



Statistical Sciences
UNIVERSITY OF TORONTO

SEMINAR

November 19, 2015 at 3:30pm

**Refreshments at 3:10pm*

Sidney Smith Hall, Room 1087

Speaker: Richard Cook, University of Waterloo

Host: Patrick Brown

Inference about the within-family association in disease onset times under biased sampling schemes

In preliminary studies of the genetic basis for chronic conditions, interest routinely lies in the within-family dependence in disease status. When probands are selected from disease registries and their respective families are recruited, a variety of ascertainment bias-corrected methods of inference are available which are typically based on models for correlated binary data. This approach ignores the age that family members are at the time of assessment. We consider copula-based models for assessing the within-family dependence in the disease onset time and disease progression, based on right-censored and current status observation of the non-probands. Inferences based on likelihood, composite likelihood and estimating functions are each discussed and compared in terms of asymptotic and empirical relative efficiency.

This is joint work with Yujie Zhong.