

# 國立中央大學

## 統計研究所

### 學術演講

主 講 人：黃文瀚 教授（國立中興大學應用數學系）

講 題：A model for analysing clustered occurrence data

時 間：109年5月19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

Motivated by the negative binomial distribution that is widely used in ecological and biological applications, we develop a new clustered occurrence model where presence/absence data are modelled under a multivariate negative binomial framework. The proposed model allows the estimation of negative binomial parameters from (clustered) occurrence data. First, we provide conditions to show the existence of maximum likelihood estimates when cluster sizes are homogeneous and equal to two or three. We also consider a composite likelihood approach which allows for additional robustness and flexibility in fitting a broader class of multivariate Bernoulli models for clustered occurrence data. The proposed method is evaluated in a simulation study and demonstrated using forest plot data from the Center for Tropical Forest Science. Finally, we present several examples using multiple visit occupancy data to illustrate the difference between the proposed model and those of  $k$ -mixture models. The talk is based on a joint work with Richard Huggins and Jakub Stoklosa.

◎敬請張貼

歡迎參加◎