THE CAMILLE AND HENRY

Dreyfus Foundation

2025 in Review

Héctor Abruña

2025 winner of the Dreyfus Prize in the Chemical Sciences, conferred in "Electrochemical Processes"

Dedicated to the Advancement of the Chemical Sciences

H. Scott Walter
President

The
Camille
and Henry
Dreyfus
Foundation

While 2025 brought many challenges to the scientific enterprise, the Foundation continued its good work supporting the chemical sciences community with thought-provoking discussions, exciting events, and both new and flagship grant opportunities.

Héctor Abruña was selected as the 2025 winner of the Dreyfus Prize in the Chemical Sciences, conferred in "Electrochemical Processes." A joyous celebration of science and community was held at Cornell University to present the award. The Foundation is proud to have given its highest honor to such an exceptional researcher.

The **2027 Topic for the Dreyfus Prize will be "Chemical Probes of Biological Systems."** The development of probes to understand biological function is an important discipline in the chemical sciences and we are proud to recognize it with our most prestigious award.

The Foundation launched the new **Supplemental Grants for Camille Dreyfus Teacher-Scholars Program**, open to past recipients of our Camille Dreyfus Teacher-Scholar Awards. Grants made from this program support research that needs an additional, modest infusion of funds to finish discrete, high-impact projects.

Our **flagship Teacher-Scholar Awards Program**, now in its 56th year, conferred 27 awards in 2025 to outstanding young faculty in the chemical sciences, providing support for their work in research and education at institutions all over the country.

At the **American Chemical Society (ACS) Spring Meeting in San Diego**, we gathered our Teacher-Scholar community for our first official "meet-up" to talk about needs and trends in the chemical sciences. We also celebrated the winners of two Foundation-sponsored ACS Awards: **Karen Lozano**, University of Texas Rio Grande Valley, for Encouraging Underrepresented and Economically Disadvantaged Students; and **Rachel Mamlok-Naaman**, Weizmann Institute of Science, for Encouraging Women into Careers in the Chemical Sciences.

The **Dreyfus Lecture Series at the University of Basel**, *alma mater* of the Foundation's namesakes, continued with a terrific visit from esteemed researcher **James McCusker**, Michigan State University. In recognition of the connection between our two organizations, the Foundation also donated historical items belonging to the brothers for permanent display at the University.

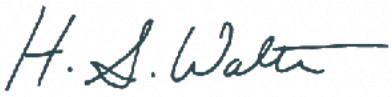
The Foundation leadership team saw some changes in 2025. I am pleased to welcome **Katharine Walter**, University of Utah, to the Board of Directors. I also want to extend my deep appreciation to Dreyfus Advisor **Arup Chakraborty**, Massachusetts Institute of Technology, who ended his final term this year.

Two new films in the Dreyfus Foundation-supported *Chemistry Shorts*® series were released this year. "Energy to Spare" explores UCLA scientist **Maher El-Kady**'s work building better batteries. "Changing Key and Chemistry" focuses on organic chemistry and stars chemist **Neil Garg** of UCLA. Views on our YouTube channel have surpassed one million and we look forward to the continued growth of the effort.

We are also thrilled to **debut the Foundation's new look with this report!** Over the past year, we have worked with design firm **Small Universe** to give the Foundation a new brand identity.

Looking ahead to 2026, we are committed to focus on our mission of supporting and honoring our community of chemistry researchers.

Thank you, and best wishes to all for a healthy and productive year.



2025 Dreyfus Prize Awarded to Héctor Abruña

Héctor D. Abruña, the Émile M. Chamot Professor in the Department of Chemistry and Chemical Biology at Cornell University, was the recipient of the 2025 Dreyfus Prize in the Chemical Sciences.

L-R: Dreyfus Foundation VP Paul Woitach, Abruña, and Cornell President Michael I. Kotlikoff. *Photo Credit: Chris Kitchen Photography*

This international Prize, conferred by the Foundation on a biennial basis, includes a $250,000 award and a formal lecture and celebration event at the institution of the recipient. A prize topic is selected each award cycle, and this year the topic was “Electrochemical Processes.”

