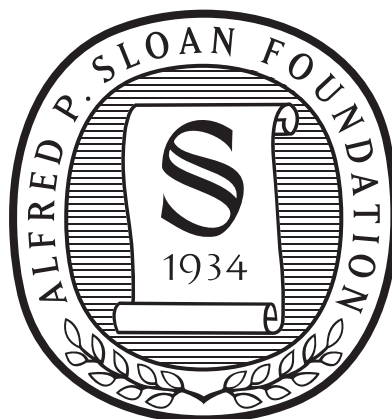


2008 ANNUAL REPORT

ALFRED P. SLOAN FOUNDATION



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Note: The 2008 Financial Report containing balance sheets, statements of activities and cash flows, and schedules of management and investment expenses, is not yet available. It will be posted on the Web site as soon as the auditors' report is received and accepted by the Board of Trustees.

SLOAN RESEARCH FELLOWSHIPS

Sloan Research Fellowships

\$5,900,000

The Sloan Research Fellowship Program aims to stimulate fundamental research by young scientists with outstanding promise to contribute significantly to the advancement of knowledge. Since the establishment of this program in 1955, fellowships have been awarded to more than 4,300 early-career researchers and have accounted for expenditures of about \$125 million. Thirty-eight Fellows have received Nobel prizes; 16 have been awarded the prestigious Fields Medal in mathematics; 8 recent Fellows subsequently have won the John Bates Clark Medal, generally considered the top honor for young economists; and hundreds have received other notable prizes, awards, and honors in recognition of their major research accomplishments. The program is described in detail in the [Sloan Research Fellowships Brochure](#).

Senior scientists familiar with their work nominate candidates for Sloan Research Fellowships. Within each discipline, a committee of three distinguished scientists reviews all nomination documents and recommends the final selections. During 2008, the Foundation awarded Research Fellowships of \$50,000 each, over a two-year term, to 118 faculty members at 64 institutions in seven fields: chemistry (23), computer science (16), economics (8), mathematics (20), computational and evolutionary molecular biology (12), neuroscience (16), and physics (23). Each fellowship is administered by the Fellow's institution and is designed to allow the greatest possible freedom and flexibility in its use. The following committees reviewed nominations for the 2008 fellowships:

Chemistry: Laura L. Kiessling, University of Wisconsin, Madison; Mark A. Ratner, Northwestern University; Joan Valentine, University of California, Los Angeles.

Computational and Evolutionary Molecular Biology: David Baker, University of Washington; Martin Kreitman, University of Chicago; Terence P. Speed, University of California, Berkeley.

Computer Science: David Dobkin, Princeton University; Hector Garcia-Molina, Stanford University; Jeannette M. Wing, Carnegie Mellon University.

Economics: Daron Acemoglu, Massachusetts Institute of Technology; David K. Levine, Washington University, St. Louis; Mark Watson, Princeton University.

Mathematics: Ingrid Daubechies, Princeton University; Benedict Gross, Harvard University; Dusa M. McDuff, Stony Brook University.

Neuroscience: David J. Anderson, California Institute of Technology; Catherine Carr, University of Maryland; Michael P. Stryker, University of California, San Francisco.

Physics: J. Richard Bond, University of Toronto; Daniel C. Ralph, Cornell University; Michael E. Peskin, Stanford University.

Albert Einstein College of Medicine

Neuroscience: Odelia Schwartz

Arizona State University

Chemistry: Hao Yan

Arizona, University of

Mathematics: Toufic Mubadda Suidan

Boston College

Chemistry: Torsten Fiebig

British Columbia, University of

Physics: Scott M. Oser

Brown University

Computer Science: Anna Lysyanskaya

California Institute of Technology

Physics: Christopher M. Hirata

California, University of, Berkeley

Computer Science: Sanjit A. Seshia

Economics: Raj Chetty

Stefano DellaVigna

Mathematics: Noureddine El Karoui

Molecular Biology: Yun S. Song

Neuroscience: Diana Bautista

Physics: Feng Wang

California, University of, Davis

Chemistry: Xi Chen

California, University of, Irvine

Chemistry: Alan F. Heyduk

Computer Science: Bill Tomlinson

California, University of, Los Angeles

Mathematics: Inwon C. Kim

Physics: Yaroslav Tserkovnyak

California, University of, San Diego

Mathematics: Ben Weinkove

Neuroscience: Adam R. Aron

Physics: Congjun Wu

California, University of, San Francisco

Molecular Biology: Katherine S. Pollard

Neuroscience: Yuriy Kirichok

California, University of, Santa Barbara

Mathematics: Paolo Cascini

Carnegie Mellon University

Computer Science: Alexei A. Efros

Eric Poe Xing

Chicago, University of

Chemistry: Aaron Dinner

Mathematics: Andrej Zlatoš

Physics: Margaret L. Gardel

Colorado, University of

Physics: Nils W. Halverson

Kyle McElroy

Columbia University

Computer Science: Luca Carloni

Cornell University

Computer Science: Robert Kleinberg

Physics: Matthias Liepe

Davidson College

Mathematics: Timothy P. Chartier

Duke University

Chemistry: Katherine Franz

Computer Science: Vincent Conitzer

Mathematics: Mauro Maggioni

Neuroscience: R. Allison Adcock

Emory University

Chemistry: Justin P. Gallivan

Florida, University of

Computer Science: Christopher Jermaine

Physics: Ivan K. Furic

Georgia Institute of Technology
Computer Science: Nick Feamster
Adam Kalai
Molecular Biology: I. King Jordan

Harvard University
Computer Science: Todd Zickler
Molecular Biology: Xiaole Shirley Liu
Neuroscience: Chenghua Gu
Naoshige Uchida
Yun Zhang

Houston, University of
Chemistry: Olafs Daugulis

Illinois, University of, at Chicago
Mathematics: Laura DeMarco

Illinois, University of, at Urbana-Champaign
Computer Science: ChengXiang Zhai

Indiana University
Chemistry: Dongwhan Lee

Kansas, University of
Molecular Biology: Yang Zhang

Lehigh University
Chemistry: Tianbo Liu

Maryland, University of
Physics: Arpita Upadhyaya

McMaster University
Chemistry: Paul W. Ayers

Massachusetts Institute of Technology
Chemistry: Mohammad Movassaghi
Michael Strano
Economics: Mikhail Golosov
Molecular Biology: Manolis Kellis
Aviv Regev
Neuroscience: Edward S. Boyden
Mehmet Fatih Yanik
Physics: Martin W. Zwierlein

