

# 國立中央大學數學系

## 學術演講

主講人:詹文耀教授  
(School of Public Health, The University  
of Texas Health Science Center at Houston)

講題: Analysis of longitudinal trinomial outcome data

時間: 2008年05月13日(星期二)  
11:00 ~11:50 a.m.

地點: 中央大學鴻經館M116室

茶會: 10:20 ~11:00 a.m. M306室

### Abstract :

Analysis of categorical outcomes in a longitudinal study has been an important statistical issue. Continuous outcome in a similar study design is commonly handled by the mixed effects model. The longitudinal binary or Poisson-like outcome analysis is often handled by the generalized estimation equation (GEE) method. Neither method is appropriate for analyzing a trinomial outcome in a longitudinal study. In addition, methods that rely upon GEE or mixed effects models are unsuitable in instances when the focus of a longitudinal study is on the rate of moving from one category to another. In this research, the relationship between a trinomial longitudinal outcome and independent variables are examined. The primary assumption is that the within-subject changes of the outcome variable follow a continuous-time Markov model. An empirical study was conducted to evaluate the estimators. The technique was then applied to the Project HOME data, a population-based group intervention trial, to identify factors associated with subject changes in stage, from precontemplation to contemplation and from contemplation to action, following the health behavior Transtheoretical model.

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