

# 中央研究院統計科學研究所

## 學術演講

講題：On estimation of spatial regression models in the presence of spatial confounding

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時間：2019年8月19日（星期一）上午11:00-12:00

地點：中央研究院統計科學研究所6005會議室(環境變遷研究大樓A棟)

### Abstract

Spatial regression models are often used to analyze the ecological and environmental data sets over a continuous spatial support. If spatial confounding exists between covariates and unobserved random effects and is ignored in the modeling procedure, the estimators of regression coefficients would be biased. Although a technique of restricted spatial regression had been applied to investigate this issue, the related inferences were mainly based on Bayesian frameworks. In this paper, an adjusted generalized least squares estimation method is proposed to estimate regression coefficients in the presence of spatial confounding which can be shown to have better performance than the conventional estimation methods via theories and simulation studies. Moreover, some concerns about the proposed methodology are also discussed. Finally, a real data example is analyzed for illustration. This is a joint work with Yung-Huei Chiou and Hong-Ding Yang.

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