STATISTICS SEMINAR
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Thursday, September 25, 2014
Dickens Hall, Room 207, 4:00-5:00 pm
Refreshments: Dickens 108, 3:30-4:00 pm

Statistical Analysis of Mixed Recurrent Event and Panel Count Data

Abstract:

Event history studies occur in many fields including economics, medical studies, and social science. In such studies concerning some recurrent events, two types of data have been extensively discussed in the literature. One is recurrent event data that arise if study subjects are monitored or observed continuously.

In this case, the observed information provides the times of all occurrences of the recurrent events of interest. The other is panel count data, which occur if the subjects are monitored or observed only periodically. This can happen if the continuous observation is too expensive or not practical, and in this case, only the numbers of occurrences of the events between subsequent observation times are available. In this talk, we discuss a third type of data, which is a mixture of recurrent event and panel count data and for which there exists little literature. For regression analysis of such data, we present a marginal mean model and propose an estimating equation-based approach for estimation of regression parameters. A simulation study was conducted to assess the finite sample performance of the proposed methodology, and the results indicate that it works well for practical situations. The method is applied to a motivating study on childhood cancer survivors.