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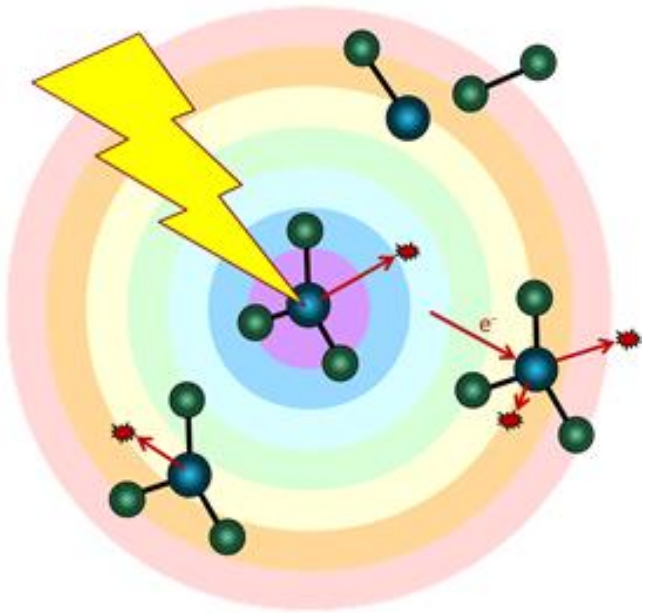

Dr. Kristi Closser
California State University, Fresno

High energy electron excitations: Next-generation photolithography and other applications

Abstract

High energy electronic excitations have some unique characteristics that make them particularly difficult to model computationally. This talk will cover the primary ideas behind some common methods used for electronically excited states such as time-dependent density functional theory (TDDFT), and using symmetry based self-consistent field energy differences (delta SCF), and the issues faced when looking at electronic excitations corresponding to energies in the deep ultraviolet to x-ray ranges. I will also discuss the application of quantum chemical methods to study the absorption of extreme ultraviolet (EUV, ~92 eV) light by organic molecules which is directly relevant for developing photoresist materials for the next-generation of photolithography.

3:30-4:30 p.m., Friday, November 2nd, McLane Hall 162