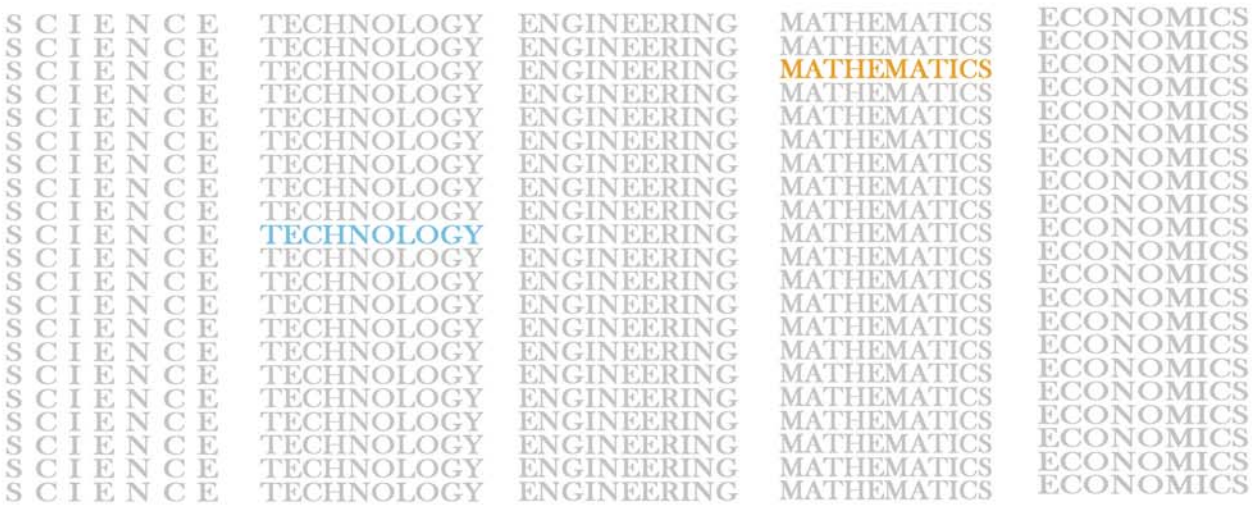
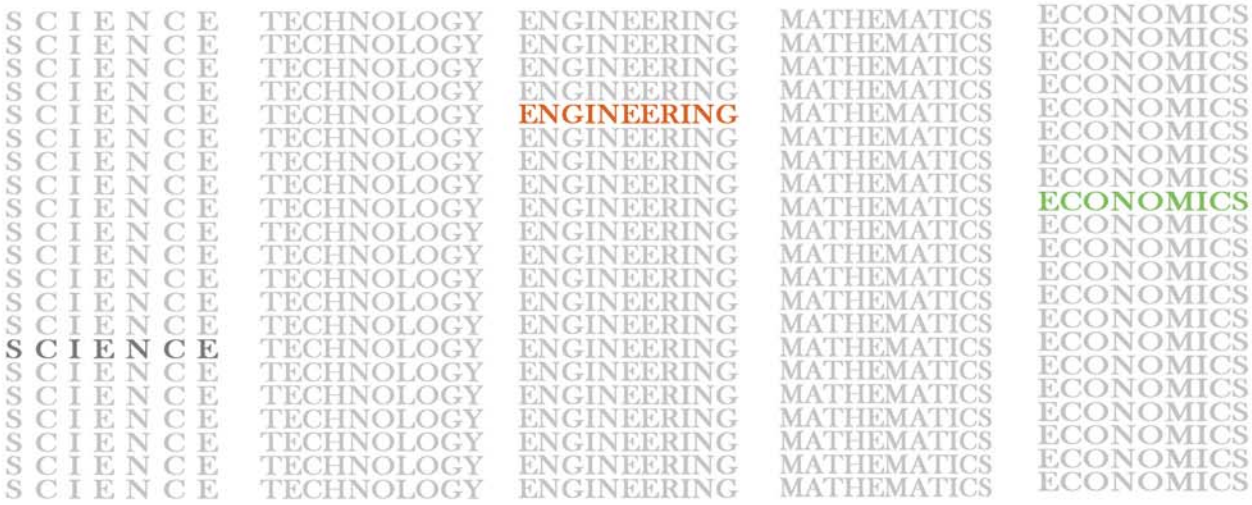



# SLOAN




## Alfred P. Sloan Foundation
## 2010 Annual Report

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The ALFRED P. SLOAN FOUNDATION makes grants primarily to support original research and broad-based education related to science, technology, economic performance, and the quality of American life. The Foundation is unique in its focus on science, technology, and economic institutions—and the scholars and practitioners who work in these fields—as chief drivers of the nation's health and prosperity. The Foundation has a deep-rooted belief that carefully reasoned systematic understanding of the forces of nature and society, when applied inventively and wisely, can lead to a better world for all. The Foundation's endowment provides the financial resources to support its activities. The investment strategy for the endowment is to invest prudently in a diversified portfolio of assets with the goal of achieving superior returns.

In each of our grants programs, we seek proposals for original projects led by outstanding individuals or teams. We are interested in projects that have a high expected return to society, and for which funding from the private sector, government, or other foundations is not yet widely available.

# PRESIDENT'S LETTER DR. PAUL L. JOSKOW

I am pleased to introduce the *2010 Annual Report* of the Alfred P. Sloan Foundation. The report contains descriptions of our major grantmaking programs, a list of all grants made by the Foundation in 2010, a financial review and audited financial statements, and the names of the Foundation's Trustees and staff. My letter provides an overview of our major programs, focusing on programs that started or were ramping up in 2010, those that were restructured or came to an end, and a few highlights of 2010.

The Alfred P. Sloan Foundation's mission is to make grants to support research and broad-based education in science, technology, economic performance, and the quality of American life. We also look for special opportunities to support projects that benefit the residents of the New York metropolitan area, where our staff and their families live, work, and attend school, and to fund select projects that reflect critical national needs.

The funds available to the Foundation to support its grantmaking and management come from our endowment, which was created by gifts from Alfred P. Sloan Jr., and which is managed by the Foundation's investment team with the support of our Investment Committee. Our investment team performed well under challenging market conditions and earned a 12.1 percent rate of return during calendar year 2010. As of December 31, 2010 the value of the Foundation's endowment stood at approximately $1.7 billion.

The Alfred P. Sloan Foundation is a relatively small philanthropic organization. We have 30 employees, of whom only seven are program directors. To best make use of the limited resources at our disposal, several principles inform my decisions as President: (1) stay focused on our mission; (2) encourage program directors to work together in the development of grants; (3) enforce good governance standards and communication with our Trustees; (4) make effective use of external reviewers to evaluate all major grant proposals, to assess the progress of each of our programs, and to advise us on how to improve; (5) work together with other foundations with similar interests; (6) control management costs; and (7) engage all members of our staff in our mission, treat them with respect, and provide opportunities for continuing education. Fidelity to these principles helps to ensure that the Foundation's grantmaking faithfully advances the vision of our founder and makes effective, efficient use of the funds left in our trust.

## BASIC RESEARCH

Support for original, high-quality research in the sciences, mathematics, engineering, economics, and other fields is central to the Foundation's mission. In 2010, the Foundation made major grants

supporting basic research through the Sloan Research Fellowships, the Indoor Environment program, and the new Deep Carbon Observatory.

The Foundation's oldest continuous initiative is the Sloan Research Fellowship program, which was started by Mr. Sloan himself in 1955. The fellowships aim to stimulate fundamental research by supporting the work of outstanding scholars at early stages of their academic careers. In 2010, the Foundation awarded 118 fellowships to researchers chosen by independent selection committees across seven scientific and technical fields: chemistry, computational and evolutionary molecular biology, computer science, economics, mathematics, neuroscience, and physics. In October 2010, I announced that the Trustees approved adding Ocean Sciences to the list of fields eligible for Sloan Research Fellowships. The first nominations in Ocean Sciences will be solicited in 2011 and the first awards made in early 2012.

The year 2010 also saw the first major grants made in our expanded and restructured Indoor Environment program. The goal of this program is to grow a new field of scientific inquiry focused on understanding the indoor microbial environments where people live, work, and play. Of particular note are grants made to the University of Oregon for its new Biology and the Built Environment Center, to the University of California, Davis to establish and support the creation of an online network allowing the community of indoor environment researchers to collaborate, exchange ideas, and share new developments in the field, and to the University of California, Berkeley to investigate the attributes of indoor microbial communities and their relationship to building design and climate.

Grantmaking in 2010 accelerated in our new Deep Carbon Observatory (DCO) program. The goal of the DCO is to revolutionize our understanding of carbon deep in the earth, including its connections to the origins of life, as well as to advance our understanding of the origins, distribution, and abundance of fossil fuels. Major grants were made to the DCO headquarters at the Carnegie Institution of Washington and to UCLA for new instrument development, to Oregon State University for a project to use DNA barcoding to begin characterizing deep life, and to the Integrated Ocean Drilling Program to investigate the feasibility of fulfilling an important but elusive goal in geoscience: drilling all the way to Earth's mantle.

The Foundation's grantmaking in basic research is concerned not only with advancing our scientific understanding of the world, but in ensuring that scientific research is conducted responsibly and with a robust understanding of the risks involved. In 2008, the Foundation made several grants to support research and education on ethical, societal, and regulatory issues associated with developments in the new field of synthetic biology. Those efforts were rewarded in 2010 when President Obama instructed the Presidential Commission for the study of Bioethical Issues to look into ethical, societal, risk, and regulatory issues associated with synthetic biology in the wake of the J. Craig Venter Institute's creation of the first self-replicating artificial cell. The Commission solicited testimony from several Sloan-supported scientists and ethicists prior to the release of its official report in December of 2010, and it commended the Foundation for having the foresight to support research and outreach on these issues.

## HIGHER EDUCATION IN SCIENCE, ENGINEERING, AND MATHEMATICS

The Foundation has a longstanding commitment to supporting higher education in science, engineering, and mathematics. We have focused in particular on increasing access to and completion of graduate programs for underrepresented groups in these fields. We are also interested in student retention at the undergraduate level, and in promoting the Professional Science Master's Degree. In 2010, the Foundation made grants of about $7 million to support education, the bulk of which supports fellowships for students from underrepresented groups enrolled in more than 60 Ph.D. and master's degree programs at 34 colleges across the country and for continued support of the Sloan Indigenous Graduate Partnership, which funds seven regional centers that allow Native American students to pursue quality graduate education in the sciences and engineering while continuing to participate meaningfully in tribal life.

## PUBLIC UNDERSTANDING OF SCIENCE

The Foundation is committed to supporting efforts to improve the public's understanding of science, technology, and economic performance, making use of all possible media to reach the public effectively. Our large, diverse program includes support for books, radio, film, television, theater, websites, festivals, and other activities that contribute to improving public understanding of science broadly defined and of scientists and how they live and work. Some of the highlights of grant activity in 2010 include a grant to WGBH Educational Foundation to produce and broadcast profiles of distinguished scientists on *NOVA scienceNow*; a grant to the National Geographic Society to complete a feature film on the evolutionary history of the universe; grants to support the radio programs *Radiolab*, *Science Friday*, and *Studio 360*; a grant to support the World Science Festival; a grant to support the production and broadcast of a one-hour PBS documentary on Admiral Hyman Rickover; and grants to support science and technology films, film panels dealing with science and technology topics, and awards at the Tribeca, Sundance, and Hamptons film festivals. Our relationship with the Ensemble Studio Theatre resulted in an especially fine play in 2010, *Photograph 51,* which played to sellout crowds, and was restaged as part of the World Science Festival. *Photograph 51* tells the story of the controversial relationship between Rosalind Franklin, Francis Crick, and James Watson in the discovery of the structure of DNA. I note as well that the Foundation's continuing support of Paul Solman's on-air reporting on the *PBS NewsHour* and its website, "Making Sen$e with Paul Solman: Your Guide to the Economy," has provided insightful news about the economy, business, and finance to the public during very difficult and confusing times for the U.S. and world economies.

## DIGITAL INFORMATION TECHNOLOGY

The Foundation plans to increase support for a wide range of activities related to the use of digital technology to increase access to material in traditional libraries, to enhance scholarly communications, and to improve research and its dissemination to the public. Dr. Joshua Greenberg was hired as a program director in September 2010 to lead this Digital Information Technology program, and grantmaking in this area will increase in 2011. In 2010, a major grant was made through the economics program to the National Bureau of Economic Research to initiate and organize research

on the economics of digital information. We also remain committed to providing support to develop models for a Digital Public Library of America (under Program Director Doron Weber's leadership) and advancing understanding of copyright laws, and business models that support open access.

## ECONOMIC PERFORMANCE AND QUALITY OF LIFE

The Foundation's interest in supporting high-quality, theory-based empirical research extends past natural sciences and into those disciplines that seek to better understand economic institutions, particularly the U.S. economy and the U.S. workplace. In 2010, major grants advancing this part of the Foundation's mission were made through our Working Longer and Economic Institutions, Behavior, and Performance programs.

The Foundation's new Working Longer program grew out of the Workplace, Work Force, and Working Families program. Initial grantmaking in this program will focus on research related to aging and work and, in particular, the identification and removal of barriers that make it more difficult for individuals voluntarily to work longer. During 2010, grants were made to the National Bureau of Economic Research, to the Urban Institute, to the University of California, Berkeley, and to the Brookings Institution to support such research. I expect grantmaking to increase in this program in 2011.

Grantmaking activity also increased in the new Economic Institutions, Behavior, and Performance program. This program has initially focused on supporting research on the behavior, performance, and regulation of financial markets, financial literacy, international capital flows and regulation, the economics of digital information, the effects of globalization on the United States, and behavioral economics. Our behavioral economics initiative focuses on financial literacy and regulation in a joint effort with the Russell Sage Foundation. In 2010, major grants were made to the Peter G. Petersen Institute to support research on lessons learned from the financial crisis and to the National Bureau of Economic Research to help to support its outstanding, growing Summer Institute program. Other major grants were made to support research to better understand consumer behavior as it relates to energy efficiency opportunities and financial literacy.

## CIVIC INITIATIVES

The Foundation has had a long commitment to being a good citizen of New York City by making grants to support selected civic activities. Indeed, in 2010 about 20 percent of our grant dollars went to institutions in the New York area, though only a small fraction are designated specifically as civic grants because so many outstanding institutions and individuals doing work in our other program areas are located there. I have endeavored to align our civic grantmaking more closely with our mission since I became President of the Foundation in 2008. Six outstanding civil servants were honored with a Sloan Public Service Award in 2010, a joint initiative with the Fund for the City of New York. The winners included a Brooklyn librarian specializing in children's programming, the head of dentistry at Kings County Hospital, the head of emergency planning at the office of New York's Chief Medical Examiner, a Brooklyn elementary school principal whose students come from predominantly low-income, Spanish-speaking households, a program director at the Department of Juvenile Justice, and the primary architect of New York City's recycling programs. The Fund for the

City of New York also managed the second round of the Sloan Awards for Excellence in Teaching Science and Mathematics, which honor outstanding teachers in the New York City public schools. In 2010, the winners included five math and three science teachers from schools in Manhattan, Brooklyn, Queens, and the Bronx. Also in 2010, a large grant was made to the Fund for Public Health in New York to improve the New York City Department of Health and Mental Hygiene's syndromic surveillance systems. Grants were made to Advocates for Children and to the New School to support the enhancement and institutionalization of the popular website insideschools.org. Cold Spring Harbor Laboratory received a grant to support DNA barcoding experiments by New York City high school students at its facility in Harlem. New York University received a grant to establish a Center for Mathematical Talent to work with New York City high school students, and the historic Science Honors Program at Columbia University, which provides special Saturday classes to gifted high school students with an aptitude for science, received a grant to document the lessons learned during its 50 years of operation.

## SELECT PROJECTS

Grants in the Foundation's small Select Projects program focused on energy in 2010. A grant of over $1 million was made to the Council on Foreign Relations to study and disseminate research on energy security issues. MIT received a grant to create an executive-level summer course focused on the safe and reliable use of nuclear energy for executives from countries, especially developing countries, considering adding nuclear power to their energy supply portfolios. In 2010, the Carnegie Endowment for International Peace received support for a project to develop a Code of Conduct related to nuclear proliferation for nuclear power plant vendors. A project focused on creating regional nuclear waste depositories also received Foundation support. The University of Texas at Austin received a grant to study the growth of natural gas as a domestic source of energy. Several grants were also made through our Economic Institutions, Behavior, and Performance program to study consumer decisions regarding energy efficiency opportunities. Grants were also made to support data linking and software development to facilitate the ability of the media and individuals to participate intelligently in the Congressional redistricting process that will follow the release of population data by the Bureau of the Census.

## COMPLETED PROGRAMS

During 2010, grantmaking for several important programs came to an end as they achieved their goals and freed up resources to pursue new and expand existing programs. The Census of Marine Life began in 2000 and was planned to take 10 years to complete. In 2010, grants were made to disseminate and assure the legacies of the Census of Marine Life and to evaluate the organization and output of this program. The official release of the Census of Marine Life took place in London in October 2010 over a period of several days. Scientists from around the world came to London to present their research and findings as well as to celebrate their achievements at a wonderful event at the Natural History Museum. The program in London reviewed the achievements of each of the Census's 14 field groups, as well as its History of Marine Animal Populations project, which benchmarked changes to life in the oceans over time, its Futures project, which projected how current trends will likely affect marine life going forward, and the Ocean Biogeographical Information System,

which collected and organized Census observations and data. Thousands of scientists from over 80 countries participated in the Census during its ten-year journey of exploration.

The Barcode of Life program has endeavored since 2002 to build an open-access library of short DNA sequences (barcodes) that make it possible to identify animal and plant species reliably and inexpensively. To date, 1.4 million specimens from over 110,000 species have been accumulated. Several grants were made in 2010 to help institutionalize barcoding as a rapid and inexpensive method to accurately identify species of animals, plants, and fungi using minimal DNA sequences and to support applications in areas such as consumer protection and the enforcement of regulations protecting endangered species.

The Workplace, Work Force, and Working Families program has supported research, education, and outreach activities to better understand the dramatic changes in labor participation among women, and new demands placed on families as they adjust to two-worker households. The program fostered academic research on working families, institutionalized the study of work-family as a new academic discipline, and created new Centers where this work could be produced and disseminated. The program's National Workplace Flexibility Initiative sought to make workplace flexibility a compelling national issue, to work with employers interested in understanding the opportunities created by flexible work arrangements, and to recognize those employers who had adopted workplace flexibility practices that benefited both employers and employees. In 2010, final grants in this program were made to the Sloan Work and Family Research Network to ensure its long-term sustainability, to the American Council on Education to conduct a fourth and final round of the Alfred P. Sloan Awards for Faculty Career Flexibility with a focus on medical schools, and to the National Opinion Research Center to conduct an inventory and assessment of the products produced by the Workplace, Work Force, and Working Families program.

This program has created considerable interest in work-family issues among employers and policymakers. In March 2010, the Council of Economic Advisors (CEA) released a report, "Work-Life Balance and the Economics of Workplace Flexibility," which drew heavily on Sloan-supported research. In tandem with the release of the CEA report, President Obama convened the first ever forum at the White House on workplace flexibility, where CEOs, labor leaders, small-business owners, and policy experts assembled to discuss how to effectively implement flexibility in the American workplace. A capstone event organized in Washington in November 2011 brought further attention to the issue and was attended by leaders of Sloan-supported research and outreach activities, business leaders who have effectively implemented flexibility in their workplaces, and high-level government officials such as Admiral Mike Mullen, Chairman of the Joint Chiefs of Staff, and Valerie Jarrett, Senior Advisor to President Obama. Sloan expects that the final grants for this program will be made in 2011.

The Foundation has supported the development and diffusion of Professional Science Master's (PSM) Degree programs and the associated PSM degree since 1997. The PSM is a two-year master's level degree designed to prepare students for nonacademic jobs in scientific and technical fields. In 2008, the Foundation decided to increase spending on this program over a two-year period in order to accelerate the creation of PSM programs, with a goal of 200 PSM programs by the end of 2010. That goal was passed during 2010 and there are now 242 PSM degrees being offered at 114 institutions.

Final grants were made in 2010 to several universities to support the creation of PSM programs, focusing on multi-campus state university systems. Going forward, the Foundation will focus on institutionalizing the certification and support of PSM programs nationwide. The Foundation made a 2010 grant to the Council on Graduate Schools for it to work with stakeholders to institutionalize the PSM as a regular feature of graduate education.

In 2000, the Foundation initiated a program to bring attention and resources to issues posed by biological attacks and epidemics and to improve biosecurity generally. Over time, there has been a large increase in public funds available to support the study of biosecurity issues and to implement responses to security and epidemic threats and the Foundation decided to bring grantmaking in this area to an end in 2010. In 2010, a grant was made to the Center for Biosecurity to document and synthesize major achievements in biosecurity and epidemic preparedness and to identify gaps and future needs.

In addition to these changes in our grantmaking programs, 2010 saw several changes to the Foundation's staff and Trustees. Harold Shapiro, Trustee and longtime Chair of the Board, retired after 30 years of service to the Foundation. Bill Hoglund also retired after 15 years as a Sloan Trustee. The Foundation is indebted to both Harold and Bill for their many years of advice and counsel and their presence will be missed in the years ahead. Also retiring in 2010 was Program Director Michael Teitelbaum, who over the course of 25 years oversaw the Sloan Research Fellowship program, the Foundation's program on the Professional Science Master's Degree, and its grantmaking on the science and engineering work force. I thank Michael for his longtime service to the Foundation. I am happy to report that the Foundation also welcomed several new staff and Trustees in 2010. Richard Bernstein, of Richard Bernstein Capital Management, was seated on the Board of Trustees in 2010, alongside new Trustee Robert Litterman, director of Goldman Sachs Asset Management, who joined in December of 2009. Both bring a strong understanding of financial markets to the Board, an especially valuable skill given the recent turmoil in global markets. The Foundation also welcomed Leisle Lin to the Foundation, who serves as our new Vice President, Finance and Board Secretary.

The year 2010 was productive for the Foundation, with strong returns from our investment group, grantmaking begun in several new, exciting initiatives, and celebration as completed programs accomplished major goals. It was a good year for our staff, for our grantees, and for the philanthropic institution first started in 1934 by Alfred P. Sloan Jr.

# 2010 Grants by Program


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# About the Grants Listing

Grants listed in this report are divided into three types.

**Trustee Grants** are grants for amounts greater than $125,000. All trustee grants are reviewed by an independent panel of experts and are presented quarterly to the Board of Trustees for approval.

**Grants Made Against Prior Authorizations** are grants in any amount made from funds set aside by the Board of Trustees to be used for specific purposes. Depending on the amount or subject matter of the grant, grants made against prior authorizations may or may not have been subject to external review by an independent panel of experts. For each authorization, the Foundation reports once yearly to the Board of Trustees about grants made against the authorized funds.

**Officer Grants** are grants for amounts less than or equal to $125,000. Depending on the amount or subject matter of the grant, officer grants may or may not have been subject to external review by an independent panel of experts. Officer grants made by the Foundation are reported to the Board of Trustees quarterly.

Grants listed herein are listed by program, then by grant type, then alphabetically by the name of the institution receiving the grant. Not all programs make grants of each type each year.

# Sloan Research Fellowships

These $50,000 awards go to the most promising early-career scientists and scholars nominated. The purpose is to help them make breakthroughs that significantly advance their fields. In 2011, as in recent years, 118 Sloan Research Fellowships were awarded in seven fields: chemistry (23); computer science (16); economics (8); mathematics (20); computational and evolutionary molecular biology (12); neuroscience (16); and physics (23). Since the program was established in 1955, fellowships totaling over $135 million have been awarded to more than 5,000 early-career researchers. Of these, 38 Sloan Research Fellows have gone on to become Nobel Laureates; 16 were named Fields Medalists in mathematics; 11 recent Fellows have won the John Bates Clark Medal in economics; and 59 have been recipients of the National Medal of Science. Hundreds of others have received notable prizes, awards, and honors in recognition of their major research accomplishments.

