

2010 in Review



THE CAMILLE & HENRY DREYFUS FOUNDATION

Letter from the President, Henry C. Walter



2010 has been an exciting year at the Camille and Henry Dreyfus Foundation, with additions to the Board of Directors and Advisors, a new lectureship program, and two symposia.

Dr. Richard Zare, the Marguerite Blake Wilbur Professor in Natural Science at Stanford University, joined the Board of Directors this year. Renowned for his research in the areas of physical and analytical chemistry, which has resulted in a much deeper understanding of chemical reactions at the molecular level, as well as his innovations in chemistry education, Dr. Zare had previously served as an Advisor to the Foundation. We look forward to continuing to benefit from his wise counsel.

Dr. Marye Anne Fox, Chancellor of the University of California, San Diego, and Chair of the Foundation's Scientific Affairs Committee, was chosen as a recipient of the 2010 National Medal of Science. Dr. Fox was cited "for her seminal contributions to chemistry by elucidating the role that non-homogeneous environments can exert on excited-state processes, and enhancing our understanding of charge-transfer reactions and their applications to fields such as polymers, solar energy conversion, and nanotechnology." Dr. Fox joins Board members Drs. John Brauman and Richard Zare and Foundation Advisor Dr. JoAnne Stubbe who have previously been selected for this distinguished award.

After 40 years with the Foundation, Dr. Harry Wasserman retired from the Board of Directors. The Foundation greatly benefited from his guidance and friendship.

Two Advisors to the Foundation were named this year: Drs. David Hansen and Francois Morel. Dr. Hansen, Dean of the Joint Science Department and a Professor of Chemistry at Claremont McKenna, Pitzer, and Scripps Colleges, previously served as a Foundation Advisor from 2000-2008. Dr. Morel is the Albert G. Blanke Professor of Geosciences at Princeton University as well as the Director of Princeton's Center for Environmental Bioinorganic Chemistry. They join Drs. JoAnne Stubbe (MIT), Matthew Tirrell (University of California, Berkeley), and John Tully (Yale) as Advisors to the Foundation. We are honored that these eminent scientists are with the Dreyfus Foundation.

This year the Foundation hosted the inaugural Dreyfus Teacher-Scholar Symposium, *Research Frontiers in the Chemical Sciences*, and sponsored a Presidential Symposium in materials chemistry in honor of the Dreyfus brothers at the national American Chemical Society meeting. The topic for the 2011 Dreyfus Prize, catalysis, was announced in September, with the award recipient to be announced in May 2011. The Foundation also established the Jean Dreyfus Boissevain Lectureship for Undergraduate Institutions. It is our hope that these new initiatives will bring increased attention to the chemical sciences and help foster deeper interactions among chemists.

Best wishes to you all for 2011.



Robert Grubbs



Laura Kiessling



Milan Mrksich

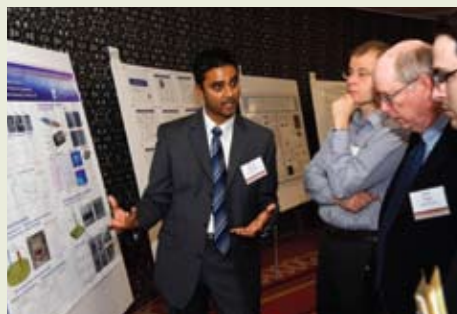


Colin Nuckolls

First Teacher-Scholar Symposium Engages Young Research Chemists

On October 29, 2010, a one-day Dreyfus Teacher-Scholar Symposium, *Research Frontiers in the Chemical Sciences*, was held at the New York Academy of Sciences. This symposium served to highlight a number of exciting areas in the chemical sciences, as well as promote a network among many of the nation's leading young and pre-eminent senior research chemists. The most recent recipients of both the Camille Dreyfus and the Henry Dreyfus Teacher-Scholar awards presented posters of their research. Bracketing the poster sessions were talks by four senior Teacher-Scholars: Robert Grubbs, California Institute of Technology; Laura Kiessling, University of Wisconsin-Madison;

Milan Mrksich, The University of Chicago; and Colin Nuckolls, Columbia University. The Foundation plans to hold the symposium biennially for recent Teacher-Scholars.



R. Mohan Sankaran, Case Western Reserve University, presents a poster of his research

A streaming video of these talks is available on the Foundation Web site, <http://www.dreyfus.org>.

Enhancing the Public Interest in Chemistry

Through the Special Grant Program in the Chemical Sciences, the Dreyfus Foundation provides seed funding for a wide range of innovative efforts that propose to advance the field. One focus of the program is to enhance the public's awareness of, and interest in, chemistry.

To that end, the Foundation has provided funding for several museum exhibits in recent years.



Among the prominent museum exhibits to go public in 2010 is "Create a Chemical Reaction" (*above*), part of the permanent "Science Storms" exhibit at the Museum of Science & Industry in Chicago. The exhibit consists of interactive illuminated periodic

tables upon which visitors may generate virtual atoms by placing a disc on any element. Several of these elements may then be brought together in an adjacent reaction zone to produce one of over 300 virtual chemical reactions.

The Museum of Science, Boston, launched "Can Chemistry Help Fuel Our Future?" (*below*). This installation includes a video kiosk and a vitrine that inform visitors about the energy problem and the importance of chemistry to the development of alternative energy sources. Daniel Nocera, the Henry Dreyfus Professor of Chemistry at MIT, narrates the video.



2011 Dreyfus Prize Topic Announced



Catalysis is the topic of the 2011 Dreyfus Prize in the Chemical Sciences. The Dreyfus Prize, awarded biennially, recognizes an individual for exceptional and original research in a selected area of chemistry that has advanced the field in a major way.

