



Title: rpms: An R Package for Modeling Survey Data with Regression Trees

Date/Time: Wednesday, March 8, 2017, 12:00 – 1:30 PM (ET)

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Sponsor: WSS Methodology Section

Abstract: In this presentation, we introduce the R package **rpms** (Recursive Partitioning for Modeling Survey Data). The main function **rpms** fits a linear model to the data conditionally on variables selected through recursively partitioning. This application of recursive partitioning produces design consistent regression tree models of survey data with one-stage designs, accounting for any stratification and clustering, as well as unequal probability of selection. We test the properties of the algorithm using samples from a simulated population dataset and demonstrate it by modeling household level data from the U.S. Bureau of Labor Statistics' Consumer Expenditure survey. These applications demonstrate the easily interpretable structure and the ability of regression trees to handle large data sets with complex associations among the variables.

Location: Bureau of Labor Statistics Janet Norwood Conference Center, Room 9

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