

Department Colloquium

Speaker: Ronghui (Lily) Xu

Date: Friday, March 18

Time: 2:30 p.m.

Place: Jeffery 234

Title: Statistical challenges in analyzing observational data on pregnancy

Abstract: We consider exposures during pregnancy including vaccines and medication. There are multiple outcomes, including for example spontaneous abortion, preterm delivery, birth defects, etc. Some of these outcomes are intrinsically linked. Some, like spontaneous abortion, has two aspects: yes or no, and if yes, the timing of the event. This latter case has close connection with the cure rate models in the literature, although our data are somewhat different. In addition, the data are obtained in the context of observational studies, so there are features including left truncation, partial interval censoring, etc. We describe the methods of inference we have developed so far, including nonparametric maximum likelihood with an EM algorithm, a weighted approach, and smoothing (if time permits), as well as discuss future works to be done.