

STATISTICS COLLOQUIUM

MONDAY, DECEMBER 8, 2008

Talk: 4:00 PM – *Science Center 309*

Reception: 5:15 PM – *Science Center, 7th Floor*

“Tracking Public Opinion Over the 2008 Election:
A Hierarchical, Dynamic Linear Model”

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ABSTRACT

The 2008 electoral cycle saw more state-level and national polling than in any recent cycle. Web sites such as fivethirtyeight.com and Pollster.com used more or less ad hoc rules of thumb to aggregate the many state-by-state polls to produce trajectories of vote intentions in each state and at the national level. We fit a hierarchical, dynamic linear model to more than 2,300 state and national polls that were fielded over the 2008 campaign, using a hierarchical, dynamic linear model to recover day-by-day, state-by-state trajectories in vote intentions. The hierarchical component of the model allows for the day-by-day innovations to be correlated across states, with this spatial component of the model structured by spatial contiguity and correlation patterns across states in past elections. We report credible intervals around these state-specific trajectories, and identify dates associated with large innovations in an effort to assess campaign effects. Further, with the benefit of hindsight – knowledge of the actual state and national outcomes – we can identify house effects by constraining the estimated state and national level trajectories to run through the vote proportions actually recorded on Election Day. Other extensions of the model include sensitivity to survey houses overstating the precision of their estimates (i.e., survey houses typically ignore design effects when publishing results) and regime-switching so as to better identify shocks from campaign events. Joint work with Professor Jeffrey Lewis (Political Science, UCLA).