## 2010 Fellows

### Boston College
Sara J. Cordes, Neuroscience

### University of British Columbia
Omer Angel, Math
Joshua A. Folk, Physics

### Brown University
Benjamin J. Raphael, Molecular Biology

### California Institute of Technology
Thomas F. Miller, Chemistry
Joel A. Tropp, Math

### University of California, Berkeley
Thomas L. Griffiths, Computer Science
Amy E. Herr, Chemistry
Ali Javey, Chemistry
Ulrike M. Malmendier, Economics
Holger Mueller, Physics
Adam Szeidl, Economics

### University of California, Irvine
Christopher D. Vanderwal, Chemistry
Daniel Whiteson, Physics

### University of California, Los Angeles
Steven R. Furlanetto, Physics
Yu Huang, Chemistry
Rupak Majumdar, Computer Science
Monica Visan, Math
Xinshu Grace Xiao, Molecular Biology

### University of California, San Diego
Alison L. Coil, Physics
F. Akif Tezcan, Chemistry

### University of California, Santa Barbara
Trevor W. Hayton, Chemistry

UNIVERSITY OF CALIFORNIA, SANTA CRUZ
Jonathan Fortney, Physics

CARNEGIE MELLON UNIVERSITY
Jason I. Hong, Computer Science

THE UNIVERSITY OF CHICAGO
David J. Freedman, Neuroscience
Leslie Osborne, Neuroscience

UNIVERSITY OF CINCINNATI
Chiou-Fen Chuang, Neuroscience

UNIVERSITY OF COLORADO, BOULDER
Amy E. Palmer, Chemistry
J. Mathias Weber, Chemistry

COLUMBIA UNIVERSITY
Eitan Grinspun, Computer Science
Navin Kartik, Economics
Tristan Lambert, Chemistry
Scott A. Snyder, Chemistry
Tanya Zelevinsky, Physics

CORNELL UNIVERSITY
David S. Bindel, Computer Science
Jiwoong Park, Chemistry

DUKE UNIVERSITY
Cagla Eroglu, Neuroscience
Chay T. Kuo, Neuroscience

UNIVERSITY OF FLORIDA
Adam S. Veige, Chemistry

GEORGIA INSTITUTE OF TECHNOLOGY
C. Karen Liu, Computer Science
Maria G. Westdickenberg, Math

HARVARD UNIVERSITY
Sanjeep R. Datta, Neuroscience
Emmanuel Farhi, Economics
Jennifer E. Hoffman, Physics
Marko Loncar, Physics
Peter J. Park, Molecular Biology
Alkes L. Price, Molecular Biology
Tobias Ritter, Chemistry

UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN
Yann Robert Chemla, Physics
Karrie Karahalios, Computer Science

INDIANA UNIVERSITY
Matthew Hahn, Molecular Biology

IOWA STATE UNIVERSITY
Aaron D. Sadow, Chemistry

UNIVERSITY OF IOWA
Xiaoyi Zhang, Math

UNIVERSITY OF KANSAS
John Karanicolas, Molecular Biology

LEHMAN COLLEGE OF THE CITY UNIVERSITY OF NEW YORK
Jason Behrstock, Math

UNIVERSITY OF MARYLAND, COLLEGE PARK
Patrick Kanold, Neuroscience

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Arnaud Costinot, Economics
Constantinos Daskalakis, Computer Science
Jeffrey C. Grossman, Chemistry
Jonathan Kelner, Computer Science
Nickolai Zeldovich, Computer Science
Alexei Oblomkov, Math

MCGILL UNIVERSITY
Matt Dobbs, Physics

MEDICAL COLLEGE OF GEORGIA
He Cui, Neuroscience

UNIVERSITY OF MICHIGAN
Asim Beg, Neuroscience
Aaron E. Leanhardt, Physics

UNIVERSITY OF MINNESOTA

Christy L. Haynes, Chemistry
Tyler Lawson, Math

### New York University
Mark Tygert, Math

### University of North Carolina, Chapel Hill
Derek Chiang, Molecular Biology

### Northwestern University
Brian Odom, Physics
Giorgio E. Primiceri, Economics

### Ohio State University
Janet Best, Math
John M. Herbert, Chemistry

### University of Pennsylvania
Iwan Barankay, Economics
Justin Khoury, Physics
Elliot Lipeles, Physics
Nicole Rust, Neuroscience
Ben Taskar, Computer Science

### University of Pittsburgh
Gurudev Dutt, Physics

### Princeton University
David M. Blei, Computer Science
Christopher P. Herzog, Physics
Adam C. Maloof, Physics
Celeste M. Nelson, Molecular Biology
Yael Niv, Neuroscience
Yuliy V. Sannikov, Economics
Amit Singer, Math

### Purdue University
Svitlana Mayboroda, Math

### Rice University
Alexander Bufetov, Math
Adilet Imambekov, Physics
Luay K. Nakhleh, Molecular Biology

### Simon Fraser University
Matthew DeVos, Math

### Southern Methodist University
Brent S. Sumerlin, Chemistry

### Stanford University
Yi Cui, Chemistry
Hunter Fraser, Molecular Biology
Xiao-Liang Qi, Physics
Amin Saberi, Computer Science
Jacob G. Wacker, Physics

### Stony Brook University
Radu Laza, Math
Raanan Schul, Math

### University of Texas, Austin
Brent Waters, Computer Science

### University of Toronto
Spyros Alexakis, Math
Michael Brudno, Molecular Biology
Larry Guth, Math
Dvira Segal, Chemistry
Balázs Szegedy, Math

### Vanderbilt University
Andreas A. Berlind, Physics
Marylyn D. Ritchie, Molecular Biology

### University of Virginia
Christopher Deppmann, Neuroscience

### Washington University in St. Louis
Daniel Kerschensteiner, Neuroscience

### University of Washington
Luis Ceze, Computer Science
Max Lieblich, Math
Christine K. Luscombe, Chemistry

### University of Wisconsin, Madison
Douglas B. Weibel, Chemistry
Li Zhang, Computer Science

### Yale University
Daniel A. Colón-Ramos, Neuroscience

Marla Geha, Physics

YORK UNIVERSITY

R. Shayna Rosenbaum, Neuroscience

# STEM Research


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# BARCODE OF LIFE

This program, started in 2002, aims to speed the building and use of a library of short DNA sequences (barcodes) to identify animal and plant species reliably and inexpensively. Foundation grantmaking has supported the selection of gene regions for use in identification and the networking of stakeholder institutions in the field, which include museums and herbaria that have collections of specimens, laboratories that perform analyses, and regulatory agencies concerned, for example, about the accuracy of food labeling. The Consortium for the Barcode of Life, based at the Smithsonian Institution, includes 200 member organizations from 50 countries. Barcodes of over 1.3 million specimens from over 105,000 species have been accumulated with plans to extend the barcode library to 500,000 species over the next four years. A final round of grants from the Foundation in 2010 supports the Consortium as it shifts to financial reliance on government agencies concerned both with basic science and with consumer and environmental protection.

## TRUSTEE GRANTS

### AMERICAN MUSEUM OF NATURAL HISTORY

New York, NY

**$800,000** OVER **36 MONTHS** TO FOSTER APPLICATIONS OF DNA BARCODING FOR CONSERVING BIODIVERSITY, REDUCING CONSUMER FRAUD, AND PROTECTING HUMAN HEALTH. **PROJECT DIRECTOR:** GEORGE AMATO, DIRECTOR

This grant supports a joint initiative by the American Museum of Natural History and the New York Botanical Garden to foster regulatory applications of DNA barcoding. Both the Museum and the Garden have already made notable contributions to the basic science of DNA taxonomy and its application for societal benefit. Funds from this grant will support a mix of direct training of relevant regulatory agency personnel, publicization of useful applications, further building of relevant databases and websites, and research that keeps the principal investigators in leading positions not only as educators but as working scientists. A gratifying dimension of the effort is the growth of New York City as a center for barcoding research, application, and education.

Both institutions have raised matching funds for what Sloan has provided, and the top levels of the institutions have committed to keeping the institutions in leading positions in this dynamic field after Foundation support ends.

## New York Botanical Garden

Bronx, NY

**$800,000** over **36 months** to foster applications of DNA barcoding for conserving biodiversity, reducing consumer fraud, and protecting human health. **Project Director:** Damon P. Little, Assistant Curator of Bioinformatics

This grant supports a joint initiative by the American Museum of Natural History and the New York Botanical Garden to foster regulatory applications of DNA barcoding. Both the Museum and the Garden have already made notable contributions to the basic science of DNA taxonomy and its application for societal benefit. Funds from this grant will support a mix of direct training of relevant regulatory agency personnel, publicization of useful applications, further building of relevant databases and websites, and research that keeps the principal investigators in leading positions not only as educators but as working scientists. A gratifying dimension of the effort is the growth of New York City as a center for barcoding research, application, and education. Both institutions have raised matching funds for what Sloan has provided, and the top levels of the institutions have committed to keeping the institutions in leading positions in this dynamic field after Foundation support ends.

## Smithsonian Institution

Washington, DC

**$1,718,000** over **30 months** as a final grant to operate the Consortium for the Barcode of Life to advance rapid, inexpensive identification of species of animals, plants, and fungi using minimal DNA sequences. **Project Director:** Scott E. Miller, Deputy Under Secretary for Science

This grant to the Smithsonian-based Consortium for the Barcode of Life will fund the Consortium's continued work toward advancing the use of DNA barcoding for the rapid, inexpensive identification of species of animals,

plants, and fungi. Thanks largely to the efforts of the Smithsonian and its institutional partners, the Barcode of Life Data Systems Database (BOLD) (www.boldsystems.org) holds more than 1.3 million specimens from more than 100,000 species. Activities funded through this grant will speed the Consortium's progress toward growing this database, including efforts to add specimens from key groups, such as fruitflies. Other activities will promote technology development toward a handheld "barcoder," network and represent the barcoding community, and encourage the adoption of barcoding as a standard for regulation and enforcement.

## Officer Grants

### York College of the City University of New York
New York, NY

**$124,218** over **12 months** to deepen understanding of the lineages and molecular biology of a family of venomous marine snails of interest for neuronal function and pharmaceutical potential. **Project Director:** Mande Holford, Assistant Professor

# CENSUS OF MARINE LIFE

Conceived in 1997 and launched as a decadal program in 2000, the Census of Marine Life (CoML) produced the first comprehensive survey of marine life—microbes to mammals, abyss to surface, near-shore to mid-ocean, and Arctic to Antarctic. The program addressed diversity (how many forms of life exist in the ocean), distribution (the range of each species), and abundance (how many of each species). More than 2,700 marine scientists from 80 countries participated in the Census, logging over 9,000 days at sea over the course of a decade of research. Supported by 192 grants totaling $78 million, as well as more than $570 million from other sources, the program culminated with the release of the first Census of Marine Life in October 2010 in London.

The program accomplished its goals through field projects that collected new observations in diverse ocean realms; a history project that provided benchmarks of past marine populations; a futures project that modeled populations and made predictions across the next three to four decades; and cross-cutting groups concerned with technologies for observation, data management, mapping and visualization, synthesis, and outreach. Analyses of Census data continue to be published and win public attention about, for example, patterns of movement of top predators and risks to marine life in the deepest parts of the sea.

## TRUSTEE GRANTS

### CONSORTIUM FOR OCEAN LEADERSHIP INC.

Washington, DC

**$900,000** OVER **13 MONTHS** TO DISSEMINATE AND ASSURE THE LEGACIES OF THE CENSUS OF MARINE LIFE. **PROJECT DIRECTOR:** KRISTEN YARINCIK, COML PROGRAM MANAGER

Though the Census of Marine Life was officially released in October 2010, additional follow-on activities are necessary to maximize the impact of the Census and to ensure its legacy. Funds from this grant will support continuing activities by the Consortium for Ocean Leadership for the year immediately

following the official release of the Census of Marine Life. Funded activities include the following: to respond to requests for information; to support and participate in national and regional workshops and briefings; to maintain a web presence and databases; to organize a workshop on Census community recommendations for future research; and to archive the hard-copy and digital materials from the program. Outcomes sought include better informed and more interested policymakers, conservation organizations, governments, and public; lessons, models and documentation for planning and implementation for future international science programs; and science community agreement on directions for a follow-on marine biodiversity program.

## Grants Made Against Prior Authorizations

In June 2010, the Board of Trustees authorized the expenditure of up to $250,000 for a series of small grants to help successfully complete the first Census of Marine Life. The following grants were made against this previously authorized fund.

### Universidad de Concepcion
Concepcion, Chile

**$50,000** over **6 months** to complete and disseminate work of the Census of Marine Life in Chile. **Project Director:** Victor Arial Gallardo, Professor

### International Union for Conservation of Nature and Natural Resources—U.S.
Washington, DC

**$90,000** over **12 months** to enable use of Census of Marine Life information in support of global ocean policy processes. **Project Director:** Patricio A. Bernal, Project Coordinator, IUCN High Seas Initiative

### Smithsonian Institution
Washington, DC

**$20,000** over **3 months** to foster integration of species information from the Census of Marine Life in open-access channels, including the Encyclopedia of Life and Public Library of Science. **Project Director:** Cynthia Sims Parr, Director, Species Pages Group

## Officer Grants

### Landcare Research New Zealand Limited
Canterbury, New Zealand

**$116,260** over **9 months** to identify and disseminate lessons learned about the organization and conduct of international scientific programs from the Census of Marine Life. **Project Director:** David Penman, Director

### Texas A&M University, Corpus Christi
Corpus Christi, TX

**$100,000** over **12 months** to create tools to lift the value of open-access databases about the marine biodiversity of the Gulf of Mexico. **Project Director:** John W. Tunnell, Associate Director

# DEEP CARBON OBSERVATORY

This program aims to revolutionize our understanding of the carbon deep in the Earth, including its connections to the origins of life and to the origins, distribution, and abundance of fossil fuels. Through a multidisciplinary international network of scientists and technologists, the Deep Carbon Observatory will develop and deploy new instrumentation, take observations, and perform analyses.

A three-year 2009 grant to the Carnegie Institution of Washington supports the initial phase of the program, which focuses on developing instruments to meet the severe technical challenges associated with probing the high-pressure, high-temperature processes in Earth's deep interior and on building an organizational infrastructure to set strategic priorities, engage a network of researchers, and secure funding commitments from institutional partners. Subsequent grants have gone to support the design and construction of a pioneering mass spectrometer to measure tiny subterranean volumes of methane, to develop the infrastructure necessary to support the drilling of a borehole to the Earth's mantle, to promote efforts to use DNA sequencing to identify and characterize deep life, and to fund the development of the Observatory's directorates.

## TRUSTEE GRANTS

### UNIVERSITY OF CALIFORNIA, LOS ANGELES

Los Angeles, CA

**$800,000** OVER **36 MONTHS** TO HELP DESIGN AND BUILD A PIONEERING MASS SPECTROMETER FOR THE DEEP CARBON OBSERVATORY TO TRACE THE PROVENANCE OF TINY VOLUMES OF METHANE AND OTHER GASEOUS SPECIES IN NATURAL ENVIRONMENTS. **PROJECT DIRECTOR:** EDWARD D. YOUNG, PROFESSOR OF GEOCHEMISTRY AND COSMOCHEMISTRY

A fundamental challenge of the Deep Carbon Observatory is to distinguish methane ($CH_4$) produced by degradation of relict organic matter (fossil fuel) from that produced by inorganic synthesis or from the activity of microbes

(methanotrophs) in the deep biosphere. This grant supports a project to develop and build a tandem gas-source, electron-impact mass spectrometer with sufficient mass resolving power and sensitivity to make it possible to analyze the rare isotopologues of gas molecules present in hydrocarbon deposits, deep crustal reservoirs, and other settings. The proposed instrument will be the first to combine exceptionally high mass resolving power with a gas-source inlet to a mass spectrometer. The full cost of the instrument is $2 million. Proposals submitted to the National Science Foundation (NSF) and Department of Energy (DOE) for $1.15 million have won very favorable reviews, and both agencies have indicated a desire to fund the instrument, with Foundation funding completing the funding gap. The Foundation believes support for the mass spectrometer powerfully exemplifies the effective leveraging of Sloan funds, and a working instrument within 24 months could produce significant published scientific results on the provenance of deep methane in natural environments within three to four years.

## CARNEGIE INSTITUTION OF WASHINGTON

Washington, DC

**$900,000** OVER **18 MONTHS** TO ENCOURAGE DEVELOPMENT OF SCIENTIFIC INSTRUMENTS FOR THE INTERNATIONAL DEEP CARBON OBSERVATORY. **PROJECT DIRECTOR:** ROBERT HAZEN, SENIOR STAFF SCIENTIST

When the Foundation initiated support for the Deep Carbon Observatory (DCO), advisors and reviewers emphasized the importance of timely instrument development. The success of the DCO's ten-year plan depends not only on network building, fund-raising, and drilling but on instruments ready to do the range of analyses foreseen. Much effort since the July 1, 2009 launch of the DCO has gone into understanding and addressing instrument needs.

The DCO leadership invited 10 groups to submit requests and plans for instruments that the international leadership deemed especially important and promising. This resulted in seven highly promising projects totaling $1.7 million. This grant will support six of these seven instrument development projects, oversight of which is to be conducted by the Deep Carbon Observatory leadership at the Carnegie Institution of Washington. The seventh project is funded through a separate Sloan Foundation grant to the University of California at Los Angeles. The instruments to be developed and the developing institutions to be funded under this grant are:

| INSTITUTION | INSTRUMENT |
|---|---|
| University of Southern California | Down-hole logging instrumentation |
| University of New Mexico | Volcano gas monitoring |
| Stanford University | Synchrotron X-ray spectrometer |
| Institute of High Pressure Physics, Troitsk, Russia | Diamond-anvil cells (high-pressure, high-temperature devices) |
| Moscow State University | Gas chromatograph |
| Institute for Physics of the Globe, Paris | Gas-source mass spectrometer |

The inherent challenges of technical progress as well as required matching funds introduce considerable uncertainty into the process of instrument development, but the Foundation believes these projects position the Deep Carbon Observatory well for timely success in this crucial dimension of its activity.

## INTEGRATED OCEAN DRILLING PROGRAM MANAGEMENT INTERNATIONAL

Washington, DC

**$142,785** OVER **12 MONTHS** TO EXPLORE THE VALUE AND FEASIBILITY OF REACHING PRISTINE MANTLE ROCK AS PART OF THE FIELD PROGRAM OF THE DEEP CARBON OBSERVATORY. **PROJECT DIRECTOR:** KIYOSHI SUYEHIRO, PRESIDENT & CEO

The Foundation's Deep Carbon Observatory (DCO) science program initiated in 2009 aims to revolutionize understanding of the carbon at great depths in Earth's crust and even below, in the mantle. With Foundation support, the sea floor scientific drillers, now united worldwide in the International Ocean Drilling Program (IODP), propose to meet with the emerging deep carbon community to explore whether the time is ripe to pursue a project to drill a borehole down to the boundary between the Earth's crust and its mantle and whether such an effort should be associated with the DCO. Funds from this grant will support this meeting, hosted by the DCO leadership at the Carnegie Institution of Washington, which will aim to achieve clarity about the risks, costs, and benefits of such a project with an eye toward a well-informed decision about whether it should form a part of the DCO.

## OREGON STATE UNIVERSITY

Corvallis, OR

**$700,000** OVER **24 MONTHS** TO HELP THE DEEP CARBON OBSERVATORY BEGIN CHARACTERIZING DIVERSITY OF DEEP LIFE IN CONTINENTAL AND MARINE ENVIRONMENTS USING DNA SEQUENCING TECHNOLOGY. **PROJECT DIRECTOR:** FREDERICK S. COLWELL, PROFESSOR

The Foundation established the Deep Carbon Observatory (DCO) in 2009 to achieve major advances in understanding of carbon, the element of life, in geologically diverse deep continental and marine environments. The Observatory's plan includes a component whose objective is to describe the types of life that occur, their adaptive and evolutionary strategies, and the limits—and possibly origins—of life. In fact, evidence exists for life in all deep environments where there is liquid water. The environments include oil wells, deep granitic and basaltic aquifers, sandstone cores, clays, gold seams, and deep marine sediments. With Foundation support, an international network of microbiologists and geneticists headquartered at Oregon State University will begin a comprehensive survey of the diversity, distribution, and abundance of life in representative deep environments. Earth's microbes probably amount to 90 percent or more of all life. The total number of cells might be a nonillion, one thousand times one billion times one billion times one billion, or 10 to the 30th power, and the subsurface biomass may be 90 percent of all microbial cells. For many environments, however, there are no or sparse data, and the diversity is just now being explored thanks to new gene sequencing technologies. A key technology is "pyrotag" sequencing, which allows low-cost processing of massive amounts of DNA. The method has been applied to very few samples from deep environments. As a base, this project would examine well-preserved samples from four deep settings chosen for their variety and extensive contextual information, for example, permafrost more than 600 meters below the surface on continents. A community meeting in the second year of the project will help build the global network of experts in deep life to achieve the eventual DCO goals.

# INDOOR ENVIRONMENT

While humans average 23 hours per day indoors, most environmental research and policy have focused on natural or urban outdoor environments. The goal of Sloan's Indoor Environment program is to develop a new field of scientific inquiry focused on characterizing the microbiology of built environments where people live, work, and play. Grantmaking focuses on building a diverse community of scientists, engineers, architects and others to conduct research, share findings, develop data collection tools, and establish standards and conventions for this nascent field. Recent grants have led to the creation of the Biology and the Built Environment Center at the University of Oregon; the establishment of microBEnet, a nationwide network allowing researchers to interact and share news and data; the funding of a data analysis consortium of four different institutions; and the support of select high-value research projects.

## TRUSTEE GRANTS

### UNIVERSITY OF CALIFORNIA, BERKELEY

Berkeley, CA

**$1,451,191** OVER **36 MONTHS** TO INVESTIGATE THE PROCESSES AND SOURCES RESPONSIBLE FOR INDOOR MICROBIAL COMMUNITIES AND INDOOR AIR QUALITY.
**PROJECT DIRECTOR:** THOMAS D. BRUNS, PROFESSOR & ASSOCIATE CHAIR

One of the objectives of Sloan's Indoor Environment program is to support targets of opportunity that will help to advance research and knowledge about the indoor microbial environment. Funds from this grant support research on the indoor microbial environment by a team of scientists at the University of California, Berkeley. Their research plan has three objectives: to investigate the processes of microbial community assembly in the indoor environment; to obtain an understanding of the relationship between building design, external climate, and interior microbial community; and to improve instrumentation to measure volatile, organic compounds derived from microbes, microbial toxins, and allergens in indoor air. The Berkeley team's project complements existing Foundation grants supporting the Biology and Built Environment Center at the University of Oregon, which is developing a predictive science of

the built environment microbiome through partnerships between architects and biologists; a major ongoing research project to catalog the indoor microbial world at the University of Colorado at Boulder; a project to study New York City air and to develop a single-cell genomics pipeline at the J. Craig Venter Institute, and efforts by the Marine Biological Laboratory at Woods Hole to examine the rare biosphere in drinking water.

## UNIVERSITY OF CALIFORNIA, DAVIS

Davis, CA

**$1,371,214** OVER **36 MONTHS** TO ESTABLISH AND SUPPORT THE MICROBIOLOGY OF THE BUILT ENVIRONMENTS NETWORK (MICROBENET). **PROJECT DIRECTOR:** JONATHAN EISEN, PROFESSOR

One of the objectives of the Foundation's Indoor Environment program is to establish a multi-disciplinary network of researchers and practitioners that will build the community and organize specialized workshops, annual meetings of grantees, and a capstone event. This grant will fund noted evolutionary biologist Jonathan Eisen and colleagues at the University of California, in collaboration with Hal Levin, a prominent building sciences expert, in their efforts to create the Microbiology of the Built Environment network (microBEnet). The team plans to make use of diverse web-based, web-enabled, and in-person strategies to build a vibrant online and real community. Over the next three years, microBEnet will conduct activities in three areas: among existing Foundation grantees, with researchers in related disciplines, and with a broader public and scientific community. Among current Sloan grantees, the network will organize annual meetings and develop a wiki for communication. With researchers in related disciplines, microBEnet will organize special sessions at high-profile meetings, and develop web communication resources.

## UNIVERSITY OF CALIFORNIA, RIVERSIDE

Riverside, CA

**$750,000** OVER **36 MONTHS** TO PROVIDE TOOLS AND A DATA ARCHIVE FOR ANALYZING SEQUENCE DATA OF MICROBIAL COMMUNITIES IN THE INDOOR ENVIRONMENT. **PROJECT DIRECTOR:** JASON E. STAJICH, ASSISTANT PROFESSOR

One of the objectives of the Foundation's Indoor Environment (IE) program is to improve the cohesiveness of the community of indoor microbiology researchers and its ability to communicate internally and externally by developing data visualization and imaging techniques and repositories. This grant to the University of Chicago supports a joint project with the University of California, Riverside, the Marine Biological Laboratory, and the University of Colorado, Boulder to develop MoBeDAC, a data analysis core for the Indoor Environment program. The overarching goal for this collaborative effort is to provide tools and a data archive for analyzing molecular sequence data and for visualizing ecological and functional similarities between microbial communities in the indoor environment. The team plans to integrate the functional capabilities of the websites of MG-RAST, VAMPS, QIIME, and the genome database, FungiDB, through a common database structure. This project will facilitate comparisons of molecular ecology data and contextual information across laboratories and study sites, providing a platform for accelerating publication of results and training of students for environmental microbiology laboratories.

## THE UNIVERSITY OF CHICAGO

Chicago, IL

**$1,094,203** OVER **36 MONTHS** TO PROVIDE TOOLS AND A DATA ARCHIVE FOR ANALYZING SEQUENCE DATA OF MICROBIAL COMMUNITIES IN THE INDOOR ENVIRONMENT. **PROJECT DIRECTOR:** FOLKER MEYER, SENIOR FELLOW

One of the objectives of the Foundation's Indoor Environment program is to improve the cohesiveness of the community and its ability to communicate internally and externally by developing data visualization and imaging techniques and repositories. This grant to the University of Chicago supports a joint project with the University of California, Riverside, the Marine

Biological Laboratory, and the University of Colorado, Boulder to develop MoBeDAC, a data analysis core for the Indoor Environment program. The overarching goal for this collaborative effort is to provide tools and a data archive for analyzing molecular sequence data and for visualizing ecological and functional similarities between microbial communities in the indoor environment. The team plans to integrate the functional capabilities of the websites of MG-RAST, VAMPS, QIIME, and the genome database, FungiDB, through a common database structure. This project will facilitate comparisons of molecular ecology data and contextual information across laboratories and study sites, providing a platform for accelerating publication of results and training of students for environmental microbiology laboratories.

## UNIVERSITY OF COLORADO, BOULDER

Boulder, CO

**$450,000** OVER **36 MONTHS** TO PROVIDE TOOLS AND A DATA ARCHIVE FOR ANALYZING SEQUENCE DATA OF MICROBIAL COMMUNITIES IN THE INDOOR ENVIRONMENT. **PROJECT DIRECTOR:** ROB D. KNIGHT, ASSISTANT PROFESSOR

One of the objectives of the Foundation's Indoor Environment program is to improve the cohesiveness of the community and its ability to communicate internally and externally by developing data visualization and imaging techniques and repositories. This grant to the University of Colorado, Boulder supports a joint project with the University of Chicago, the University of California, Riverside, and the Marine Biological Laboratory to develop MoBeDAC, a data analysis core for the Indoor Environment program. The overarching goal for this collaborative effort is to provide tools and a data archive for analyzing molecular sequence data and for visualizing ecological and functional similarities between microbial communities in the indoor environment. The team plans to integrate the functional capabilities of the websites of MG-RAST, VAMPS, QIIME, and the genome database, FungiDB, through a common database structure. This project will facilitate comparisons of molecular ecology data and contextual information across laboratories and study sites, providing a platform for accelerating publication of results and training of students for environmental microbiology laboratories.

## MARINE BIOLOGICAL LABORATORY

Woods Hole, MA

**$459,918** OVER **36 MONTHS** TO PROVIDE TOOLS AND A DATA ARCHIVE FOR ANALYZING SEQUENCE DATA OF MICROBIAL COMMUNITIES IN THE INDOOR ENVIRONMENT. **PROJECT DIRECTOR:** MITCHELL L. SOGIN, SENIOR SCIENTIST & DIRECTOR

One of the objectives of the Foundation's Indoor Environment program is to improve the cohesiveness of the community and its ability to communicate internally and externally by developing data visualization and imaging techniques and repositories. This grant to the Marine Biological Laboratory supports a joint project with the University of Chicago, the University of California, Riverside, and the University of Colorado, Boulder to develop MoBeDAC, a data analysis core for the Indoor Environment program. The overarching goal for this collaborative effort is to provide tools and a data archive for analyzing molecular sequence data and for visualizing ecological and functional similarities between microbial communities in the indoor environment. The team plans to integrate the functional capabilities of the websites of MG-RAST, VAMPS, QIIME, and the genome database, FungiDB, through a common database structure. This project will facilitate comparisons of molecular ecology data and contextual information across laboratories and study sites, providing a platform for accelerating publication of results and training of students for environmental microbiology laboratories.