Michigan State University
Physics: Alexandra Gade

Michigan, University of
Molecular Biology: Patricia J. Wittkopp

New York University
Neuroscience: Jeremy Dasen
Greg S. Suh

North Carolina, University of
Mathematics: Dmytro Arinkin
Molecular Biology: Zefang Wang

Northwestern University
Economics: Wojciech Olszewski
Mathematics: Kevin J. Costello
Neuroscience: Jianhua Cang

Ohio State University
Chemistry: Dongping Zhong
Mathematics: Jean-Francois Lafont

Ohio University
Physics: Douglas Clowe

Ottawa, University of
Chemistry: Keith Fagnou

Pennsylvania State University
Mathematics: Kirsten Eisentrager

Pennsylvania, University of
Chemistry: Tobias Baumgart
Mathematics: Joachim Krieger

Princeton University
Chemistry: Yueh-Lin Loo
Economics: Ulrich Muller
Physics: Jason R. Petta
Roman R. Rafikov
Joshua W. Shaevitz

Rensselaer Polytechnic Institute
Mathematics: Fengyan Li

Rice University

Chemistry: Eugene R. Zubarev

Rutgers University

Physics: Kristjan Haule

Salk Institute for Biological Studies

Neuroscience: Tatyanna O. Sharpee

Scripps Research Institute

Chemistry: Jin-Quan Yu

Sherbrooke, Université de

Physics: Alexandre Blais

South Carolina, University of

Chemistry: Qian Wang

Stanford University

Chemistry: Christina D. Smolke

Computer Science: Scott Klemmer

Economics: Nicholas Bloom

Molecular Biology: Gill Bejerano

Hua Tang

Stony Brook University

Mathematics: Marcus A. Khuri

Physics: Derek Teaney

Texas A & M University

Mathematics: Wolfgang Bangerth

Laura F. Matusevich

Texas, University of, at Austin

Chemistry: Christopher W. Bielawski

Lara K. Mahal

Mathematics: Natasa Pavlovic

Neuroscience: Johann A. Hofmann

Physics: Xiaoqin Li

Toronto, University of

Mathematics: Valentin Blomer

Virginia, University of

Physics: Phil Arras

Washington University in St. Louis

Economics: Haluk Ergin

Washington, University of

Computer Science: Tadayoshi Kohno

Waterloo, University of

Computer Science: Andris Ambainis

West Virginia University

Physics: Maura Ann McLaughlin

Yale University

Economics: Dean Karlan

Molecular Biology: Thierry Emonet

York University

Neuroscience: Kari Hoffman

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS RESEARCH

BARCODE OF LIFE

TRUSTEE GRANT

Smithsonian Institution
Washington, DC 20560

\$2,250,000

The Consortium for the Barcode of Life, based at the Smithsonian Institution, includes over 160 member organizations in more than 45 countries. It includes major collections of specimens, such as those at the Smithsonian's National Museum of Natural History and Kew Botanical Garden, as well as leading laboratories for environmental genomics, and such users of barcode information as the Florida Fish and Wildlife Conservation Commission. Over the five years of support from the Foundation, the Consortium has stimulated the accumulation of a library of barcodes that not only yields reliable identification of specimens against those established in the reference library, but also allows for discovery of potential new species in cases where no match exists. As of March 2008, the Barcode of Life Database contained barcodes of over 350,000 specimens from more than 37,000 species, including, for example, more than 2,000 of the estimated 10,000 species of birds. Since 2002, when the barcoding technique was discovered and the first Foundation grant was made to initiate this barcoding project, Sloan grants totaling over \$5 million have sped barcoding into a viable and successful scientific enterprise. Of this total, the Consortium has received over \$2 million of Foundation support. It has led the barcoding project by advancing standards for laboratory practice and data gathering; creating demonstration projects with mosquitoes, fruit flies, and other important species; networking the leading laboratories; promoting development of technology to make barcoding faster and cheaper; increasing participation by scientists in developing countries; organizing major international conferences on barcoding (attended in 2007 in Taiwan by 350 participants from 44 countries); and by promoting public understanding of barcoding. The Consortium's work is closely coordinated with the Sloan-supported Census of Marine Life (which provides marine specimens for barcoding) and with the online Encyclopedia of Life (which includes links to DNA barcodes for the species for which barcodes exist).

The current renewal grant will support the Consortium for the next two years as it accelerates the building of a global library of barcodes for all animals, plants, and fungi. Its established activities will be continued and new efforts will be initiated to encourage the use of barcodes by governmental regulatory agencies, for example, as a way to guarantee truthful food labeling, and to use the database to deepen understanding of nature by analysis of the exact alignment of DNA sequences from tens of thousands of animal species, that may, for example, shed light on particular sites related to molecular evolution. The barcode community aims to have reference sequences for more than 500,000 of the estimated 1.8 million known animals, plants, and fungi by 2014. The

Consortium will continue to obtain funds for its own activities from other sources and also will continue playing a key role in efforts to win major financial support for worldwide barcoding work. Project Director: Scott E. Miller, Under Secretary for Science.

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS RESEARCH

CENSUS OF MARINE LIFE

TRUSTEE GRANTS

Consortium for Ocean Leadership, Inc. **\$3,900,000**
Washington, DC 20008

The Census of Marine Life's International Scientific Steering Committee and Secretariat, based at the Consortium for Ocean Leadership, have provided the overall management of the Census as it works to assess and explain the diversity, distribution, and abundance of marine life. For their management activities, five past major Foundation grants to the Consortium have amounted to just under \$7 million, out of over 150 Sloan grants totaling about \$55 million for the Census. The responsibilities of the Steering Committee and Secretariat embrace not only the Sloan-supported activities, but the entirety of the Census, which has received about \$450 million from non-Sloan sources around the world, including national governments, international organizations, and maritime industries. The final phase of the Census, until its formal end in 2010, will require a shift in responsibilities from developing and promoting the vision of the program and overseeing timely and coordinated implementation to emphasizing the integration of results and planning for the conclusion of the program and the production of a first comprehensive census. The Census leadership has helped all 14 Census field projects to flourish, built an enthusiastic global network of thousands of scientists from more than 80 nations through a set of national and regional implementation committees, and developed strategies for the Census to bequeath legacies in data management and ocean observing systems after 2010.

