Stanford University
Department of Statistics

DEPARTMENTAL SEMINAR

4:15pm, Tuesday, August 7, 2012
Sequoia Hall Room 200
Cookies served at 3:45pm, 1st floor Lounge.

Speaker:  Michael Wolf, University of Zurich

Title:  Bootstrap Joint Prediction Regions

Abstract:

Many economic and financial applications require the forecast of a random variable of interest over several periods into the future. The sequence of individual forecasts, one period at a time, is called a path-forecast, where the term path refers to the sequence of individual future realizations of the random variable. The problem of constructing a corresponding joint prediction region has been rather neglected in the literature so far: such a region is supposed to contain the entire future path with a prespecified probability. We develop bootstrap methods to construct joint prediction regions. The resulting regions are proven to be asymptotically consistent under a mild high-level assumption. We compare the finite-sample performance of our joint prediction regions to some previous proposals via Monte Carlo simulations. An empirical application to a real data set is also provided.