

STATISTICS SEMINAR

Feng-Chang Lin, Ph.D.

Department of Biostatistics
University of North Carolina at Chapel Hill

Thursday, September 24, 2015
Dickens Hall, Room 207, 4:00-5:00 pm
Refreshments: Dickens 108, 3:30-4:00 pm



Semiparametric Estimation of Modulated Renewal Process Models

Regression modeling of a sequence of events has been widely used in several disciplines, such as recurrent events modeling in biomedical field and life time testing of industrial equipment in reliability. More often, the outcome came from independent and identical samples. In this talk, we will show two interesting applications of regression modeling, in that the outcome came from a long single sequence of multiple events. Evolved from a conventional renewal process, modulated renewal processes were first introduced by Cox (1972) for the purpose of including covariate information in the renewal process models. Previous work has considered either parametric likelihood analysis or semiparametric multiplicative models using partial likelihood. We proposed a more general framework to include a larger class of models. We demonstrated, in this framework, a parametric model can be easily generalized to a more flexible semiparametric model with better interpretation.