The Steering Committee and Secretariat have developed detailed plans for the remaining time of the Census, with clear objectives, milestones, schedules, and staffing requirements for achieving the goals of the Census project. The leadership will help complete the fund-raising for the Census and continue coordination while also overseeing integrative activities. The Steering Committee has established a "Synthesis" subcommittee charged with bringing together in a coherent way the insights and information of the Census. The entire Census community has agreed to a set of products to be produced by 2010, ranging from lists of all known marine species to online and print maps showing new views of the distribution of life in the oceans. The current renewal grant funds the management of the final phase of the Census as all components of the project are brought together to a successful conclusion, and supports the leadership and coordination efforts to meet the October 2010 deadline. Project Director: Robert Gagosian, President.

Dalhousie University
Halifax, Nova Scotia B3H 4H6

\$1,017,000

Past grants in 2002 and 2005 have supported the creation and work of an international network on the Future of Marine Animal Populations. This network, based at Dalhousie University, has had dual goals: to provide statistical and modeling tools and insights to inform the survey design and consistency of field projects, and to carry out some of the more synthetic and predictive studies of the Census. The Futures network has published many papers in *Science*, *Nature*, and other major journals. It reported the first global assessment of marine predator depletion (90% losses in many cases), the first global maps of predator diversity, the first detailed historical records of human-induced changes in estuaries and coastal seas worldwide, and the first global estimate of total fish species richness. With the current final grant, the Futures network will focus on offering glimpses of the future and what remains to be discovered. Its work will continue to be organized around the three central themes of the Census: diversity, distribution, and abundance. Questions to be addressed include: What is the known extent of marine species richness and how might it change? How might marine predators respond to future ocean states? Using 20-30 years as a time horizon, assumptions will be made about human diet, fishing efforts, pollution, climate, and other factors influencing marine life. The network will summarize its findings in a grand synthesis paper on the future of marine animal populations and will also contribute to numerous publications as the Census draws closer to its 2010 final report. The Dalhousie group's co-leader serves on the Census Synthesis group, so the activities of the Futures group are fully integrated with overall plans. Sloan Foundation grants have provided about one-third of the total support of the Futures network, which includes participation of about 8 postdoctoral fellows and 10 graduate students as well as a large number of international collaborators. Project Director: Boris Worm, Assistant Professor, Biology Department.

Louisiana State University
Baton Rouge, LA 70803

\$1,230,000

Continents are girdled by a "margin," the region where the sea floor slopes from a depth of about 200 meters on the continental shelf to a depth of about 4,000 meters characteristic of the abyssal plains. Some margins are narrow and steep, others slope gently over hundreds of kilometers. The resulting gradients in depth and pressure produce a huge range of habitats and much diversity of marine life. Some margins are geologically active and produce abundant hydrocarbons that have led to exploration and exploitation by oil and gas companies. In 2005, marine biologists concerned with the margins united and, with Foundation support, formed a Census of Marine Life field project on "continental margins on a worldwide scale." This project, known as COMARGE, has involved more than 51 research institutions in 24 countries and has produced many records of new species. COMARGE, for example, has mapped almost 900 different species of "squat lobsters" (galatheids), animals about midway between crabs and lobsters and that live on the margins. The project has also discovered huge mats of filamentous bacteria living off the seeps of methane in geologically active margins. Organization of the COMARGE project is shared between France and the United States.

French institutes have committed substantial resources to the project. Millions of dollars have been provided by the Brazilian oil company Petrobras, France's TOTAL, and other gas and oil companies. (To increase their operations on the margins, these companies are required to provide environmental assessments, including baseline descriptions of the marine life.) COMARGE is already adding data to the Census of Marine Life's shared database, the Ocean Biogeographical Information System, and contributing specimens and DNA for the marine barcoding project. With this final grant, COMARGE will coordinate as many as 20 more expeditions to unexplored margin regions. It will prepare summary papers, reports, and books and produce for the culmination of the Census of Marine Life project in October of 2010 the first synthesis of knowledge of the patterns of species distribution and diversity on the margins. Project Director: Professor Robert S. Carney, Department of Oceanography and Coastal Sciences.

Memorial University of Newfoundland

\$1,200,000

St. John's, Newfoundland A1C 5S7

The Census of Marine Life (CoML) involves projects and discoveries covering the vast diversity of life in the oceans, from the surface to ten thousand meters deep, from the Arctic to the Equator, from the near-shore to the mid-ocean, from tiny diatoms to huge blue whales, etc. A 2006 grant to a team at the Memorial University of Newfoundland supported the preparation of a strategy for the scheduled culmination of the CoML in October of 2010. This team interviewed all groups involved in Census research projects as well as those concerned with potential findings of the Census. It contacted publishers and other media about sharing CoML discoveries and results. The team's synthesis strategy has now been vetted by the entire CoML community and been endorsed by the International Steering Committee. The current grant supports the implementation of this strategy by an International Synthesis Group that will assure that the sum of CoML is greater than its parts, and that cross-cutting and summary products appropriate for a range of audiences are available in many media on schedule by October 2010. The strategy makes each component CoML project responsible in a consistent style for a synthesis of its own work, for example, about life on seamounts. The Memorial University of Newfoundland team is responsible for overseeing a set of cross-cutting reports on diversity, distribution, and abundance that respond to "frequently asked questions," for example, on global traffic patterns of marine life. The team is also responsible for working with print and other media, including maps, special issues of both technical and widely read natural history magazines, and television programs, aimed at summarizing for different world audiences at various levels of expertise the discoveries and findings of the entire CoML project. Project Director: Associate Professor Paul Snelgrove, Canada Research Chair in Boreal and Cold Ocean Systems, Ocean Sciences Centre.

