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COLLOQUE DES SCIENCES MATHÉMATIQUES DU QUÉBEC - STATISTIQUE
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DATE :
Le jeudi 26 novembre 2015 / Thursday, November 26, 2015

HEURE / TIME :
15 h 30 / 3:30 p.m.

CONFERENCIER(S) / SPEAKER(S) :
Richard Cook (University of Waterloo)

TITRE / TITLE :
Inference regarding within-family association in disease onset times under biased sampling schemes

LIEU / PLACE :
McGill University, Burnside Hall, salle 306

RESUME / ABSTRACT :

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.

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