

Seminar

Moving Electronic Charges Through Molecules

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I will present two stories which highlight the effort in my group towards formulating descriptions of electronic charge flow through organic molecules under diverse conditions that occur in nature and experimental setups.

In the first story, I will discuss two complimentary observables: molecular conductance and unimolecular charge transfer rates, which report the ability of organic molecules to transmit electronic charge. Intuitively, these observables should correlate but experimental data indicates otherwise. I will examine the reasons behind why this so.

In conventional electrical and electronics engineering, solderless breadboard scaffolds are routinely used for quickly creating/testing a range of electrical circuits of varied complexity. In the second story, I will translate the concept of a breadboard circuit to the molecular scale through a theoretical analysis of the conductance and charge flow in a bis-terpyridine p-phenyl (TP1) molecular junction and experimental data from our collaborators.

Thursday, Sep 1st 2016

4:00 PM (Tea/Coffee at 3:45 PM)

Seminar Hall, TCIS