Henry Dreyfus Teacher-Scholar Awards Program

Institution	Awardee	Department	Area of Interest
2008			
California State University Long Beach	Xianhui Bu	Chemistry and Biochemistry	Chirality in Metal-Organic Framework Materials
San Jose State University	Gilles Muller	Chemistry	Development of Circularly Polarized Luminescence as an Attractive Complementary Method to the Presently Available Techniques for Probing Specific Chiral Structural Changes
Smith College	Shizuka Hsieh	Chemistry	Photochemistry and Overtone-Initiated Chemistry of Atmospheric Hydroperoxides
University of Puerto Rico Mayaguez Campus	Belinda Pastrana-Rios	Chemistry	An Interdisciplinary Approach Towards the Study of Proteins and Protein-Protein Interactions: From Bioinformatics to Molecular Biophysics
Williams College	Thomas E. Smith	Chemistry	Asymmetric Methods for the Synthesis of Pyran-Based Anticancer Natural Products
2007			
California State University, Northridge	Thomas G. Minehan	Chemistry and Biochemistry	Development of Green Methodology for the Synthesis of 2-deoxy-ß-C-Aryl Glycosides and Application to the Preparation of Natural Products and Nucleoside Analogs.
College of Charleston	Pamela J. Riggs-Gelasco	Chemistry and Biochemistry	Oxygen Activation by Metalloenzymes: The case of Ribonucleotide Reductase from Coryneform ammoniagenes and its facultative metal cofactor.
Kenyon College	Mo Hunsen	Chemistry	Green Chemistry: Chemical, Enzymatic, and Enzychemical Catalysis for the Synthesis of Novel Glycosidase Inhibitors and Biodegradable Polymers.
Mount Holyoke College	Maria Gomez	Chemistry	The Elusive Proton: Finding Conduction Pathways in Solid and Liquid Phases.
Trinity University	Bert D. Chandler	Chemistry	Functional Bimetallic Model Catalysts: Nanoparticle Chemistry and Reaction Kinetics for Characterizing, Evaluating, and Understanding the Active Sites in Heterogeneous Catalysts.
University of Richmond	Michelle L. Hamm	Chemistry	Studies into the base pairing, repair and replication of the prominent promutagen 8-oxo-2'-deoxyguanosine using modified nucleotides.
Wellesley College	Nolan T. Flynn	Chemistry	Development of an electrochemical method for triggering the assembly of metal nanoparticles in aqueous solution.

Henry Dreyfus Teacher-Scholar Awards Program

Institution	Awardee	Department	Area of Interest
2006			
College of the Holy Cross	Kimberley A. Frederick	Chemistry	Studies of flow processes in microfluidic systems involving polyelectrolyte multilayers, thermoresponsive polymers and guanosine gels
Macalester College	Keith T. Kuwata	Chemistry	Computational studies of oxidation intermediates that serve as aerosol precursors and free radical sources in the troposphere
Mount Holyoke College	Wei Chen	Chemistry	Probing the Fundamentals of Wetting and Biocomptibility for the Design of New Materials
The College of William and Mary	John C. Poutsma	Chemistry	Investigation the consequences of non-protein amino acid substitution on the thermochmistry and fragmentation patterns of small peptides
University of North Carolina at Wilmington	Michael Messina	Chemistry and Biochemistry	Viewing enzyme active sites as "quantum controllers" of proton transfer, we propose a quantum control study of the quantum dynamics of proton transfer and tunneling in enzyme active sites.
University of South Alabama	David C. Forbes	Chemistry	Thermally induced decarboxylation of carboxymethylsulfonium betaines results in formation of the corresponding sulfur ylides in situ.
University of Wisconsin-Eau Claire	Stephen Drucker	Chemistry	We will use jet-cooled cavity ringdown spectroscopy to characterize a series of cyclic enones in their triplet excited states.
2005			
Barnard College	Linda H. Doerrer	Department of Chemistry	Transition metal complexes with fluorinated aryloxide ligands are investigated for reactivity with strongly oxidating reagents and potential organic substrate oxidation.
Furman University	Jeffrey T. Petty	Department of Chemistry	Small silver and platinum nanoclusters will be investigated for their potential use as fluorescent biological labels and as chiral catalysts.
Mount Holyoke College	Darren G. Hamilton	Chemistry	Design, synthesis, and characterization of self-organizing molecular systems expressing useful emergent properties.
New Mexico Institute of Mining and Technology	Donald H. Weinkauf	Department of Chemical Engineering	Conformal plasma polymer coatings for the surface modification of micon and nanoscale particles: reactor design and coating characterization
New Mexico Institute of Mining and Technology	Donald H. Weinkauf	Department of Chemical Engineering	Conformal plasma polymer coatings for the surface modification of micon and nanoscale particles: reactor design and coating characterization
State University of New York at Geneseo	Wendy K. Pogozelski	Chemistry	We will measure deletion events in mitochondrial DNA as a function of gamma ray dose and investigate the effect on NADH:Q oxidoreductase.
Swarthmore College	Kathleen P. Howard	Department of Chemistry and Biochemistry	Development and application of spectroscopic methods (NMR and EPR) to the conformational analysis of membrane-bound viral proteins

Henry Dreyfus Teacher-Scholar Awards Program

Institution	Awardee	Department	Area of Interest
University of Richmond	Carol A. Parish	Department of Chemistry	Computational investigations of biologically important systems: Determining the conformational flexibility of HIV protease inhibitors and the cyclization barriers in enediyne warhead drugs.
2004			
Amherst College	Sandra L. Burkett	Chemistry	Polymerization from inorganic lamellae: nanocomposites of polymer brushes and organically functionalized synthetic clays.
Bates College	Rachel N. Austin	Chemistry	The reaction mechanisms and active site structures of diiron monooxygenases.
California State University, Los Angeles	Matthias Selke	Chemistry & Biochemistry	The reactivity, kinetics, and mechanisms of singlet oxygen reactions with metal-bound amino acids and heteroatoms.
Colby College	Julie T. Millard	Chemistry	Small molecule-DNA interactions with an emphasis on the mechanism of anti-cancer activity.
Concordia College	Darin J. Ulness	Chemistry	An investigation of the fundamental behavior of light-matter interaction in liquids using noisy light spectroscopy.
Santa Clara University	Michael R. Carrasco	Chemistry	Site-specific attachment of small organic molecules to peptides and proteins; structure and function of peptides and proteins altered by attached molecules.
University of the Sciences in Philadelphia	Guillermo Moyna	Chemistry & Biochemistry	Use of theoretical 13C chemical shift surfaces and experimental NMR data in the study of the conformation and dynamics of histo-blood group antigen oligosaccharides.
University of Wisconsin - Eau Claire	James A. Phillips	Chemistry	Matrix-isolation FTIR-spectroscopic, computational, and crystallographic studies of condensed phase effects on structure in nitrile donor-acceptor complexes.
Wheaton College	Daniel L. Burden	Chemistry	The use of single-molecule techniques for the study of ion-channel dynamics and the optical manipulation of DNA.