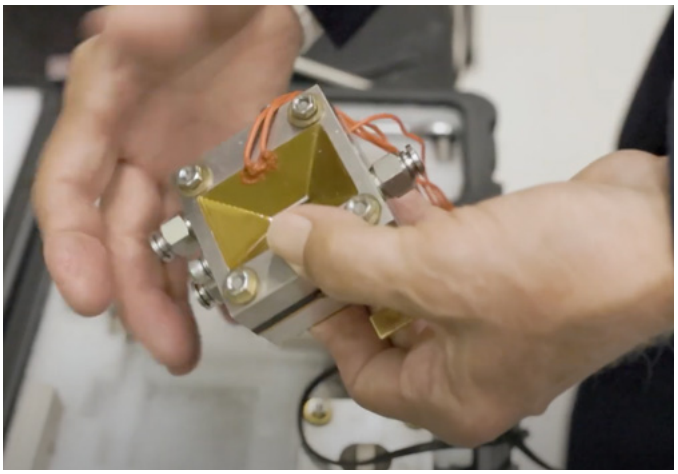
Abruña was recognized for *revolutionizing the fundamental understanding of electrochemical interfaces using X-ray, TEM, and mass spectrometric methods and for the development of novel materials for electrochemical devices.*

Abruña has developed new in-situ/operando techniques for the study of fuel cells and batteries. He has pioneered and applied techniques such as transmission electron microscopy and differential electrochemical mass spectrometry, which have proven vital to the fundamental understanding and improvement of the performance and capacity of batteries and fuel cells.

Abruña is also forging new paths in the development of molecular electronics that promise to reshape electrical power grid transmission, drive device miniaturization, and create the high-performance materials needed for batteries and fuel cells. These new devices have the potential to empower the next generation of electric vehicles and aircraft.

He has demonstrated that ordered intermetallic phases exhibit extraordinary electrocatalytic activity for the oxidation of small organic molecules, such as formic acid, for practical use in fuel cells. These materials, as nanoparticles, are tolerant/immune to poisoning by adsorbed CO and sulfur-containing impurities, retain their crystalline structure and electrocatalytic activity, and have been commercialized.

Abruña has developed many powerful and effective new techniques to achieve groundbreaking advances in light-emitting devices, sensors, and biosensors.



> **"...the real credit goes to all the people in my research group as well as collaborators, worldwide, who for the past 43 years have contributed with ideas, effort, dedication, and loyalty."** — HÉCTOR D. ABRUÑA

He has used these techniques to synthesize and optimize fundamentally new materials with enhanced performance applications for batteries, fuel cells, and supercapacitors.

Abruña's considerable repertoire of new techniques includes the use of X-ray-based methods such as surface extended X-ray absorption fine structure (EXAFS), X-ray standing waves, and surface diffraction to probe electrochemical interfaces. His study of the underpotential deposition of metal monolayers onto single crystal electrode surfaces revealed key structural and compositional information vital to understanding the (phase) formation of these important materials. Abruña's pioneering advances make it possible to visualize atomic and molecular phenomena in electrochemical systems.

Abruña stated, "It is a great and deeply humbling honor to be awarded the 2025 Dreyfus Prize in the Chemical Sciences by the Camille and Henry Dreyfus Foundation, a storied leader in the chemical sciences. However, the real credit goes to all the people in my research group as well as collaborators, worldwide, who for the past 43 years have contributed with ideas, effort, dedication, and loyalty. The credit and merit are theirs, and I will be, most humbly, accepting the award on their behalf."

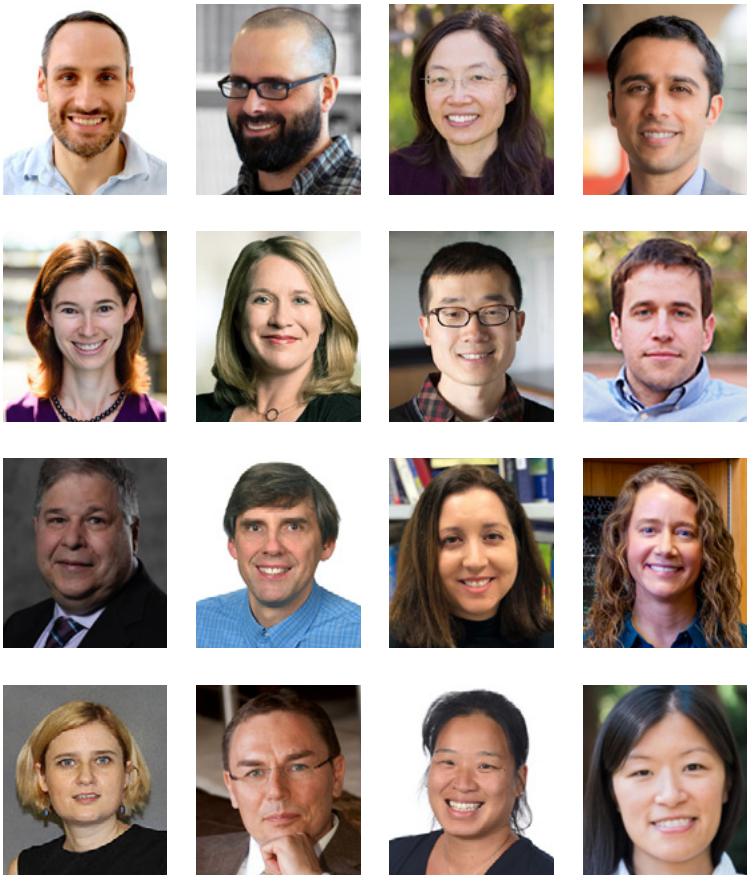
The Dreyfus Prize in the Chemical Sciences, which began in 2009, is conferred to a groundbreaking scientist in a specific area of chemistry every two years. It is the highest honor of the Camille and Henry Dreyfus Foundation.

