

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE  
THE UNIVERSITY OF HONG KONG

50<sup>th</sup> Anniversary Seminar Series

**Professor Bimal SINHA**

Department of Mathematics and Statistics  
UMBC & Center for Statistical Research & Methodology (CSRM)  
US Census Bureau  
USA

will give a talk  
entitled

**SOME ASPECTS OF DATA ANALYSIS UNDER  
CONFIDENTIALITY PROTECTION**

Abstract

A main focus of recent research in many government agencies (such as US Census Bureau) is the novel creation and valid analysis of perturbed data which are either magnitude or categorical in nature. US Census Bureau mandate calls for protection of confidential data, avoidance of identity disclosure, and valid analysis of eventually released data! Often some form of perturbation of original data is used through differential privacy approach, swapping, noise addition/multiplication, pramming (for qualitative variables), creating singly or multiply imputed synthetic data, and so on Research is needed to produce such variations of the original data, provide valid statistical analysis of the released data, and evaluate the level of confidentiality protection supplied by the underlying new data generation methods.

In these lectures I will touch upon two aspects of data perturbation: noise multiplication and synthetic data, and elaborate on how to create and sensibly analyze such perturbed data with some examples. Time permitting, I will also present some severe consequences of model misspecifications.

on

**Tuesday, August 22, 2017**

*(Refreshments will be served from 2:45 p.m. outside Room 301 Run Run Shaw Building)*

**3:00 p.m. – 5:00 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.**