

POSTDOCTORAL PROGRAM IN ENVIRONMENTAL CHEMISTRY

ANNOUNCEMENT OF FELLOWSHIP OPPORTUNITIES

The 2009 awardees and their institutions are listed below. The award of \$120,000 provides a stipend of \$45,000 per year for 2 years for the Postdoctoral Fellow.

The program goal is to develop leadership in environmental chemistry. The recipients of the awards listed below will recruit excellent young Ph.D. graduates, with a preference towards those not trained in the environmental sciences, and provide them with the highest caliber of research experience and education in the environmental chemical sciences. Qualified potential postdoctoral scientists should consider **applying** to one of the selected faculty listed below.

The Foundation anticipates that the postdoctoral research accomplishments and educational broadening will be sufficient for the Fellow to attain a position where high quality independent research related to the environment can be continued. For additional information about the program see: www.dreyfus.org.

James Bowie *bowie@mbi.ucla.edu*
University of California, Los Angeles
Chemistry & Biochemistry
To develop a sustainable alternative fuel by creating a direct, one-step biochemical pathway to biodiesel production in microorganisms.

Jean Frechet *frechet@berkeley.edu*
University of California, Berkeley
Chemistry
Dye-sensitized solar cells with tandem energy relay systems, a novel design concept for enhancing photovoltaic performance.

Robert Griffin *rob.griffin@rice.edu*
Rice University
Civil & Environmental Engineering
Multi-disciplinary (laboratory-, field-, and computationally based) studies of important heterogeneous reactions of atmospheric importance, e.g., reactions that convert nitric to nitrous acid, and generation of radicals that participate in ozone formation.

Robert Grubbs *rhg@caltech.edu*
California Institute of Technology
Chemistry & Chemical Engineering
Develop catalysts for the anti-Markovnikov addition of water to unactivated olefins, using water directly as a 'green' feed-stock, and a mixed-valence bimetallic complex as catalyst, representing a green technology for a highly important process.

Jeffrey Long *jr.long@berkeley.edu*
University of California, Berkeley
Chemistry
Metal-organic frameworks with high surface areas will be investigated for capture by selective binding of CO₂ over N₂ and H₂O from power plant flue streams.

Daniel Nocera *nocera@mit.edu*
Massachusetts Institute of Technology
Chemistry
Water splitting into dioxygen and dihydrogen, catalyzed by transition metal complexes, provides the most efficient way to store solar energy. We are seeking molecular species of the right electronic structure that target coupling of two oxos.

Alex Sessions *als@gps.caltech.edu*
California Institute of Technology
Geological & Planetary Sciences
Develop and employ a novel ICP-MS system to measure the ³⁴S/³²S ratios of dissolved inorganic sulfur species with picomole sensitivity to understand S-isotopic fractionations of bacterial sulfate reduction, one of the key redox reactions in the global sulfur cycle.

Emily Weiss *e-weiss@northwestern.edu*
Northwestern University
Chemistry
Identify and characterize non-radiative pathways for dissipation of energy within photoexcited semiconductor quantum dots (QDs), as a function of the chemical structure of the organic surfactant on the surface of the QD, using transient absorption and transient four-wave mixing spectroscopies.