Rutgers, the State University of New Jersey

\$950,000

New Brunswick, NJ 08901

From the outset of the Census of Marine Life (CoML) project, it was clear that it needed an integrated data management strategy to fulfill its task and that such a data management framework could become one of the enduring global legacies of the project. The Ocean

Biogeographical Information System (OBIS) of the Census now contains more than 14 million records of more than 80,000 species from over 230 databases. It receives new records not only from all the CoML field projects, but also from 13 regional nodes around the globe created to feed and use OBIS. Researchers in the OBIS community have co-authored several papers with researchers from other parts of the Census, for example, to offer an early global picture of diversity on coral reefs connected to spatial information about management regimes. Rutgers University has hosted the secretariat for this far-flung enterprise and the current grant will renew support to continue the OBIS work through the release of the first Census of Marine Life in the fall of 2010. In a sense, the OBIS records in October 2010 of “what has been discovered where,” accompanied by interpretation and explanation, *are* the Census. By that time, OBIS expects to expand its coverage to all 230,000-250,000 marine species likely to have authenticated names and to receive millions more records of distribution and abundance. Working with the CoML’s mapping and visualization network, OBIS will offer visitors a variety of ways to access and understand its data. OBIS is also partnering with the Encyclopedia of Life to provide a short biography of every species as well as links to deep sources of information including, for example, the gene sequences of marine animals obtained by means of marine barcoding. A major second goal is to develop a reliable institutional base that can sustain OBIS after 2010. With this grant, OBIS will follow up with the U.S. government concerning continuation of operational support and with the Intergovernmental Oceanographic Commission (IOC) of the United Nations as a result of the recent resolution of its governing Assembly that may make possible the acceptance of OBIS as an office or program of the IOC in 2011. Project Director: Edward Vanden Berghe, Executive Director, Ocean Biogeographic Information System, School of Environmental and Biological Sciences.

Scientific Committee on Oceanic Research
Baltimore, MD 21218

\$267,000

Since the year 2000, the Foundation has supported an international panel of the Scientific Committee on Ocean Research (SCOR) to stimulate innovation and diffusion of innovations in the Census of Marine Life (CoML). The panel includes experts in a range of marine science topics and has facilitated communication among different CoML projects. Because the panel includes experts in a wide range of techniques, including acoustics, optics, submersibles, tagging and telemetry, and genetics, its regular reviews of CoML field projects have raised awareness of technological opportunities among project scientists. SCOR has twice convened CoML leaders with leaders of other major international oceanographic programs concerned with subjects such as climate change and tsunamis to share knowledge and encourage cooperation in areas of common concern. The current grant will help the Census synthesize and disseminate its technological achievements and to share lessons of the Census with other major international ocean research programs. The SCOR panel will produce a book or special issue of a journal (with open access on the web) reviewing the state of the art of technologies for observing marine life. Members will work to encourage adoption of CoML-pioneered technologies in the emerging Global Ocean Observing System. SCOR will again convene leaders of major international ocean research program in order to

share lessons learned from the CoML. Finally, the panel will foster integration of CoML's path-breaking tagging technologies so that animals might be followed continuously from the upper reaches of rivers to the middle of the ocean. Project Director: Edward Urban, Executive Director, SCOR, College of Marine and Earth Studies, University of Delaware.

University of Alaska, Fairbanks
Fairbanks, AK 99775

\$1,000,000

Launched in 2002 with Japanese leadership, the near-shore field project of the Census of Marine Life (CoML) planned to make frequent standard measurements from the high tide line to a depth of 20 meters, thereby creating the first global quantitative baseline of coastal biodiversity, answering questions about diversity patterns and scales of variability, and identifying hotspots of biodiversity meriting increased monitoring or protection. This Natural Geography of In-Shore Areas (NaGISA) project will have sampled 200 sites by 2010 and its observations are ten times larger than any other standard coastal survey ever conducted. Surprising observations have emerged, for example, that important groups of seaweeds demonstrate increased diversity as distance grows from the Equator, unlike most other forms of life, where diversity peaks in the tropics. Because its sites can be reached by land and sampling requires no more than SCUBA gear, NaGISA has been able to welcome the efforts of many people who want to participate directly in the Census. High school students in Florida, Crete, and Zanzibar have contributed observations. Twenty-five NaGISA sites have also tentatively been identified to serve to the year 2050 as long-term ecological monitoring sites for climate change. Key leadership has been provided by networking groups organized into eight world regions, with centers in Japan, Alaska, and Venezuela. Most funding has come from Japan and local sources, with \$1.7 million from the Sloan Foundation. This renewal grant supplies an increased level of Sloan support for CoML's synthesis phase, as local funders lack incentive to fund creation of the global picture. NaGISA will produce CoML's standard synthesis products, ranging from review articles to books and maps. The work will engage not only coastal ecologists with deep local knowledge who have collected data, but also theoretical ecologists, statisticians, and others appropriate for drawing macroscopic conclusions. Spanning sites from Antarctica to Ecuador to Alaska, with Poland, Ireland, Egypt, Cuba, Vietnam, Argentina, and Australia in between, NaGISA's example of international scientific cooperation is exemplary. This project will contribute important findings to the 2010 Census and leave a valuable legacy of social capital, observational protocols, and ecological sampling sites about the only marine life that most people naturally see. Project Director: Professor Katrin Iken, School of Fisheries and Ocean Sciences.

University of Hawaii
Honolulu, HI 96822

\$725,000

The abyss, vast abyssal plains averaging a depth of about 4000 meters, makes up about 75 percent of the ocean floor. These regions have soft bottoms consisting of sediment that can be several kilometers deep, the result of an accumulation of material that has fallen

through the water over eons. A Foundation grant in 2004 established the Census of the Diversity of Abyssal Marine Life (CeDAMar) to sample the abyssal seafloor with a standard set of gear. Prior to this little was known about the fauna of the abyssal plains. Especially in the deep waters of the southern hemisphere, samples were extremely scanty and limited to catches from large-mesh trawls and dredges. During the past five years, CeDAMar has launched and coordinated expeditions in more than a dozen distinct regions of the abyss to document and lift understanding of factors regulating its species diversity, and provide a better baseline for global change research. The current grant will allow the CeDAMar team, based at the University of Hawaii and the recently established German Center for Marine Biodiversity in Wilhelmshaven, to complete more expeditions during 2009 and to integrate findings globally for the First Census of Marine Life in 2010. The project has already published more than 220 scientific papers. The team has raised tens of millions of dollars for the ship time and equipment needed for the expensive field work in the abyss. About \$1.6 million in Sloan Foundation resources has been used for community building, database development, and education and outreach. For 2010 the abyssal team will produce a set of synthesis products, including review articles and special journal issues as well as imaginative visual material expected to become widely available through Google’s forthcoming ocean counterpart to Google Earth. Project Director: Craig R. Smith, Professor of Oceanography.