## UNIVERSITY OF OREGON

Eugene, OR

**$1,800,000** OVER **36 MONTHS** TO FUND THE CENTER FOR MICROBIAL ECOLOGY OF INDOOR ENVIRONMENTS. **PROJECT DIRECTOR:** JESSICA LEE GREEN, ASSISTANT PROFESSOR

This three-year grant funds the establishment and operation of the Biology and the Built Environment Center at the University of Oregon, an interdisciplinary research center that aims to make significant strides in the scientific understanding of indoor microbial populations and how those populations are affected by their environment. Over the next three years, Center researchers will investigate whether and how ventilation and human

occupancy affect indoor microbial populations, how building materials and interior temperature shape microbial community composition, and how climate, geography, and building use drive microbial biodiversity. Funded activities include developing ecological theory, taking samples from hospitals and schools, molecular sample preparation, high-throughput sequencing, and bioinformatic analysis of collected samples. Funds will also support the training of graduate students and postdoctoral researchers in the use of hypothesis-driven, evidence-based approaches to understanding the built environment microbiome and support the development of new courses and seminars on the architecture-biology interface.

## Grants Made Against Prior Authorizations

In June 2010, the Board of Trustees authorized the expenditure of up to $500,000 for a series of small grants aimed at supporting the major programmatic objectives of the Foundation's Indoor Environment program. The following grants were made against this previously authorized fund.

### University of Texas, Austin
Austin, TX

**$63,778** over **9 months** to support the Symposium on Microbiomes of Built Environments at Indoor Air 2011. **Project Director:** Richard L. Corsi, E.C.H. Bantel Professor for Professional Practice

### University of Texas, Austin
Austin, TX

**$42,433** over **12 months** to determine essential baseline IE knowledge of experts and identify decision-makers. **Project Director:** LeeAnn Kahlor, Associate Professor

### Yale University
New Haven, CT

**$62,675** over **10 months** to support a workshop on the challenges of microbial sampling in the indoor environment, cosponsored by the National Institute of Standards and Technology. **Project Director:** Jordan Peccia, Associate Professor

## Officer Grants

### The University of Chicago
Chicago, IL

**$35,186** over **4 months** to support a two-day workshop on data visualization, imaging, and repositories for the Indoor Environment Program. **Project Director:** Folker Meyer, Senior Fellow

### University of Texas, Austin
Austin, TX

**$124,158** over **24 months** to investigate the microbial communities of retail stores. **Project Director:** Jeffrey A. Siegel, Associate Professor

# SYNTHETIC BIOLOGY

The goal of Sloan's Synthetic Biology initiative is to identify the risks associated with the research and application of synthetic biology, and to assess the ethical, regulatory, and public policy implications of these risks. Grantmaking aims to educate scientists, policy makers, journalists, and the public about synthetic biology; improve biosecurity and biosafety within the field; lay the groundwork to address issues in regulation and governance; and develop a cadre of scholars and practitioners to evaluate the ethical, social, and public policy consequences of synthetic biology research.

Recent grantmaking in this program has focused on informing key audiences about the potential risks of synthetic biology. For instance, a grant to The Hastings Center supports a project by ethicists to identify and articulate ethical issues associated with synthetic biology research and provide a basis for informed policy discussion. A Sloan-funded project at the J. Craig Venter Institute is educating the scientific community about societal concerns regarding synthetic biology while also enlightening the policy and journalism communities about the science underlying synthetic biology research. A grant to the Woodrow Wilson International Center aims to identify risks associated with synthetic biology, evaluate the adequacy of existing regulatory mechanisms, and educate policy makers and the public through events and through its website.

## GRANTS MADE AGAINST PRIOR AUTHORIZATIONS

In October 2007, the Board of Trustees authorized the expenditure of up to $300,000 to fund short-term projects and the planning stages of promising long-term projects that aim to reduce the threat of bioterrorism. The following grant was made against this previously authorized fund.

WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS
WASHINGTON, DC

**$74,000** OVER **7 MONTHS** TO ENSURE SAFETY IN THE DO-IT-YOURSELF BIOLOGY MOVEMENT.

**PROJECT DIRECTOR:** DAVID REJESKI, PROGRAM DIRECTOR

## Officer Grants

### BioBricks Foundation, Inc.
Cambridge, MA

**$65,000** over **4 months** to engage the SynBio research community on societal issues by creating an improved website. **Project Director:** Drew Endy, President

### Woodrow Wilson International Center for Scholars
Washington, DC

**$19,799** over **3 months** to provide partial support for a workshop on societal issues arising from synthetic biology, cosponsored by the U.S. Department of Energy. **Project Director:** David Rejeski, Program Director

# STEM Education


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# Anytime, Anyplace Learning

From the inception of this program in 1992 to the end of major grantmaking in 2010, Foundation grants totaled nearly $75 million in support of the development of online education, specifically in the style known as Asynchronous Learning Networks (ALNs). These networks provide remote access to high-quality higher education and training—anytime and anyplace—by providing access to instructors, classmates, syllabi, readings, and other educational resources via the internet.

In 2011, over six million learners in degree-granting institutions enrolled in at least one ALN online course. ALN blends (ALN combined with traditional classroom teaching) have helped academic institutions meet the needs of local student populations. Grantmaking in this program helped demonstrate effective applications of online education for U.S. Army personnel, for students displaced by Hurricane Katrina, for work force development in specific industries, and for training of low-wage workers. Foundation efforts also helped create the Sloan Consortium, an international professional society of academic institutions and individuals, which spearheaded the movement to establish quality online courses and programs and now provides individual and institutional guidance on effectively implementing online education.

## Grants Made Against Prior Authorizations

In December 2009, the Board of Trustees authorized the expenditure of up to $340,000 for a series of small grants to expand and solidify the gains made in the Anytime, Anyplace Learning program in anticipation of ending grantmaking by the end of 2010. The following grants were made against this previously authorized fund.

### University of Colorado, Boulder
Boulder, CO

**$10,000** over **3 months** to understand corporate attitudes toward e-learning.

**Project Director:** Anne-Barrie Hunter, Co-director, Senior PRA

### The Graduate Center of the City University of New York
New York, NY

**$125,000** over **24 months** to assess the effectiveness and impact of the Sloan Anytime, Anyplace Learning program.

**Project Director:** Anthony G. Picciano, Executive Director

# Education for Underrepresented Groups

Blacks, Hispanics, and Native Americans are underrepresented among M.S. and Ph.D. recipients in mathematics, engineering, and the natural sciences. Over the past 15 years, the Foundation has made grants totaling over $60 million to support graduate-level education for these underrepresented groups in three separate grantmaking initiatives: the Sloan Minority Ph.D. program; the Sloan Indigenous Graduate Partnership; and a program to support select projects with a national impact that promote the advancement of women and minorities in science and engineering.

The Sloan Minority Ph.D. program supports minority graduate students enrolled in selected science, mathematics, and engineering programs that the Foundation believes will successfully mentor and graduate minority Ph.D. candidates. The program is administered by longtime Foundation partner, the National Action Council for Minorities in Engineering (NACME), which receives applications, selects students for scholarships, administers awards, and supports recruitment efforts by participating faculty.

The Sloan Indigenous Graduate Partnership provides funding to selected regional centers focused on mentoring and supporting Native American and Native Alaskan graduate students in the mathematical and natural sciences and engineering. NACME also provides support services for this program.

Both programs are continuing with a new focus on encouraging participating campuses to institutionalize their student support programs for minority graduate students and increase the number of faculty committed to program goals. As program plans for institutionalization materialize, decisions will be made about adding new campus locations.

## UNIVERSITY OF ARIZONA

Tucson, AZ

**$144,540** OVER **36 MONTHS** TO FUND, FOR AN ADDITIONAL THREE YEARS, THE RECRUITMENT AND RETENTION PORTION OF THE SLOAN INDIGENOUS GRADUATE PARTNERSHIP AT THE UNIVERSITY OF ARIZONA. **PROJECT DIRECTOR:** MARIA TERESA VELEZ, ASSOCIATE DEAN

The University of Arizona was the first campus to participate in the Sloan Indigenous Graduate Partnership and it remains the flagship of the program. Funds from this grant will support the University's efforts to recruit qualified indigenous students to its program, and to provide the resources and institutional support necessary to meet the needs of students from indigenous or tribal backgrounds. Providing such support is a crucial component of enabling indigenous students to successfully complete graduate work, and the University of Arizona anticipates that through its efforts, degree completion among supported students will exceed 90 percent, an estimate consistent with its record thus far.

## ASSOCIATION OF PUBLIC AND LAND-GRANT UNIVERSITIES

Washington, DC

**$179,017** OVER **9 MONTHS** TO LAUNCH A PROJECT THAT WILL RESULT IN ENHANCED ACCESS AND SUCCESS OF MINORITY MALES IN STEM DISCIPLINES AT APLU-MEMBER INSTITUTIONS. **PROJECT DIRECTOR:** LORENZO L. ESTERS, VICE PRESIDENT

The relative absence of minority males, compared to minority females, in higher education and subsequent careers has become widely recognized across the United States. This is especially true for African American males, although the problem is also very real for Hispanic and Native American males. Although a few individual universities (including Howard University, Ohio State University, and the University of Georgia) have begun to focus on this issue, it urgently requires higher profile and more systematic attention. This grant will fund efforts by the Association of Public and Land-Grant Universities (APLU) to take up this issue for its own member institutions

within the fields of mathematics, science, engineering, and technology. APLU's 218 member institutions enroll 3.5 million undergraduates and 1.1 million graduate students, including 34 percent of all students and 36 percent of minority males who are enrolled in U.S. four-year public and private institutions. The first phase of this effort will employ a planning task force of prominent scholars, university administrators, and others to define the problem and develop an action plan. Anticipated products include a published paper that presents the action plan, summarizes what is known about the issue, identifies gaps in this knowledge that could be filled by further research, provides a preliminary list of resources for university presidents and others who want to address the issue, and summarizes the attributes of successful programs that are already underway. The planning task force will also produce a policy statement that can be endorsed by presidents of APLU-member institutions that raises awareness about the issue of minority males in STEM disciplines and frames the issues for an anticipated second phase of the project.

## National Action Council for Minorities in Engineering, Inc.

White Plains, NY

**$4,050,463** over **42 months** to fund new obligations incurred in the Sloan Minority Ph.D. program and the Sloan Indigenous Graduate Partnership from July 1, 2010 through July 1, 2011. **Project Director:** Aileen Walter, Vice President

The National Action Council for Minorities in Engineering (NACME) has been the Foundation's longtime partner in its grantmaking in the Education for Underrepresented Groups program, administering both the Sloan Minority Ph.D. program and the Sloan Indigenous Graduate Partnership. NACME receives applications, selects students for scholarships, administers awards, and supports recruitment efforts by participating faculty. This grant funds new obligations in these programs incurred from July 1, 2010 through June 30, 2011. Funds will be used to provide scholarships to newly accepted minority Ph.D. students in both programs, support efforts to recruit new students, and support established "feeder" programs at North Carolina A&T and the University of Puerto Rico that have proven successful in graduating minority students who go on to graduate study in science and engineering.

## PURDUE UNIVERSITY

West Lafayette, IN

**$153,000** OVER **36 MONTHS** TO FUND THE RECRUITMENT AND RETENTION PORTION OF THE SLOAN INDIGENOUS GRADUATE PARTNERSHIP AT PURDUE UNIVERSITY FOR AN ADDITIONAL THREE YEARS. **PROJECT DIRECTOR:** KEVIN D. GIBSON, ASSOCIATE PROFESSOR

Funds from this grant will support activities by Purdue University to recruit qualified, eligible Native American students for enrollment in graduate study in science or engineering, as well as a variety of activities designed to help meet the challenges facing Native American students pursuing graduate work. Supported activities include recruitment trips by Purdue faculty to schools with Native American students studying science and engineering as undergraduates, visits by prospective students to Purdue, design and production of print and web-based outreach materials, an annual retreat for enrolled students, regular mentoring for Native American students, and coursework about successfully integrating the demands of graduate study with the demands of membership in a tribal community.

# GRANTS MADE AGAINST PRIOR AUTHORIZATIONS

In October of 2007, the Board of Trustees authorized the expenditure of up to $200,000 for grants to fund small projects to improve education opportunities and outcomes for underrepresented groups in science and engineering. The following grants were made against this previously authorized fund.

### AMERICAN CHEMICAL SOCIETY
WASHINGTON, DC

**$18,000** OVER **36 MONTHS** TO FUND FOR THREE YEARS AN AWARD RECOGNIZING A DISTINGUISHED MINORITY CHEMIST WHILE THE AMERICAN CHEMICAL SOCIETY RAISES FUNDS TO ENDOW THE AWARD. **PROJECT DIRECTOR:** MADELEINE JACOBS, EXECUTIVE DIRECTOR, CEO

### UNIVERSITY OF MARYLAND, BALTIMORE COUNTY
BALTIMORE, MD

**$14,240** OVER **6 MONTHS** TO DEFINE A PROGRAM AND OBTAIN FUNDING FOR A MINORITY-FOCUSED, UNDERGRADUATE PROGRAM IN MATHEMATICS, STATISTICS, AND ECONOMICS. **PROJECT DIRECTOR:** SCOTT FARROW, PROFESSOR & CHAIR

In March of 2010, the Board of Trustees authorized the expenditure of up to $540,000 to fund small grants to help institutionalize support programs for minority graduate students at universities that participate in the Sloan Minority Ph.D. program. The following grants were made against this previously authorized fund.

### Texas AgriLife Research
College Station, TX

**$124,287** over **36 months** to expand and institutionalize an excellent support program for graduate students in the College of Agriculture and Life Sciences and the College of Engineering, primarily those from underrepresented populations. **Project Director:** Manuel Pina, Associate Professor

## Officer Grants

### American Indian College Fund
Denver, CO

**$100,000** over **20 months** to increase the number of faculty at Tribal Colleges and Universities possessing a Ph.D. in mathematics, natural science, or engineering. **Project Director:** Dennis Carder, Program Officer

### American Physical Society
College Park, MD

**$18,000** over **30 months** to fund the Edward A. Bouchet Lectureship Award for three years while the American Physical Society raises endowment funding for it. **Project Director:** Theodore Hodapp, Director of Education & Diversity

### Montana Tech of the University of Montana
Butte, MT

**$41,489** over **36 months** to fund for an additional three years the recruitment and retention portion of the Sloan Indigenous Graduate Partnership at Montana Tech. **Project Director:** Joseph Figueira, Associate Vice-Chancellor

### University of Montana
Missoula, MT

**$87,300** over **36 months** to fund an additional three years of the nonscholarship component of the Sloan Indigenous Graduate Partnership at the University of Montana. **Project Director:** Alexander Ross, Associate Dean of the Graduate School

### National Opinion Research Center
Chicago, IL

**$63,767** over **2 months** to prepare a high-quality proposal for a comprehensive, retrospective evaluation of nine minority or diversity scholarship programs of eight foundations and government agencies. **Project Director:** Bronwyn Nichols Lodato, Vice President & Director

### National Opinion Research Center
Chicago, IL

**$52,650** over **2** **months** to complete preparation of a high-quality proposal for a comprehensive, retrospective evaluation of nine minority or diversity scholarship programs of eight foundations and government agencies. **Project Director:** Bronwyn Nichols Lodato, Vice President & Director

### The North Carolina A&T University Foundation Inc.
Greensboro, NC

**$50,000** over **24** **months** to enable graduate students in North Carolina A&T's Industrial and Systems Engineering Department who have come from HBCUs to have a summer research experience at a majority university or government laboratory. **Project Director:** Eui H. Park, Professor

# Professional Science Master's Degree

Doctoral education in the sciences and mathematics remains important for many aspects of research, especially in academic institutions. Yet in these fields there has long been a gap in the availability of graduate science education configured for the increasing number of science-intensive careers outside of academe. In this program, the Foundation has made grants to encourage the development of an innovative new graduate degree—the Professional Science Master's (PSM) Degree—designed to allow students to pursue advanced training in science or mathematics while simultaneously developing workplace skills highly valued by nonacademic employers. PSM programs generally consist of two years of graduate-level education in an emerging or interdisciplinary area, along with professional components including internships and "cross-training" in workplace skills such as business, communications, project management, and regulatory affairs. PSM programs have been developed in concert with employers and are designed to respond to promising career opportunities for science-trained professionals.

Beginning in 1997, the Foundation has supported proposals totaling over $23 million for development of PSM degree programs at a large number of research universities, "master's-focused" universities, and minority-serving institutions. Other grants have supported activities to ensure the quality of PSM programs and to broaden knowledge about the PSM degree by outreach to state governments, business leaders, human resource managers, government agencies with strong science interests, and leaders of the nation's large state university systems. By the end of Sloan Foundation grantmaking in 2010, the PSM had become a significant and thriving part of graduate education in the sciences. More than 230 PSM degree programs are now being offered by over 110 accredited institutions, and there is encouraging evidence that graduates of these new graduate degree programs have been experiencing attractive career prospects in industry, government, and nonprofit sectors.

## UNIVERSITY OF CENTRAL FLORIDA

Orlando, FL

**$146,050** OVER **26 MONTHS** FOR IMPLEMENTATION OF A STATEWIDE INITIATIVE IN FLORIDA FOR PROFESSIONAL SCIENCE MASTER'S DEGREE PROGRAMS. **PROJECT DIRECTOR:** PATRICIA J. BISHOP, VICE PROVOST & DEAN

This grant provides implementation support for the ambitious Professional Science Master's (PSM) Degree initiative underway in Florida on a statewide level. In 2009 the Foundation supported efforts to plan and develop this initiative, which led, in turn, to remarkably rapid growth of interest and support for PSM programs among the 10 large public universities in Florida, a substantial number of Florida employers, and the State University System's Board of Governors. The Florida statewide PSM initiative has sought and received strong encouragement from the State University System of Florida. This proposed implementation grant would support well-planned efforts to institutionalize this rapidly expanding statewide initiative and to create a large number of PSM programs and enrolled students.

## COUNCIL OF GRADUATE SCHOOLS

Washington, DC

**$492,635** OVER **24 MONTHS** TO CONTINUE AND COMPLETE THE WORK OF THE COUNCIL OF GRADUATE SCHOOLS TO INSTITUTIONALIZE AND PROMOTE THE PROFESSIONAL SCIENCE MASTER'S DEGREE AS A REGULAR FEATURE OF GRADUATE EDUCATION. **PROJECT DIRECTOR:** DEBRA W. STEWART, PRESIDENT

Funds from this grant support an 18-month program at the Council of Graduate Schools to institutionalize and promote the Professional Science Master's (PSM) Degree as a regular feature of graduate education. Additional grant funds provide modest funding to enable the Council of Graduate Schools to create and implement a set of professional-quality surveys designed to collect needed quantitative data on PSM enrollments, degrees, and career experiences of PSM graduates.

## State University of New York at Oswego

Oswego, NY

**$350,000** over **24 months** to sustain the Professional Science Master's Degree initiative in the State University of New York. **Project Director:** David W. King, Dean of Graduate Studies & Research

Funds from this grant aim to enable the State University of New York (SUNY) to institutionalize the Professional Science Master's (PSM) Degree as the next phase of its system-wide PSM initiative, which was begun with Sloan Foundation support. The SUNY PSM Consortium has now expanded from five to 16 SUNY campuses, including 16 of its 27 campuses that offer graduate education and all four of the SUNY University Research Centers. There are already 19 degree programs enrolling students, of which 12 have received formal designation from the Council of Graduate Schools as PSM degrees. The other seven are awaiting decisions on their applications. There are also 10 to 12 additional PSM programs in planning stages at five SUNY campuses. Principal investigator David King, who is the graduate dean at SUNY Oswego, has emerged as a highly effective PSM leader at the national level. Subsequent developments during the past year at SUNY now bode very well for the future success of the ambitious SUNY PSM initiative. SUNY is the largest university system in the country, with 427,000 students at 64 campuses (which include 30 community colleges). There are 40,000 graduate students enrolled at the 27 campuses that offer graduate degrees. The other very large university system, California's, comprising 23 campuses (but no community colleges) has been a national leader in the expansion of the PSM degree and SUNY is now poised to join California as one of the leading university systems providing PSM programs.

## North Carolina State University

Raleigh, NC

**$198,778** over **36 months** to expand and make sustainable over the long term the University of North Carolina system-wide Professional Science Master's Degree initiative. **Project Director:** Lisbeth Borbye, Assistant Dean for Professional Education

This grant supports the expansion and institutionalization of the Professional Science Master's (PSM) Degree within the 15-campus University of North Carolina system. Funded activities aim to stimulate and support the creation of at least 19 PSM degrees across North Carolina campuses, adding to the 11 degrees currently on offer. If successful, the 30 PSM programs would be spread across at least 11 of the UNC system's 15 campuses that offer education in science and would include five new PSM degree programs at the University of North Carolina, Chapel Hill, generally seen as the flagship university in the system. There would also be new PSM degrees offered by at least four of the UNC system's historically black colleges and universities. Additional funded activities under this grant include plans to integrate PSM offerings across UNC campuses and to make use of shared "Plus" courses (professional skills in addition to the PSM scientific curriculum) to be provided via the UNC online system.

## Grants Made Against Prior Authorizations

In October of 2008, the Board of Trustees approved the expenditure of up to $1 million in small grants to help institutionalize the Professional Science Master's Degree as a regular and respected feature of U.S. graduate education in the sciences. The following grants were made against this previously authorized fund.

### Business-Higher Education Forum
Washington, DC

**$57,972** over **8 months** to build understanding, awareness, and support for the Professional Science Master's Degree among corporate and university leaders as a key component of STEM graduate education to meet work force demand. **Project Director:** Christopher Roe, Deputy Director

### California State University Foundation
Long Beach, CA

**$125,000** over **18 months** to assist members of the National Association of System Heads (NASH) to increase the numbers and success of Professional Science Master's Degree programs throughout the United States. **Project Director:** Elizabeth Ambos, Assistant Vice-Chancellor

### California State University Foundation
Long Beach, CA

**$50,000** over **12 months** to provide assistance to numerous heads of university systems with respect to adoption of system-wide Professional Science Master's Degree initiatives. **Project Director:** Elizabeth Ambos, Assistant Vice-Chancellor

### California State University, East Bay
Hayward, CA

**$45,000** over **12 months** to develop and pilot a model for analyzing the benefits, costs, and return on investment of Professional Science Master's Degree programs. **Project Director:** Nan Maxwell, Executive Director, Human Investment Research & Education Center

### University of Massachusetts, Lowell
Lowell, MA

**$124,200** over **18 months** to launch and sustain a significant number of successful Professional Science Master's Degree programs over the long term. **Project Director:** Donald E. Pierson, Vice-Provost for Graduate Education

### Minnesota State Colleges and Universities Foundation
Saint Paul, MN

**$99,802** over **8 months** to support a planning project for the regional Professional Science Master's Degree initiative in Minnesota, North Dakota, and Wisconsin. **Project Director:** Jaime Simonsen, Interim System Director, Education-Industry Partnerships

### Pennsylvania State System of Higher Education
Harrisburg, PA

**$50,000** over **12 months** to create a system-wide, regionally focused Professional Science Master's Degree program to meet work force demand in high-technology sectors. **Project Director:** James D. Moran, Vice-Chancellor for Academic & Student Affairs

### Washington State University
Pullman, WA

**$69,357** over **17 months** to support planning the design of a system-wide Professional Science Master's Degree program. **Project Director:** Howard Grimes, VP for Research/Dean of Grad School

## Officer Grants

### University of California, Hastings
San Francisco, CA

**$45,000** over **12 months** to create master's degree programs in science and law via collaboration between the University of California, Hastings School of Law and the University of California, San Francisco. **Project Director:** David L. Faigman, Director

## Research Foundation of the City University of New York
New York, NY

**$85,045** over **12** **months** to develop Professional Science Master's Degree programs that would provide a quality, professionally targeted education to significant numbers of talented students in STEM fields, particularly from underrepresented groups, and to enhance the economic impact of CUNY by responding to the work force requirements of regional industrial, government, and nonprofit employers. **Project Director:** Gillian Small, Vice-Chancellor for Research

# STUDENT RETENTION

This program aims to contribute to the improvement of undergraduate and graduate completion rates in mathematics, science, and engineering, especially for women and minority students. A recent focus of this program has been to encourage colleges and universities to obtain and make use of reliable, discipline-specific data on inter-field migration, retention, completion rates, and time-to-degree in order to improve learning and graduation outcomes of their students. Proposals are expected to have hypothesis-driven goals, enumeration of projected outcomes or products to be delivered, plans for dissemination of results, and discussion of portability of approach to other institutions.

Recent grants in this program have supported the analysis of data collected by the Project to Assess Climate in Engineering, a research project by the Council on Graduate Schools to investigate completion and attrition in STEM master's programs, and an expansion of efforts by Swarthmore College to organize the collection of retention data at historically black colleges and universities.

## TRUSTEE GRANTS

### COUNCIL OF GRADUATE SCHOOLS

Washington, DC

**$658,687** OVER **27 MONTHS** TO LAUNCH A PROJECT FOCUSING ON COMPLETION AND ATTRITION IN STEM MASTER'S PROGRAMS. **PROJECT DIRECTOR:** DEBRA W. STEWART, PRESIDENT

In February 2009, the Foundation funded a project by the Council of Graduate Schools (CGS) to enable them to develop a national strategy for enhancing the completion rate in STEM master's degrees. With these funds, CGS surveyed what was known about this subject, produced a paper that summarized what is known, outlined a research agenda for improving knowledge about what affects attrition and completion rates, and began laying out a taxonomy of STEM master's degrees. They also convened a meeting of

researchers, graduate deans, and others to discuss the paper and what CGS could and should do further in this area. The strategy that emerged from this preliminary work calls for a two-phased follow-on program. The first phase, funding for which is provided through this grant, would further develop a taxonomy of STEM master's programs; establish standardized definitions for "entry," "attrition," and "completion" in STEM master's programs; provide a first look at comparable completion and attrition rates within STEM master's programs in a variety of programs in a selected number of institutions; and determine factors perceived to affect student success or attrition and identify promising practices to foster student success. Based on what is learned from all this, CGS will decide whether a second phase is warranted that would gather data on completion and attrition from a larger, more representative set of institutions and track implementation and effects of promising interventions designed to improve outcomes for all or a subset of STEM master's degree types.