Announcing the 2027 Dreyfus Prize Topic

The Foundation has selected **"Chemical Probes of Biological Systems"** as the topic of the 2027 Dreyfus Prize in the Chemical Sciences. The development of probes to understand biological function, particularly in the context of cells or organisms, is an important discipline in the chemical sciences. Advances in this area of chemical biology, which are distinct from the development of imaging technologies, have revealed the functions of biological molecules such as proteins, glycans, and nucleic acids; the regulation of pathways; and an understanding of disease mechanisms. The Prize 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 medal, and a certificate. Nominations will be due on December 3, 2026. For more information on how to recommend a candidate, please visit the nomination procedure page at Dreyfus.org.

New Supplemental Grant Program Launched

The Foundation launched a new program in 2025, open to past grantees of the **Camille Dreyfus Teacher-Scholar Awards Program** (known as the Teacher-Scholar Award prior to 1994). The Supplemental Grants for Camille Dreyfus Teacher-Scholars Program provided up to $50,000 over one year to support researchers who needed an additional, modest infusion of funds to bring a project to a satisfactory conclusion or stopping point. Examples include accelerating data collection or analysis; bringing work to publication; and covering lab or computing expenses. These grants enable members of our Camille Dreyfus Teacher-Scholar community to finish discrete, high-impact projects. Additional information on the sixteen awardees pictured at right can be found on the Foundation website.



Foundation Events Planned for 2026 ACS Spring Meeting

The Foundation has many exciting events planned for the 2026 ACS Spring Meeting in Atlanta, GA. Dreyfus Prize winner **Héctor Abruña**, Cornell University, will give a talk on his journey as a scientist, and then participate in a panel discussion on the "Future of Batteries." The panel will also include distinguished scientists: **Esther Takeuchi**, Stony Brook University, and **Gleb Yushin**, Georgia Tech. In addition to this programming, there will be a Dreyfus Teacher-Scholar meetup, with invitations forthcoming to our community. Finally, the Foundation is hosting a funders' booth in the Exposition Hall, joining with representatives from the Beckman Foundation, Kavli Foundation, Research Corporation for Science Advancement, and Jane Coffin Childs Memorial Fund for Medical Research.

Héctor Abruña

Esther Takeuchi

Gleb Yushin

Dreyfus/ACS Award Recipients Honored at National Awards Banquet

Karen Lozano (center) receives her award from Foundation President H. Scott Walter (right) and ACS Immediate Past President Dorothy J. Phillips (left) at the National Awards Banquet.

Rachel Mamlok-Naaman (center) receives her award from Foundation Vice-President Paul Woitach (right) and ACS Immediate Past President Dorothy J. Phillips (left) at the National Awards Banquet.

Photo credits: EPNAC.com

Since 1995, the Foundation has sponsored two annual National Awards that are administered by the ACS: the Awards for **Encouraging Underrepresented and Economically Disadvantaged Students into Careers in the Chemical Sciences** and for **Encouraging Women into Careers in the Chemical Sciences**.

In 2025, these awards were made to **Karen Lozano**, University of Texas Rio Grande Valley, "for her boundless efforts in mentoring Hispanic students towards careers in materials chemistry, as an entrepreneurial role model for an entire generation of Hispanic engineers" and **Rachel Mamlok-Naaman**, Weizmann Institute of Science, "for her 30 years of dedication, energy, and scholarship in encouraging women in Israel to become high school chemistry teachers and continue their career paths," respectively.