University of Southern Maine **\$1,000,000**
 Portland, ME 04101

Center for Marine Biodiversity **\$375,000**
 Dartmouth, Nova Scotia B2Y 4A2

Studying the marine ecosystem of the Gulf of Maine over the full range of its biodiversity was the first of fourteen field programs supported by the Scientific Steering Committee of the Census of Marine Life and the Foundation. Following three previous grants totaling \$2.9 million, the current grant supports the completion of this particular Census field program. The Gulf of Maine project provided the first test of the Ocean Biogeographical Information System. It produced the first comprehensive list of species found in a region, now exceeding 3,000 species. It provided the framework for one of the Census’ revolutionary technologies, ocean acoustic waveguide remote sensing, and produced two amazing demonstrations that imaged schools of millions of herring over tens of thousands of square kilometers. The final phase of the project will complete the description of the Gulf of Maine area for the Census. It will also continue to cooperate with projects studying other marine ecosystems (the near shore, sea mounts, and historical marine animal populations, for example) to help build a global picture for the Census. The Gulf of Maine project team is the first to prepare a “Synthesis plan” for 2010 following the recent Census-wide development of guidelines to assure that contributions from all the projects can be compared and integrated. The project has raised about \$8 million in matching funds and aims to raise about \$3 million more. For the final phase, the University of Southern Maine team is adding a Canadian co-leader from the Center for Marine Diversity in Nova Scotia. Both the U.S. National Marine Fisheries Service and the Canadian Department of Fisheries and Oceans have supported the Gulf of Maine

project and are keen to make use of some of its technologies and approaches. Successful completion of this project should produce a capacity for continued research in a region with a rich history and intense concern about future livelihoods connected to marine life. Project Directors: Lewis S. Incze, Research Professor and Director, Aquatic Systems Group (University of Southern Maine); Peter Lawton, Executive Director, Bedford Institute of Oceanography (Center for Marine Biodiversity).

Vancouver Aquarium Marine Science Centre
Vancouver, BC, Canada V6B 3X8

\$1,000,000

A 2001 grant funded a pilot project to show the feasibility of a permanent, continental-scale telemetry system on the west coast of North America. The goal was to construct an underwater array of detectors in the ocean to capture signals when a tagged fish passes by. The Pacific Ocean Shelf Tracking (POST) array now spans more than 2000 kilometers from San Francisco to Alaska and continues to produce important results. With the current third renewal grant, the project will extend the array into a global ocean tracking network and will summarize the distribution and abundance of salmon and other shelf species for the Census of Marine Life in 2010. The POST array has been able to track individual young salmon the size of a banana 2500 kilometers from a shallow pool in the Rocky Mountains through the Columbia River to Alaska. It has also revealed surprisingly extensive movements of both green and white sturgeon along the coast and the data are being used by the U.S. National Marine Fisheries Service to develop court-ordered critical habitat designation to protect green sturgeon. In 2008, the POST array began to operate around San Francisco Bay, Puget Sound, and Alaska's Prince William Sound, and herring carried POST tags for the first time. During the next two years, increased miniaturization of tags will allow study of ever smaller individuals and more species. Newly developed receivers will allow deployment of lines in waters deeper than the current 200 meter limit, so researchers will be able to follow deeper dwellers, like halibut and sablefish. In 2009, POST and the CoML's open ocean tracking project will integrate their technologies in order to follow animals from rivers along the shelf and out into the deep ocean. POST technology has been embraced in plans for the developing Global Ocean Observing System and major investments are being made, for example by the Canadian government to extend the technology along its Arctic and Atlantic coasts, where two listening lines began to operate in the summer of 2008. POST operates under a volunteer Management Board comprised of members from Canadian and American agencies and groups concerned with living marine resources. It receives support from U.S. and Canadian fisheries agencies, the Bonneville Power Authority, private conservation groups and others. Sloan Foundation funds will be used both to encourage the extension of the array and to produce CoML synthesis products, including review articles and special issues of journals. Project Director: James Bolger, Executive Director.

The following grant was funded from an appropriation approved by the Board of Trustees for small grants to foster the use of DNA barcoding for species identification.

Stanford University
Stanford, CA 94305

\$5,000

To integrate a session on uses of genetic information into the Third International Biologging Symposium co-hosted by the Tagging of Pacific Pelagics Program of the Census of Marine Life. Project Director: Professor Barbara A. Block, Department of Biological Sciences, Hopkins Marine Station.

CENSUS OF MARINE LIFE, OFFICER GRANTS

Eclipse TV Production
Cos Cob, CT 06807

\$110,000

To prepare video footage for the Census of Marine Life for current and archival uses. Project Director: Richard E. Morris, Producer/Director/Cameraman.

Intergovernmental Oceanographic Commission of UNESCO
75732 Paris, Cedex 15, France

\$45,000

To develop the long-term management of the database created by the Census for Marine Life. Project Director: Peter Pissierssens, Head, IOC Project Office for International Oceanographic Data and Information Exchange (IODE).

National Geographic Society
Washington, DC 20036

\$20,000

Integration of the National Geographic Pristine Seas Program with the Census of Marine Life Research Program. Project Director: Enric Sala, National Geographic Society Fellow.

Niceville High School
Niceville, FL 32578

\$15,000

Support for participation of Florida high school students in the near-shore program of the Census of Marine Life. Project Director: Richard Hernandez, Teacher of the Gifted.

Texas A&M University-Corpus Christi
Corpus Christi, TX 78412

\$45,000

To make available online a large database on marine biodiversity in the Gulf of Mexico for the Census of Marine Life. Project Director: John W. Tunnell, Jr., Professor of Biology; Director, Center for Coastal Studies; Associate Director, Harte Institute for Gulf of Mexico Studies, and Harte Research Scientist.

