

For favour of posting



DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

50th Anniversary Seminar Series

Professor Tony CAI

Department of Statistics
The Wharton School
University of Pennsylvania
USA

will give a talk
entitled

**OPTIMAL ESTIMATION OF CO-HERITABILITY IN
HIGH-DIMENSIONAL LINEAR MODELS**

Abstract

Co-heritability is an important concept that characterizes the genetic associations within pairs of quantitative traits. There has been significant recent interest in estimating the co-heritability based on data from the genome-wide association studies (GWAS). In this talk, we introduce two measures of co-heritability in the high-dimensional linear model framework, including the inner product of the two regression vectors and a normalized inner product by their lengths. Functional de-biased estimators (FDEs) are developed to estimate these two co-heritability measures. In addition, estimators of quadratic functionals of the regression vectors are proposed. Both theoretical and numerical properties of the estimators are investigated. In particular, minimax rates of convergence are established and the proposed estimators of the inner product, the quadratic functionals and the normalized inner product are shown to be rate-optimal. Numerical results show that the FDEs significantly outperform the naive plug-in estimates.

on

Friday, June 23, 2017

(Refreshments will be served from 2:15 p.m. outside Room 301 Run Run Shaw Building)

2:30 p.m. – 3:30 p.m.

at

Room 301, Run Run Shaw Building

Visitors Please Note that the University has limited parking space. If you are driving please call the Department at 3917 2466 for parking arrangement.

ALL INTERESTED ARE WELCOME