

# 國立中央大學

## 統計研究所

### 學術演講

主 講 人：劉小篔 博士生（國立中央大學統計研究所博士候選人）

講 題：A unified robust score statistic for population means comparison

時 間：105 年 5 月 19 日（星期四）下午 13：00 ~ 14：00

地 點：中央大學鴻經館 M605 室

### ABSTRACT

This dissertation deals with comparison of population means, similar to that of analysis of variance, in a way that the knowledge of the underlying distributions is absent. We develop a novel robust score test statistic that is akin to the familiar (observed-expected)/expected formula, with extra terms incorporating impact of the unspecified population moments.

We derive the test by correcting the score statistics from models including gamma, normal, Poisson, negative-binomial and inverse-Gaussian. These models, in spite of their diversity, give rise to a single unified corrected robust score statistic. Conditions under which our new robust test is more powerful than current competitors are provided. Finite sample performance is demonstrated via simulations and real data analysis.

Key Words: Robust score statistic; Analysis of variance

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