



The Electrochemical Society
Seminar Notice: Tuesday, February 16, 2010

Design Principles for Photoelectrochemical Energy Conversion Systems

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Economic, geopolitical, and environmental pressures have revived interest in photoelectrochemical cells (PECs) for energy conversion and storage. For implementation at globally-relevant scales, systems that only convert light energy to electrical energy are not sufficient, nor are systems comprised of physically separate photovoltaic & electrolysis cells. This talk will highlight our current research efforts for designing integrated PECs capable of producing clean chemical fuels from sunlight. The specific focus will be on elucidating the interplay between bulk optoelectronic properties, electrode morphology, surface chemistry, and electrocatalysis. Preliminary experimental data and complementary digital simulations will be presented on the operation of nanostructured and macroporous photoelectrode architectures operating in regenerative and photosynthetic PECs.

Stephen Maldonado received his BS in chemistry from the University of Iowa in 2001 and a PhD from the University of Texas at Austin in 2006. After two years postdoctoral appointment at CalTech, Maldonado joined the faculty at the University of Michigan, Ann Arbor in 2008. His research focuses on heterogeneous charge transfer processes relevant to the fields of electronics, chemical sensing, and energy conversion/storage.

Date: Tuesday, Feb 16, 2010
Location: Lawrence Technological University
21000 West Ten Mile Road, Southfield, MI 48075
Building #5 (Taubman Welcome Center), 4th Floor, Room 406
Use Parking Lot A, C or D (Lots C & D are accessed off NW Highway)
Time: 5:30 pm Reception / 6:30 pm Dinner / 7:30 pm Speaker
Price: \$20 Members / \$22 Guests / \$10 Students **Payment:** Cash or Check
RSVP by: Tuesday Feb 9, 2010 to Mr. Kent Snyder
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<http://www.electrochem.org/ecs/sections/detr/detr.htm>

