Discrete Mathematics Seminar

Time: Friday, 28 October 2011, 12:30-1:30 PM
Room: 238 Derrick Hall
Title: Mean Residual Life Regression Models for Censored Survival Data
Speaker: Dr. Qiang Zhao, Mathematics Department

Abstract:

Survival analysis is the statistical investigation of survival time or time to occurrence of an event, such as death, HIV infection, or occurrence of a tumor. Sometimes a patient's survival time cannot be observed exactly due to the patient's dropout or the termination of the study, resulting in censored survival data. In regression analysis of censored survival data, regressing mean residual life is sometimes preferred to regressing survival or hazard rate on covariates.

In this talk, we will introduce a class of regression models built for mean residual life function based on censored data, the estimation procedures, and tests for goodness-of-fit. We established the asymptotic properties of the estimators and investigated the finite sample properties of the estimators of the regression parameters through simulation. The proposed methods are further illustrated using cancer data from a clinic trial.