

For favour of posting

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Departmental Seminar

Dr. Xifen HUANG

School of Mathematics
Yunnan Normal University
China

will give a talk
entitled

**HOMOGENEITY PURSUIT OF COEFFICIENTS IN
HIGH-DIMENSIONAL REGRESSION MODELS WITH
CLUSTERED FAILURE TIME DATA**

Abstract

Motivated by the Alzheimer's Disease Neuroimaging Initiative (ADNI) data, which with the objective of integration of important biomarkers for early detection of Mild Cognitive Impairment (MCI) to Alzheimer's disease (AD) as therapeutic intervention is most likely to be beneficial in the early stage of the disease progression. Developing predictors for MCI and AD comes down to genotype variables so that the dimension of predictors is usually very high. In this work, we extend the sparsity concept and explore the homogenous subgroups of coefficients in high-dimensional regression model with clustered failure time data such as ADNI which enables to enhance predictive performance and to facilitate the model's interpretability. In the first part, we propose two MM algorithms (profile and non-profile) for shared frailty survival model and illustrate the utility of the proposed algorithms for the regularized estimation in sparse high-dimensional regression model. Then we present a concave pairwise fusion method for subgroup analysis on regression coefficients via incorporation of proposed MM algorithms with alternating direction method of multipliers algorithm which enables exploration of homogeneity and sparsity simultaneously. The theoretical properties of our proposed estimators are also established. Furthermore simulation studies and analysis of the ADNI data are illustrated by our proposed methods.

on

Monday, August 26, 2019

(Refreshments will be served from 10:45 a.m. outside Room 301 Run Run Shaw Building)

11:00 a.m. – 12:00 noon

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