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## Statistical Machine Learning Seminar Hosted by Department of Mathematical Sciences

■ Date: Tuesday, November 3, 2015

Time: 12:00-1:00Room: WH-100E

Speaker: Xiaojie Du (Mathematical Sciences)

• Title: Inference About the Slope in Linear Regression with Missing Responses: An Empirical Likelihood Approach.

## **Abstract**

This article considers linear regression models with responses that are allowed to be missing at random, which covers the model with fully observed data as a special case. We assume that the covariates and the errors are independent, without specifying their distributions. The main result of this article is to present two efficient maximum empirical likelihood estimators for the regression parameter, which are easy to obtain numerically. This fills a gap in the literature which does not provide a parameter estimator that is both simple and efficient: the usual efficient approaches require an estimator of the influence function, which can be quite involved. We also present an asymptotic confidence interval for the slope.

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