Title: A Model-Assisted Regression Tree Estimator

Date/Time: Monday, November 13, 2017, 12:30 – 2:00 PM (ET)

Speakers: Kelly McConville, Swarthmore College

Chair: Daniell Toth, Bureau of Labor Statistics

Sponsor: WSS Methodology Section

Abstract: Auxiliary information can increase the efficiency of survey estimators when the estimator accurately captures the relationship between the variable of interest and the auxiliary variables. Under a model-assisted framework, we present a regression tree estimator for a finite population mean. Regression trees can capture important interactive effects missed by linear regression and do not suffer from multicollinearity issues when the auxiliary variables are highly collinear. We establish consistency of the model-assisted regression tree estimator and compare its performance to other survey estimators using the US Bureau of Labor Statistics Occupational Employment Statistics data.

Location: Bureau of Labor Statistics Janet Norwood Conference Center, Room 8

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