

Camille Dreyfus Teacher-Scholar Awards Program

<u>Institution</u>	<u>Awardee</u>	<u>Department</u>	<u>Area of Interest</u>
2006			
Arizona State University	Dong-Kyun Seo	Chemistry and Biochemistry	Theoretical and Experimental Studies on Itinerant Electron Magnetism in Intermetallics
Cornell University	Paul J. Chirik	Chemistry and Chemical Biology	New Transition Metal Reagents for Energy-Efficient, Environmentally Benign Chemical Synthesis
Emory University	James T. Kindt	Chemistry	Simulation and statistical theory of self-assembled systems: Molecular and mesoscale modeling of mixed membranes and more
Massachusetts Institute of Technology	Alice Y. Ting	Chemistry	New chemical methodologies for cellular imaging
North Carolina State University	Orlin D. Velev	Chemical and Biomolecular Engineering	Colloidal and Biocolloidal Engineering on Electrically Controlled Microchips: New Principles for Making Bionanomaterials, Microbioassays and Microrobots
The Johns Hopkins University	David H. Gracias	Chemical and Biomolecular Engineering	A Research and Education Program in Nano and Microscale Self Assembly: Integrated circuits, chemical sensors and remote controlled chemistry
The Ohio State University	Heather C. Allen	Chemistry	Atmospheric Aerosol Chemistry: Understanding How Liquid and Solid Surfaces Mediate Aerosol Chemistry
The Pennsylvania State University	Carsten Krebs	Biochemistry and Molecular Biology	Mechanisms of Iron-containing Enzymes: Characterization of reaction intermediates by a combination of rapid kinetic and spectroscopic methods
The University of Chicago	Chuan He	Chemistry	Developing Chemical Probes to Study DNA Repair and DNA Methylation/Demethylation
The University of North Carolina at Chapel Hill	Jeffrey S. Johnson	Chemistry	The Application of Polarity Reversal Concepts in the Discovery of New Catalysts and Chemical Reactivity
University of California, Santa Barbara	Patrick S. Daugherty	Chemical Engineering	Molecular Specificity Evolution: Enabling Technology for Therapeutic Engineering and Diagnostic Proteome Fingerprinting
University of Illinois at Chicago	Yoshitaka Ishii	Chemistry	Expanding Boundaries of Structural Analysis by Solid-State NMR: From Paramagnetic Complexes to Misfolding of Amyloid Proteins
University of Illinois at Urbana-Champaign	Paul J. Hergenrother	Chemistry	Targeting mRNA for the Treatment of Neurodegenerative Disorders
University of Michigan	John P. Wolfe	Chemistry	New Reactions for the Construction of Biologically Active Molecules and Intermediates of Synthetic Importance
University of Pennsylvania	Eric Meggers	Chemistry	Chemical Biology with Organo-Metallic Compounds

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Boston College	Shana O. Kelley	Chemistry	Cellular and Molecular Probes of Oxidative Biomolecular Damage
California Institute of Technology	Brian M. Stoltz	Chemistry and Chemical Engineering	Complex Natural Products as a Driving Force for Discovery in Organic Chemistry
Columbia University	Brian R. Gibney	Chemistry	Design of Synthetic Metalloproteins Using Nonnatural Amino Acid Ligands
Georgia Institute of Technology	Marcus Weck	Chemistry and Biochemistry	Densely Multifunctional Copolymers: Nature-Inspired Use of Multi-Recognition Site Self-Assembly Onto Polymer Backbones for Materials Applications
Harvard University	Xiaowei Zhuang	Chemistry and Chemical Biology	Exploring RNA-protein interactions and virus infections by ultra-sensitive fluorescence imaging and single-molecule spectroscopy
Indiana University	Daniel J. Mindiola	Chemistry	New Paradigms in Early Transition Metal Complexes Containing Reactive Metal-Ligand Multiple Bonds
North Carolina State University	Jason M. Haugh	Chemical Engineering	Seminal and integrative advances in cell signaling from molecular structure and function to pathways, cell function, and tissue response
The Pennsylvania State University	Christine D. Keating	Chemistry	Chemical approaches to the materials/biology interface: nanobiosensors and synthetic cells
The University of Chicago	Rustem F. Ismagilov	Chemistry	Supporting Undergraduate Research to Understand Complex Chemical and Biochemical Reaction Networks Top-Down and Bottom-Up Using Microfluids
University of California, Berkeley	Kristie A. Boering	Chemistry and Earth & Planetary Science	Atmospheric Chemistry and Climate on Earth and Other Exotic Planets: From the Molecular to the Global Scale
University of California, Irvine	Zhibin Guan	Chemistry	Programing Non-Covalent Interactions into Polymers for High-Order Structures and Advanced Properties.
University of California, Los Angeles	Yung-Ya Lin	Chemistry and Biochemistry	Seeing the Seeds of Cancer: Contrast and Sensitivity Enhancement for Early MRI Tumor Detection by the Butterfly Effect and Chaos Control
University of Rochester	Todd D. Krauss	Chemistry	Investigations of fundamental properties of nanometer scale materials, and the development of nanomaterials for novel applications in photonics and biology.
University of Utah	Janis Louie	Chemistry	The Development of Transition Metal Catalysts for New Cycloaddition Reactions.
University of Washington	Daniel Gamelin	Chemistry	High-Tc Ferromagnetic Semiconductors for Spintronics Applications: Development, Physical Characterization, and Chemical Manipulation
Yale University	Victor Batista	Chemistry	Development of Semiclassical and Quantum Dynamical Methods for Quantum Reaction Dynamics Simulations