## THURGOOD MARSHALL COLLEGE FUND

New York, NY

**$299,992** OVER **36 MONTHS** TO INCLUDE THURGOOD MARSHALL COLLEGE FUND CAMPUSES IN THE STEM MIGRATION PROJECT LED BY SWARTHMORE COLLEGE. **PROJECT DIRECTOR:** OLIVIA BLACKMON, DIRECTOR OF RESEARCH

Swarthmore College is studying the migration of undergraduates into and out of STEM disciplines. In 2009 the Foundation supported efforts by the Thurgood Marshall College Fund (TMCF), the umbrella organization of 47 public, historically black, universities, law schools, and medical schools, to enable them to explore the possibility of some of their member campuses joining the Swarthmore-led STEM migration project or launching a similar project. Fund from this follow-on grant will enable 20 of the TMCF member campuses to join the Swarthmore-led project. The addition of 20 TMCF campuses to the STEM migration project would provide the basis for these campuses to improve STEM retention, provide a broader basis for each of the 44 campuses to compare its own performance with that of others, greatly expand the project's data on African American students, and facilitate further fundraising to sustain the project to which both Swarthmore College and TMCF are committed.

## Officer Grants

### American Chemical Society
Washington, DC

**$63,000** over **24 months** to fund a survey of graduate student life and career prospects in the chemical sciences. **Project Director:** Mary M. Kirchoff, Director of Education

### University of Washington
Seattle, WA

**$6,800** over **3 months** to partially fund a meeting of engineering deans who participated in the Project to Assess Climate in Engineering. **Project Director:** Suzanne G. Brainard, Executive Director

# Other Education Grants

On occasion, the Foundation will make grants in support of higher education in science, engineering, or mathematics that do not fall under other programs in the STEM Education major program area. The following grants were made in 2010.

## Trustee Grants

### National Academy of Sciences

Washington, DC

**$300,000** over **18 months** as partial support for project to assess the health of U.S. research universities. **Project Director:** Peter H. Henderson, Director

This grant would provide partial support for a proposed 18-month National Academies study to assess the financial, organizational, and intellectual health of U.S. research universities. This assessment has been requested by a bipartisan group of four influential members of Congress: Senators Barbara Mikulski and Lamar Alexander, and Representatives Bart Gordon and Ralph Hall. Research universities are central to most Sloan programs and the Foundation has a longstanding interest in their financial, organizational, and intellectual strength. The health of many of these institutions is arguably in question now, due to the severe fiscal problems faced by most state governments that have led to sharp budget stringencies on public research universities, and the parallel endowment declines and other financial challenges being faced by private research universities. Funds from this grant represent 20 percent of the total study budget of $1.5 million.

## New York University

New York, NY

**$708,468** over **36 months** to establish a Center for Mathematical Talent to work with students from NYC schools. **Project Director:** Yuri Tschinkel, Department Chair

In recent years, programs to identify and nurture talent in science and mathematics among NYC schoolchildren have largely disappeared. Funds from this grant will support the Courant Institute for the Mathematical Sciences at New York University (NYU) in its efforts to launch a new Center for Mathematical Talent (CMT) to address precisely this problem. Courant is one of the premier mathematical institutions in the world, and can build on its established record of success with gifted and talented schoolchildren. Outreach for the new Center will specifically target women, underrepresented minorities, and disadvantaged students who may not otherwise know about or pursue opportunities to develop their potential.

# Officer Grants

### Columbia University
New York, NY

**$124,338** over **12 months** to document and build on the history of the Science Honors program. **Project Director:** Allan Blaer, Director of Undergraduate Studies

### Massachusetts Institute of Technology
Cambridge, MA

**$108,425** over **24 months** to investigate gender gaps and achievement gaps across schools among high-achieving mathematics students. **Project Director:** Glenn Ellison, Gregory K. Palm Professor of Economics

### South Shore Educational Collaborative
Hingham, MA

**$60,000** over **12 months** to add new features to the Career Cornerstone website. **Project Director:** Henry Perrin, Executive Director

# Public Understanding of Science and Technology


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# BOOKS

Books are critical for the understanding of science and technology, allowing us to delve deeply and thoroughly into difficult or complicated subjects. The Foundation supports books that explain the scientific basis of confusing or controversial issues, that profile scientific and technological figures, and that relate the relevance of technology to daily life.

Recent grants were made to support a popular account of the search for Earth-like planets beyond the Sun; the completion of volumes 3 and 4 of the Lost Notebook from the great Indian mathematician Ramanujan; a new atlas of galaxies based on full-color images from the Sloan Digital Sky Survey and an examination of how genomic engineering and synthetic biology might change the future. Recently published books supported by the Foundation include: *The Fractalist: Memoirs of a Scientific Maverick* by Benoit Mandelbrot; *Chasing the Sun* by Richard Cohen; *Drawing the Map of Life* by Victor McElheny; *Judging Edward Teller* by Istvan Hargittai; *The Poisoner's Handbook: Murder and the Birth of Forensic Medicine in Jazz Age New York* by Deborah Blum; and the 17th volume of *The Correspondence of Charles Darwin,* published by Cambridge University Press.

## TRUSTEE GRANTS

### AMERICAN COUNCIL OF LEARNED SOCIETIES

New York, NY

**$750,000** OVER **36 MONTHS** TO ENSURE THE EDITORIAL INTEGRITY AND TIMELY COMPLETION OF THE DEFINITIVE PRINT EDITION OF "THE CORRESPONDENCE OF CHARLES DARWIN" AND THE PUBLICATION OF ALL 15,000 LETTERS ON THE WEB.
**PROJECT DIRECTOR:** STEVEN C. WHEATLEY, VICE PRESIDENT

This grant funds efforts by the American Council of Learned Societies to ensure the timely completion of the award winning, definitive edition of *The Correspondence of Charles Darwin,* one of the major international scholarly initiatives of the past half-century. Foundation funds will leverage a unique opportunity for a multimillion dollar package of grants that will ensure the

editorial integrity of the project and guarantee its completion at least three years ahead of schedule. The Foundation has supported this project since 1983; thus far, 20 volumes of the projected 30-volume collection have been published. The 35-year project has won accolades from the scholarly community, including the Queen's Anniversary Prize. Not only have the 15,000 letters Darwin exchanged with 2,000 correspondents been located and collected, they have been transcribed and edited with meticulous care, including superb contextual notes and longer essays. They have also been made freely available on the web. The letters not only offer insight into Darwin's mind (he wrote them to communicate with scientific colleagues, to discuss ideas, and to gather data), they also offer an accessible route into his published writings.

# FILM

This program aims to influence the next generation of filmmakers to tackle science and technology themes and characters, to increase the visibility of such films, and to encourage the production of new scripts about science and technology and about scientists, engineers, and mathematicians. The program works primarily through initiatives with film schools, film festivals, and independent and Hollywood film producers. The program supports the nation's six leading film schools (American Film Institute; UCLA School of Theater, Film and Television; Carnegie Mellon University School of Drama; Columbia University Film Department; NYU Tisch School of the Arts; and USC School of Cinematic Arts) in awarding annual prizes for screenwriting and production of new films dramatizing science and technology. Award-winning short films from this program can be screened on the Museum of the Moving Image website, which also lists over 300 screenplays and films supported thus far. The Foundation has partnered with three major film festivals (Hamptons, Sundance, and Tribeca) and with Film Independent to develop screenplays toward production and will see two feature films resulting from this program released in the coming year, *Future Weather* and *Valley of Saints*, with several more in the pipeline. Prizes to outstanding feature films centered around science and technology have been awarded to such acclaimed directors as Darren Aronofsky, Alejandro Amenábar, Werner Herzog, Julian Schnabel, and Michael Apted. The Foundation also supported *Oceans* by Jacques Perrin, the third highest grossing documentary ever and is supporting Terrence Malick's upcoming *Voyage of Time.*

## TRUSTEE GRANTS

### AMERICAN MUSEUM OF THE MOVING IMAGE

Astoria, NY

**$239,631** OVER **36 MONTHS** TO SHOWCASE AWARD-WINNING STUDENT FILMS AND TO MAINTAIN A GO-TO SITE FOR ALL SLOAN FILM AND TELEVISION PROJECTS AND FOR ALL SLOAN FILM PROGRAM PARTICIPANTS. **PROJECT DIRECTOR:** CARL GOODMAN, SENIOR DEPUTY DIRECTOR & DIRECTOR, DIGITAL MEDIA

This grant supports the continued operation of the Sloan Science and Film website, scienceandfilm.org. Hosted and operated by the American Museum of the Moving Image (MoMI), America's leading film museum, the site showcases student films produced by the Foundation's film school partners and provides a synopsis of all film projects under development with the Foundation's six film school and four film festival partners, promoting the Sloan Film program while serving as a key resource for program participants. The MoMI website remains an essential component of the Sloan Film program and the nearest thing to one-stop shopping for those seeking to learn about the program in all its aspects. The site has approximately 50 award-winning Sloan films available in their entirety for live streaming, making it an up-to-date showcase and a constantly evolving cinematheque for science film shorts. In addition, the site has an interactive directory that lists and describes every winning student screenplay and film, and includes every film project under development with our four main partners: Sundance, Hamptons, Tribeca, and Film Independent. The MoMI Sloan Science and Film website remains a unique, state-of-the-art feature that very few nonprofit programs, or even for-profit film companies, can boast.

## CARNEGIE MELLON UNIVERSITY

Pittsburgh, PA

**$284,360** OVER **36 MONTHS** TO ENCOURAGE TOP FILM STUDENTS TO WRITE SCREENPLAYS ABOUT SCIENCE AND TECHNOLOGY AND TO HELP THEIR CAREERS. **PROJECT DIRECTOR:** ROBERT HANDEL, DRAMATIC WRITING HEAD & OPTION COORDINATOR

This grant provides continuing support to Carnegie Mellon University, one of the Foundation's six film school partners, for three more years of activities designed to encourage top film students to develop screenplays about science and technology. Activities supported under this grant include a symposium featuring internationally recognized scientists and technologists discussing current work in their fields; two semesters of training in screenwriting, guest-faculty workshops by accomplished screenwriting mentors; consultations by scientists and technologists on scripts in progress; the presentation of two awards for outstanding student screenplays exploring scientific themes or featuring scientists or technologists as characters, and activities to promote student career advancement, including industry showcases in Los Angeles and New York.

## COLUMBIA UNIVERSITY

New York, NY

**$221,837** OVER **36 MONTHS** TO WRITE SCREENPLAYS AND PRODUCE SHORT FILMS ABOUT SCIENCE AND TECHNOLOGY. **PROJECT DIRECTOR:** TREY ELLIS, ASSISTANT PROFESSOR OF SCREENWRITING

This grant provides continuing support to Columbia University, one of the Foundation's six film school partners, for three more years of activities designed to encourage top film students to develop screenplays and produce short films about science and technology. Activities supported through this grant include the provision of faculty mentors and science advisors for students working on science-themed film projects, two annual awards for production of short films on science and technology, two annual awards to develop promising feature film scripts with science content, and networking events with select film industry producers, agents, and managers.

## COOLIDGE CORNER THEATER FOUNDATION

Brookline, MA

**$150,318** OVER **24 MONTHS** TO SUPPORT SCREENINGS AND DISCUSSION OF SCIENCE FILMS AT ART HOUSE THEATERS ACROSS THE COUNTRY. **PROJECT DIRECTOR:** DENISE KASELL, EXECUTIVE DIRECTOR

This grant provides support to the Coolidge Corner Theater, regularly voted the best movie theater in Boston and boasting a national reputation, as it continues its pioneering Science on Screen series and expands the series to movie theaters across the country.

The Science on Screen series is notable because—in addition to screening traditional Sloan-style science films like *Primer, 2001: A Space Odyssey,* and *A Brief History of Time*—it takes non-scientific movies like *American Beauty, Eternal Sunshine of the Spotless Mind,* and *Fight Club* and shines a serious scientific lens on major themes in these films, following each showing with in-depth discussions led by working scientists. At the Art House Convergence, a major meeting of art house theater professionals held in advance of the Sundance Film Festival, Coolidge plans to make a formal presentation and hold a Science on Screen workshop, distributing the syllabus, showcasing videos of speakers, discussing programming ideas, and exploring potential

marketing and audience development tactics. This effort is an experiment that seeks to build on Coolidge's existing successes and scale them up in a meaningful way.

## HAMPTONS INTERNATIONAL FILM FESTIVAL

East Hampton, NY

**$527,456** OVER **36 MONTHS** TO COMMISSION AND SPOTLIGHT SCIENCE AND TECHNOLOGY FILMS AND TO DEVELOP SCIENCE AND TECHNOLOGY SCREENPLAYS. **PROJECT DIRECTOR:** KAREN ARIKIAN, EXECUTIVE DIRECTOR

This grant provides support to the Hamptons International Film Festival (HIFF), for continued development of its activities in the Sloan Film program. HIFF activities consist of a $25,000 annual feature film prize with multiple screenings, a panel with filmmakers and scientists, a reception, and an intensive screenwriting workshop with staged readings of works-in-progress at the festival. Previous Foundation support of HIFF has resulted in an impressive roster of Sloan-prize winning films and directors, including Darren Aronofsky, Julian Schnabel, Michael Apted, Bill Condon, and Marc Abraham, all of whom participated—in person, on video, or via letter—at the festival's 10th anniversary tribute to the accomplishments of the Sloan partnership in 2009. Funds from this grant will ensure continuation of this successful partnership through the next three years.

## NATIONAL GEOGRAPHIC SOCIETY

Washington, DC

**$1,000,000**OVER **37 MONTHS** TO COMPLETE PRODUCTION OF A FEATURE FILM AND AN IMAX FILM ABOUT THE EVOLUTIONARY HISTORY OF THE UNIVERSE, WITH MAJOR EDUCATIONAL OUTREACH. **PROJECT DIRECTOR:** BILL WARREN, VICE PRESIDENT, FOUNDATION RELATIONS & GRANTS

Funds from this grant will support efforts by the National Geographic Society to produce an innovative and ambitious feature film and IMAX production about the evolutionary history of the universe by acclaimed director Terrence Malick. The project, *Voyage of Time,* will include a 35-mm theatrical film as well. Foundation funding will support production enhancements, including

special effects, science sequences, and an educational video game as a learning tool to accompany the film.

## Sundance Institute

Beverly Hills, CA

**$750,000** over **36 months** to support a program of science and technology films, film panels, and film fellowships at Sundance. **Project Director:** Anne Lai, Producer in Residence, Feature Film Program

This grant funds three years of the Sloan Science-in-Film initiative by the Sundance Institute, which runs the Sundance Film Festival, the premiere independent film festival in the United States. Funds will support four annual components of the initiative: a commissioning grant; a feature film fellowship; a $20,000 prize for best science and technology feature film; and a panel of filmmakers and scientists followed by an awards reception.

## Tribeca Film Institute

New York, NY

**$192,784** over **31 months** to create a two-year pilot to establish an annual Sloan Grand Jury Prize for the Best Student Science Screenplay and to develop this script through the Tribeca/Sloan Filmmaker Fund. **Project Director:** Beth Janson, Artistic Director

This grant to the Tribeca Film Institute will fund a pilot program to establish an annual Grand Jury Prize award for the single best student screenplay among the Foundation's six film school partners and to develop that script toward production. The aim of the award is to stimulate greater interest and excitement among the participating film schools and film students by awarding a "best of the best" prize and by fast-tracking the winning project for development so it becomes a major career opportunity for the winner. If successful, the award promises to lift the visibility and prestige of the winning filmmaker, his or her school, and the Sloan Film program as a whole.

## WGBH Educational Foundation

Boston, MA

**$100,000** over **6 months** to develop a screenplay about physicist Lise Meitner for a financing package leading to a theatrical feature film and/or a television broadcast. **Project Director:** Paula S. Apsell, Executive Producer

This grant to the WGBH Educational Foundation provides development funds for a screenplay about physicist Lise Meitner, who, with Otto Hahn, did the critical research leading to the discovery of nuclear fission, but who was excluded from the Nobel Prize that went to Hahn. Funds will go toward hiring a professional screenwriter to work with the director on the project and for a financing package that will enable a theatrical release and television broadcast on PBS's NOVA.

# RADIO

Radio's strengths—large audiences and relatively low cost—have led to Foundation support that resulted in a substantial increase in both the quality and quantity of science and technology coverage on a variety of radio programs. Alfred P. Sloan Foundation support led to the start of the science and technology desk on National Public Radio and on Public Radio International's *The World* and also sponsored science coverage on commercial radio. Since its launch in 2006, the Foundation has supported WNYC Radio's production and distribution of the Peabody Award-winning series *Radiolab*, an innovative science-themed show on public radio, while recent grants continue to support science and arts programming on *Science Friday* and *Studio 360*. In addition, a partnership with LA Theatre Works resulted in the recording and distribution of two new science-themed plays produced through the Foundation's theater program: *Photograph 51* by Anna Ziegler and *Completeness* by Itamar Moses, developed through Sloan's partnership with Ensemble Studio Theatre and Manhattan Theatre Club.

## TRUSTEE GRANTS

### SCIENCE FRIDAY INITIATIVE, INC.

Stamford, CT

**$630,000** OVER **36 MONTHS** TO SUPPORT SCIENCE FRIDAY AND ITS SCIENCE-AND-ARTS STRAND ON AIR, ONLINE, AND ON-DEMAND. **PROJECT DIRECTOR:** IRA FLATOW, PRESIDENT

The Science Friday Initiative requests three more years of support for Ira Flatow's award-winning radio program *Science Friday* and for its Sloan-initiated science-and-arts strand. *Science Friday* continues to be the most reliable two hours of radio broadcast—and, increasingly, of podcast—time dedicated to talking intelligently about all things science in the United States. The show airs 52 weeks a year on over 300 stations through National Public Radio, reaching 1.3 million weekly listeners, and was downloaded in podcast form over 13 million times last year. This grant includes support for 12 segments a year on science and the arts plus support for the SciArts website, a

portal that is reachable from the program's home page. *Science Friday* is an invaluable asset to Sloan's Radio program and to the science community as a whole.

## WNYC Public Radio

New York, NY

**$827,700** over **36 months** for production and enhanced distribution of *Radiolab*, an innovative, popular, science-themed show on public radio. **Project Director:** Ellen Horne, Executive Producer

This grant to WNYC provides three years of renewed support for the production and distribution of *Radiolab*, the innovative, award-winning, and increasingly popular science series about "discovery and wonder" produced in conjunction with National Public Radio. Helmed by hosts Robert Krulwich and Jad Abumrad, each hour-long episode centers on a core scientific theme (words, animal minds, tumors) and uses rich audio production techniques (musical, documentary, and illustrative) and a range of forms (conversation, theater, and story). In addition to core funding for three years, funds from this grant will support two new innovation strategies: one is to enhance distribution efforts by segmenting and customizing shows for educators and classrooms by using listener guides, by holding listening parties with live blogging, and by partnering with museums and planetariums; a second effort is aimed at developing additional revenue and getting *Radiolab* on a more solid financial footing.

## WNYC Public Radio

New York, NY

**$750,000** over **36 months** to make science and technology a regular, integral feature on *Studio 360*. **Project Director:** Leital Molad, Senior Producer

Funds from this grant provide three years of support for *Studio 360*, an hour-long weekly public radio show on culture and the arts, in its continuing efforts to include coverage of science and technology as a regular, integral feature of the show through its Science and Creativity series. *Studio 360* has developed a solid infrastructure for integrating science and technology, assembling a core

group of eight to ten scientists who work closely with producers and host Kurt Anderson to generate new ideas and vet existing shows. As of now, 13 percent—four hours out of an annual total of 30 hours of programming—are devoted to science and technology subjects, making science and technology a regular and recognizable part of the program. Grant funds will also support a brainstorming forum at the beginning of the grant to bring science advisers and other scientists together with radio producers to highlight the latest research and discuss new ideas for the series.

# TELEVISION

The Foundation continues to develop various projects, mainly with public television, to help integrate science and technology, along with profiles of scientists, engineers, and mathematicians, into the nation's regular programming. Recent grants include support for the production of four science and technology-themed documentaries to air on *American Experience* while new productions include a *NOVA* special, *Fabric of the Cosmos,* based on Brian Greene's bestselling book of the same title. The Foundation has also provided continuing support for Paul Solman's Emmy-winning on-air and online coverage of economic and financial literacy on the *PBS NewsHour*. Other recent grants in this program resulted in the web series, *The Secret Life of Scientists & Engineers*, produced by *NOVA scienceNOW,* profiling 16 working scientists; a three-part PBS series, *The Human Spark,* about how humans differ from other species; and two documentaries aired by *American Experience*: *Into the Deep: America, Whaling and the World* and *Panama Canal*, which was its highest-rated show in five years. The Foundation is also developing a feature film about physicist Lise Meitner that will have a theatrical release followed by a television broadcast.

## TRUSTEE GRANTS

### PUBLIC MEDIA LAB

Chevy Chase, MD

**$797,836** OVER **18 MONTHS** TO PRODUCE AND BROADCAST A ONE-HOUR PBS DOCUMENTARY, *ADMIRAL RICKOVER AND THE NUCLEAR NAVY*. **PROJECT DIRECTOR:** MICHAEL PACK, PRODUCER-DIRECTOR

This grant funds a project by the Public Media Lab, under the auspices of veteran, award-winning television producer Michael Pack, to produce and broadcast a PBS documentary about the pugnacious, pioneering Admiral Hyman Rickover and his role in the development of both the first nuclear submarine and the first civilian nuclear power plant. Admiral Hyman Rickover was a take-no-prisoners innovator who transformed the navy and the role of commercial nuclear power as part of President Eisenhower's Atoms for Peace program, a subject that remains timely today. In addition, Rickover

recruited more scientists and engineers into the navy and attempted to transform the American educational system to produce more qualified technologists. The documentary will combine interviews, footage, and live-action sequences and promises to appeal to a significant audience, advancing the public understanding of science and technology with an important and compelling story that has never been seen on television before.

## WGBH Educational Foundation

Boston, MA

**$1,700,000** over **24 months** to produce 12 scientist profiles for prime time broadcast on *Nova ScienceNow*, to produce and promote 32 additional scientist profiles for the award-winning *The Secret Life of Scientists and Engineers* website, and to increase the website's audience.
**Project Director:** Paula S. Apsell, Senior Executive Producer

This grant to WGBH Educational Foundation provides two years of support for the award-winning broadcast series *NOVA scienceNow* and for the Emmy-nominated web series, *The Secret Life of Scientists and Engineers*. Launched with exclusive Sloan funding, *The Secret Life of Scientists and Engineers* enhances the public understanding of science by producing compelling stories about the life and work of contemporary working scientists and engineers and already has an impressive list of achievements, garnering 600,000 visitors in the first year, major press coverage, and a much-coveted Emmy nomination in the category New Approaches to News and Documentary Programming. The *NOVA scienceNow* prime time television series has continued to perform well, with three million viewers per episode, plus an additional 1.3 million video downloads. The profiles that the Foundation supports are a popular part of the show, and in response, the new profiles funded under this grant will be longer and compose a bigger fraction of each hour-long show. Additional grant funds will support series promotion, new content, and outreach.

# THEATER

Foundation grants continue to support commissioning, development, and production of new science and technology plays at Ensemble Studio Theatre (EST), Manhattan Theatre Club (MTC), and Playwrights Horizons. EST's program includes a national competition for new dramatic works exploring the worlds of science and technology and the annual *EST/Sloan First Light Festival*, a month-long event focused on new science and technology plays and a series of staged readings, workshops, and related activities. Recent mainstage plays include the bittersweet comedy *End Days* by Deborah Zoe Laufer, Vern Thiesen's acclaimed satire *Lenin's Embalmers*, and Anna Ziegler's *Photograph 51* about Rosalind Franklin. The EST/Sloan program continues to partner with over 20 regional theaters across the country to produce and stage science and technology plays. The Foundation's partnership with MTC, which began with the Tony Award and Pulitzer Prize winning hit, *Proof*, supports annual commissions for emerging, midlevel, and established writers, as well as a production grant to write and stage science and technology plays. Over 30 playwrights have received commissions, including Craig Lucas, Bryony Lavery, Lisa D'Amour, and Richard Bean, and over a dozen productions of MTC/Sloan-supported plays have appeared across the country. Itamar Moses's *Completeness*, developed through the MTC/Sloan program, debuted at Playwrights Horizons in 2011. Details of MTC/Sloan commissioned plays and playwrights can be found at www.mtc-nyc.org/about_sloan.asp. A grant to Playwrights Horizons has resulted in two commissions of science and technology plays to Lisa Kron and Chrisopher Kyle.

## TRUSTEE GRANTS

### ENSEMBLE STUDIO THEATRE, INC.

New York, NY

**$1,701,000** OVER **36 MONTHS** TO COMMISSION, DEVELOP, PRODUCE, AND DISSEMINATE NEW SCIENCE PLAYS IN NEW YORK AND ACROSS THE COUNTRY. **PROJECT DIRECTOR:** WILLIAM CARDEN, ARTISTIC DIRECTOR

The Ensemble Studio Theatre (EST), recently voted the leading developmental theater company in New York and the number-two-ranked developmental theater in the United States, is the flagship of Sloan's theater program. This grant will provide three more years of support for the theatre's ongoing program to commission, develop, produce, and disseminate new science plays in New York and across the country. EST continues to be a powerful engine for new science plays. In addition to three outstanding Mainstage Productions at their storied 52nd Street home—*Lucy, End Days* and *Lenin's Embalmers*—EST has presented or sponsored 16 play readings and 12 play workshops, as well as a studio production at EST and a satellite production at P.S. 122. The Ensemble Studio Theatre continues to generate an enormous volume of quality science plays; these have broadened the public's understanding of science and technology and helped narrow the gap between the two cultures of the sciences and the humanities in innovative ways.

## L.A. Theatre Works

Venice, CA

**$266,239** over **24 months** to record four new science plays, including two new Sloan-commissioned plays for broadcast on public radio and for distribution to schools, libraries, and online retail partners. **Project Director:** Susan Albert Loewenberg, Founder and Producing Director

This grant to L.A. Theatre Works (LATW) provides support to its continuing project to record and distribute science plays. Over the next two years, L.A. Theatre Works will record four more science plays, including two new plays commissioned through the Foundation's Theater program. In addition to garnering significant new audiences for each play, recordings become part of LATW's permanent Audio Theater Collection, which is made available to individuals and libraries through an online catalogue and retail partner sites, including iTunes, Audible.com, Barnesandnoble.com, and Overdrive.net. Additionally, two of the four plays will be distributed free of charge to 3,000 schools in over 600 cities in all 50 states, with accompanying curricular material. While only a few thousand people can see science-themed plays in their original, limited theatrical run, LATW guarantees that these plays will be heard by hundreds of thousands of people over many years and belong to the permanent collections of schools, libraries, and retail partners.