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS RESEARCH

INDOOR ENVIRONMENT

TRUSTEE GRANTS

Marine Biological Laboratory
Woods Hole, MA 02543

\$1,215,100

It has recently been discovered by analysis of seawater that there is great diversity in its microbial population and that much of it consists of many types of rare organisms. Very little is known of this so-called rare biosphere. Does the rare biosphere exist in all microbial populations? How is it maintained? Does membership in the rare biosphere shift across time and location? This grant supports a series of activities to provide critical information about the rare biosphere, its evolution and function. The research will focus on understanding why the rare biosphere exists as well as the mechanisms that allow low abundance microbial populations to persist over time. A Rare Biosphere Workshop will be organized under the auspices of the American Academy of Microbiology, the leadership group of the American Society for Microbiology (ASM), with participants from many disciplines, including microbial ecology, molecular evolution, genomics, bioinformatics, statistics, and ecological theory. The workshop will aim to establish both a theoretical as well as a practical framework for studying the rare biosphere. A formal Academy report on the workshop will be published and widely distributed by the ASM. Two pilot projects are planned to seek additional information about the rare biosphere. The first will use a currently available database of more than 10 million tag sequences from 22 projects, representing 365 globally distributed samples, for a bioinformatics study of the global distribution patterns of the rare biosphere. The second is a field study examining drinking water from two water distribution systems to determine the composition and shifts in structure of the microbial community. Findings will be published that describe the rare biosphere from diverse environments and that will serve to inform the broader scientific audience about its importance. A rare biosphere research experience will be developed for students in the Marine Biological Laboratory's course in Microbial Diversity. At the conclusion of the project, an international symposium on the rare biosphere will be hosted and symposium proceedings will be published in the Biological Bulletin. Project Director: Mitchell L. Sogin, Senior Scientist; Director, Josephine Bay Paul Center for Comparative Molecular Biology and Evolution.

University of California at Berkeley
Berkeley, CA 94720

\$657,700

The Foundation's program on the Indoor Environment, initiated in 2004, includes projects exploring many different indoor environments, such as hospitals, offices, schools, and subways. The Foundation's Barcode of Life program identifies a short DNA sequence from a uniform location on the genome that allows for the reliable identification

of plant and animal species. These two programs have led to the current grant, a study of microscopic fungi or molds in the indoor environment. The project will first develop a fungal barcode based on the internal transcribed spacer (ITS) of the nuclear ribosomal repeat region as a means of identifying different fungal species. It will then examine and profile indoor environments and their fungal components. Existing culture collections will be used and new cultures isolated to build a database of fungal barcodes for species from human dwellings in North America and Europe, with some analysis of samples from tropical countries. In addition to providing new insights into the indoor microbial world, this project will develop a comprehensive public DNA barcode database for indoor fungi and a publicly available culture collection of indoor fungi, including those newly discovered using barcodes. Also, a second DNA barcode marker for identifying fungal species will be identified and a comprehensive sample of indoor fungi detectable only by state-of-the-art DNA sequencing techniques will be produced. Project Director: Professor Thomas D. Bruns, Department of Plant and Microbial Biology.

University of Colorado
Boulder, CO 80309

\$1,045,106

A 2005 grant to the University of Colorado at Boulder initiated a project of cataloging the indoor microbial world using 16S ribosomal RNA (rRNA) probes for assessing species richness in microbial communities. Genes that encode the rRNA are sequenced to identify an organism's taxonomic group, calculate related groups, and estimate rates of species divergence. Many thousands of rRNA sequences are known and stored in specialized databases. The research has significantly advanced the state of the art and offered unexpected findings that could have an impact on daily life. For example, published project work showed a relationship between pulmonary infections and the microbes found in patients' potting soils and suggested that gardeners might want to consider wearing dust masks when potting plants. Manuscripts on the microbes in showerheads, schools, and the bioaerosols in the quarantined hurricane Katrina flood zone have been submitted to scientific journals. With this renewal grant, the project expects to establish an inventory which will provide an initial understanding of the microorganisms encountered by humans during daily life in the indoor environment. The microbiology of air and water handling systems and selected surfaces in homes, public buildings, transportation centers and hospitals will be analyzed molecularly to identify bacteria, fungi and selected agents of potential public health concerns. For comparative purposes, some studies are also being conducted in multiple geographical areas of the U.S. The resulting inventory of microorganisms in our daily environment will serve as a baseline reference for future surveillance activities. Correlations of microorganisms among the different sampled sites may indicate environmental factors influencing microbial makeup and perhaps affecting human health. Expected project outcomes include a census of approximately 100,000 identifying rRNA gene sequences that will be deposited in public sequence databases, at least five scientific publications and nine public presentations on research results, and training of personnel in expertise needed for interdisciplinary molecular analysis of environmental microbiology. The project should produce a better understanding of the microbiology of the indoor world, enhance public awareness of microbiological issues in the home and workplace, expand knowledge of

microbial diversity, and provide an essential base of methodology and information for further studies. Project Director: Professor Norman R. Pace, Department of Molecular, Cellular and Developmental Biology.

**SCIENCE, TECHNOLOGY, ENGINEERING
AND MATHEMATICS RESEARCH**

NEUROSCIENCE

OFFICER GRANT

Princeton University
Princeton, NJ 08544

\$22,900

To provide partial support for the 2008 Sloan-Swartz Center for Theoretical Neurobiology Summer Workshop. Project Director: Carlos D. Brody, Associate Professor, Department of Molecular Biology.

**SCIENCE, TECHNOLOGY, ENGINEERING
AND MATHEMATICS RESEARCH**

SLOAN DIGITAL SKY SURVEY

OFFICER GRANT

Astrophysical Research Consortium
Seattle, WA 98195

\$30,500

To fund an international forum titled, "The Sloan Digital Sky Survey: Asteroids to Cosmology." Project Director: Professor David Hal Weinberg, Department of Astronomy, Ohio State University.

