# 学术报告

## Variable Selection for Random Effects Two-part Model

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**Time：** 9:00-10:00, Jul 3 (Tuesday) , 2018

**Venue：** Room 112, Center for Applied Mathematics

**Abstract：** Random effects two-part models have been applied to longitudinal studies for zero-inflated (or semi-continuous) data, characterized by a large portion of zero values and continuous non-zero (positive) values. Examples include monthly medical costs, daily alcohol drinks, relative abundance of microbiome, etc. With the advance of information technology for data collection and storage, the number of variables available to researchers can be rather large in such studies. To avoid curse of dimensionality and facilitate decision making, it is critically important to select covariates that are truly related to the outcome. However, owing to its intricate nature, there is not yet a satisfactory variable selection method available for such sophisticated models. In this paper, we seek a feasible way of conducting variable selection for random effects two-part models on the basis of the recently proposed “minimum information criterion” (MIC) method. We demonstrate that the MIC formulation leads to a reasonable formulation of sparse estimation, which can be conveniently solved with SAS Proc NLMIXED. The performance of our approach is evaluated through simulation, and an application to a longitudinal alcohol dependence study is provided.

欢迎大家参加！