"Watching Charge and Energy Flow in Excited Molecules"

Chemistry Colloquium

Professor Albert Stolow

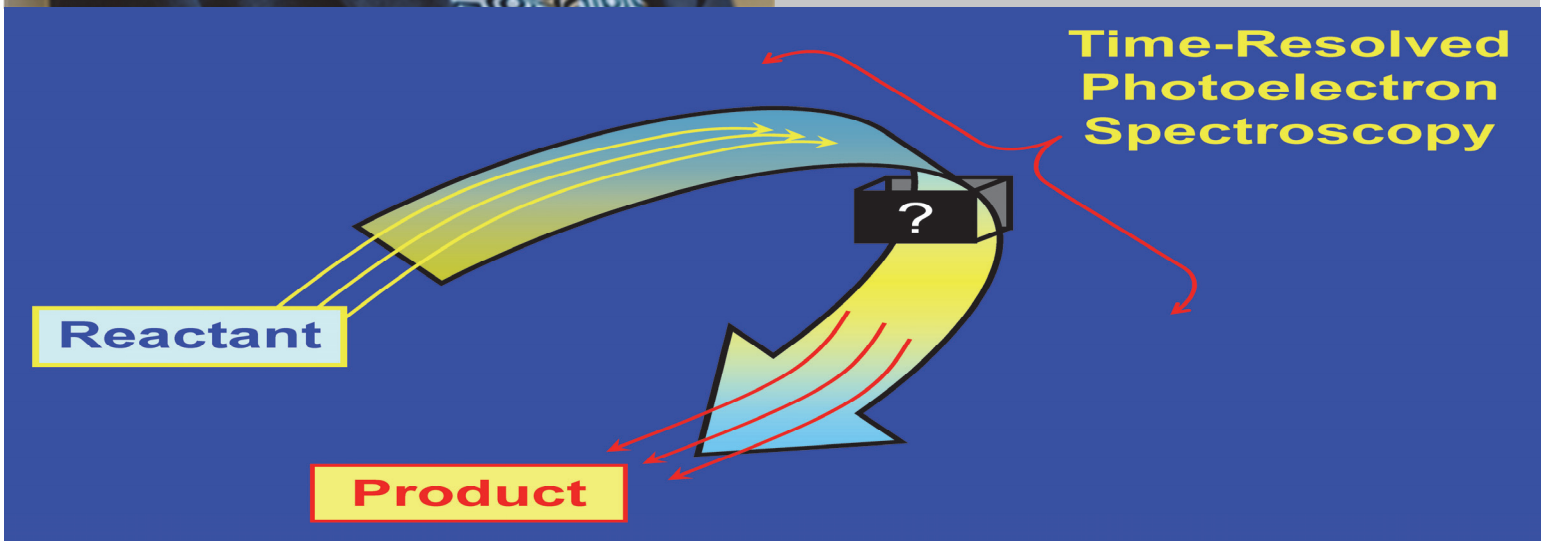
University of Ottawa & National Research Council Canada

Wednesday, October 18th

12:00pm

Lander Auditorium

Hutchison Hall 140



Abstract

In general, excited state photochemistry involves the coupled flow of both electronic charge and vibrational energy: atoms move and bonds rearrange in concert. These so-called 'non-adiabatic processes' (e.g. conical intersections) remain one of the most important yet challenging problems in physical chemistry. Since a conical intersection is essentially a 'transition state in the excited state', we must understand the key role that these specific configurations play. We use the experimental method of Time-Resolved Photoelectron Spectroscopy which is a powerful probe of such dynamics because it is directly sensitive to both electronic and atomic motions. Using series of unsaturated hydrocarbons as a paradigm, we explore the motions that govern and affect excited state non-adiabatic dynamics.

Reference: Chemical Reviews 104, 1719 (2004)

Host: David McCamant - Email: david.mccamant@rochester.edu