

# 國立中山大學應用數學系

## 學術演講

講者：黃靖雯 博士(中央研究院)

講題：Design and Analysis for Order-of-addition Experiments

時間：2025/2/5 (Wednesday) 14:10 ~ 15:00

地點：理 SC 4009-1 教室

茶會：13:45

### Abstract

An order-of-addition (OofA) experiment investigates how the sequence of input factors influences the experimental response. This type of experiment has recently gain significant interest among practitioners in clinical trials and industrial processes. In this work, we introduce a new cost-efficient design called the Complete Consecutive Order-Pairing (CCOP) design. The CCOP design not only considers the effects of the component order on the response but also simultaneously accounts for the effects due to the component levels. We also propose a new statistical model associated with the CCOP design for identifying the optimal settings of both component order and levels. The CCOP design method evaluates the effects of two successive treatments by using the minimal number of runs, as each pair of level settings for two different components appears exactly once. Compared to recent studies on OofA experiments, our design effectively handles pure order experiments and multi-level experiments with a relatively small run size.

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