



Science and Technology
of Materials, Interfaces, and Processing

Southern California Chapter

Fuels from Sunlight: A Technical and Operational Perspective on the Joint Center for Artificial Photosynthesis (JCAP), a DOE Energy Innovation Hub

Professor Nathan Lewis, Ph.D.

Director and Principal Investigator, JCAP;
George L. Argyros Professor of Chemistry,
California Institute of Technology

Monday, September 26, 2011

**Dinner & Presentation Sponsored by
Southern California Chapter of the AVS**

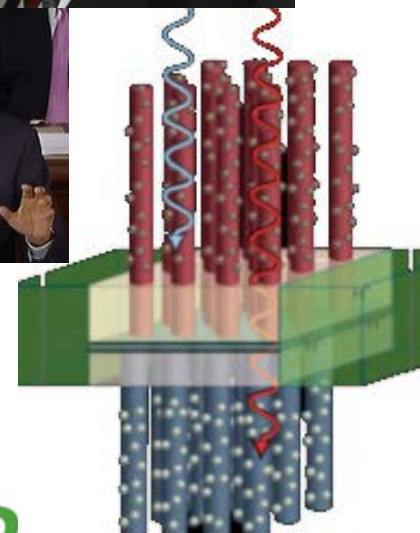
Synopsis

New science for converting sunlight directly into fuel (instead of electricity) has the potential to revolutionize our way of life. The potential for artificial photosynthesis is so great that, in his 2011 State of the Union Address, President Obama announced a \$122 million DOE project to pursue this technology. Dr. Nathan Lewis (Caltech) is the project's Director and one of its Principal Investigators. He will discuss the science, technology, and project objectives.

Enormous advances have been made in our understanding of the subtle and complex photochemistry behind the natural photosynthetic system and in the use of inorganic photo-catalytic methods to split water or reduce carbon dioxide. The project focus is on developing an artificial photosynthetic system that will utilize sunlight and water as inputs and produce hydrogen and oxygen as outputs. Special challenges for creating anode, cathode, and membrane surfaces with the necessary materials and structures will be discussed. This work is an excellent example of how AVS disciplines in thin films, nano-structures, and surface interfaces remain on the cutting edge of modern technology.

Our Speaker

Dr. Nathan Lewis, George L. Argyros Professor and Professor of Chemistry, has been on the faculty at the California Institute of Technology since 1988 and has served as Professor since 1991. He is the Director and one of the Principal Investigators of the Joint Center for Artificial Photosynthesis (JCAP), the DOE's \$122M Energy Innovation Hub in Fuels from Sunlight. Dr. Lewis has also served as the Principal Investigator of the Beckman Institute Molecular Materials Resource Center at Caltech since 1992. Dr. Lewis has published over 300 papers and is currently the Editor-in-Chief of Energy & Environmental Science. He has supervised approximately 60 graduate students and postdoctoral associates.



Meeting Details

Date: Monday, September 26, 2011

Location: Il Fornaio Restaurant, Sorrento Room, 24 West Union Street, Pasadena, CA 91103; (626) 683-9797

Schedule: 6:30 Meet & Greet (Drinks available at Il Fornaio bar)
(PM) 7:15 Dinner
8:00 Presentation
8:45 Questions & Answers
9:00 End

Cost: \$40 per person, \$25 students. *Advance payment is required.*

Menu: "Pollo Toscano" Wood-fired rotisserie chicken, served with seasonal vegetables and mashed potatoes, Insalata al Balsamico to start, and Tiramisu for dessert. Vegetarian option is "Penne alla Sorrentina," Quill shaped pasta, garlic tomatoes, marinara, basil, & fresh mozzarella. All meals include Il Fornaio breads. Soda, Coffee or Iced Tea.

For additional information, contact us at: info@sccavs.org

Reservations: Send a check payable to SCCAVS along with Registration Form by the *deadline of September 19, 2011.*

Registration Form

Deadline: September 19, 2011. Payment by check only; payable to SCCAVS .

Mail to: Jeff Lince, The Aerospace Corporation, Mail Stop M2-271, PO Box 92957,
Los Angeles, CA 90009-2957

For additional information, contact: info@sccavs.org

Check enclosed, payable to SCCAVS (\$40 per person, \$25 students)

Pollo Toscano Vegetarian Option (Penne alla Sorrentina)

Name: _____

Company/Org _____

Address, Mail Stop _____

City _____ State _____ Zip _____

Phone: _____

Email: _____