

For favour of posting

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE  
THE UNIVERSITY OF HONG KONG

Departmental Seminar

**Professor Dennis K.J. LIN**

Department of Statistics  
The Pennsylvania State University  
USA

will give a talk  
entitled

## **INTERVAL DATA: MODELING AND VISUALIZATION**

### **Abstract**

Interval-valued data is a special symbolic data composed of lower and upper bounds of intervals. It can be generated from the change of climate, fluctuation of stock prices, daily blood pressures, aggregation of large datasets, and many other situations. Such type of data contains rich information useful for decision making. The prediction of interval-valued data is a challenging task as the predicted lower bounds of intervals should not cross over the corresponding upper bounds. In this project, a regularized artificial neural network (RANN) is proposed to address this difficult problem. It provides a flexible trade-off between prediction accuracy and interval crossing. Empirical study indicates the usefulness and accuracy of the proposed method. The second portion of this project provides some new insights for visualization of interval data. Two plots are proposed—segment plot and dandelion plot. The new approach compensates the existing visualization methods and provides much more information. Theorems have been established for reading these new plots. Examples are given for illustration.

on

**Tuesday, October 8, 2019**

*(Refreshments will be served from 4:15 p.m. outside Room 301 Run Run Shaw Building)*

**4:30 p.m. – 5:30 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