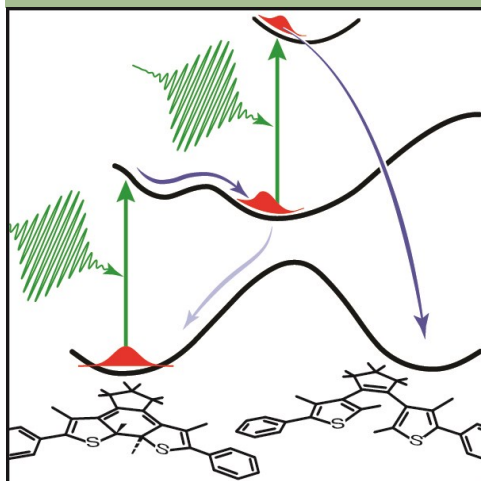


PHYSICAL SEMINAR

Professor Christopher Elles
University of Kansas
Department of Chemistry



Monday, October 29th,

4:00pm

473 Hutchison Hall

University of Rochester

Department of

Chemistry



“Probing and Controlling the Dynamics of Photochromic Molecules”

Abstract:

We use ultrafast spectroscopy to study and control the excited-state dynamics of a photochromic molecular switch. Sequential excitation with two, time-delayed laser pulses excites the molecule to higher-lying electronic states (above S_1) that map onto the cyclo-reversion reaction coordinate of the molecule. Changing the wavelength and relative delay of the two laser pulses selectively changes the reaction path. We use three-pulse transient absorption (pump-repump-probe, PReP) measurements to monitor the reaction directly, and excited-state resonance Raman (femtosecond stimulated Raman, FSRS) measurements to probe the potential energy surface of the upper state. The combination of techniques provides unique insight on the dynamics of higher-lying electronically excited states, which is an important frontier in reaction dynamics.

Host: Professor David McCamant • Email: mccamant@chem.rochester.edu