1063-60-235   **Persi Diaconis**, **Laurent Miclo** and **Jessica Zuniga*** (`jzuniga@math.stanford.edu`),
Stanford University, Department of Mathematics, Building 380, Stanford, CA 94305. *On the spectral analysis of second-order Markov chains.*

In this talk we consider second-order finite Markov chains that are trajectorially reversible, a property that is a generalization of the notion of reversibility for usual Markov chains. Specifically, we study spectral properties of second-order Markov chains that have a tendency to not return to their previous state. We confirm that resorting to second-order chains can be an option to improve the speed of convergence to equilibrium. This is joint work with Persi Diaconis and Laurent Miclo. (Received August 17, 2010)