UCMERCED UNIVERSITY OF CALIFORNIA School of Natural Sciences

CHEMISTRY SEMINAR 291

Directing Charge Transfer in Quantum Dot Assemblies

Dr. David Waldeck
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Date: **9/29/17**
Time: **3:00 PM**
Location: **COB 267**

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ABSTRACT

Our group is working on nanoparticle-based materials for solar to electrical energy transduction. Nanoparticle devices promise to provide a systematic and modular approach to creating supramolecular assemblies of linked nanoparticles that function as charge transfer elements. I will report on recent work in which we explore how to engineer nanoparticle/nanoparticle interfaces and nanoparticle/conjugated polymer interfaces to enhance charge separation and inhibit charge recombination. Particular foci of our effort are aimed at understanding the importance of energy-level gradients, built-in electrostatic potentials, and symmetry/chirality properties to improve the charge-separation efficiency in inorganic-organic hybrid structures.

BIO:

Education
Ph.D. in Chemistry, University of Chicago, 1983
B.S. in Chemistry, University of Cincinnati, 1978

Research Experience

1997-present	Professor in Chemistry; University of Pittsburgh
1991-1997	Associate Professor in Chemistry; University of Pittsburgh
1985-1997	Assistant Professor in Chemistry; University of Pittsburgh
1983-1985	Postdoctoral Fellow in Chemistry; University of California, Berkeley
1978-1983	Research Assistant in Chemistry; University of Chicago

Administrative Experience

2015-present	Academic Director, Petersen Institute of Nanoscience and Engineering
2005-2014	Chair, Department of Chemistry, University of Pittsburgh

Awards and Honors
Pittsburgh ACS-WCC Award for Encouraging Women in Chemistry, 2015
ACS Pittsburgh Award, 2014
Fellow of the American Physical Society, 2005
Belkin Visiting Professor, Weizmann Institute, 1998
Chancellors Distinguished Research Award, 1994
IBM Postdoctoral Fellowship 1983 - 1985