# OTHER EFFORTS

This program encompasses a range of initiatives—live performances, lectures and conferences, museum exhibits, and web activities—to help reach a wide contemporary audience and advance public understanding of science and technology. Recent grants include continued support for the World Science Festival in New York City, launched with Foundation help in 2007; a pilot effort to produce and distribute short web videos based on new scientific papers; support for a documentary on the Phillip Glass opera *Einstein on the Beach;* and a grant to the Brooklyn Academy of Music for an innovative stage production about the arctic explorer Shackleton.

## TRUSTEE GRANTS

### SCIENCE FESTIVAL FOUNDATION

New York, NY

**$600,000** OVER **10 MONTHS** TO SUPPORT THE FOURTH WORLD SCIENCE FESTIVAL AND TO BEGIN IMPLEMENTING THE STRATEGIC PLAN AND BUSINESS DEVELOPMENT INITIATIVE. **PROJECT DIRECTOR:** TRACY DAY, CO-FOUNDER, EXECUTIVE DIRECTOR

This grant to the Science Festival Foundation will provide support for the planning, development, and production of the fourth World Science Festival, a five-day series of speakers, panels, exhibits, and events hosted throughout New York City, which aims to contribute to a shift in the public perception of science, making manifest how science is as indispensible to a rich life as other cultural mainstays like music, theater, art, dance, and literature. Grant funds will also support the Science Festival Foundation's implementation of the first phase of its three-year Strategic Plan and Business Development initiative, which aims to develop a revenue model to ensure the Festival's long-term sustainability and to expand the Festival's impact through various channels, including the use of live, digital, and broadcast platforms; national and international partnerships; and educational outreach.

## OFFICER GRANTS

### University of Missouri, Columbia
Columbia, MO

**$25,000** over **11 months** for the Committee of Concerned Journalists to host an inaugural meeting and produce a white paper on shortcomings in media coverage of the recession and to suggest ways for greater depth of coverage for financial issues. **Project Director:** Mark Carter, Executive Director

### Science Festival Foundation
New York, NY

**$50,000** over **12 months** to support *Icarus at the Edge of Time,* a new multimedia performance piece that dramatizes ideas about time, black holes, and relativity. **Project Director:** Brian Greene, Co-Founder, Chairman

# Economic Performance and Quality of Life


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# Economic Institutions, Behavior, and Performance

As an economic visionary, Alfred P. Sloan Jr. was particularly interested in supporting fundamental and policy-relevant research on the U.S. economy and its place in the global economy. Grants made by the Foundation under this program enable the development of unbiased evidence and analyses that meet the highest professional standards and that can eventually inform and strengthen critical decisions facing leaders, policymakers, and the public.

Recent awards have funded research on the industrial organization of credit rating agencies, and joint projects with the Russell Sage Foundation on applying behavioral economics to the regulation of consumer financial markets, as well as initiatives to construct and distribute important socioeconomic datasets.

Current priorities include research on domestic and international regulation, especially in the financial sector; empirical investigations of the labor markets for scientists and engineers; projects to improve data methodologies and distribution platforms; foundational studies in fields such as the economics of information, of science, of industrial organization, and of household finance; and behavioral experiments concerning consumers' financial and energy decisions.

## Trustee Grants

### University of California, Berkeley

Berkeley, CA

**$244,343** over **30** **months** to study energy efficiency gains and participation rates associated with the Federal Weatherization Assistance Program through randomized-control trials using data from Michigan.
**Project Director:** Catherine Wolfram, Associate Professor

Under the American Recovery and Reinvestment Act of 2009, the federal budget for the Weatherization Assistance Program jumped from $250 million per year to $5 billion. But how much energy will retrofitted weatherization really save among households eligible for such support? Researchers Catherine Wolfram and Meredith Fowlie want to know. They have designed large-scale randomized-control field trials to study if and when consumers take advantage of the newly available federal funds to support weatherization. The U.S. Department of Energy is interested in supporting research on its Weatherization Assistance Program, but cannot provide funding in a timely manner. Sloan funding will allow the project to move ahead now rather than waiting another year or more for support from the Department of Energy.

## GEORGETOWN UNIVERSITY

Washington, DC

**$231,551** OVER **18 MONTHS** TO SUPPORT A PROGRAM OF RESEARCH, REPORTS, EXPERT ROUNDTABLES, AND PUBLIC BRIEFINGS ON BEST PRACTICES RELATED TO CURRENT AND FUTURE MANAGEMENT OF BOTH TEMPORARY AND PERMANENT PROGRAMS FOR IMMIGRATION OF SKILLED WORKERS TO THE UNITED STATES. **PROJECT DIRECTOR:** B. LINDSAY LOWELL, DIRECTOR, POLICY STUDIES

The grant expands a 2007 Foundation grant to Georgetown University that supported a successful array of Washington-based research, conferences, briefings, and publications on temporary worker programs at all skill levels. It would focus and expand upon the sparse data and research on the controversial H-1B and other temporary visa programs currently used to import temporary workers in science and engineering or to allow foreign graduates of U.S. universities to remain in the United States, and would also address the way in which this array of temporary visas intersects with the now highly backlogged permanent visa programs for skilled workers. Georgetown has excelled in its ability to make its findings available in venues and formats that are accessible to federal agencies and Congressional committees that must deal with the contesting claims from interested parties to these issues.

## HARVARD UNIVERSITY

Cambridge, MA

**$293,299** OVER **17 MONTHS** TO STUDY BEHAVIORAL FACTORS THAT INFLUENCE CONSUMERS' ENERGY UTILIZATION AND EFFICIENCY CHOICES. **PROJECT DIRECTOR:** SENDHIL MULLAINATHAN, PROFESSOR

Engineers have been writing for years about how simple steps like home weatherization can save consumers considerable money. Relatively few consumers, however, take such simple, cost-saving steps. Among economists, this puzzling phenomenon is sometimes called the Energy Efficiency Paradox. This grant will support the work of Harvard economist Sendhil Mullainathan and the ideas42 research group he leads, as they pursue six related research projects, all grounded in empirical observation, studying how people make energy consumption and utilization decisions and what policy-relevant conclusions might be drawn from what is learned. The results may be surprising. In previous work with the company OPOWER, for example, Mullainathan's group found that giving consumers information about their neighbors' energy use had significantly greater impact than just providing information about their own energy consumption. Utility companies and federal agencies are presently spending huge amounts of money on energy efficiency and metering programs based on very little in the way of theory, evidence, or experiment. Together with a project manager and several research assistants funded through this grant, the team of outstanding economists, energy experts, psychologists, and marketers that make up ideas42 are poised to make important contributions to our understanding of the Energy Efficiency Paradox and other apparent behavioral anomalies that can be observed when consumers make energy-related decisions.

## HARVARD UNIVERSITY

Cambridge, MA

**$235,278** OVER **24 MONTHS** TO PRODUCE A PUBLICLY AVAILABLE DATABASE THAT LINKS 2010 CENSUS RESULTS WITH ELECTION RETURNS AT THE PRECINCT LEVEL. **PROJECT DIRECTOR:** STEPHEN ANSOLABEHERE, PROFESSOR OF GOVERNMENT

As part of the Foundation's efforts to improve the use of federal statistics and to promote open access to information, it has funded several successful projects that make census data more useful for everyone from social scientists and government officials to journalists and members of the public. In this tradition, Stephen Ansolabehere of Harvard proposes to create public databases that merge precinct level election data with 2010 census data. Ansolabehere and his collaborators, Jonathan Rodden of Stanford and James Snyder of Massachusetts Institute of Technology, are taking on quite a task. There are about 170,000 precincts in the United States, and practices for recording and reporting information can vary widely among them. In some states, for example, the labeling of precincts is not standardized and so census data, geographic boundary data, and precinct data must be matched up by hand. Once posted for public use, the databases will not only have applications in civic matters like redistricting, but are expected to help generate many academic research papers in fields like demography, political science, public finance, and economics generally.

## MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA

**$250,000** OVER **18 MONTHS** TO EXAMINE THE EFFECTS OF GLOBALIZATION ON U.S. DOMESTIC REGULATORY POLICIES, COMPLIANCE, AND ECONOMICS IN BIOPHARMACEUTICAL PRODUCT MANUFACTURING. **PROJECT DIRECTOR:** ANTHONY J. SINSKEY, FACULTY DIRECTOR

The use of biopharmaceutical products has increased greatly over the past 20 years and is expected to continue to increase in volume and importance in years to come. Like many other manufacturing operations, there has been a substantial increase in the globalization of biopharmaceutical production within the last five to ten years. The FDA, the Government Accountability Office, and Congress are well aware of the challenges and tradeoffs involved when industries globalize, and in response the FDA has adjusted its inspection policies and practices. Funds from this grant will support a multidisciplinary team of researchers, based at MIT's Center for Biomedical Innovation and led by Georgetown University Professor Jeffrey Macher, in their work to study how globalization has changed regulatory practice surrounding the production and distribution of biopharmaceuticals.

## NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.

Cambridge, MA

**$999,155** OVER **36 MONTHS** TO INITIATE AND ORGANIZE RESEARCH ON THE ECONOMICS OF DIGITAL INFORMATION. **PROJECT DIRECTOR:** SHANE GREENSTEIN, ELINOR & WENDELL HOBBS PROFESSOR

The digitization of information on a massive scale challenges many traditional assumptions about how media markets, intellectual property laws, innovation, governance, and other important aspects of our world can or should work. Adjustments taking place due to advances in digital information technology are rapid, significant, unfinished, and little studied by objective academics as opposed to interested stakeholders. This grant to the National Bureau of Economic Research (NBER) supports efforts to establish an impartial community of scholars dedicated to studying the determinants and consequences of digitization. Activities funded through this grant divide into three broad categories: developing an economic framework for analyzing the effects of changes in and diffusion of digital information technology that is theoretically grounded and empirically relevant; the application of such a framework to the systematic evaluation of policy and governance issues; and the improvement of measures of the extent, impact, and potential for the diffusion and use of digital information technology through providing datasets that researchers can share. Funds from this grant will support annual workshops at the NBER Summer Institute, winter outreach meetings with practitioners, and a culminating conference and proceedings. Funds for small research grants, postdoctoral fellowships, and data infrastructure are also included. Taken together, the funded activities represent a comprehensive and unique opportunity for improving how we understand the problems and promise of digitization.

## NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.

Cambridge, MA

**$767,280** OVER **38 MONTHS** TO SUPPORT SUMMER INSTITUTES RUN BY THE NATIONAL BUREAU OF ECONOMIC RESEARCH. **PROJECT DIRECTOR:** AMY FINKELSTEIN, RESEARCH ASSOCIATE

Funds from this grant support the National Bureau of Economic Research's (NBER) annual Summer Institute in Cambridge, Massachusetts. The NBER

Summer Institute has become the most important meeting of its kind in the world, attracting, in recent years, nearly 2,000 participants over the course of four weeks to present and discuss the latest empirical research in all fields of economics. This makes the Summer Institute one of the best platforms to highlight and publicize Sloan Foundation research activities in economics and finance. More than 40 different Institute workshops are scheduled to overlap in ways that facilitate interactions among related fields and researchers. Special efforts are being instituted to include a younger and more diverse crowd in addition to established scholars. The 400 or so papers presented are available online both to participants and to other researchers. Recent Institute programs specifically developed with Sloan support have focused on the financial crisis generally and on credit rating agencies in particular. Core support provided by this grant will not only fund participation in workshops, it will also help carry forward innovations such as the prestigious Feldstein Lectures, methodological courses, and a new workshop, "The Conduct of Research."

## National Bureau of Economic Research, Inc.

Cambridge, MA

**$274,965** over **19 months** to foster multilateral cooperation in trade, financial regulation, and macroeconomic policy by organizing a forum for leading academics and officials. **Project Director:** Robert C. Feenstra, Research Associate

Crises have a way of bringing out "every man for himself" instincts just when cooperation and coordination are most needed. This kind of thinking in 1930 resulted in America's Smoot-Hawley tariff. Its passage provoked the imposition of retaliatory tariffs by many other countries, reduced U.S. exports and imports by 50 percent, and, by most accounts, directly helped bring on the Great Depression. There is considerable reason, therefore, to avoid making similar mistakes in the wake of the 2008 global financial crisis. Robert Feenstra and Alan Taylor are organizing a Global Forum for the National Bureau of Economic Research (NBER) on the topic, "Globalization in an Age of Crisis: Multilateral Economic Cooperation in the Twenty-First Century." The event, to be hosted by the Bank of England, is specifically designed to facilitate interaction among leading academics and policymakers from around the world, including existing Sloan Foundation grantees working on theoretical, historical, or institutional aspects of international economics. Participants will be expected not only to critique the research, data, and

analyses presented, but also to formulate plans and initiatives for fostering multilateral economic cooperation in the wake of financial turmoil.

## New Venture Fund

Washington, DC

**$117,640** over **12 months** to study experimentally the market for retail financial advice. **Project Director:** Antoinette Schoar, Director

The decisions individual households make about consumer financial products can be complicated, and so many people rely on expert advice. But is such advice any good? How well can consumers tell if it is or it isn't? Antoinette Schoar, a finance professor at MIT, and her collaborators have already conducted a pilot "audit study" to address the first question by dispatching trained actors to visit selected advisors. In addition to expanding this research on the supply side of the market for retail consumer financial advice, Schoar's team also plans new laboratory experiments to investigate the demand side of that market by measuring how consumers react to videotapes of different financial advisors. This project has already secured some highly competitive funding from the National Science Foundation, but more is needed to cover the experimental costs of sample sizes large enough to be statistically convincing. Sloan support will provide the necessary funds.

## University of Notre Dame

Notre Dame, IN

**$295,876** over **24 months** to conduct a case study of the influx of mathematicians from Eastern Europe to the United States in the 1990s, to gain insight into effects of high-skill immigration. **Project Director:** George J. Borjas, Robert W. Scrivner Professor

The collapse of the Soviet Union in the 1990s and the subsequent opening of the borders of the Soviet empire resulted in a substantial increase in the number of mathematicians emigrating to the United States, as talented Soviet mathematicians moved to America to live and work. This grant will fund a project by co-Principal Investigators George Borjas of Harvard University and Kirk Doran of Notre Dame to construct a dataset that examines what this

unusual historical discontinuity has to tell us about the effects of high-skilled immigration on the labor market in mathematics and the rate of innovation in mathematical research. The following effects are to be addressed:

□ Positive impacts on the rate of innovation of existing American mathematicians, to be measured via indicators such as the quality-adjusted publication rates of American mathematicians exposed to the newcomers against those relatively unexposed;

□ Career competition impacts, as assessed by patterns among U.S. mathematics Ph.D. students in terms of subfield of specialization, employment, and wage outcomes in "exposed" vs. "unexposed" subfields over time.

This dataset, once completed, will be made freely available for analysis by other researchers.

## PETER G. PETERSON INSTITUTE FOR INTERNATIONAL ECONOMICS

Washington, DC

**$245,000** OVER **18 MONTHS** TO ANALYZE EMPIRICAL LESSONS THAT COUNTRIES CAN LEARN FROM THE FINANCIAL CRISIS ABOUT HOW TO RESTRUCTURE THEIR FINANCIAL SECTORS. **PROJECT DIRECTOR:** ADAM S. POSEN, SENIOR FELLOW

Policies instituted during the 2008 financial crisis may have averted total disaster, but many of these can also make matters worse if left in place. For example, the forced merging of banks now makes the "too big to fail" problem all the more vexing. The structural, regulatory, and institutional reforms needed to address such problems globally will be the subject of a book project led by Adam Posen, a Senior Fellow at the Peter G. Peterson Institute of International Economics. Those who have begun trying to imagine new structures for the banking and financial sector are, according to Posen, often hobbled by unproven myths about regulation, industrial organization, disclosure requirements, and the incentive systems for banks and bankers. Adam Posen is working on how to identify, justify, and coordinate the implementation of new financial structures going forward, and funds from this grant provide necessary support for this ongoing work.

## Grants Made Against Prior Authorizations

In June of 2009 the Board of Trustees authorized the expenditure of up to $900,000 over two years to fund joint or exploratory small grants in economics, in particular to fund grants resulting from a joint effort with the Russell Sage Foundation to identify unique research opportunities in behavioral economics. In June of 2010, the Board of Trustees authorized the expenditure of an additional $1 million for continued work with the Russell Sage Foundation and for other small grants that advance the programmatic objectives of the Economic Institutions, Behavior and Performance program. The following grants were made against these previously authorized funds.

### University of California, Los Angeles
Los Angeles, CA

**$70,385** over **12 months** to test how choice architecture can affect how consumers make intertemporal tradeoffs. **Project Director:** Suzanne Shu, Assistant Professor

### University of Colorado, Boulder
Boulder, CO

**$122,263** over **12 months** to study how and why consumers give up on making complex financial decisions. **Project Director:** John G. Lynch, Director

### Columbia University
New York, NY

**$85,682** over **12 months** to perform experiments on how consumers' characteristics affect their annuity decisions. **Project Director:** Eric Johnson, Norman Eig Professor of Business

### Dartmouth College
Hanover, NH

**$119,591** over **24 months** to create and study network models of systemic risk in banking and finance. **Project Director:** Daniel N. Rockmore, John G. Kemeny Parents Professor of Mathematics

### Duke University
Durham, NC

**$63,249** over **12 months** to investigate how consumers process complex financial data and decisions. **Project Director:** John W. Payne, Joseph J. Ruvane, Jr. Professor of Business

### Harvard University
Cambridge, MA

**$34,951** over **12 months** to study how risk databases and choice engines can improve consumers' financial decisions. **Project Director:** Daniel Carpenter, Allie S. Freed Professor of Government

### National Bureau of Economic Research, Inc.
Cambridge, MA

$115,690 over 12 months to convene conferences on the measurement of systemic risk and liquidity. Project Director: Arvind Krishnamurthy, Harold L. Stuart Professor of Finance

University of Pennsylvania
Philadelphia, PA

$35,000 over 12 months to devise a research program on choice engines that help consumers make better insurance decisions. Project Director: Thomas E. Baker, Professor of Law and Health Sciences

## Officer Grants

### Clean Air Task Force
Boston, MA

$10,000 over 4 months to plan a full-scale study of U.S. energy efficiency potential on the building and industrial sector. Project Director: Steven G. Brick, Consultant

### Cold Spring Harbor Laboratory
Cold Spring Harbor, NY

$20,000 over 6 months to provide partial support for a New Faculty Investigator Conference. Project Director: Walter L. Goldschmidts, Executive Director

### Harvard University
Cambridge, MA

$89,570 over 8 months to advance understanding of market-based approaches to environmental protection by examining the legacy of the Clean Air Act Amendments of 1990 by means of a two-day workshop and report. Project Director: Robert Stavins, Albert Pratt Professor of Business & Government

### Harvard University
Cambridge, MA

$19,575 over 12 months to study career choice in terms of the benefits to society and tax costs to individuals. Project Director: Elaine Bernard, Executive Director

### University of Maryland, College Park
College Park, MD

$20,000 over 6 months to hold a workshop, "Frameworks for Systemic Risk Monitoring." Project Director: Clifford Rossi, Managing Director

## National Postdoctoral Association
Washington, DC

**$125,000** over **18 months** to develop a self-sustaining online resource to help prospective graduate students and postdocs find programs suited to their educational goals, drawing primarily upon the pending National Resource Council assessment of graduate programs and on other relevant data sources. **Project Director:** Geoff Davis, Principal Investigator

## Stanford University
Stanford, CA

**$44,575** over **6 months** to study the effects of socioeconomic status, institutional selectivity, major, and unemployment and salary trends on engineering students' post-graduation plans. **Project Director:** Sheri Sheppard

# Industry Studies

The Industry Studies program began in 1990 with the establishment of the first Sloan Industry Center. The goals of the program at that time were to make the study of industries an accepted approach within academia, and to provide useful information and insights to industry and government policymakers. Throughout the next decade, establishing and renewing grants to Centers remained the primary focus of the program. In 2000, the Foundation's emphasis shifted to growing the Industry Studies community wherever such scholars might be located (which increasingly meant outside the Centers) through research support on topics such as globalization.

After two decades of support and approximately $112 million in Foundation grants, the program concluded in 2010. Several of the areas covered by the Industry Studies program have been absorbed by the Foundation's Economic Institutions, Behavior, and Performance program. Though formal grantmaking in this program has concluded, the legacy of the Foundation's funding continues through the activities of the Industry Studies Association, an independent, self-sustaining professional society, which the Foundation helped to launch and which continues to provide valuable services to the thriving interdisciplinary community of industry studies researchers, including a working paper series, research listservs to facilitate communication and collaboration among scholars, and an annual conference.

## Grants Made Against Prior Authorizations

In June of 2009, the Board of Trustees authorized the expenditure of up to $478,433 for a series of small grants supporting the successful completion of the Foundation's Industry Studies program, including a final round of $45,000 fellowships to be awarded as part of the final year of the Sloan Industry Studies Fellowship program. The following grants were made against this previously authorized fund.

### University of California, Berkeley
Berkeley, CA

**$45,000** over **12 months** for a Sloan Industry Studies Fellowship for Meredith Fowlie. **Project Director:** Meredith Fowlie, Assistant Professor

### New York University
New York, NY

**$45,000** over **24 months** for a Sloan Industry Studies Fellowship for Natasha Iskander. **Project Director:** Natasha N. Iskander, Assistant Professor

### Northwestern University
Evanston, IL

**$45,000** over **24** **months** for a Sloan Industry Studies Fellowship for Paul M. Leonardi. **Project Director:** Paul M. Leonardi, Assistant professor

### The Pennsylvania State University
University Park, PA

**$45,000** over **24** **months** for a Sloan Industries Fellowship for Forrest Briscoe. **Project Director:** Forrest Briscoe, Associate Professor

### The Pennsylvania State University
University Park, PA

**$45,000** over **24** **months** for a Sloan Industry Studies Fellowship for Mark Anner. **Project Director:** Mark Anner, Assistant Professor

### University of Pennsylvania
Philadelphia, PA

**$45,000** over **24** **months** for a Sloan Industry Studies Fellowship for Matthew Bidwell. **Project Director:** Matthew Bidwell, Assistant Professor

# WORKING LONGER

Over the next 20 years, the U.S. population aged 62 and over is projected to nearly double, growing from 45 million to 80 million. Research shows that many older workers want or need to work later in life for a variety of personal, social, and economic reasons. Employers and employees alike have a mutual interest in creating workplace conditions that enable older Americans to work past the traditional retirement age.

Yet despite this congruence of interests, substantial barriers exist that prevent older Americans from working longer, including state and federal labor laws that incentivize retirement, work practices that inhibit flexible work arrangements, and cultural biases and misinformation about the capacities and motivations of older workers. This interdisciplinary research program directs scholarly attention to the issues facing older workers and the institutional barriers that inhibit working longer. Grantmaking focuses on a multifaceted research agenda examining aging and work in the United States.

Major grants have supported a project to link data from the National Institute of Aging's Health and Retirement Study with the Business Register of the U.S. Census data to provide linked employer-employee data sets, a project to collect and analyze data from private industry on work practices affecting older workers, a fellowship program supporting Ph.D. students working on issues related to aging and work, and several projects to investigate institutional barriers and disincentives to working longer.

## TRUSTEE GRANTS

### AMERICAN COUNCIL ON EDUCATION

Washington, DC

**$589,294** OVER **24 MONTHS** TO SUPPORT AN INVITATIONAL CONFERENCE AND AWARDS PROGRAM ON THE CULMINATING STAGE OF FACULTY CAREERS IN HIGHER EDUCATION. **PROJECT DIRECTOR:** CLAIRE A. VAN UMMERSEN, SENIOR ADVISOR

The American Council on Education (ACE) has successfully partnered with Sloan since 2003 in developing and administering the Sloan Faculty Career

Flexibility Awards. Three rounds of the awards program have been completed, including awards focused on research universities, large master's degree universities, and liberal arts colleges. ACE proposes three main activities with this grant: pilot work with nine institutions of higher education in three types of institutions of higher education (three research, three large master's, and three liberal arts colleges) to understand further what they are doing for faculty pre- and post-retirement; an invitational conference that will involve teams comprised of administrators and faculty from the participating colleges and universities; and a new awards program to identify and recognize best practices regarding the culminating stages of faculty careers that meet the needs of both the institutions and the faculty members. Five winners in each of the three categories will be awarded $100,000 in recognition of their innovative efforts to provide effective faculty retirement practices.

## THE BROOKINGS INSTITUTION

Washington, DC

**$576,793** OVER **24 MONTHS** TO DEVELOP ESTIMATES OF HOW THE DECISION BY AMERICAN WORKERS TO RETIRE LATER IMPACTS PUBLIC BUDGETS AND THE ECONOMY.

**PROJECT DIRECTOR:** GARY BURTLESS, SENIOR FELLOW

By the mid-1980s, a century-old trend toward earlier labor force withdrawal by older American men came to a halt and subsequently reversed itself. At the same time, a shorter trend of flat labor force participation rates for older women stopped and their labor force participation rates began increasing. As a result, on average, older American men and women are now working longer and retiring later. Funds from this grant support a project by the Brookings Institution to estimate the impact of delayed retirement on overall economic output, on government income and payroll tax revenues, and on public spending, specifically on government programs such as Medicare, Medicaid, and Social Security. The project consists of several integrated subprojects. The first deconstructs the nature of the later retirement trend, asking which types of workers, in terms of gender, education, skill levels, and income, are retiring later and how they delay labor force departure. The second subproject investigates the nature of the physical and mental well-being of retirees over time. The third and fourth subprojects, which are to be informed by these labor force data, involve macro- and micro-simulation modeling of the impact of a rising retirement age for the economy and for public finances. At the completion of the subprojects, Brookings will organize a public forum in Washington, D.C. at which the research findings will be

presented and discussed before an invited audience of policymakers, academics, and governmental and nongovernmental agencies concerned with aging and budget policy.

