

Energy Transduction Across Catalytic Interfaces: Inorganic/Organic and Abiotic/Biotic



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Abstract:

The movement of energy across an interface is a key process in catalysis of all flavors: *photo-*, *thermo-*, *bio-*, and *electro-*catalysis alike. Understanding complex interfacial phenomena is key to building a mechanistic picture of reaction pathways, determining side reactions, and optimizing a catalytic reaction. In this talk I will explore recent efforts to probe energy transduction across disparate interfaces: starting with inorganic/organic material interfaces in photocatalysis and ending with recent work in probing electron transfer between electrodes and microbes (bio/electrocatalysis). Core to these investigations are the use of electrochemical analyses alongside advanced spectroscopic and microscopic techniques with physical chemistry underpinnings.