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS EDUCATION

ANYTIME, ANYPLACE LEARNING

TRUSTEE GRANTS

Sloan Consortium, Inc.
Needham, MA 02492

\$4,000,000

The Sloan Consortium (Sloan-C) is a group of about 1500 academic institutions that has been the spearhead of a movement to establish online courses and programs with quality, scale, and breadth. “Quality” refers to Sloan-C’s goal of developing online education equivalent to or better than the traditional classroom education offered in each institution. “Scale” refers to Sloan-C’s encouragement of experimentation aimed at large-scale online educational offerings, i.e., on the scale of traditional education at each institution so as to make a complete college education more accessible for those who want to learn. “Breadth” refers to Sloan-C’s emphasis on online offerings in a wide range of disciplines and a wide range of educational institutions. Early Foundation grants in this program, initiated in 1993, encouraged experimentation to address academic concerns about issues of quality, cost, faculty acceptance, and size of the potential student market for online education. As these issues were satisfactorily resolved, subsequent grants encouraged full-scale, full-degree programs at a wide range of colleges and universities. Today, about 4 million students, almost a quarter of all students at degree-granting colleges and universities, enroll in at least one fully online course each semester. Total Sloan Foundation grants in this program have come to about \$75 million over the last 15 years. Grants were of two kinds: to encourage individual institutions to establish online courses and programs; and to knit together the community of online education providers through an informal consortium that became Sloan-C. As the Foundation concurrently brings this online education program to a close, the current grant provides support for Sloan-C to transition to an entirely independent and self-sustaining 501(c)(3) membership organization over a three-year period. Paying memberships, an enhanced program of online workshops for practitioners and administrators, conference income, and grants from other sources will contribute to support for the new organization. Starting in 2009, Sloan-C operations will be a geographically distributed, virtual entity under Executive Director John Bourne, who will function under the guidance of an 11-member Board of Directors. Sloan-C, currently operating under a 2007 Foundation grant plus internally generated funds, has explored possibilities for increasing revenue from members and generating grants and donor gifts. Based on these efforts, a full business plan for 2009-2011 was developed by Sloan-C and reviewed by the Foundation. At the conclusion of the current grant in 2012, Sloan-C will be fully self-sustaining without further grant support from the Foundation. Project Director: Professor John Bourne, Department of Electrical and Computer Engineering, Franklin W. Olin College of Engineering.

University of Illinois at Chicago
Springfield, IL 62794

\$383,000

Commuter students, especially those attending urban academic institutions, benefit in a number of ways when courses are a blended mix of online and traditional classes. Their commuting expense and time are reduced and their flexibility is increased, since the online portion of each course does not require classroom attendance at a specified time. The college or university also benefits by being able to accommodate new students and course enrollments without adding new space, a severe constraint, especially for schools in urban locations. For most faculty members, moving from a fully traditional on-campus course to a blended course is preferred over the full jump to an all-online program. With this grant, the University of Illinois at Chicago (UIC) will introduce over 60 blended courses, with at least 50% of each course conducted online and a corresponding reduction in classroom time. These newly organized courses, both undergraduate and graduate, are components of some 80 degree programs. UIC expects an increase of about 1500 enrollments within 12 months and is planning over a period of 3-5 years to have 10% of university enrollment coming from blended courses. The university will add to this initial set of blended courses gradually using funds from other sources. Project Director: Clark Hulse, Associate Chancellor and Vice Provost for Graduate and Continuing Studies.

The following grant was funded from an appropriation approved by the Board of Trustees for support of small grants for meetings, conferences, and workshops to extend and strengthen the Foundation's ALN program.

Western Interstate Commission for Higher Education
Boulder, CO 80301

\$45,000

Support for the initial stages of an online course exchange facility serving mainly the Western states. Project Director: Jere Mock, Vice President of Programs.

ANYTIME, ANYPLACE LEARNING, OFFICER GRANTS

American Distance Education Consortium
Lincoln, NE 68583

\$50,000

For the final cycle of support of Sloan Minority Scholars at the Orlando Conference. Project Director: Professor Janet Poley, College of Journalism and the Institute of Agricultural and Natural Resources, University of Nebraska-Lincoln.

Board of Control for Southern Regional Education **\$20,000**
Atlanta, GA 30318

Support for establishing satellite sites and local discussion groups for online attendees of the 2009 Sloan-C Symposium on Emerging Technologies for Online Education. Project Director: Bruce N. Chaloux, Director, Student Access Programs and Services.

CANnect **\$50,000**
Vancouver, WA 98661

Support for a project with Sloan-C to develop ALN modifications suitable for blind students. Project Director: Cheryl L. Edmonds, Executive Director.

Massachusetts Institute of Technology **\$45,000**
Cambridge, MA 02139

Partial support to develop video modules in support of international K-12 education. Project Director: Professor Richard C. Larson, Department of Civil and Environmental Engineering; Director, Learning International Networks Consortium (LINC).

University of Southern Maine **\$100,000**
Portland, ME 04101

To develop 45 new ALN and blended courses and programs. Project Director: Robert Hansen, Associate Provost.

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS EDUCATION

EDUCATION FOR UNDERREPRESENTED GROUPS

TRUSTEE GRANTS

Board of Control for Southern Regional Education **\$123,309**
Atlanta, GA 30318

In recent years, meetings have been convened biennially for campus project directors of the Sloan Minority Ph.D. Program and American Indian Graduate Program to build community, share experiences and ideas, and work together on common problems, notably related to recruitment and retention of students. Meetings have been well attended and valued by participants. The current grant funds the 2008 meeting in Tampa, FL. It will be held for the first time with the Compact for Faculty Diversity's annual Institute for Teaching and Mentoring, an event that has for years been attended by many Sloan-supported minority students and their faculty mentors. Project Director: Ansley Abraham, Director, SREB Doctoral Scholars Program.

National Action Council for Minorities in Engineering, Inc. **\$3,900,000**
White Plains, NY 10601

This grant funds new scholarship and other financial obligations expected to be incurred by the National Action Council for Minorities in Engineering (NACME) during the academic year starting July 1, 2008 as it administers the Sloan Foundation's Minority Ph.D. Program and American Indian Graduate Program. Although payment of these funds will be made over several years, NACME cannot incur new multi-year obligations to students unless the Foundation has committed funds in a formal grant to NACME.

