

UNL Department of Physics and Astronomy presents:

How To Watch Electrons Move Inside Molecules By Using Ultrafast Light Sources

PRESENTED BY
METTE GAARDE

**Louisiana
State
University**



THURSDAY
MARCH 23 VIA
ZOOM IN
JH136

Refreshments will be served in the JH 1st Floor Vending Area at 3:30

ABSTRACT

Ultrafast science has reached the natural, attosecond, time scale of electron dynamics, with routine generation and application of attosecond pulses of light. These light pulses can be used both to initiate ultrafast dynamics in a quantum systems and also to probe how it evolves. An example of such dynamics is charge migration in molecules, which has recently attracted a lot of interest in the ultrafast community. Charge migration is a coherent back-and-forth motion of electrons following the creation of a localized hole at one end of the molecule by rapid ionization, and it is considered a precursor to more permanent structural or chemical changes. In this talk, I will give an overview of how to use ultrafast light pulses to probe electron dynamics in general, and I will focus in particular on our recent theory efforts on how to characterize and probe charge migration in molecules.