## UNIVERSITY OF CALIFORNIA, BERKELEY

Berkeley, CA

**$398,498** OVER **24 MONTHS** TO SUPPORT RESEARCH ON AGING, WORK, AND RETIREMENT AMONG LATE-CAREER FACULTY AT THE UNIVERSITY OF CALIFORNIA. **PROJECT DIRECTOR:** SHELDON ZEDECK, VICE PROVOST, ACADEMIC AFFAIRS

For faculty at U.S. colleges and universities, transitioning into retirement often involves the daunting challenge of effectively reconfiguring their lives after decades of pursuing absorbing careers in which their identities are synonymous with their work. This grant to the University of California, Berkeley aims at helping institutions provide the (non-financial) policies, practices, and programs that will facilitate the retirement transition for faculty and serve the goals and needs of both the retiring faculty and the mission of the institution. Funded activities include support for two studies: the first descriptive, the second causal. The descriptive study will examine a diverse range of aging-related issues, including professional activities and productivity, career experiences, retirement and post-retirement career plans, and family relations. The causal study will collect and analyze data from the naturally occurring experimental conditions that arose from the three waves of the University of California Voluntary Early Retirement Incentive Programs of the early 1990s. Outcomes from this research promise to be applicable far outside the University of California system, and interest from university and college administrators has been significant.

## National Bureau of Economic Research, Inc.

Cambridge, MA

**$644,920** over **24 months** to support research on the barriers to working longer and how to facilitate work at older ages. **Project Director:** David Wise, Area Director

David Wise, of the Kennedy School of Government and the National Bureau of Economic Research (NBER), has directed a remarkably successful program at NBER since 1985 on the Economics of Aging. He has now assembled a team of distinguished economists, including Stanford's John Shoven and Harvard's David Cutler, to expand this program's focus to include research on aging and work, by examining the conditions in public policy and in the workplace that make it difficult or costly for people to work longer than conventional retirement age. This grant supports four interrelated research projects. The first project develops tools for estimating how policy reforms would affect work at older ages and details two possible reforms: a "paid up" Social Security reform and a Medicare-as-first-payer reform, each of which could facilitate longer working lives. The second project analyzes relationships between firm policy provisions and work behavior at older ages, based on the diverse pension and retiree health plans of employees of Towers Watson client companies. The third project addresses the effect of improving health status on the ability to work at older ages and analyzes mortality reductions in 12 countries, emphasizing the rationale that these trends provide for facilitating longer working lives. The fourth project further develops an international perspective by exploring older workers' preferences for work arrangements and employers' willingness to accommodate such preferences in the United States, the United Kingdom, Germany, and France.

## Urban Institute

Washington, DC

**$416,230** over **24 months** to assess disincentives to working longer in state and local defined benefit pension plans. **Project Director:** Richard W. Johnson, Senior Fellow

Unlike employees in the private sector, almost all state and local government workers—from employees of state agencies to public school teachers and policemen—participate in defined benefit pension plans. Not only do these plans strain public budgets, they generally incent early retirement by penalizing work at older ages. Funds from this grant will support a project by the Urban Institute to enhance knowledge and awareness of the work disincentives created by state and local defined benefit pension plans and of existing reform options that encourage public sector employees to work longer. Under the direction of Richard Johnson and Eugene Steuerle, this project will accomplish several objectives over the course of three stages of work. The first stage of the project will quantify work disincentives in state and local defined benefit pension plans, compare disincentives across states and localities and across occupations, and identify existing reforms that have reduced work disincentives. The second stage of the project will match these disincentive measures to state and local workers in the Survey of Income and Program Participation (SIPP) and model their impact on work and retirement decisions. The final stage will follow state and local retirees over time in the SIPP and the Health and Retirement Study (HRS) to measure their economic status and the share who return to work, either in the public or private sector. Ultimately, this project will enrich our understanding of how defined benefit pension plans discourage work at older ages and identify reforms that do or potentially could encourage later retirement.

## Officer Grants

### Brigham Young University
Provo, UT

**$39,926** over **11 months** for an analytic review of research on aging and work in the academy. **Project Director:** Michael R. Ransom, Professor

# WORKPLACE, WORK FORCE, AND WORKING FAMILIES

In the last half of the twentieth century, a profound and largely unexamined social and economic change took place in America: the rise of middle-class dual-earner households. Grantmaking in the Workplace, Work Force, and Working Families program addressed this monumental change on three fronts: creating a rigorous new interdisciplinary field of work-family scholarship, educating the public about research findings, and establishing the National Workplace Flexibility Initiative to make workplace flexibility a compelling national issue and a standard of the American workplace.

Since the program began in 1994, the Foundation made grants totaling $124 million in pursuit of these goals. The Foundation established six centers and funded over 100 individual research projects at leading universities nationwide to study working families, collaborate across disciplinary boundaries, and educate the next generation of work-family researchers. Other grants supported an online network devoted to making work-family scholarship readily accessible to academics, policymakers, business leaders, and the public. Still others encouraged voluntary employer adoption of flexible workplace practices by creating a national awards program recognizing local businesses for innovative and effective flexible work arrangements and universities for faculty career flexibility programs. Other grants supported the nonpartisan analysis of legal barriers and disincentives to voluntary adoption of flexible work arrangements and the development of a bipartisan conversation in Washington around workplace flexibility issues involving multiple stakeholders including business, unions, working parents, older workers, military families, and workers with disabilities.

Today, workplace flexibility is part of the modern lexicon and is increasingly recognized by employees, companies, and policymakers for its ability to improve lives and achieve business objectives. Work-family is now a recognized academic field and the media routinely covers issues facing working families. With its programmatic goals largely achieved, grantmaking ended in 2010.

## AMERICAN COUNCIL ON EDUCATION

Washington, DC

**$394,290** OVER **24 MONTHS** TO CONDUCT A FOURTH ROUND OF THE ALFRED P. SLOAN AWARDS FOR FACULTY CAREER FLEXIBILITY WITH A FOCUS ON SCHOOLS OF MEDICINE AND TO CONTINUE TO DISSEMINATE BEST PRACTICES AND LESSONS LEARNED FROM THE WINNING INSTITUTIONS THROUGHOUT HIGHER EDUCATION. **PROJECT DIRECTOR:** CLAIRE A. VAN UMMERSEN, SENIOR ADVISOR

This grant to the American Council on Education supportsthe development, outreach, and administration of a fourth round of the Alfred P. Sloan Awards for Faculty Career Flexibility. The awards aim to recognize innovative and successful institutional policies and practices that encourage flexibility in faculty careers. This fourth round will target the 133 accredited M.D.-granting U.S. medical schools represented by the American Association of Medical Colleges. Up to five winning institutions will be awarded $250,000 to be applied toward extending and expanding their flexibility practices, while two additional schools will receive $25,000 in recognition of particularly innovative approaches to implementing faculty flexibility. Funds from this grant mainly support two activities: the administrative costs of a fourth round of the Alfred P. Sloan Awards for Faculty Career Flexibility and efforts to disseminate lessons learned from the winning institutions throughout academic medicine and higher education. In addition, the grant includes funds for two years of follow-up work to monitor the winning liberal arts colleges from the last round of awards to ensure that they are on track to reach the goals set in accelerator plans submitted by each winning school.

## UNIVERSITY OF PENNSYLVANIA

Philadelphia, PA

**$990,735** OVER **48 MONTHS** TO SUPPORT A FINAL GRANT TO THE SLOAN WORK & FAMILY RESEARCH NETWORK TO ENSURE ITS LONG-TERM SUSTAINABILITY. **PROJECT DIRECTOR:** JERRY A. JACOBS, PROFESSOR

Funds from this grant will support the Sloan Work and Family Research Network at Boston College to implement a transition strategy to a lower-cost, sustainable organizational model, while continuing its vital contributions to the community of work-family scholars. The new Network—the Work and Family Research Network (WFRN)—will consist of an Open Access Network (OAN) and a Membership Network (MN) to be hosted at the University of Pennsylvania. Foundation funds will maintain the current Network during the transition period, build the new OAN platform at Penn, create the infrastructure to launch the MN, provide staff support for the initial period of development of the OAN/MN and support additional features of the new Network, including conferences and the Early Career Scholars program. The next generation Network will be supported by member dues, as well as in-kind support from both the University of Pennsylvania and institutions of elected officers. There has already been enthusiastic support for the MN with nearly 200 scholars signing on as either Founding (senior scholars) or Sponsoring (junior scholars) members. The next generation Network will significantly contribute to the vitality of academic work-family scholarship, will ensure that high-quality work-family content continues to be available and accessible into the future, and will be a lasting legacy of the Foundation's Workplace, Work Force, and Working Families program.

## Grants Made Against Prior Authorizations

In March 2010, the Board of Trustees authorized the expenditure of up to $250,000 for small grants to support programmatic objectives in the final year of the Workplace, Work Force and Working Families program. The following grants were made against this previously authorized fund.

### University of California, Berkeley
Berkeley, CA

**$9,936** over **6 months** to co-sponsor, with the American Council on Education, a working conference on aligning federal agency policies and university policies regarding career formation and family formation. **Project Director:** Mary Ann Mason, Co-Director, Berkeley Center on Health, Economic, & Family Security

### Corporate Voices for Working Families
Washington, DC

**$19,750** over **6 months** to encourage companies to engage around Corporate Voices' revised statement of support for workplace flexibility, and convince C-Suite business leaders to sign the statement. **Project Director:** Donna Klein, Executive Chair

### National Opinion Research Center

Chicago, IL

**$124,500** over **9 months** to conduct an inventory and assessment of the products of the Workplace, Work force, and Working Families Program. **Project Director:** Barbara Schneider, Senior Fellow

## Officer Grants

### Families and Work Institute, Inc.
New York, NY

**$50,000** over **18 months** to support research reports on workplace flexibility to be released nationwide. **Project Director:** Ellen Galinsky, President

### Georgetown University
Washington, DC

**$124,900** over **6 months** to determine the feasibility of a new self-supporting organization directed to significantly increasing workplace flexibility in the United States. **Project Director:** Kathleen Ellen Corrigan, Director, Workplace Flexibility 2010

### Labor Project for Working Families
Berkeley, CA

**$19,647** over **6 months** to document and disseminate lessons learned in implementing paid leave at the state level and flexible work arrangements in unionized workplaces. **Project Director:** Netsy Firestein, Executive Director

# Digital Information Technology

This program aims to advance the creation, dissemination, and democratization of access to knowledge through the use of new developments in digital information technology. Grantmaking in this program focuses on three sub-areas: data and computational research; scholarly communication; and universal access to knowledge.

Grants in data and computational research aim to help researchers develop tools, establish norms, and build the institutional and social infrastructure needed to take full advantage of contemporary developments in data-driven, computation-intensive research. Grants in scholarly communication aim to support the development of new models of filtering and curating online scholarly materials and engage the emerging community of stakeholders and practitioners tackling similar issues in widely divergent disciplinary contexts. Grants in universal access to knowledge support the digitization and democratization of scientific and cultural knowledge in all its forms and aim to preserve its openness and accessibility for the widest public benefit.

## Trustee Grants

### Catticus Corporation

Berkeley, CA

**$250,000** over **7 months** to support a pilot effort to produce and distribute short web videos based on new scientific papers. **Project Director:** Michael Schwarz, Producer/Director

Funds from this grant support a pilot project by Michael Schwarz of Kikim Media to produce and distribute six short web videos to accompany new scientific papers that appear in the Public Library of Science. The proposed videos—each five to seven minutes long—aim to translate the latest scientific findings into a broadly accessible language that can reach a wider audience than those who currently read academic science journals.

## PUBLIC LIBRARY OF SCIENCE

San Francisco, CA

**$400,000** OVER **12 MONTHS** TO DEVELOP ONLINE HUBS AS A MECHANISM FOR ORGANIZING SCIENTIFIC CONTENT AFTER IT IS PUBLISHED. **PROJECT DIRECTOR:** PETER JERRAM, CHIEF EXECUTIVE OFFICER

Founded in 2000, the Public Library of Science (PLoS) is a driving force in the "open-access" movement to make the results of scientific research available to everyone. PLoS's vision: a place where anyone from scientists to students to the public could access scientific research online and at no charge. PLoS essentially treats all scientific literature and its associated databases and commentary as a continuous, ever-growing relational database to be explored, mined, and recombined. Under traditional models, scientific papers are sequestered in a specialty, such as Arctic biology, even when the paper might have content equally relevant to marine mammals or molecular ecology. In 2008 and 2009, the Foundation provided grants to PLoS to develop a business plan for creating online "hubs" around scientific and medical subjects and then to create prototypes for subjects of special interest to Sloan, such as DNA barcoding and marine biodiversity. Importantly, PLoS links to all open-access material, not only to material published by PLoS itself. And it will also point to material that is not open-access, even if users may meet frustration in clicking on gated links. The Foundation increasingly sees the concept of PLoS hubs as central to scholarly practice in areas of Foundation interest, including emerging fields such as the microbiology of the indoor environment and Earth's deep carbon. Funds from this grant will support PLoS in the creation of online hubs as a mechanism for organizing scientific content after it is published.

## WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS

Washington, DC

**$1,251,200** OVER **24 MONTHS** TO ENABLE CRISISCOMMONS TO SUPPORT THE CRISISCAMP COMMUNITY AND ADVANCE INNOVATION FOR CRISIS MANAGEMENT USING SOCIAL MEDIA AND NEW TECHNOLOGIES. **PROJECT DIRECTOR:** DAVID REJESKI, PROGRAM DIRECTOR

The past year has seen the growth of an ad hoc movement of CrisisCamps: grassroots gatherings of volunteer technologists who assemble to help people

and communities in times and places of crisis. This grant to the Wilson Center provides two years of support to enable CrisisCommons to support the CrisisCamp community and to advance innovation for crisis management using social media and new technologies. The CrisisCommons project has three overarching objectives: provide community and technology support to the CrisisCamp communities during and after disasters; facilitate a shared approach to research and innovation; and establish trust and formalize relationships in the crisis response and volunteer technology communities.

Beyond working directly with CrisisCamps themselves, CrisisCommons proposes to broker knowledge-sharing between volunteer technology communities and the crisis response organizations that deliver direct aid in crisis areas. Other grant funds will support the development of a Technology Roadmap that will include requirements for a volunteer collaboration platform, code management, and intellectual property licensing, and a Volunteer Technology Community Leadership Summit to bring together approximately 40 leaders from distributed, largely open-source technology communities. Also provided are funds for the second and third annual International CrisisCongress.

## Grants Made Against Prior Authorizations

In December 2007, the Board of Trustees authorized the expenditure of up to $1 million for grants to support a regional scanning center in the Mid-Atlantic states that would digitize library collections under open principles. The following grant was made against this previously authorized fund.

### Lyrasis
Philadelphia, PA

**$750,000** over **36** **months** to continue digitization of member collections and develop a self-sustaining regional scanning center. **Project Director:** Laurie Gemmill, Mass Digitization Program Manager

## Officer Grants

### Harvard University
Cambridge, MA

**$125,000** OVER **6 MONTHS** TO BUILD ON THE MOMENTUM FROM THE RADCLIFFE CONFERENCE AND DEVELOP THE DIGITAL PUBLIC LIBRARY OF AMERICA THROUGH A SERIES OF WORKSHOPS AND MEETINGS. **PROJECT DIRECTOR:** JOHN PALFREY, VICE-DEAN FOR LIBRARY AND INFORMATION RESOURCES, HARVARD LAW SCHOOL

### HARVARD UNIVERSITY
CAMBRIDGE, MA

**$36,288** OVER **3 MONTHS** TO HOLD A TWO-DAY CONFERENCE ON CREATING A NATIONAL DIGITAL LIBRARY. **PROJECT DIRECTOR:** ROBERT DARNTON, DIRECTOR, HARVARD UNIVERSITY LIBRARY

### PUBLIC TECHNOLOGY INSTITUTE
WASHINGTON, DC

**$56,523** OVER **12 MONTHS** TO PROMOTE THE USE OF WEB 2.0 TOOLS TO ENCOURAGE GOVERNMENT TRANSPARENCY AND CITIZEN ENGAGEMENT. **PROJECT DIRECTOR:** ALAN R. SHARK, EXECUTIVE DIRECTOR

### WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS
WASHINGTON, DC

**$124,968** OVER **4 MONTHS** TO SUPPORT INFRASTRUCTURE AND BUSINESS PLANNING ACTIVITIES OF CRISISCOMMONS. **PROJECT DIRECTOR:** DAVID REJESKI, PROGRAM DIRECTOR

# Select Projects


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# BIOSECURITY

This 10-year program, initiated in 2000 and completed in 2010, brought attention and resources to the issues and challenges posed by biological attacks and epidemics, improved biosecurity in the United States and around the world, and reduced the threat of bioterrorism. Early grants were focused on preparedness, both for individual citizens and for organizations. Major grants supported a number of important projects, including the development of the U.S. Department of Homeland Security's Ready.gov initiative and the influential Center for Biosecurity at the University of Pittsburgh Medical Center. Other grants addressed issues surrounding dangerous research and the potential misuse of scientific knowledge, methods, and materials in the life sciences. In this area, the Foundation funded a number of significant projects, including the landmark Fink committee report, "Biotechnology Research in an Age of Terrorism," the U.S. National Academies' International Biosecurity Project, and the World Health Organization's program to raise awareness of the potential for misuse of biotechnology research. Final grants supported the analysis of terrorist efforts to use anthrax in Tokyo, an examination of the institutional response to the H1N1 influenza pandemic, and a 2011 capstone event in Washington, D.C.

## TRUSTEE GRANTS

### CENTER FOR BIOSECURITY, UNIVERSITY OF PITTSBURGH MEDICAL CENTER

Baltimore, MD

**$450,000** OVER **14** **MONTHS** TO DOCUMENT AND SYNTHESIZE MAJOR ACHIEVEMENTS IN BIOSECURITY OF THE PAST DECADE AND HELP CHART THE DIRECTION OF FUTURE EFFORTS. **PROJECT DIRECTOR:** THOMAS V. INGLESBY, CEO & DIRECTOR

The Center for Biosecurity was Sloan's first grantee in the bioterrorism program. Over the past 10 years, the Center has provided national and international leadership to reduce the threat of bioterrorism. The main priority of the Center for Biosecurity of the University of Pittsburgh Medical

Center continues to be improving national strategy, policy, and practice in ways that increase the biosecurity of the United States and strengthen national resilience against major biological threats. Funds from this grant will support Thomas V. Inglesby and his colleagues at the Center for Biosecurity in a 15-month project that will describe the current state of affairs in biosecurity policy and practice, note achievements of the past decade, identify remaining challenges and priorities, and articulate priorities for the field in the years ahead. The three major products of the project will be a series of six commissioned review articles to be published in December 2011 in *Biosecurity and Bioterrorism*; a hardcover book; and a one-day symposium, "Moving Toward Biosecurity: Priorities for the Future," to be held in Washington, D.C. in late 2011.

## Officer Grants

### The Aspen Institute
New York, NY

**$70,000** over **6 months** to help tie off the Foundation's Biosecurity program by providing seed funding for the Bipartisan WMD Terrorism Research Center. **Project Director:** Clark Kent Ervin, Director

# ENERGY AND ENVIRONMENT

Grantmaking in this small interdisciplinary program looks for unique opportunities to expand our understanding of the economic, technological, organizational, regulatory, national security, and environmental consequences of energy production and consumption.

Past grantmaking in this program has led to the publication of the influential MIT reports, *The Future of Nuclear Power* (2003), and *The Future of Coal* (2007) and the Foundation is currently supporting a similar project that focuses on economic, technological, and institutional issues associated with the use of solar energy. Other recent Foundation grants in this area support the exploration of strategies for the safe, responsible expansion of nuclear power around the world; a project to examine the feasibility of extending the life of existing nuclear plants; a project to disseminate safety guidelines for the responsible use of radioactive materials at academic, industrial, and medical institutions; a project on potential improvements to the measurement of carbon sequestered in forests; and two projects on natural gas: one examining the economics of state-of-the-art natural gas extraction based on detailed analyses of the geological and economic attributes of five important U.S. shale gas deposits, and one examining environmental and regulatory issues surrounding shale gas exploration and extraction.

Due to the significant funding available from both public and private sources for energy and environmental research, the Foundation is very selective in the grants it makes in this area, supporting only non-partisan projects for which funding is not readily available, projects related to other Foundation programs or priorities, or projects where Foundation support could be leveraged to significantly raise the chances of the project's success.

## TRUSTEE GRANTS

### CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE

Washington, DC

**$250,000** OVER **12 MONTHS** TO PROVIDE FURTHER SUPPORT TO THE CARNEGIE ENDOWMENT'S PROJECT TO DEVELOP A VOLUNTARY CODE OF CONDUCT FOR NUCLEAR POWER PLANT VENDORS. **PROJECT DIRECTOR:** GEORGE PERKOVICH, VICE PRESIDENT FOR STUDIES

In 2009, the Foundation approved a grant to the Carnegie Endowment for International Peace to support its work helping the world's nuclear power plant vendors develop a voluntary Code of Conduct. The effort has made significant progress and funds from this grant support the Carnegie Endowment's continuing efforts to advance the project. The Code text now contains sections on safety, health and radiological protection, physical security, environmental protection and the handling of irradiated fuel and nuclear waste, compensation for nuclear damage, nonproliferation and safeguards, and ethics. Drawing, where possible, on existing international agreements and International Atomic Energy Agency recommendations, the Code would pledge complying vendors to a standard of behavior higher than would be expected in its absence or than has been true historically. While the Code, once agreed upon, will be voluntary, it promises to be highly significant in influencing the behavior of power plant vendors. Hopefully it will be incorporated into each company's own code of business conduct, making it essentially mandatory for them. Moreover, the Code's very public nature and the scrutiny of environmental and nonproliferation advocacy groups will help guarantee vendor compliance.

## COUNCIL ON FOREIGN RELATIONS

New York, NY

**$1,198,506** OVER **36 MONTHS** TO CONDUCT A PROGRAM OF RESEARCH AND PUBLICATION ON ENERGY SECURITY, ESPECIALLY RELATED TO OIL. **PROJECT DIRECTOR:** MICHAEL A. LEVI, SENIOR FELLOW, ENERGY & ENVIRONMENT

This grant supports a project by Michael Levy, director of the Council on Foreign Relations' program on Energy Security and Climate Change, to institute a major research program on challenges facing the United States at the intersection of energy and national security and the policy options available for addressing them, with a particular focus on oil. Funds will support the work of a full-time fellow at the Council, one to two adjunct fellows, and several outside scholars commissioned to do analysis and

research. Other funds will support a series of roundtables and workshops designed to facilitate information sharing among the community of researchers and to expose interested younger scholars to work in the field, and outreach efforts designed to educate journalists, government officials, industry stakeholders, and the public.

The proposed research agenda will cover several areas, including

- understanding the security consequences of oil production, consumption, and trade;
- analyzing U.S. policies that could promote reduced demand for oil, including in developing countries;
- understanding major oil producing countries, especially Iraq and Iran;
- assessing policies that maintain or strengthen the functioning of oil markets and the geopolitics of natural gas.

In total, this project promises to make a major contribution to the ongoing discussions of energy security in the United States and should raise the quality of this discussion significantly.

## MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA

**$500,000** OVER **36 MONTHS** TO CREATE A NEW EXECUTIVE-LEVEL COURSE DESIGNED TO PROMOTE THE SAFE AND RESPONSIBLE USE OF NUCLEAR POWER WORLDWIDE. **PROJECT DIRECTOR:** RICHARD K. LESTER, JAPAN STEEL INDUSTRY PROFESSOR

This grant supports a project by MIT's Richard Lester to create a new executive-level course designed to promote the safe and responsible use of nuclear power worldwide and to provide leadership education and training in the strategies, operational practices, and technologies required to develop a safe, successful civilian nuclear energy program. The new course would be built on MIT's very successful and self-sufficient Reactor Technology Course for Utility Executives, now in its 18th year and offered in partnership with the Institute for Nuclear Power Operations. The curriculum would provide training for senior executives as well as government officials in countries considering building their first nuclear power plants, in countries in the early stages of implementing a civilian nuclear power program, or in countries which are restarting a civilian nuclear power program after an extended period

of dormancy. Particular emphasis would target potential nuclear countries in the developing world, including Saudi Arabia, United Arab Emirates, Indonesia, Turkey, Vietnam, Egypt, and Jordan. This project represents a unique opportunity for Sloan to contribute to the safe development of new civilian nuclear power programs around the world.

## Officer Grants

### Arius Association
Baden, Switzerland

**$73,128** over **6 months** to determine the feasibility of establishing multinational working groups that will explore the creation of regional nuclear waste repositories outside of Europe. **Project Director:** Charles McCombie, President

### Association of Metropolitan Water Agencies
Washington, DC

**$125,000** over **4 months** to conduct a case study of the May 1, 2010 catastrophic water main break in Boston. **Project Director:** Diane VanDe Hei, Executive Director

### Mongolian American Scientific Research Center
Ulaanbaatar, Mongolia

**$75,000** over **7 months** to fund a conference on fresh and spent fuel management and regional nuclear cooperation in Northeast Asia. **Project Director:** Dugersuren Dashdorj, Director

### University of Texas, Austin
Austin, TX

**$125,000** over **12 months** to explore the opportunities and obstacles to the growth of natural gas as a primary energy source. **Project Director:** Scott W. Tinker, Director, Bureau of Economic Geology

# International Science Engagement

The Foundation is undertaking an exploratory effort to use science as a bridge in conflict areas by developing personal and professional relationships between scientists and engineers in neighboring countries. A pilot effort to be housed at the Lee Kuan Yew School of Public Policy at the National University of Singapore that will include the countries of South Asia—India, Pakistan, Bangladesh, Sri Lanka, Bhutan, and Nepal—plus China, is under consideration.

## Officer Grants

### Bibliotheca Alexandrina
Alexandria, Egypt

$20,000 over 2 months as partial support for the scientific component of a major conference seeking improved U.S.–Muslim cooperation. Project Director: Hala Abdelwahab, Director of Resource Development

# Civic Initiatives

Since its founding in 1934, the Alfred P. Sloan Foundation has been proud to call New York City home. With its Civic Initiatives Program, the Foundation responds to unique opportunities to benefit the New York City metro area with an eye toward advancing the Foundation's other interests in science, technology, and economic performance.

## Trustee Grants

### Advocates for Children of New York, Inc.

New York, NY

**$200,000** over **30 months** to generate and disseminate information for parents about New York City schools. **Project Director:** Kim Sweet, Executive Director

The website InsideSchools.org provides independent information about New York City schools and the New York City Department of Education, providing helpful information to parents trying to navigate the public school bureaucracy, journalists writing about education, social workers trying to place students in appropriate schools, and teachers looking for jobs. Funds from this grant support InsideSchools in its continuing efforts to compile accurate, professional, and current reviews of the more than 1,500 New York City public schools.

