

# 國立中央大學

## 統計研究所

### 學術演講

主講人：蔡碧紋 教授（國立臺灣師範大學 數學系）

講題：Blocked two-level Factorial Designs under Model Uncertainty

時間：107年05月15日（星期二） 上午11：00 ~ 12：00

地點：中央大學 綜教館O209室

茶會：上午10：30 ~ 11：00 地點：鴻經館 510室

#### ABSTRACT

Many industrial experiments involve the studying of effects of several factors. Factorial designs are often used to study if the factors interact. A careful choice of fractional factorial designs can provide greater savings and more things estimable. In recent years, we have seen rising interest in the construction of blocked fractional factorial designs for the experiments when the complete randomization is not possible. Unlike the typical generalized minimum aberration approach, we extend the definition of the  $Q_B$ -criterion to the selection of regular/nonregular blocked factorial designs under model uncertainty. This criterion exploiting prior information about model uncertainty can lead to more appropriate blocked designs reflecting experimenters' prior belief on the importance of each effect. We will demonstrate that the choice of designs should depend on experimenter's prior belief on the importance of each effect. By sacrificing some orthogonality for factor's main effects with blocks, we can gain more design efficiency when model of large sizes are of interest.

◎敬請張貼

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