Each award consists of a $5,000 stipend to the awardee, $1,500 in travel funds, and a separate $10,000 grant to an eligible non-profit institution, designated by the recipient, to strengthen the objectives of their award. Lozano directed her award to support student scholarships at the Nanotechnology Center, and Mamlok-Naaman's award supports an array of activities at the Weizmann Institute of Science, including funds for conferences, outreach to girls looking to major in STEM fields, and lecture support.

Dreyfus Lectureship at the University of Basel Delivered by James McCusker

McCusker in front of the Dreyfus Lectureship Plaque. *Photo Credit: The University of Basel.*

The 2025 Camille and Henry Dreyfus Lectureship at the University of Basel featured **James McCusker**, Michigan State University, in November. He delivered two very well-attended talks titled "Looking Beyond the Here and Now: The Importance of Fundamental Research (and why we should all care)" and "Light-driven Chemistry in the First Transition Series: Challenges and Opportunities." This annual Lectureship, sponsored by the Foundation, honors the legacy of Camille and Henry Dreyfus, the groundbreaking scientist-entrepreneur brothers who both earned their doctorates in organic chemistry at the University of Basel in the early 20th century.

Dreyfus Brothers Memorabilia Donated to the University of Basel

A collection of historical items belonging to the Dreyfus brothers has been donated to the University of Basel by the Foundation. Items in the display include: service pins from the British government and the Celanese Corporation; French Legion of Honor memorabilia; the Society of Dyers and Colourists' Perkin Medal; an inscribed Pestalozzi Foundation of America medal; and a cigarette holder necklace made of cellulose acetate – a copy of which was presented to Queen Mary of England. These materials are on permanent view in the main lecture hall at the University, where the Dreyfus Lectureship occurs.

News of the Board and Advisors

Katharine S. Walter was elected to the Foundation Board of Directors effective April 2025. Walter is an assistant professor of epidemiology at the University of Utah's School of Medicine, where she leads the **Evo-Epi Laboratory**. Her lab develops and applies evolutionary approaches to answer open questions about pathogen transmission and epidemiological dynamics with a current focus on M. tuberculosis. Walter received her Ph.D. from the Yale School of Public Health.

Arup K. Chakraborty ended his second and final term as a Foundation Advisor in 2025. He has generously lent his extraordinary scientific expertise to the Foundation since his appointment in 2017. Chakraborty is the John M. Deutch Institute Professor at the Massachusetts Institute of Technology. His research lies at the intersection of the physical and life sciences and focuses on transcriptional condensates and regulation of cell identity, as well as immunology, virology, and vaccines.

Two New Films Released in *Chemistry Shorts®* Series

The ***Chemistry Shorts®*** series is a collection of short films conceived and sponsored by the Foundation. Focused on inspiring young people at the high school and early undergraduate level, each film spotlights the positive impact that chemists and chemical engineers have on modern life as they work to solve important problems and create new opportunities that benefit humanity.

In February we launched **"Energy to Spare: Building Better Batteries."** The film uses exploding batteries, bowling showdowns, and electrifying animations to give a primer on how batteries work and explores how scientists are revolutionizing battery technology for the renewable energy age. It features **Maher El-Kady**, UCLA, who works on zinc-ion batteries, which have many advantages over widely used lithium-ion batteries.

In November, we launched **"Changing Key and Chemistry."** In it, **Neil Garg**, UCLA, shows that learning chemistry's most intimidating subject could be as easy as learning to play "Twinkle, Twinkle, Little Star." After a discussion with his children's piano teacher, Garg realized that organic chemistry can be understood much like music – one key, one scale, and one step at a time. Each atom in a molecule is like a note in a melody: once you learn the basic components, you can put them together in infinite combinations from the simplest molecules to the most complicated symphonies. The film additionally explores how scientists re-orchestrated natural molecules to solve big problems, like turning a chemical found in yew trees into the cancer-fighting drug taxol, and Garg's recent headline-making work on anti-Bredt olefins which showed that even century-old chemistry rules are made to be broken.

The films are accompanied by curriculum for use in high school and early college classrooms. All materials are available to students, educators, and others completely free of charge via chemistryshorts.org.

