude with ongoing work on high-dimensional causal networks and reliable inference under weak and correlated genetic instruments.