

*For favour of posting*

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE  
THE UNIVERSITY OF HONG KONG

Departmental Seminar

## **Professor Yuedong WANG**

Department of Statistics & Applied Probability  
University of California  
USA

will give a talk  
entitled

### **SPLINE SMOOTHING WITH LARGE DATA**

#### **Abstract**

Spline smoothing is a widely used nonparametric method that allows data to speak for themselves. Due to its complexity and flexibility, fitting smoothing spline models is usually computationally intensive which may become prohibitive with large datasets. To overcome memory and CPU limitations, we propose four divide and recombine (D&R) approaches for fitting cubic splines with large datasets. We consider two approaches to divide the data: random and sequential. For each approach of division, we consider two approaches to recombine. These D&R approaches are implemented in parallel without communication. Extensive simulations show that these D&R approaches are scalable and have comparable performance as the method that uses the whole data. The sequential D&R approaches are spatially adaptive which lead to better performance than the method that uses the whole data when the underlying function is spatially inhomogeneous.

on

**Friday, March 1, 2019**

*(Refreshments will be served from 10:15 a.m. outside Room 301 Run Run Shaw Building)*

**10:30 a.m. – 11:30 a.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