



Statistical Sciences
UNIVERSITY OF TORONTO

SEMINAR

September 22, 2016 at 3:30pm

Refreshments will be provided at 3:15pm

Sidney Smith Hall, Room 2108

Speaker: Mireille Schnitzer, University of Montreal

Host: Patrick Brown

Collaborative Targeted Learning Using Regression Shrinkage

Causal inference practitioners are routinely presented with the challenge of wanting to adjust for large numbers of covariates despite limited sample sizes. Collaborative Targeted Maximum Likelihood Estimation (CTMLE) is a general framework for constructing doubly robust semiparametric causal estimators that data-adaptively reduce model complexity in the propensity score in order to optimize a preferred loss function. This stepwise complexity reduction is based on a loss function placed on a strategically updated model for the outcome variable, assessed through cross-validation. New work involves integrating penalized regression methods into a stepwise CTMLE procedure that may allow for a more flexible type of model selection than existing variable selection techniques. Two new algorithms are presented and methods to reduce computational complexity, based on previous work, are assessed.