

敬請張貼

# 淡江大學統計學系



## 學術演講



講題：Regression analysis of randomized response data: multi-level model and crossed model

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時間：2019年10月17日(星期四)下午02:10-04:00

地點：B302A(淡水校園商管大樓)

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### 摘要

Surveys of income, drug abuse, and sexual orientation are complicated by the sensitive nature of the topic. The problem which researchers face is how to encourage participants to respond and to provide truthful responses in surveys. Randomized response is an ingenious data-collection survey mode conceived to reduce nonresponse rates and untruthful responding when sensitive topics are surveyed. For a wide range of applications, I intend to propose some theoretical and empirical advances by considering the regression analysis of randomized response data with a multi-level model and crossed model. Under the multi-level model, a respondent reports the absolute difference between a random integer and an integer associated with his or her attributes. As a practical illustration of the multi-level model, I analyze income from the Taiwan Social Change Survey of 2012 with a proportional odds model. Next, the crossed model is introduced to collect data on two sensitive attributes, and each respondent is provided with two randomization devices which may result in possible response of (No, No), (No, Yes), (Yes, No) or (Yes, Yes). Finally, I provide two applications based on real data collected with the crossed model about cannabis use and legalization, and about abortion and illegal immigration and analyzed with logistic regression.