### Cold Spring Harbor Laboratory

Cold Spring Harbor, NY

**$300,000** over **18 months** to support a pilot project for DNA barcoding experiments by New York City high school students. **Project Director:** David Micklos, Executive Director

Funds from this grant support a team at the Dolan DNA Learning Center (DNALC) of Cold Spring Harbor Laboratory to conduct a pilot program—called DNA Barcode New York City (DNAbcNYC)—to bring DNA barcoding to New York City high school students through DNALC's facility in East Harlem. The DNALC, which started in 1988, is the world's first science center devoted entirely to genetics education. The DNAbcNYC team plans a pilot program to get New York City high school students (especially those underrepresented in science) to use DNA barcoding to explore their urban environment. They plan to organize student work around several key campaigns that encourage a coordinated effort to sample the biodiversity of urban ecosystems around the city, including city parks and gardens, neighborhood markets, and detecting food fraud. The project includes support for teacher training in DNA barcoding, student teams, a dedicated DNAbcNYC micro-site, kits and supplies, assistance for in-school DNA barcoding "footlocker kits," and a new Urban Barcode Competition.

Using methods established by DNALC, the students will collect samples, extract DNA, and then amplify it using the appropriate primers (CO1 for animals, rbcL for plants). The amplified DNA will be shipped to a vetted sequencing lab, where the barcode sequence will be determined. The sequences will be uploaded to the new DNAbcNYC micro-site, where the sequence data can be accessed and analyzed. The micro-site will support all phases of the DNAbcNYC project. The site will include video instructions, online lab notebook, downloadable lab protocols, teacher preparation, multimedia resources, a barcode sequence database, and a suite of simplified bioinformatics tools. Novel sequences will be submitted to the Barcode of Life database. The teachers and students will be invited to participate in the Urban Barcode Competition. The top three teams will be awarded cash prizes. In addition, the top three projects will be subjects of videos posted on DNAbcNYC's micro-site as well as on Cablevision's MSG Varsity Channel. The DNAbcNYC expects to reach at least 300 students in this pilot, assuming each trained teacher engages one team of three students. The project represents a unique opportunity to bring the excitement of scientific discovery through DNA barcoding to New York City high school students.

## FUND FOR PUBLIC HEALTH IN NEW YORK, INC.

New York, NY

**$1,250,058** OVER **36 MONTHS** TO IMPROVE NYC'S DEPARTMENT OF HEALTH AND MENTAL HYGIENE'S SYNDROMIC SURVEILLANCE SYSTEMS. **PROJECT DIRECTOR:** MARCELLE C. LAYTON, ASSISTANT COMMISSIONER

The New York City Department of Health and Mental Hygiene (NYC DOHMH) is a world leader in the use of electronic data for disease surveillance. The syndromic surveillance systems maintained by the Bureau of Communicable Disease process nearly four million emergency department encounters, 1.5 million calls for emergency medical service ambulance dispatch, 14 million pharmacy transactions, and over one million school health nurse visits annually. Sloan provided early support in 2002 ($700,000) and 2003 ($697,000) to the New York Academy of Medicine to help the NYC DOHMH develop and disseminate the SATSCAN syndromic surveillance software, which was very successful. Since that time, new tools and methods applicable to syndromic surveillance have been developed elsewhere, and NYC DOHMH would like to put them into practice. Funds from this grant will allow NYC DOHMH to make its system "state of the art," share the improvements with other public health departments across the country, and expand the applicability of electronic data for disease surveillance by incorporating novel statistical approaches and additional data streams for outbreak and cluster detection.

Over the next three years, the NYC DOHMH team will conduct three main activities. First, they will review the literature of recent research and syndromic applications in other local jurisdictions. Second, they will analyze and evaluate select statistical methodologies that can be applied to existing data to determine if they prove more useful and informative for disease surveillance. Third, they plan to apply selected methodologies to everyday practice and prepare a user's guide—a basic how-to guide—that includes their code and examples of data visualizations.

## The New School for Social Research

New York, NY

**$950,000** over **36 months** to generate and disseminate information for parents about New York City schools. **Project Director:** Andrew White, Director

## Officer Grants

### GuideStar USA, Inc.
Williamsburg, VA

**$5,000** over **12 months** to support completion of the IRS Form 990 Project. **Project Director:** Kelly Ann Whalen, Development Director

### Neil D. Levin Institute
New York, NY

**$80,000** over **17 months** on behalf of the Neil D. Levine Institute for support for Innovate New York: Media and Communications. **Project Director:** Thomas Moebus, Vice President

# Other Grants

The Foundation occasionally makes grants outside its normal grantmaking programs when a unique opportunity arises to benefit society or advance other Foundation aims. The following grant, made in 2010, does not fall under existing Foundation programs.

## Officer Grants

### Yale University
New Haven, CT

**$25,047** over **7 months** to provide partial support for the 2010 Sloan-Swartz Meeting on Computational Neuroscience.
**Project Director:** Xiao-Jing Wang, Director, Swartz Program in Theoretical Neurobiology

# 2010 Financial Review

The financial statements and schedules of the Foundation for 2010 and 2009 have been audited by KPMG LLP. They include the balance sheets, statements of activities and cash flows, and schedules of management and investment expenses.

Investment income for 2010 was $15,706,778, an increase of $4,039,088 from $11,667,690 in 2009. After the deduction of investment expenses and provision for taxes, net investment income was $6,779,807 in 2010 as compared to $3,820,652 for the prior year. Investment expenses for 2010 consisted of $4,727,114 of direct investment expenses and $2,340,857 for investment management fees. Total investment expenses and provision for taxes of $1,859,000 equaled $8,926,971 versus $7,847,038 in 2009. Total investment gains for 2010 were $155,524,484 as compared with $265,388,130 in 2009.

Grants authorized (net of grant refunds) and management expenses during 2010 totaled $70,455,161, which was $63,675,354 greater than 2010 net investment income. Of this total, grants authorized (net of refunds) amounted to $61,561,344, while management expenses were $8,893,817. Since the Foundation's inception in 1934, the cumulative excess of grants and expenses over the Foundation's net investment income has amounted to $778.8 million.

Grant payments in 2010 were $73,904,639 compared to $68,143,639 for the prior year. Together with management expenses, investment expenses, and provision for taxes, the total of cash expenditures net of grant refunds in 2010 was $91,725,427 while in 2009 the amount was $85,959,452.

Grants authorized and payments made during the year ended December 31, 2010 are summarized in the following table:

| | |
|---|---|
| Grants unpaid at December 31, 2009 | $70,582,710 |
| Authorized during 2010 | 61,920,430 |
| Payments during 2010 | (73,904,639) |
| Grants unpaid at December 31, 2010 | $58,598,501 |

The fair value of the Foundation's total assets was $1,703,820,396 at December 31, 2010 including investments valued at $1,703,027,329 as compared with total assets of $1,620,997,612 at December 31, 2009.

# ALFRED P. SLOAN FOUNDATION

Consolidated Financial Statements and Schedules

December 31, 2010 and 2009

(With Independent Auditors' Report Thereon)

KPMG LLP
345 Park Avenue
New York, NY 10154

## Independent Auditors' Report

The Board of Trustees Alfred P.
Sloan Foundation:

We have audited the accompanying consolidated balance sheets of Alfred P. Sloan Foundation (the Foundation) as of December 31, 2010 and 2009, and the related consolidated statements of activities and cash flows for the years then ended. These consolidated financial statements are the responsibility of the Foundation's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Foundation's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Alfred P. Sloan Foundation as of December 31, 2010 and 2009, and the changes in its net assets and its cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

Our audits were made for the purpose of forming an opinion on the basic consolidated financial statements taken as a whole. The supplementary information included in the schedule of management and investment expenses for the years ended December 31, 2010 and 2009 and the schedule of grants and appropriations for the year ended December 31, 2010 is presented for purposes of additional analysis and is not a required part of the basic consolidated financial statements. Such information has been subjected to the auditing procedures applied in the audits of the basic consolidated financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic consolidated financial statements taken as a whole.

KPMG LLP

June 21, 2011

KPMG LLP is a Delaware limited liability partnership, the U.S. member firm of KPMG International Cooperative ("KPMG International"), a Swiss entity.

## Independent Auditors' Report

The Board of Trustees
Alfred P. Sloan Foundation:

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June 21, 2011

**ALFRED P. SLOAN FOUNDATION**

Consolidated Balance Sheets

December 31, 2010 and 2009

| Assets | 2010 | 2009 |
|---|---|---|
| Cash | $ 793,067 | 1,164,404 |
| Investments (note 3): | | |
| Direct investments – equities | 123,631,651 | 120,140,783 |
| Direct investments – fixed income | 206,766,976 | 179,230,086 |
| Alternative investments | 1,372,628,702 | 1,320,462,339 |
| Total investments | 1,703,027,329 | 1,619,833,208 |
| Total assets | $ 1,703,820,396 | 1,620,997,612 |
| **Liabilities and Net Assets** | | |
| Grants payable (note 8) | $ 58,598,501 | 70,582,710 |
| Federal excise tax payable (note 5) | 8,919,812 | 6,573,338 |
| Deferred compensation | 566,296 | 385,006 |
| Accrued postretirement benefit obligation (note 7) | 8,441,537 | 6,735,887 |
| Other liabilities | 49,620 | 333,177 |
| Total liabilities | 76,575,766 | 84,610,118 |
| Commitments (notes 3, 4, and 9) | | |
| Net assets – unrestricted | 1,627,244,630 | 1,536,387,494 |
| Total liabilities and net assets | $ 1,703,820,396 | 1,620,997,612 |

See accompanying notes to consolidated financial statements.

**ALFRED P. SLOAN FOUNDATION**

Consolidated Statements of Activities

Years ended December 31, 2010 and 2009

| | 2010 | 2009 |
|---|---|---|
| Investment income: | | |
| Interest and dividends | $ 15,706,778 | 11,667,690 |
| Less: | | |
| Investment expenses | 7,067,971 | 6,997,038 |
| Provision for taxes (note 5) | 1,859,000 | 850,000 |
| | 8,926,971 | 7,847,038 |
| Net investment income | 6,779,807 | 3,820,652 |
| Expenses: | | |
| Grants authorized (net of refunds of $359,086 in 2010 and $219,803 in 2009) | 61,561,344 | 50,171,017 |
| Management expenses | 8,893,817 | 9,968,775 |
| | 70,455,161 | 60,139,792 |
| Excess of expenses over net investment income | (63,675,354) | (56,319,140) |
| Investment gains: | | |
| Net gain on disposal of investments | 61,978,391 | 8,514,817 |
| Unrealized gain on investments, net of deferred federal excise tax expense of $1,909,104 and $6,447,184 in 2010 and 2009, respectively | 93,546,093 | 256,873,313 |
| | 155,524,484 | 265,388,130 |
| Increase in net assets before postretirement benefit adjustments | 91,849,130 | 209,068,990 |
| Amounts not yet recognized as a component of net periodic benefit cost | (991,994) | (110,638) |
| Increase in net assets | 90,857,136 | 208,958,352 |
| Net assets at beginning of year | 1,536,387,494 | 1,327,429,142 |
| Net assets at end of year | $ 1,627,244,630 | 1,536,387,494 |

See accompanying notes to consolidated financial statements.

**ALFRED P. SLOAN FOUNDATION**

Consolidated Statements of Cash Flows

Years ended December 31, 2010 and 2009

| | 2010 | 2009 |
|---|---|---|
| Cash flows from operating activities: | | |
| Increase in net assets | $ 90,857,136 | 208,958,352 |
| Adjustments to reconcile increase in net assets to net cash used in operating activities: | | |
| Net gain on disposal of investments | (61,978,391) | (8,514,817) |
| Unrealized gain on investments | (95,455,197) | (263,358,901) |
| Amounts not yet recognized as a component of net periodic benefit cost | 991,994 | 110,638 |
| Increase in federal excise tax payable | 2,346,474 | 6,485,588 |
| Decrease in grants payable | (11,984,209) | (17,752,819) |
| Increase in accrued postretirement benefit obligation | 713,656 | 799,403 |
| Increase (decrease) in deferred compensation | 181,290 | (684,835) |
| (Decrease) increase in other liabilities | (283,557) | 333,177 |
| Net cash used in operating activities | (74,610,804) | (73,624,214) |
| Cash flows from investing activities: | | |
| Proceeds from sales of investments | 1,257,396,401 | 898,196,895 |
| Purchases of investments | (1,183,156,934) | (824,552,522) |
| Net cash provided by investing activities | 74,239,467 | 73,644,373 |
| Net (decrease) increase in cash | (371,337) | 20,159 |
| Cash at beginning of year | 1,164,404 | 1,144,245 |
| Cash at end of year | $ 793,067 | 1,164,404 |

See accompanying notes to consolidated financial statements.

## (1) Nature of Operations

Alfred P. Sloan Foundation makes grants primarily to support original research and broad-based education related to science, technology, economic performance, and the quality of American life. Alfred P. Sloan Foundation is unique in its focus on science, technology, and economic institutions—and the scholars and practitioners who work in these fields—as chief drivers of the nation's health and prosperity. Alfred P. Sloan Foundation has a deep-rooted belief that carefully reasoned systematic understanding of the forces of nature and society, when applied inventively and wisely, can lead to a better world for all. Alfred P. Sloan Foundation's investment portfolio provides the financial resources to support its activities. The investment strategy for the investment portfolio is to invest prudently in a diversified portfolio of assets with the goal of achieving superior returns.

In June 2009, Sloan Projects LLC was established under the Delaware Limited Liability Company Act. Alfred P. Sloan Foundation and Sloan Projects LLC share the common charitable and educational purpose of supporting, among other projects, film, theatrical, and television projects that promote education about science and technology themes and characters and challenge existing stereotypes about scientists and engineers. Sloan Projects LLC is a single member limited liability company (LLC) with the sole member being Alfred P. Sloan Foundation. Sloan Projects LLC is consolidated with Alfred P. Sloan Foundation for financial statement and tax purposes.

## (2) Summary of Significant Accounting Policies

### *(a) Basis of Accounting*

The accompanying consolidated financial statements have been prepared on the accrual basis of accounting and include the assets, liabilities, net assets, and financial activities of Alfred P. Sloan Foundation and Sloan Projects LLC (collectively, the Foundation). All significant interorganization balances and transactions have been eliminated in consolidation.

### *(b) Income Taxes*

Alfred P. Sloan Foundation is exempt from federal income tax under Section 501(c)(3) of the Internal Revenue Code (the Code) and is a private foundation as defined in Section 509(a) of the Code. Sloan Projects LLC is a single member LLC and is a disregarded entity for tax purposes. The Foundation recognizes the effect of income tax positions only if those positions are more likely than not of being sustained.

### *(c) Fair Value Measurements*

Fair value is defined as the price that would be received to sell an asset in an orderly transaction between market participants at the measurement date. Fair value is a market-based measurement, not an entity-specific measurement, and sets out a fair value hierarchy with the highest priority being quoted prices in active markets. The Foundation discloses fair value measurements by level within that hierarchy. The fair value hierarchy maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are those that market participants would use in pricing the asset or liability based on market data obtained from sources independent of the Foundation. Unobservable inputs reflect the Foundation's assumptions about the inputs market participants would use in pricing the asset or

liability developed based on the best information available in the circumstances. The fair value is categorized into three levels based on the inputs as follows:

- Level 1 – Valuations based on unadjusted quoted prices in active markets for identical assets or liabilities that the Foundation has the ability to access at the measurement date. An active market for the asset or liability is a market in which transactions for the asset or liability occur with sufficient frequency and volume to provide pricing information on an ongoing basis. A quoted price in an active market provides the most reliable evidence of fair value and shall be used to measure fair value whenever available. Since valuations are based on quoted prices that are readily available and regularly available in an active market, valuation of these securities does not entail a significant degree of judgment.

- Level 2 – Valuations based on quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.

- Level 3 – Valuations based on inputs that are unobservable and significant to the overall fair value measurement. Unobservable inputs shall be used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date.

***(d) Investments***

Investments in equity securities with readily determinable fair values are reported at fair value based on quoted market prices. Investments in debt securities are measured using quoted market prices where available. If quoted market prices for debt securities are not available, the fair value is determined using an income approach valuation technique that considers, among other things, rates currently observed in publicly traded markets for debt of similar terms to companies with comparable credit risk, the issuer's credit spread, and illiquidity by sector and maturity.

The Foundation follows the accounting standards of Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Subtopic, 820-10-35-59, *Fair Value Measurement and Disclosures – Fair Value Measurements of Investments in Certain Entities That Calculate Net Asset Value per Share (or its Equivalent).* This allows for the estimation of the fair value of investments in investment companies for which the investment does not have a readily determinable fair value using net asset value per share or its equivalent, as provided by the investment managers. The Foundation reviews and evaluates the values provided by the investment managers and agrees with the valuation methods and assumptions used in determining the net asset values of these investments. These estimated fair values may differ significantly from the values that would have been used had a ready market for these securities existed.

Most investments classified in Levels 2 and 3 consist of shares or units in investment funds as opposed to direct interests in the funds' underlying holdings, which may be marketable. Because the net asset value reported by each fund is used as a practical expedient to estimate fair value of the Foundation's interest therein, its classification in Level 2 or 3 is based on the Foundation's ability to redeem its interest at or near December 31. If the interest can be redeemed in the near term, the investment is classified as Level 2. The classification of investments in the fair value hierarchy is not necessarily an indication of the risks, liquidity, or degree of difficulty in estimating the fair value of each investment's underlying assets and liabilities.

Gains and losses on disposal of investments are determined on the first-in, first-out basis.

***(e) Grants***

Grants are recorded as an expense and liability of the Foundation when authorized by the Trustees.

***(f) Use of Estimates***

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

***(g) Reclassifications***

Certain reclassifications of prior year amounts have been made to conform to the current year presentation.

## (3) Investments

The following tables present the fair value hierarchy of investments, the only financial instruments that are measured at fair value on a recurring basis, at December 31, 2010 and 2009, respectively:

| | Fair value measurements at December 31, 2010 | | | |
|---|---|---|---|---|
| | **Total** | **Level 1** | **Level 2** | **Level 3** |
| Direct investments: | | | | |
| Equities: | | | | |
| Domestic | $ 123,631,651 | 123,631,651 | — | — |
| Fixed income: | | | | |
| U.S. government | 184,365,247 | 184,365,247 | — | — |
| Investment grade corporate bonds | 13,606,419 | — | 13,606,419 | — |
| Mortgage-backed | 5,863,540 | — | 5,863,540 | — |
| Other asset-backed | 2,931,770 | — | 2,931,770 | — |
| Alternative investments: | | | | |
| Equities: | | | | |
| Domestic | 110,367,972 | — | 109,096,226 | 1,271,746 |
| Long/short | 185,868,882 | — | 148,804,391 | 37,064,491 |
| International | 218,972,240 | — | 185,527,300 | 33,444,940 |
| Fixed income: | | | | |
| Global sovereign bonds | 51,561,233 | — | 51,561,233 | — |
| Independent return | 458,863,664 | — | 78,249,791 | 380,613,873 |
| Real estate | 46,146,661 | — | — | 46,146,661 |
| Private equity | 300,848,050 | — | — | 300,848,050 |
| | $ 1,703,027,329 | 307,996,898 | 595,640,670 | 799,389,761 |

| | Fair value measurements at December 31, 2009 | | | |
|---|---|---|---|---|
| | **Total** | **Level 1** | **Level 2** | **Level 3** |
| Direct investments: | | | | |
| Equities: | | | | |
| Domestic | $ 120,140,783 | 120,140,783 | — | — |
| Fixed income: | | | | |
| U.S. government | 78,133,620 | 78,133,620 | — | — |
| Investment grade corporate bonds | 46,149,963 | — | 46,149,963 | — |
| Mortgage-backed | 50,611,976 | — | 50,611,976 | — |
| Other asset-backed | 4,334,527 | — | 4,334,527 | — |
| Alternative investments: | | | | |
| Equities: | | | | |
| Domestic | 122,405,022 | — | 121,373,934 | 1,031,088 |
| Long/short | 201,697,233 | — | 179,023,523 | 22,673,710 |
| International | 169,544,546 | — | 148,963,040 | 20,581,506 |
| Fixed income: | | | | |
| Global sovereign bonds | 56,005,268 | — | 56,005,268 | — |
| Independent return | 449,370,010 | 16,135,890 | 67,321,935 | 365,912,185 |
| Real estate | 34,502,533 | — | — | 34,502,533 |
| Private equity | 286,937,727 | — | — | 286,937,727 |
| | $ 1,619,833,208 | 214,410,293 | 673,784,166 | 731,638,749 |

The following table presents a reconciliation for all Level 3 assets measured at fair value at December 31, 2010:

| | **Beginning Balance** | **Purchases** | **Settlements** | **Total net realized and unrealized gains** | **Ending Balance** |
|---|---|---|---|---|---|
| Alternative Investments: | | | | | |
| Equities: | | | | | |
| Domestic | **$** 1,031,088 | — | (1,205,188) | 1,445,846 | 1,271,746 |
| Long/short | 22,673,710 | 10,000,000 | — | 4,390,781 | 37,064,491 |
| International | 20,581,506 | 10,000,000 | (1,234) | 2,864,668 | 33,444,940 |
| Independent return | 365,912,185 | 43,226,060 | (45,711,254) | 17,186,882 | 380,613,873 |
| Real estate | 34,502,533 | 9,864,935 | (129,904) | 1,909,097 | 46,146,661 |
| Private equity | 286,937,727 | 33,609,746 | (79,779,581) | 60,080,158 | 300,848,050 |
| | **$** 731,638,749 | 106,700,741 | (126,827,161) | 87,877,432 | 799,389,761 |

The following table presents a reconciliation for all Level 3 assets measured at fair value at December 31, 2009:

| | |
|---|---|
| Beginning balance | $ 1,092,332,248 |
| Purchases | 50,596,966 |
| Settlements | (125,874,012) |
| Total net realized and unrealized gains | 55,715,255 |
| Reclassifications to Level 2 | (341,131,708) |
| Ending balance | $ 731,638,749 |

Certain alternative investments were reclassified from Level 3 to Level 2 upon adoption of ASC Subtopic 820-10-35-59.

The following table lists the redemption terms and unfunded commitments for the alternative investments as of December 31, 2010 and 2009:

| | 2010 | | | |
|---|---|---|---|---|
| | **Fair value** | **Unfunded commitments in millions** | **Redemption frequency** | **Redemption notice period** |
| Alternative investments: | | | | |
| Equities: | | | | |
| Domestic | $ 110,367,972 | — | monthly, annually | 30 days |
| Long/short | 185,868,882 | — | quarterly, annually, other | 30-60 days |
| International | 218,972,240 | — | monthly, quarterly, other | 6-60 days |
| Fixed income: | | | | |
| Global sovereign bonds | 51,561,233 | — | monthly | 10 days |
| Independent return | 458,863,664 | 7 | monthly, annually, quarterly, other | 10-180 days |
| Real estate | 46,146,661 | 19 | None | N/A |
| Private equity | 300,848,050 | 66 | None | N/A |
| Total | $ 1,372,628,702 | 92 | | |

| | 2009 | | | |
|---|---|---|---|---|
| | Fair value | Unfunded commitments in millions | Redemption frequency | Redemption notice period |
| Alternative investments: | | | | |
| Equities: | | | | |
| Domestic | $ 122,405,022 | — | monthly, annually | 30 days |
| Long/short | 201,697,233 | — | quarterly, annually, other | 45-60 days |
| International | 197,554,168 | — | monthly, quarterly, other | 6-60 days |
| Fixed income: | | | | |
| Global sovereign bonds | 56,005,268 | 10 | monthly | 10 days |
| Independent return | 449,370,010 | 22 | monthly, quarterly annually, other | 20-180 days |
| Real estate | 34,502,533 | 28 | None | N/A |
| Private equity | 258,928,105 | 98 | None | N/A |
| Total | $ 1,320,462,339 | 158 | | |

**Equities:** Alternative investments in this category invest predominantly in equity securities including U.S., international developed, and emerging markets, benchmarked against MSCI All Country World Index. Equity funds have lock-up provisions that range between 3 months to no more than 3 years.

**Fixed Income:** Alternative investments in this category invest in domestic and international fixed income securities, benchmarked against Citigroup Salomon Broad index.

**Independent Return:** Independent Return funds include investments such as low net exposure equity hedge funds, distressed credit, and merger arbitrage. Such strategies are expected to have equity-like long-term returns but with less correlation to the equity markets. $117.2 million is invested in drawdown structures with no predetermined redemption date.

**Real Estate:** Includes funds that invest primarily in commercial real estate, all of which are illiquid investments.

**Private Equity:** Includes private equity and venture capital, all of which are illiquid investments.

Private foundations are required by the Internal Revenue Service to distribute 5% of average assets during the year. In order to plan and budget in an orderly manner, the Foundation implements the 5% rule by using a 12-quarter rolling average of the fair market value of the investment portfolio to determine the distribution level for the year. The last quarter on the 12-quarter rolling average is September 30.

## (4) Financial Instruments with Off-Balance-Sheet Credit or Market Risk

The Foundation's investment strategy has the ability to incorporate certain financial instruments that involve, to varying degrees, elements of market risk and credit risk in excess of the amounts recorded in the consolidated financial statements.

During 2010, the Foundation bought and sold options contracts. Long put options purchased and short call options sold held at December 31, 2010 were valued at approximately $2.5 million and $(2.2 million), respectively.

Management does not anticipate that losses, if any, resulting from its market or credit risks would materially affect the financial position of the Foundation.

**(5) Taxes**

The Foundation is liable for a federal excise tax of 2% of its net investment income, which includes realized capital gains. However, this tax is reduced to 1% if certain conditions are met. The Foundation met the requirements for the 1% tax for the years ended December 31, 2010 and 2009. Therefore, current taxes are estimated at 1% of net investment income for 2010 and 2009. Additionally, certain of the Foundation's investments give rise to unrelated business income tax liabilities. Such tax liabilities for 2010 and 2009 are not significant to the accompanying consolidated financial statements; however, the provision for taxes, as of December 31, 2010 and 2009, includes an estimate of tax liabilities for unrelated business income.

Deferred taxes principally arise from differences between the cost value and fair value of investments. Since the qualification for the 1% tax is not determinable until the fiscal year in which net gains are realized, deferred taxes represent 2% of unrealized gains at December 31, 2010 and 2009.

**(6) Retirement Plan**

The Foundation has a defined contribution retirement plan covering substantially all employees under arrangements with Teachers Insurance and Annuity Association of America and College Retirement Equities Fund and Fidelity Investments.. Retirement plan expense was $743,183 and $754,822 in 2010 and 2009, respectively.

**(7) Postretirement Benefits Other Than Pensions**

The Foundation provides healthcare benefits for qualified retirees. The Foundation records annual amounts relating to the plan based on calculations that incorporate various actuarial and other assumptions, including discount rates, mortality, turnover rates, and healthcare cost trend rates.

