DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Departmental Seminar

Dr. Bei JIANG

Department of Mathematical and Statistical Sciences
University of Alberta
Canada

will give a talk
entitled

A JOINT MODELING APPROACH FOR BASELINE MATRIX-VALUED IMAGING DATA AND TREATMENT OUTCOME

Abstract

A unified Bayesian joint modeling framework is proposed for studying association between a binary treatment outcome and a baseline matrix-valued predictor, such as imaging data. Under this framework, a theoretically implied relationship can be established between the treatment outcome and the matrix-valued imaging data, although the imaging data is not directly considered in the model. The proposed joint modeling approach provides a promising framework for both association estimation and prediction. Properties of this method are examined using simulated datasets. In particular, our simulations show good performance of the proposed method under even difficult scenarios in which the sample size is small and/or the signal-to-noise (STN) in the imaging data is poor. Finally, a detailed illustration of the proposed modeling approach is provided using a motivating depression study that aims to explore the association between the baseline EEG data and the probability of a favorable response to an antidepressant treatment.

on

Thursday, January 3, 2019

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

2:30 p.m. – 3:30 p.m.

at

Room 301, Run Run Shaw Building

<u>Visitors Please Note</u> 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