

Physical Chemistry Seminar

Tuesday,
October 18, 2011

11:00 a.m.

Room 1315
Chemistry Building

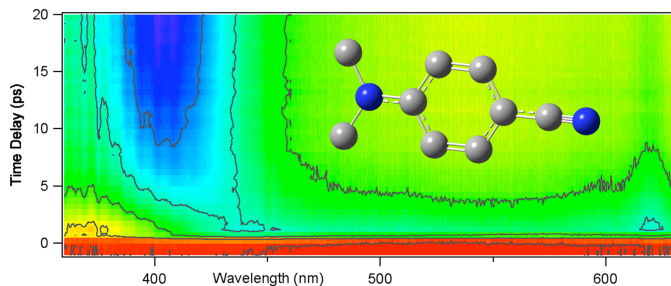
Femtosecond Raman Spectroscopy as a Probe of both Ultrafast Photochemical Reaction Dynamics and Vibrational Coupling



Professor
David W. McCamant

*Department of Chemistry
University of Rochester*

The McCamant lab uses femtosecond laser spectroscopy to probe the dynamics that occur during photochemical reactions. Our work has three main focal points: (1) the development of new techniques for multidimensional vibrational spectroscopy, (2) observing ultrafast dynamics in charge transfer and energy transfer events, and (3) observing the photochemistry of DNA occurring on the femtosecond and picosecond time scales. For each of these areas of research, state-of-the-art femtosecond stimulated Raman spectroscopy (FSRS), femtosecond transient absorption (TA) and quantum chemical calculations combine to provide new insight that is unavailable when these techniques are applied on their own. This talk will present our recent results probing the ultrafast charge-transfer events in dimethylaminobenzonitrile (DMABN, “Lippert’s molecule”) and our new two-dimensional Raman technique that can probe the anharmonic couplings between different molecular vibrations.



Refreshments will be available prior to the seminar at 10:45 a. m. outside room 1315

Graduate Students may meet with the speaker at 1:15 p.m. in Room 8305f