國 立 中 央 大 學

統 計 研 究 所

學 術 演 講

主 講 人：Professor Ashish Das (Department of Mathematics, Indian Institute of Technology Bombay, Mumbai, India)

講　　題：E(s^2)- and UE(s^2)-Optimal Supersaturated Designs

時　　間：106 年 12 月 12 日（星期二）上午 11：00 ～ 12：00

地　　點：中央大學鴻經館429室

茶　　會：上午 10：30 ～ 11：00　　地　點：鴻經館 510 室

ABSTRACT

Supersaturated designs are useful for factor screening experiments under the factor sparsity assumption that only a small number of factors are active. The popular E(s^2)-criterion for choosing two-level supersaturated designs minimizes the sum of squares of the entries of the information matrix over the designs in which the two levels of each factor appear equal number of times. Recently Jones and Majumdar (2014, JASA) proposed the UE(s^2)-criterion which is essentially the same as the E(s^2)-criterion except that the requirement of factor-level-balance is dropped. Since this requirement is bypassed, usually there are many UE(s^2)-optimal designs with diverse characteristics and performances. It is necessary to choose better designs from them. We propose additional criteria and provide constructions for superior UE(s^2)-optimal designs having good projection properties. Usually E(s^2)-optimal designs are difficult to construct, whereas our construction methods of superior UE(s^2)-optimal designs are simple and systematic. We also identify several families of designs that are both E(s^2)- and UE(s^2)-optimal. This is a work jointly with Ching-Shui Cheng, Rakhi Singh and Pi-Wen Tsai.

◎敬請張貼

歡迎參加◎