2025 Awards

Camille Dreyfus Teacher-Scholar Awards

Ashok Ajoy
University of California, Berkeley

Connor Coley
Massachuesetts Institute of Technology

Milan Delor
Columbia University

Selvan Demir
Michigan State University

Nicholas Jackson
University of Illinois Urbana-Champaign

Xinle Li
Clark Atlanta University

Yuzhang Li
University of California, Los Angeles

Martín Mosquera
Montana State University

Marvin Parasram
New York University

Courtney Roberts
University of Minnesota

Linsey Seitz
Northwestern University

Weixin Tang
The University of Chicago

Thao Tran Dominy
Clemson University

Lu Wei
California Institute of Technology

Zachary K. Wickens
University of Wisconsin-Madison

Suyang Xu
Harvard University

Yang Yang
University of California, Santa Barbara

Huiyuan Zhu
University of Virginia

Aleksandr Zhukhovitskiy
The University of North Carolina at Chapel Hill

Dreyfus Prize in the Chemical Sciences

Héctor Abruña
Cornell University

Supplemental Grant Program for Camille Dreyfus Teacher-Scholar Awards

John Anderson
University of Chicago

Theodore Betley
Harvard University

Irene Chen
University of California, Los Angeles

Neal Devaraj
University of California, San Diego

Abigail Doyle
University of California, Los Angeles

Christy Haynes
University of Minnesota

Song Lin
Cornell University

Evan Miller
University of California, Berkeley

Gaetano Montelione
Rensselaer Polytechnic Institute

Sergey Nizkorodov
University of California, Irvine

Michelle O'Malley
University of California, Santa Barbara

Theresa Reineke
University of Minnesota

Natalia Shustova
University of South Carolina

Marcus Weck
New York University

Christina Woo
Harvard University

Jenny Yang
University of California, Irvine

Henry Dreyfus Teacher-Scholar Awards

Jeanine Amacher
Western Washington University

Shuming Chen
Oberlin College

Melissa Gordon
Lafayette College

Geneva Laurita
Bates College

Ryan Limbocker
United States Military Academy

Andrew Petit
California State University, Fullerton

Julie Pollock
University of Richmond

Kathryn Riley
Swarthmore College

Jean Dreyfus Lectureship for Undergraduate Institutions

California Polytechnic State University, San Luis Obispo

Carleton College

College of Charleston

Hamilton College

High Point University

San Francisco State University

San José State University

University of San Diego

Dreyfus-Sponsored ACS Awards

ACS Award for Encouraging Underrepresented and Economically Disadvantaged Students into Careers in the Chemical Sciences

Karen Lozano
University of Texas Rio Grande

ACS Award for Encouraging Women into Careers in the Chemical Sciences

Rachel Mamlok-Naaman
Weizmann Institute of Science

Award Programs and 2026 Deadlines

Dreyfus Prize in the Chemical Sciences

The Dreyfus Prize in the Chemical Sciences, awarded biennially, consists of a monetary award of $250,000, a medal, and a certificate. The Prize, which is open to international nominations, 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 topic of the 2027 Prize is Chemical Probes of Biological Systems. The winner will be announced in Spring 2027.

Nomination Deadline: December 3, 2026

Camille Dreyfus Teacher-Scholar Awards Program

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 $100,000.

Nomination Deadline: February 3, 2026

Henry Dreyfus Teacher-Scholar Awards Program

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 $75,000.

Nomination Deadline: August 6, 2026

Jean Dreyfus Lectureship for Undergraduate Institutions

The Jean Dreyfus Lectureship for Undergraduate Institutions provides a $25,000 grant to bring a leading researcher to a primarily undergraduate institution to give a series of lectures in the chemical sciences, at least one of which is promoted and accessible to the general public. 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 to support summer research opportunities for two undergraduate students.

Application Deadline: August 6, 2026

Dreyfus-Sponsored ACS Awards

The ACS Awards for Encouraging Underrepresented and Economically Disadvantaged Students into Careers in the Chemical Sciences and Encouraging Women into Careers in the Chemical Sciences, sponsored by the Camille and Henry Dreyfus Foundation, recognize significant accomplishments by individuals in stimulating these students to choose careers in the chemical sciences and engineering. Each award consists of $5,000 for the winner, $1,500 in travel funds, and a grant of $10,000 to an eligible non-profit institution, designated by the recipient, to strengthen its activities in meeting the objectives of the award.

See ACS's website for additional information: www.acs.org

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2009-2020

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CAMILLE DREYFUS

HENRY DREYFUS

The purpose of the Camille and Henry Dreyfus Foundation, Inc., is to advance the science of chemistry, chemical engineering, and related sciences as a means of improving human relations and circumstances throughout the world. 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 through a series of programs and awards.

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