The prize consists of a monetary award of \$250,000, a citation, and a medal.

The deadline for nominations is March 1, 2011, with the prize recipient to be announced in early May.

The inaugural Dreyfus Prize was conferred in the field of materials chemistry and awarded to George Whitesides of Harvard University for *revolutionizing the chemistry of soft materials*.

Jean Dreyfus Boissevain Lectureship for Undergraduate Institutions Inaugurated

The Jean Dreyfus Boissevain Lectureship for Undergraduate Institutions was launched in 2010. It provides an \$18,500 grant for primarily undergraduate institutions to engage a leading researcher to give a series of lectures in the

chemical sciences. The award also supports the summer research of two undergraduate students. The institutions selected to receive the Lectureship during this inaugural year are Bucknell University, Claremont McKenna, Pitzer, and Scripps

Colleges, College of the Holy Cross, and Western Washington University.

The Lectureship is named in honor of Jean Dreyfus Boissevain, President of the Camille and Henry Dreyfus Foundation from 1956 until 1991.

Presidential Symposium and Awards Sponsored at ACS National Meeting



Speakers pictured above (from left to right): Grant Willson, John Rogers, Joanna Aizenberg, David Tirrell, Tobin Marks, and George Whitesides. Speakers not pictured: A. Paul Alivisatos, Robert Cava, and Omar Yaghi.

After conferring the first Dreyfus Prize in the Chemical Sciences in materials chemistry in 2009, the Foundation sponsored a Presidential Symposium on the same topic at the American Chemical Society's national meeting in San Francisco on March 23, 2010. *Frontiers in Materials Chemistry: A Tribute to the Dreyfus Brothers* brought together several of the nation's leading researchers in materials chemistry to present highlights of their work.

Later that evening, the two ACS awards that are sponsored by the Foundation were presented at the awards banquet. The Award for Encouraging Women into Careers in the Chemical Sciences was made to Dr. Mildred Dresselhaus of MIT, and Dr. Robert Lichter of Merrimack Consultants received the Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences.



Mildred Dresselhaus with John Brauman



Robert Lichter with Marye Anne Fox

Senior Scientist Mentor Program Returns

After a brief suspension in 2009, the Senior Scientist Mentor Program was reinstated in 2010. The program supports emeritus faculty who are active in research in the chemical sciences and encourages them to take on undergraduates to conduct research under their guidance and to closely engage them in a mentoring relationship. Successful applicants receive grants of \$10,000 annually for two years (\$20,000 total) to be primarily used for undergraduate stipends.

Over 100 awards have been made since the program's inception in 2000.

This program provides undergraduates the opportunity to learn through research under the direct guidance of a mentor, who has a lifetime of knowledge and experience. In addition, the institution is able to offer increased options for undergraduates who want to conduct research.

Award Programs at a Glance

The Camille Dreyfus

Teacher-Scholar Awards Program supports the research and teaching careers of talented young faculty in the chemical sciences at Ph.D.-granting institutions. Based on institutional nominations, the program provides discretionary funding to faculty prior to their sixth year of appointment. Criteria for selection include an independent body of scholarship attained as independent researchers, and a demonstrated commitment to education. The award provides an unrestricted research grant of \$75,000.

The Henry Dreyfus

Teacher-Scholar Awards

Program supports the research and teaching careers of talented young faculty in the chemical sciences at primarily undergraduate institutions. Based on institutional nominations, the program provides discretionary funding to faculty who are within the fourth and twelfth years of their independent academic careers. The award is based on accomplishment in scholarly research with undergraduates, as well as a

compelling commitment to teaching. The award provides an unrestricted research grant of \$60,000.

The Dreyfus Prize in the Chemical Sciences

awarded biennially, consists of a citation, a medal, and a monetary award of \$250,000. The prize is awarded to an individual in a selected area of chemistry to recognize exceptional and original research that has advanced the field in a major way.

The Special Grant Program in the Chemical Sciences

provides funding for innovative projects in any area consistent with the Foundation's broad objective *to advance the chemical sciences*. Examples of areas of interest include (but are not limited to): the increase in public awareness, understanding, and appreciation of the chemical sciences; innovative approaches to chemistry education at all levels (K-12, undergraduate, and graduate); and efforts to make chemistry careers more attractive. Research proposals are not customarily considered.

The Postdoctoral Program in Environmental Chemistry

is intended to further the development of scientific leadership in the field of environmental chemistry. The award provides a principal investigator with \$120,000 over two years to appoint a postdoctoral fellow in environmental chemistry.

The Jean Dreyfus Boissevain Lectureship for Undergraduate Institutions

provides an \$18,500 grant to bring a leading researcher to primarily undergraduate institutions to give a series of lectures in the chemical sciences. The lecturer is expected to substantially interact with undergraduate students and faculty over the period of the visit. The program provides funds to host the speaker and support summer research opportunities for two undergraduate students.

The Senior Scientist Mentor Program

supports emeritus faculty who maintain active research programs with undergraduates in the chemical sciences. The award provides \$20,000 over two years for undergraduate stipends and modest research support.

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The mission of the Camille and Henry Dreyfus Foundation is to *advance the science of chemistry, chemical engineering, and related sciences as a means of improving human relations and circumstances*. Established in 1946 by chemist, inventor, and businessman Camille Dreyfus as a memorial to his brother Henry, the Foundation became a memorial to both men when Camille Dreyfus died in 1956. Throughout its history the Foundation has sought to take the lead in identifying and addressing needs and opportunities in the chemical sciences.



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