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Columbia University	Colin P. Nuckolls	Chemistry	Nanoscale electronic materials from self-assembled organic building blocks
Georgetown University	Jennifer A. Swift	Chemistry	Surface Chemistry Approaches to Understanding & Directing Molecular Crystal Growth Processes
Harvard University	David R. Liu	Chemistry and Chemical Biology	Organic Synthesis Programmed by DNA Templates
Princeton University	Stanislav Shvartsman	Chemical Engineering	Quantitative Analysis of Receptor-mediated Gene Expression
Stanford University	Justin Du Bois	Chemistry	Reaction design for the synthesis of neuroactive agents
The Pennsylvania State University	Blake R. Peterson	Chemistry	Synthetic receptor targeting as a novel tool for drug delivery
The University of Arizona	Andrei Sanov	Chemistry	Photoelectron imaging of the electronic structure and time-resolved dynamics of molecular cluster anions: Unraveling the driving force of chemistry
The University of Chicago	Sergey A. Kozmin	Chemistry	Chemical Synthesis: from Molecular Complexity and Skeletal Diversity to Cell-Regulatory Function
University of California, Berkeley	Peidong Yang	Chemistry	Chemistry and physics of semiconductor nanowires.
University of California, Riverside	Pingyun Feng	Chemistry	Development of Novel Porous Materials as Fast Ion Conductors and Photocatalysts
University of Illinois	Neil L. Kelleher	Chemistry	The evolution of large molecule Mass Spectrometry
University of Michigan, Ann Arbor	Nils G. Walter	Chemistry	Structural dynamics and function of RNA enzymes highlighted by fluorescence spectroscopy at the single-molecule and ensemble levels
University of Utah	Matthew S. Sigman	Chemistry	Physical Organic Chemistry as a Tool for Catalyst Design and Development
2003			
California Institute of Technology	David W. C. MacMillan	Chemistry and Chemical Engineering	Enantioselective organocatalysis: Design of new catalysis concepts of broad utility to asymmetric chemical synthesis
Carnegie Mellon University	Catalina Achim	Chemistry	Design and synthesis of biology-inspired metal-containing nanostructures with potential applications in molecular electronics
Cornell University	Kelvin H. Lee	School of Chemical and Biomolecular Engineering	New microfabricated technologies for proteome analysis
Georgia Institute of Technology	Louis A. Lyon	Chemistry and Biochemistry	Design, synthesis, and self-assembly of stimuli-sensitive core/shell hydrogel nanoparticles
Harvard University	Hongkun Park	Chemistry and Chemical Biology	Transport and scanned probe investigation of chemical nanostructures

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Massachusetts Institute of Technology	Jianshu Cao	Chemistry	Statistical analysis of single molecule measurements and theoretical description of non-exponential and non-Gaussian single-particle slow dynamics
Princeton University	Suzanne Walker	Chemistry	Understanding post-translational modifications: chemical approaches to identifying the O-GlcNAcylated proteome
Stanford University	Vijay S. Pande	Chemistry	New methods for the simulation of the kinetics and thermodynamics of biological molecules
Texas A&M University	Paul S. Cremer	Chemistry	Investigations of the lower critical solution temperature of polymers and proteins with a linear temperature array
The Scripps Research Institute	Floyd E. Romesberg	Chemistry	New approaches to combating antibiotic resistance
University of California, Los Angeles	Christopher J. Lee	Chemistry and Biochemistry	Deciphering alternative splicing in the human genome: the new frontier in genomic complexity and proteome functional regulation
University of Texas at Austin	Michael J. Krische	Chemistry and Biochemistry	Catalytic reductive C-C bond formation: elemental hydrogen as terminal reductant
University of Wisconsin-Madison	Shannon S. Stahl	Chemistry	Catalytic methods for selective chemical oxidation with molecular oxygen

2002

California Institute of Technology	Jonas C. Peters	Chemistry and Chemical Engineering	New strategies in catalysis with novel coordination complexes
Carnegie Mellon University	David S. Sholl	Chemical Engineering	Development and applications of intrinsically chiral solid surfaces based on metals, semiconductors, and natural minerals
Columbia University	Dalibor Sames	Chemistry	C-H bond activation in complex chemical assembly
Georgia Institute of Technology	Robert M. Dickson	Chemistry	Single-molecule electroluminescence in nanotechnology - from fundamental understanding to device development
Harvard University	David R. Reichman	Chemistry and Chemical Biology	Dynamics and spectroscopy of molecules in superfluid helium clusters
New York University	Mark E. Tuckerman	Chemistry	Theoretical studies and new-methods development for proton-transfer processes in biologically and technologically important systems
Northwestern University	Annelise E. Barron	Chemical Engineering	N-substituted glycine oligomers (peptoids) with helical, amphipathic structure as biostable mimics of antimicrobial peptides
Princeton University	Jeffrey D. Carbeck	Chemical Engineering	Measurements and modeling of electrostatic interactions in folded and denatured proteins
Purdue University	Jillian M. Buriak	Chemistry	Nanoscale semiconductor surface chemistry
Stanford University	Hongjie Dai	Chemistry	Carbon nanotubes as a model system for nanoscale chemistry and physics
University of California, Los Angeles	Michael W. Deem	Chemical Engineering	Statistical mechanical studies of zeolite nucleation
University of Illinois at Urbana-Champaign	Willem A. van der Donk	Chemistry	Exercises in understanding enzyme catalysis

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University of Utah	Peter A. Beal	Chemistry	In vitro evolution of RNA for selective binding to acridine-peptide conjugates
University of Washington	Younan Xia	Chemistry	Chemistry and the physics of one-dimensional nanostructures
Wayne State University	Theodore G. Goodson	Chemistry	Ultra-fast optical investigations of novel dendrimer macromolecules and dendrimer metal nanocomposites for applications in photonics