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# Department of Chemistry

## Seminar

9:45 a.m. Thursday, November 20, 2014 • 331 Smith Hall



Associate Professor

**David McCamant**

Department of Chemistry  
University of Rochester

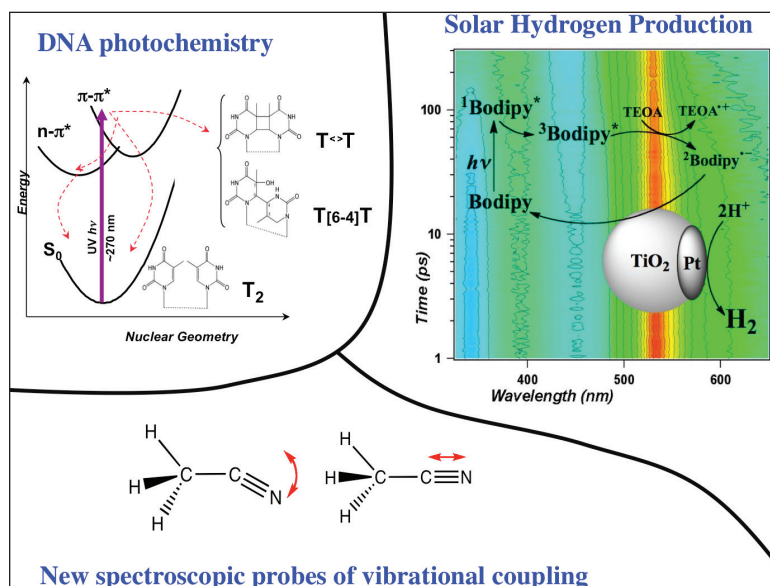
### *Probing Ultrafast Photochemistry with Femtosecond Electronic and Vibrational Spectroscopy*

Research interests: developing new ultrafast vibrational techniques to study both the nuclear geometry changes during ultrafast photochemical and photobiological reactions and the vibrational coupling that allows energy flow in small molecules.

Website: <http://chem.chem.rochester.edu/~dmgrp/>

#### Abstract

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 photophysics of DNA after it absorbs ultraviolet light and the energy transfer processes that occur in light-harvesting compounds used for solar hydrogen production.



Host: Professor David Blank

Refreshments will be served prior to the seminar.