



Statistical Sciences
UNIVERSITY OF TORONTO

SEMINAR

March 3, 2016 at 3:30pm

Refreshments will be provided at 3:15pm

Sidney Smith Hall, Room 2106

Speaker: Peisong Han, University of Waterloo

Host: Patrick Brown

Multiple Robustness In Missing Data Analysis

Estimators that are robust against model misspecifications are highly desired. In missing data analysis, doubly robust estimators are consistent if either the model for selection probability or the model for data distribution is correctly specified.

We propose a method that exhibits a further improved robustness. This method can simultaneously account for multiple models for selection probability and multiple models for data distribution. The resulting estimators are consistent if any one model is correctly specified. When both quantities are correctly modeled, these estimators achieve maximum possible efficiency. This new method is based on the calibration idea in sampling survey literature, and has a strong connection to empirical likelihood. Unlike many existing estimators, the proposed ones are not sensitive to near-zero values of estimated selection probabilities.