

Postdoctoral Program in Environmental Chemistry

<u>Institution</u>	<u>Awardee</u>	<u>Department</u>	<u>Area of Interest</u>
2011			
California Institute of Technology	Richard C. Flagan	Chemical Engineering and Environmental Science and Engineering	Particle formation by neutral and ion-mediated heteromolecular nucleation at the CLOUD facility at CERN, measured in the 1-10 nm size range, using a nano-radial differential mobility analyzer with a multistage condensation particle counter detector.
Colorado School of Mines	Bettina M. Voelker	Chemistry and Geochemistry	Examine dissolved Mn(III) species as an important class of reactive intermediates capable of oxidizing a variety of recalcitrant organic compounds in aquatic environments.
Columbia University	Colin Nuckolls	Chemistry	Photophysical and kinetic properties of semiconductor materials to improve organic photovoltaic materials, collaborating with Brookhaven National Laboratory, using time-resolved spectroscopy of contorted hexabenzocorone (HBC) materials and their supramolecular complexes with fullerenes in new solar cell architectures.
Georgia Institute of Technology	Michael A. Filler	Chemical and Biomolecular Engineering	Nanowire-based twinning superlattices as a new route to engineer the band structure of Si and achieve a direct band gap in this earth-abundant materials system. To be studied with in-situ infrared spectroscopy.
Harvard University	Eric N. Jacobsen	Chemistry and Chemical Biology	A direct, enantioselective, catalytic method for the alpha-alkylation of aldehydes as a green alternative for accessing these structures
Massachusetts Institute of Technology	Timothy M. Swager	Chemistry	Functionalization of novel scalable graphene with transition metals and nanoparticles for hydrogen gas storage and as a support for electrocatalytic materials for clean energy production.
Northwestern University	SonBinh T. Nguyen	Chemistry	The application of metal-organic frameworks (MOFs) for the remediation, sensing, and catalytic destruction of environmental contaminants.
University of Illinois at Urbana-Champaign	Robert J. M. Hudson	Natural Resources and Environmental Sciences	A new method to detect MeHg in two careful intercomparison studies to chemically characterize the putative strong MeHg complex(es) that would explain the difference between previous methods.
Yale University	Alanna Schepartz	Chemistry	Development of a robust peptide catalyst for the efficient hydrolysis of glycosidic bonds in cellulose that streamlines the production of renewable energy from cellulosic waste biomass.