



統計科學研究所

INSTITUTE OF  
STATISTICAL SCIENCE



SEMINAR



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## Seminar

Title : Dual-Orthogonal Arrays for Order-of-Addition  
Two-Level Factorial Experiments

Speaker : Prof. Shin-Fu Tsai ( 蔡欣甫教授 )

(Department of Agronomy, National Taiwan University)

Time : 10:30 ~ 12:00, Monday, November 6, 2023

Place : Auditorium, B1F, Institute of Statistical Science

## Abstract

In some industrial, chemical and biopharmaceutical studies, varying component addition orders and component levels may have a significant impact on the responses. In this talk, I will introduce a new class of orthogonal arrays called dual-orthogonal arrays to design order-of-addition two-level factorial experiments in which both component addition orders and component levels can be varied over treatments. Dual-orthogonal arrays can be viewed as an optimal combination of order-of-addition orthogonal arrays and two-level orthogonal arrays. Based on these two different concepts of orthogonality, both pairwise order effects and component main effects can be estimated with optimal efficiency. A real-world example will be used to show that dual-orthogonal arrays can be practical. In addition, some construction methods will be introduced to generate dual-orthogonal arrays.

Keywords : Interchange algorithm, main-effect plan, optimal design, screening design.

※ Tea reception starts at 10 : 10.

※ Online live streaming through Cisco Webex will be available.