MICHIGAN STATE UNIVERSITY
Department of Statistics and Probability

COLLOQUIUM

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Genetic Pathway Analysis Under High Dimensions

Tuesday, September 29, 2020
10:20 AM - 11:10 AM Eastern Daylight Time (EDT)
Zoom

Abstract

Genetic pathway analysis has become an important tool for investigating the association between a group of genetic variants and traits. With dense genotyping and extensive imputation, the number of genetic variants in biological pathways has increased considerably and sometimes exceeds the sample size n. Conducting genetic pathway analysis and statistical inference in such settings is challenging. We introduce an approach that can handle pathways whose dimension p could be potentially greater than n. We establish the asymptotic distribution for the proposed statistic and conduct analysis on its power. Simulation studies show that our test performs well under the considered situations. An application to a genome-wide association study of high-density lipoproteins demonstrates the proposed approach.

Zoom details can be found at: https://stt.natsci.msu.edu/stt-colloquium-zoom-info/

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