



**Title:** Regression analysis of longitudinal data with omitted asynchronous longitudinal covariate

**Date/Time:** February 27, 2020 11:15 to 12:30

**Speakers:** Hongyuan Cao, Florida State University

**Chair:** Wendy L. Martinez, Bureau of Labor Statistics

**Abstract:** Abstract: Extended follow-up with longitudinal data is common in many medical investigations. In regression analyses, a longitudinal covariate may be omitted, often because it is not measured synchronously with the longitudinal response. Naive approach that simply ignores the omitted longitudinal covariate can lead to biased estimators. In this article, we establish conditions under which estimation is unbiased with an omitted longitudinal covariate and propose unbiased estimation methods to accommodate omitted longitudinal covariate. A second stage estimator is presented for inference about the asynchronous longitudinal covariates, when such covariates are observed. Extensive simulation studies provide numerical support for the theoretical findings. We illustrate the performance of our method on dataset from an HIV study.

**Location:** Bureau of Labor Statistics Janet Norwood Conference Center, Rooms 7 & 8

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