The Foundation reviews its assumptions on an annual basis and makes modifications to the assumptions based on current rates and trends when it is appropriate to do so. The effect of modifications to those assumptions is recorded as a charge to net assets and amortized to net periodic cost over future periods using the corridor method. The net periodic costs are recognized as employees render the services necessary to earn the postretirement benefits.

In 2010, the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act (collectively, the Health Care Acts) were signed into law by President Obama. The Health Care Acts include several provisions that may affect a company's postretirement benefit plans, including imposing an excise tax on high cost coverage, eliminating lifetime and annual coverage limits, reducing subsidies to Medicare Advantage plans, and imposing inflation-adjusted fees of $2 ($1 in fiscal year 2013) for each person covered by a health insurance policy for each policy plan year ending after September 30, 2012 through September 30, 2019. The Foundation has evaluated the effects of the Health Care Acts and

concluded that the provision that has a major impact on its postretirement benefit plan is the excise tax on high cost coverage. The effect of this provision, estimated to be $1.3 million, has been included in the measurement of the postretirement benefit obligation as of December 31, 2010.

The following table sets forth the financial information for the plan for 2010 and 2009:

| | | 2010 | 2009 |
|---|---|---|---|
| Change in accrued postretirement benefit obligation: | | | |
| Benefit obligation at beginning of year | $ | 6,735,887 | 5,825,846 |
| Service cost | | 230,973 | 288,917 |
| Interest cost | | 396,744 | 348,386 |
| Actuarial loss | | 46,151 | 506,157 |
| Assumption change | | 1,326,484 | — |
| Benefits paid | | (294,702) | (233,419) |
| Benefit obligation at end of year | $ | 8,441,537 | 6,735,887 |
| Components of net periodic postretirement benefit cost reported as expense in the consolidated statements of activities include: | | | |
| Service cost | $ | 230,973 | 288,917 |
| Interest cost | | 396,744 | 348,386 |
| Amortization of transition obligation | | 476,061 | 476,061 |
| Amortization of gain | | (95,420) | (80,542) |
| Net periodic postretirement benefit cost | $ | 1,008,358 | 1,032,822 |
| Benefit obligation weighted average assumptions at December 31, 2010 and 2009: | | | |
| Discount rate | | 5.67% | 5.89% |
| Periodic benefit cost weighted average assumptions for the years ended December 31, 2010 and 2009: | | | |
| Discount rate | | 5.89% | 5.98% |

The medical trend and inflation rate is 9% in 2011 grading down to 5.5% in 2015 and thereafter.

Assumed healthcare cost trend rates have a significant effect on the amounts reported for the postretirement benefit plan. The effects of a 1% increase (decrease) in trend rates on total service and interest cost and the postretirement benefit obligation are as follows:

| | | 2010 | | 2009 | |
|---|---|---|---|---|---|
| | | 1% Increase | 1% Decrease | 1% Increase | 1% Decrease |
| Effect on total service and interest cost | $ | 116,422 | (90,706) | 49,836 | (44,627) |
| Effect on postretirement benefit obligation | | 1,391,906 | (1,119,705) | 728,731 | (613,522) |

Projected premium payments for each of the next five fiscal years and thereafter are as follows:

| | | |
|---|---|---|
| Year ending December 31: | | |
| 2011 | $ | 284,904 |
| 2012 | | 310,858 |
| 2013 | | 312,239 |
| 2014 | | 358,625 |
| 2015 | | 381,638 |
| Thereafter through 2020 | | 2,323,727 |
| | $ | 3,971,991 |

The accumulated amount not yet recognized as a component of net periodic benefit cost was $3,985,874 and $2,941,887 at December 31, 2010 and 2009, respectively. The components are as follows:

| | | 2010 | 2009 |
|---|---|---|---|
| Transition obligation | $ | 4,367,467 | 4,843,528 |
| Net actuarial gain | | (381,593) | (1,901,641) |
| | $ | 3,985,874 | 2,941,887 |

The transition obligation and gain that will be amortized into net periodic benefit cost in 2011 is $476,061 and $95,420, respectively.

## (8) Grants Payable

The Foundation estimates that the grants payable balance as of December 31, 2010 and 2009 will be paid as follows:

| | 2010 | 2009 |
|---|---|---|
| Year: | | |
| 2010 | $ — | 51,549,349 |
| 2011 | 41,115,759 | 13,954,491 |
| 2012 | 13,207,514 | 4,058,784 |
| 2013 | 4,275,228 | 1,020,086 |
| | $ 58,598,501 | 70,582,710 |

## (9) Lease

The Foundation entered into a ten-year lease effective January 1, 1999. The lease contains an escalation clause that provides for rental increases resulting from increases in real estate taxes and certain operating expenses. On January 11, 2007, the Foundation renegotiated its lease for the period commencing on January 1, 2009 and expiring on December 31, 2016. As a result of the renegotiation, the fixed rent payable under the lease is an amount equal to (a) $1,270,335 per annum for the period commencing on January 1, 2007 and ending on December 31, 2011 and (b) $1,379,926 per annum for the period commencing on January 1, 2012 and ending on December 31, 2016. Effective November 1, 2008, the Foundation acquired additional space at an annual rent of $386,250. The lease on the additional space expires on December 31, 2016. Rent expense for 2010 and 2009, including escalations, was $1,701,092 and $1,679,908, respectively.

## (10) Line of Credit

The Foundation established a $50,000,000 line of credit with Bank of New York Mellon in 2008 to provide bridge funding of grants and to finance short-term working capital needs of the Foundation. To date, the Foundation has not yet used the line of credit. The interest rate is calculated using the Mellon Monthly LIBOR plus 75 basis points, with a fallback rate of Wall Street Journal Prime minus 125 basis points. The interest rate at December 31, 2010 was 2.26%. If the line is used, interest will be payable monthly on the 15th of each month and principal will be due on demand. If payment is not made within 15 days of the due date, a 4% late fee will be assessed.

## (11) Subsequent Events

The Foundation evaluated subsequent events after the balance sheet date of December 31, 2010 through June 21, 2011, which was the date the consolidated financial statements were available to be issued and determined that there were no additional matters that are required to be disclosed.

**Schedule 1**

**ALFRED P. SLOAN FOUNDATION**

Schedule of Management and Investment Expenses

Years ended December 31, 2010 and 2009

| | | 2010 | 2009 |
|---|---|---|---|
| Management expenses: | | | |
| Salaries and employees' benefits: | | | |
| Salaries | $ | 6,012,892 | 5,960,726 |
| Employees' retirement plan and other benefits | | 2,931,014 | 3,346,645 |
| Total | | 8,943,906 | 9,307,371 |
| Rent | | 1,701,092 | 1,679,908 |
| Program expenses | | 1,092,322 | 1,158,437 |
| Office expenses | | 782,256 | 1,289,379 |
| Website and publications | | 28,782 | 55,800 |
| Professional fees | | 1,072,573 | 935,224 |
| Total management expenses | | 13,620,931 | 14,426,119 |
| Less direct investment and other management expenses allocated to investments | | 4,727,114 | 4,457,344 |
| Management expenses | $ | 8,893,817 | 9,968,775 |
| Investment expenses: | | | |
| Investment management fees | $ | 2,340,857 | 2,539,694 |
| Direct investment and other management expenses allocated to investments | | 4,727,114 | 4,457,344 |
| Investment expenses | $ | 7,067,971 | 6,997,038 |

See accompanying independent auditors' report.

**ALFRED P. SLOAN FOUNDATION**

Schedule of Grants and Appropriations

Year ended December 31, 2010

| Grantee | Unpaid December 31, 2009 | 2010 Authorized | 2010 Payments | Unpaid December 31, 2010 |
|---|---|---|---|---|
| Advocates for Children of New York, Inc. | $ — | 200,000 | 200,000 | — |
| Alaska, University of, Anchorage | 80,000 | — | 80,000 | — |
| Alaska, University of, Fairbanks | 900,000 | — | 900,000 | — |
| American Academy of Arts and Sciences | 141,000 | — | — | 141,000 |
| American Chemical Society | — | 81,000 | — | 81,000 |
| American Council of Learned Societies | — | 750,000 | 750,000 | — |
| American Council on Education | — | 983,584 | 240,373 | 743,211 |
| American Film Institute | 270,000 | — | 90,000 | 180,000 |
| American Indian College Fund | — | 100,000 | 50,000 | 50,000 |
| American Museum of the Moving Image | — | 239,631 | 79,205 | 160,426 |
| American Physical Society | — | 18,000 | 6,000 | 12,000 |
| American Society of Mechanical Engineers | 274,041 | — | 274,041 | — |
| American Museum of Natural History | — | 800,000 | 350,000 | 450,000 |
| Arius Association | — | 73,128 | 73,128 | — |
| Arizona, University of | — | 144,540 | 64,240 | 80,300 |
| Aspen Institute, The | — | 70,000 | 70,000 | — |
| Association of American Colleges and Universities | 20,000 | — | 20,000 | — |
| Association of Metropolitan Water Agencies | — | 125,000 | 125,000 | — |
| Association of Public and Land-Grant Universities | — | 179,017 | 179,017 | — |
| Astrophysical Research Consortium | 1,834,000 | — | 1,834,000 | — |
| Babson College | 80,000 | — | 80,000 | — |
| Bibliotheca Alexandrina | — | 20,000 | 20,000 | — |
| BioBricks Foundation, Inc. | — | 65,000 | 65,000 | — |
| Board of Control for Southern Regional Education | 449,757 | — | 257,385 | 192,372 |
| Boston College | 1,087,163 | 50,000 | 1,137,163 | — |
| Boulder, University of Colorado | 803,850 | — | 803,850 | — |
| Brigham Young University | — | 39,926 | 39,926 | — |
| British Columbia, University of | — | 100,000 | 100,000 | — |
| Brown University | — | 50,000 | 50,000 | — |
| Business-Higher Education Forum | — | 57,972 | 57,972 | — |
| California Institute of Technology | — | 100,000 | 100,000 | — |
| California State University, East Bay Foundation, Inc. | — | 45,000 | 45,000 | — |
| California State University Foundation | — | 175,000 | 175,000 | — |
| California, University of, Berkeley | 583,500 | 2,448,968 | 1,705,389 | 1,327,079 |
| California, University of, Davis | 299,405 | 1,371,214 | 221,095 | 1,449,524 |
| California, University of, Irvine | — | 100,000 | 100,000 | — |
| California, University of, Hastings | — | 45,000 | 45,000 | — |
| California, University of, Los Angeles | 556,850 | 1,120,385 | 1,573,985 | 103,250 |
| California, University of, San Diego | 800,000 | 100,000 | 900,000 | — |
| California, University of, Santa Barbara | — | 50,000 | 50,000 | — |
| California, University of, Santa Cruz | — | 50,000 | 50,000 | — |
| California, University of, Riverside | — | 750,000 | — | 750,000 |
| Carnegie Endowment for International Peace | 140,000 | 250,000 | 390,000 | — |
| Carnegie Institution of Washington | 2,000,000 | 900,000 | 2,900,000 | — |
| Carnegie Mellon University | 210,206 | 334,360 | 351,044 | 193,522 |
| Catticus Corporation | — | 250,000 | 250,000 | — |
| Center for a New American Security, Inc. | 209,206 | — | 155,206 | 54,000 |
| Center for Biosecurity – UPMC | — | 450,000 | 450,000 | — |
| Center for Marine Biodiversity Society | 75,000 | — | 75,000 | — |
| Central Florida, University of | 36,250 | 146,050 | 182,300 | — |
| Clean Air Task Force, Inc. | — | 10,000 | 10,000 | — |
| Chicago, University of | 200,000 | 1,229,389 | 1,085,186 | 344,203 |
| Cincinnati, University of | — | 50,000 | 50,000 | — |
| Cold Spring Harbor Laboratory | — | 320,000 | 20,000 | 300,000 |
| Colorado, University of, at Boulder | — | 682,263 | 222,263 | 460,000 |
| Columbia University | — | 681,857 | 533,966 | 147,891 |
| Committee on Capital Markets Regulation, Inc. | 120,200 | — | 120,200 | — |
| Community Indicators Consortium, Inc. | 59,400 | — | 59,400 | — |
| Concepcion, University of | — | 50,000 | 50,000 | — |
| Connecticut, University of | 410,000 | — | 410,000 | — |
| Consortium for Mathematics and Its Applications, Inc. | 19,580 | — | 19,580 | — |
| Consortium For Ocean Leadership, Inc. | 328,804 | 900,000 | 828,804 | 400,000 |
| Coolidge Corner Theater Foundation | — | 150,318 | 150,318 | — |
| Cornell University | 283,809 | 100,000 | 291,535 | 92,274 |
| Corporate Voices for Working Families | — | 19,750 | 19,750 | — |
| Council of Graduate Schools | 785,040 | 1,151,322 | 1,138,506 | 797,856 |
| Council on Foreign Relations | — | 1,198,506 | — | 1,198,506 |
| CUNY Graduate Center Foundation, Inc. | — | 125,000 | — | 125,000 |
| Dalhousie University | 117,000 | — | 117,000 | — |
| Dartmouth College | — | 119,591 | 65,258 | 54,333 |
| DC Foundation, University of | 172,250 | — | 100,000 | 72,250 |



(Continued)

**ALFRED P. SLOAN FOUNDATION**

Schedule of Grants and Appropriations

Year ended December 31, 2010

| Grantee | Unpaid December 31, 2009 | 2010 Authorized | 2010 Payments | Unpaid December 31, 2010 |
|---|---|---|---|---|
| Duke University | $ 419,000 | 163,249 | 582,249 | — |
| Eclipse TV Production | 20,000 | — | 20,000 | — |
| Emory University | 804,042 | — | 804,042 | — |
| Ensemble Studio Theatre, Inc. | — | 1,701,000 | 567,000 | 1,134,000 |
| Families and Work Institute, Inc. | 2,138,785 | 50,000 | 2,188,785 | — |
| Film Independent, Inc. | 78,000 | — | 78,000 | — |
| Florida, University of | — | 50,000 | 50,000 | — |
| Foundation Center | 65,000 | — | 65,000 | — |
| Fund for the City of New York | 1,223,750 | — | 410,000 | 813,750 |
| Fund for Public Health in New York, Inc. | — | 1,250,058 | — | 1,250,058 |
| Georgetown University | 1,799,815 | 356,451 | 2,014,715 | 141,551 |
| Georgia Institute of Technology | — | 150,000 | 150,000 | — |
| Greater Washington Educational Telecommunications Assn., Inc. | 750,000 | — | 750,000 | — |
| Guelph, University of | 298,450 | — | 298,450 | — |
| Hamptons International Film Festival | 75,000 | 527,456 | 222,977 | 379,479 |
| Harvard University | 271,575 | 1,147,673 | 956,101 | 463,147 |
| Hastings Center | 242,145 | — | 242,145 | — |
| Hawaii, University of, at Manoa | 75,000 | — | 75,000 | — |
| ICPO-INTERPOL | 1,050,000 | — | 650,000 | 400,000 |
| Illinois, University of, Chicago | 150,000 | — | 150,000 | — |
| Illinois, University of, Springfield | 50,000 | — | 50,000 | — |
| Illinois, University of, Urbana-Champaign | 113,336 | 100,000 | 213,336 | — |
| Indiana, University of | — | 50,000 | 50,000 | — |
| Industry Studies Association | 13,150 | — | 6,575 | 6,575 |
| Institute for Operations Research and the Management Sciences | 84,378 | — | 42,189 | 42,189 |
| Integrated Ocean Drilling Program Management International | — | 142,785 | 142,785 | — |
| International City/County Management Association | 72,941 | — | 72,941 | — |
| International Union for Conservation of Nature and Natural Resources – US | — | 90,000 | 90,000 | — |
| Iowa, University of | — | 50,000 | 50,000 | — |
| Iowa State University | — | 50,000 | 50,000 | — |
| J. Craig Venter Institute | 1,256,986 | — | 449,015 | 807,971 |
| Johns Hopkins University | 145,000 | — | 145,000 | — |
| Kansas, University of | — | 50,000 | 50,000 | — |
| L.A. Theatre Works | — | 266,239 | 133,119 | 133,120 |
| Labor Project for Working Families | — | 19,647 | 19,647 | — |
| Landcare Research New Zealand Limited | — | 116,260 | 116,260 | — |
| Levy Economic Institute at Bard College | 111,450 | — | 111,450 | — |
| Louisiana State University | 230,000 | — | 230,000 | — |
| Lyrasis | — | 750,000 | 250,000 | 500,000 |
| Manhattan Theatre Club | 500,000 | — | 100,000 | 400,000 |
| Marine Biological Laboratory | 649,926 | 459,918 | 649,926 | 459,918 |
| Maryland, University of, Baltimore County | — | 14,240 | 14,240 | — |
| Maryland, University of, College Park | 99,278 | 70,000 | 169,278 | — |
| Massachusetts Institute of Technology | 220,000 | 1,108,425 | 755,425 | 573,000 |
| Massachusetts, University of, Amherst | — | 50,000 | 50,000 | — |
| Massachusetts, University of, Lowell | 93,000 | 124,200 | 186,200 | 31,000 |
| Memorial University of Newfoundland | 200,000 | — | 200,000 | — |
| Medical College of Georgia | — | 50,000 | 50,000 | — |
| McGill University | — | 50,000 | 50,000 | — |
| Michigan, University of | 186,178 | 100,000 | 242,504 | 43,674 |
| Minnesota State Colleges and Universities Foundation | — | 99,802 | 50,000 | 49,802 |
| Minnesota, University of | 198,319 | 100,000 | 298,319 | — |
| Missouri, University of, Columbia | — | 25,000 | 25,000 | — |
| Mongolian American Scientific Research Center | — | 75,000 | — | 75,000 |
| Montana Tech. of the University of Montana | — | 41,489 | — | 41,489 |
| Montana, University of | 73,447 | 87,300 | 73,447 | 87,300 |
| National Academy of Sciences | 343,585 | 300,000 | 643,585 | — |
| National Action Council for Minorities in Engineering, Inc. | 9,039,180 | 4,050,463 | 7,026,836 | 6,062,807 |
| National Bureau of Economic Research, Inc. | 1,370,129 | 2,802,010 | 1,778,951 | 2,393,188 |
| National Center for Civic Innovation, Inc. | 1,030,151 | — | 1,030,151 | — |
| National Conference of State Legislatures | 47,132 | — | 47,132 | — |
| National Geographic Society | — | 1,000,000 | — | 1,000,000 |
| National Opinion Research Center | — | 240,917 | 188,267 | 52,650 |
| National Postdoctoral Association | — | 125,000 | 100,000 | 25,000 |
| New America Foundation | 170,000 | — | 80,000 | 90,000 |



(Continued)

**ALFRED P. SLOAN FOUNDATION**

Schedule of Grants and Appropriations

Year ended December 31, 2010

| Grantee | Unpaid December 31, 2009 | 2010 Authorized | 2010 Payments | Unpaid December 31, 2010 |
|---|---|---|---|---|
| New England State Government Finance Officers | $ 52,300 | — | 52,300 | — |
| New Hampshire, University of | 374,000 | — | 374,000 | — |
| New Venture Fund | — | 117,640 | 117,640 | — |
| New York Botanical Garden | — | 800,000 | 350,000 | 450,000 |
| New York University | 531,450 | 803,468 | 599,711 | 735,207 |
| Northwestern University | 50,000 | 145,000 | 195,000 | — |
| North Carolina Agricultural and Technical State University | — | 50,000 | — | 50,000 |
| North Carolina State University | — | 198,778 | — | 198,778 |
| North Carolina, University of, at Chapel Hill | — | 50,000 | 50,000 | — |
| Notre Dame, University of | — | 295,876 | 180,349 | 115,527 |
| Office for Oregon Health Policy Research | 50,000 | — | 50,000 | — |
| Ohio State University | — | 100,000 | 100,000 | — |
| Open Knowledge Commons, Inc. | 1,094,085 | — | 231,525 | 862,560 |
| Oregon State University | 120,030 | 700,000 | 442,920 | 377,110 |
| Oregon, University of | 119,948 | 1,800,000 | 619,948 | 1,300,000 |
| Pennsylvania State System of Higher Education | — | 50,000 | 50,000 | — |
| Pennsylvania State University | — | 90,000 | 90,000 | — |
| Pennsylvania, University of | — | 1,320,735 | 706,419 | 614,316 |
| Peter G. Peterson Institute for International Economics | — | 245,000 | 91,000 | 154,000 |
| Philanthropic Research, Inc. | — | 5,000 | 5,000 | — |
| Pioneer Institute | 15,000 | — | 15,000 | — |
| Pittsburgh, University of | 308,290 | 50,000 | 358,290 | — |
| Pittsburgh, University of, Medical Center | 250,000 | — | 250,000 | — |
| Playwrights Horizons | 100,000 | — | — | 100,000 |
| Polytechnic Institute of New York University | 65,000 | — | 65,000 | — |
| Population Reference Bureau, Inc. | 215,000 | — | 113,000 | 102,000 |
| Princeton University | — | 350,000 | 350,000 | — |
| Public Library of Science | — | 400,000 | 400,000 | — |
| Public Media Lab | — | 797,836 | 398,918 | 398,918 |
| Public Technology Institute | — | 56,523 | 56,523 | — |
| Purdue University | 84,831 | 203,000 | 134,831 | 153,000 |
| Radcliffe Institute for Advanced Study | — | 36,288 | 36,288 | — |
| Regis University | 85,000 | — | 85,000 | — |
| Research Foundation of the City University of New York | — | 85,045 | 85,045 | — |
| Research Foundation City University of New York, Lehman College | — | 50,000 | 50,000 | — |
| Research Foundation of State University of New York | — | 180,000 | 140,000 | 40,000 |
| Resources for the Future, Inc. | 167,072 | — | 167,072 | — |
| Rhode Island, University of | 287,662 | — | 287,662 | — |
| Rice University | — | 150,000 | 150,000 | — |
| Rutgers, The State University of New Jersey | 390,443 | — | 390,443 | — |
| Science Festival Foundation | 325,000 | 650,000 | 975,000 | — |
| Science Friday Initiative, Inc. | — | 630,000 | 210,000 | 420,000 |
| Scientific Committee on Antarctic Research (SCAR) | 350,000 | — | 350,000 | — |
| Scientific Committee on Oceanic Research (SCOR) | 120,625 | — | 120,625 | — |
| Simon Fraser University | — | 50,000 | 50,000 | — |
| Sloan Consortium, Sloan-C | 2,900,000 | — | 1,000,000 | 1,900,000 |
| Sloan Projects LLC | 2,500,000 | (2,500,000) | — | — |
| Smithsonian Institution | 500,000 | 1,738,000 | 1,320,000 | 918,000 |
| South Shore Educational Collaborative | — | 60,000 | 60,000 | — |
| Southampton, University of | 324,000 | — | 324,000 | — |
| Southern California, University of | 405,611 | — | 218,537 | 187,074 |
| Southern Maine, University of | 200,000 | — | 200,000 | — |
| Southern Methodist University | — | 50,000 | 50,000 | — |
| Springfield, University of Illinois | 65,000 | — | 65,000 | — |
| Stanford University | 450,000 | 294,575 | 744,575 | — |
| State University of New York, Oswego | — | 350,000 | 190,000 | 160,000 |
| Sundance Institute | 243,500 | 750,000 | 493,500 | 500,000 |
| Swarthmore College | 313,029 | — | 131,120 | 181,909 |
| Syracuse University | 74,596 | — | 74,596 | — |
| Texas AgriLife Research | — | 124,287 | 60,700 | 63,587 |
| Texas A&M University-Corpus Christi | — | 100,000 | 100,000 | — |
| Texas, University of, Austin | — | 405,369 | 405,369 | — |
| The Brookings Institution | 887,306 | 576,793 | 663,146 | 800,953 |
| The New School Center for NY City Affairs | — | 950,000 | 800,000 | 150,000 |
| Thurgood Marshall College Fund | 34,750 | 299,992 | 176,934 | 157,808 |
| Toronto, University of | — | 250,000 | 250,000 | — |
| Tribeca Film Institute, Inc. | 300,000 | 192,784 | 248,225 | 244,559 |
| Urban Institute | — | 416,230 | 208,115 | 208,115 |
| Vancouver Aquarium Marine Science Centre | 550,000 | — | 550,000 | — |
| Vanderbilt, University of | — | 100,000 | 100,000 | — |



(Continued)

Schedule 2

**ALFRED P. SLOAN FOUNDATION**

Schedule of Grants and Appropriations

Year ended December 31, 2010

| Grantee | Unpaid December 31, 2009 | 2010 Authorized | 2010 Payments | Unpaid December 31, 2010 |
|---|---|---|---|---|
| Virginia Institute of Marine Science at the College of William and Mary | $ 400,000 | — | 400,000 | — |
| Virginia, University of | — | 50,000 | 50,000 | — |
| Washington State University | — | 69,357 | 69,357 | — |
| Washington, University of | 33,791 | 156,800 | 190,591 | — |
| WGBH Educational Foundation | 850,000 | 1,800,000 | 950,000 | 1,700,000 |
| Wharton School of the University of Pennsylvania | 486,367 | — | 486,367 | — |
| Wikimedia Foundation | 1,000,000 | — | 1,000,000 | — |
| Wisconsin, University of, Madison | — | 100,000 | 100,000 | — |
| Wisconsin, University of, St Louis | — | 50,000 | 50,000 | — |
| WNYC Public Radio | 225,000 | 1,577,700 | 757,815 | 1,044,885 |
| Woodrow Wilson International Center for Scholars | 275,000 | 1,469,967 | 1,244,967 | 500,000 |
| Yale University | 225,608 | 230,106 | 455,714 | — |
| York College of The City University of New York | — | 124,218 | 124,218 | — |
| York University | — | 50,000 | 50,000 | — |
| Total | 57,503,733 | 57,971,720 | 73,270,482 | 42,204,971 |
| Sloan Research Fellowships to be Granted in Ensuing Year | 5,900,000 | — | — | 5,900,000 |
| Officer Grant Appropriation for Grants in Ensuing Year | 3,200,000 | — | — | 3,200,000 |
| Other Appropriations Authorized but not committed | 6,478,977 | 1,541,094 | 726,541 | 7,293,530 |
| | 15,578,977 | 1,541,094 | 726,541 | 16,393,530 |
| Reduction for Grant Transfers | — | (92,384) | (92,384) | — |
| Elimination of Sloan Projects LLC activity | (2,500,000) | 2,500,000 | — | — |
| | $ 70,582,710 | 61,920,430 | 73,904,639 | 58,598,501 |

See accompanying independent auditors' report.

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