

# 國立中央大學

## 統計研究所

### 學術演講

主 講 人：陳律閱 教授（國立中興大學 應用數學系）

講 題：Sensible Functional Linear Discriminant Analysis

時 間：105 年 10 月 18 日（星期二）上午 11：00 ~ 12：00

地 點：中央大學鴻經館 M429 室

茶 會：上午 10：30 ~ 11：00                      地 點：鴻經館 510 室

### ABSTRACT

The focus of this paper is to extend Fisher's linear discriminant analysis (LDA) to both densely recorded functional data and sparsely observed longitudinal data for general  $k$ -category classification problems. We propose an efficient approach to identify the optimal LDA projections in addition to managing the noninvertibility issue of the covariance operator emerging from this extension. A conditional expectation technique is employed to tackle the challenge of projecting sparse data to the LDA directions. We study the asymptotic properties of the proposed estimators and show that asymptotically perfect classification can be achieved in certain circumstances. The performance of this new approach is further demonstrated with numerical examples.

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