

SCMS & SDS Joint Seminar

JOIN STATISTICS SEMINAR OF SCMS AND SDS

SIMULATION-BASED SENSITIVITY ANALYSIS FOR NON-IGNORABLE MISSING DATA

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Lecture

Time: 14:00-15:00, Thursday, Mar. 22, 2018

Venue: Zibin N102, Fudan University

Abstract: Sensitivity analysis is popular in dealing with missing data problems particularly for non-ignorable missingness, where full likelihood method cannot be adopted. It analyses how sensitively the conclusions (output) may depend on assumptions or parameters (input) about missing data, i.e. missing data mechanism. We call models with the problem of uncertainty sensitivity models. To make conventional sensitivity analysis more useful in practice we need to define some simple and interpretable statistical quantities to assess the sensitivity models and make evidence based analysis. In this talk, I will discuss a novel approach on attempting to investigate the possibility of each missing data mechanism model assumption, by comparing the simulated datasets from various MNAR models with the observed data non-parametrically, using the K-nearest-neighbour distances. The method is generic and can be applied to different types of model. Several specific examples will be discussed, including meta-analysis model with publication bias, analysis of incomplete longitudinal data and mean estimation with non-ignorable missing data.