

STATISTICS COLLOQUIUM

MONDAY, MARCH 22, 2010

TALK: 4:00 P.M. — SCIENCE CENTER ROOM 705

RECEPTION: 5:15 PM — SCIENCE CENTER, 7TH FLOOR

Quantile Regression with Missing Covariate Measurements

Michael Parzen
Emory University

ABSTRACT

Although there is a growing literature on linear regression and generalized linear models with missing values in the covariates, the problem of incomplete covariate data in quantile regression has not been addressed. In this talk we examine the general problem of missing data in quantile regression models, where the incompleteness is due to partially missing covariates on some observations. We assume that the missing covariates are missing at random (MAR) and the responses are completely observed. We describe how a set of weighted estimating equations can be constructed which provide a consistent estimator of the quantile regression parameters when there are missing covariate data. We also demonstrate how a standard analysis, based only on the complete cases, can yield biased estimates when the covariates are missing at random. An attractive feature of the proposed method is that it can be easily implemented using existing statistical software packages.