NACME receives applications for Sloan scholarships from eligible students in both programs, selects awardees using Foundation-specified criteria, and makes scholarship payments. It monitors student progress. NACME also makes payments and monitors grants for the undergraduate and master's feeder programs for the Minority Ph.D. Program. Best estimates of new obligations to be incurred from July 1, 2008 to June 30, 2009 include \$4.1 million for scholarships for 135 new minority Ph.D. students, \$270,000 to cover recruitment grants to universities (\$2,000 for each of the 135 students), and \$1.2 million for scholarships for 10 Ph.D. and 25 M.S. students in the American Indian Graduate Program. The amount of the current grant is obtained by subtracting from the total some \$1.6 million approved in previous years but for which obligations have not yet been incurred. Project Director: Aileen Walter, Vice President, University Programs.

National Action Council for Minorities in Engineering, Inc. **\$456,400**
White Plains, NY 10601

This grant covers the administrative costs of the National Action Council for Minorities in Engineering (NACME) for an additional three years. (See the previous grant for an indication of NACME activities covered by these costs.) The administrative load has been significantly increased for this grant period over the last three years not only because of the growth in the number of students in both scholarship programs, but also because of NACME's enlarged efforts in tracking all students, including those who have graduated. Project Director: Aileen Walter, Vice President, University Programs.

University of Alaska, Anchorage **\$240,000**
Anchorage, AK 99508

The Foundation's American Indian Graduate Program was launched in 2003 in order to increase the number of American Indians earning Masters and Ph.D. degrees in mathematics, natural science, and engineering. For this program, hospitable campuses have been sought and then helped to become regional centers where a critical number of American Indian graduate students can be recruited and receive the support they need to succeed. The current grant extends the program to Native Alaskan students. A very successful high school preparation and undergraduate support program for Native Alaskan and other native students has been in operation since 1995 at the University of Alaska (both Anchorage and Fairbanks campuses) and has evolved into an alliance of these campuses, University of Washington, University of Hawaii, two community colleges and 43 high schools in all three states. In Alaska, more than 600 students have already participated in the precollege component of the Alaska Native Science and Engineering Program. The current three-year grant will fund an expansion of this program into graduate education, including masters and Ph.D. programs. It will cover some of the costs of an extensive recruitment and retention program. Scholarships, awarded and administered by the National Action Council for Minorities in Engineering (NACME) under a separate grant, will be provided to each of the newly enrolled students, \$38,500 for Ph.D. and \$32,100 for Masters students. Both the Anchorage and Fairbanks campuses will provide tuition waivers to these students. They will also be eligible for research and teaching assistantships in their respective departments. Project Director: Herb Schroeder, Associate Professor, Department of Civil Engineering, and Associate Dean, School of Engineering.

The following grants were made in 2008 from prior year appropriations approved by the Board of Trustees. (See the first grant to NACME above for details of activities and financial obligations covered by these appropriations.)

National Action Council for Minorities in Engineering, Inc. **\$4,906,632**
White Plains, NY 10601

To fund the Minority Ph.D. Program and the American Indian Graduate Program from July 1, 2006 through June 30, 2007. Project Director: Aileen Walter, Vice President, University Programs.

National Action Council for Minorities in Engineering, Inc. **\$4,024,421**
White Plains, NY 10601

To fund the Minority Ph.D. Program and the American Indian Graduate Program from July 1, 2007 through June 30, 2008. Project Director: Aileen Walter, Vice President, University Programs.

The following grant was made from an appropriation approved by the Board of Trustees to fund small projects within the Foundation's program to improve educational opportunities and outcomes for underrepresented groups in science and technology.

American Association for the Advancement of Science **\$45,000**
Washington, DC 20005

For a technical legal assistance workshop to help universities implement diversity programs. Project Director: Daryl E. Chubin, Director, AAAS Center for Advancing Science and Engineering Capacity.

EDUCATION FOR UNDERREPRESENTED GROUPS, OFFICER GRANTS

American Association for the Advancement of Science **\$34,320**
Washington, DC 20005

To supplement previous funding for a technical legal assistance workshop to help universities implement diversity programs. Project Director: Daryl E. Chubin, Director, AAAS Center for Advancing Science and Engineering Capacity.

Long Island University **\$19,956**
Greenvale, NY 11548

To enable the preparation of a proposal to fund the evaluation component of the Sloan Postdoctoral Advancement Fellowship. Project Director: Anthony L. DePass, Associate Dean for Research and Associate Professor of Biology.

MentorNet
San Jose, CA 95128

\$98,500

To enable MentorNet to conduct strategic planning. Project Director: David Porush, Chief Executive Officer.

University of New Mexico
Albuquerque, NM 87131

\$61,002

To conduct a feasibility study for a program to expand participation of underrepresented minorities in the earth sciences. Project Director: Professor Yemane Asmerom, Department of Earth and Planetary Sciences.

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS EDUCATION

PROFESSIONAL SCIENCE MASTER'S DEGREE

TRUSTEE GRANTS

California State University Foundation
Long Beach, CA 90802

\$474,090

Cal State is the largest university system in the country, with almost 450,000 students and 23 campuses. It provides higher education for a very substantial fraction of the workforce of California's high-tech companies. With a two-year 2006 grant, Cal State created a broad System-wide Professional Science Master's (PSM) initiative that has strong leadership from senior System administrators. The System has put in place for its PSM program an Executive Board whose members include the Chair of the System's Board of Trustees, the presidents of six of the Cal State campuses, senior executives of more than ten significant California companies, and the President of BIOCOM, the State's biotech industry association. The current plan is to create by 2011-12 at least 30 new PSM degree programs on 18 of its 23 campuses. Successfully completing this plan will make the Cal State System the nation's largest model of how a statewide university system can prepare the workforce needed by science-intensive industry. Project Director: Keith Boyum, Associate Vice Chancellor, Academic Affairs, California State University.

Council of Graduate Schools, Inc.
Washington, DC 20036

\$1,422,153

A 2005 grant funded the first three years of a five-year proposal from the Council of Graduate Schools (CGS) for work to institutionalize and promote the Professional Science master's (PSM) degree. The goal was to develop the PSM degree so that it becomes a regular feature of American graduate education. The CGS is the only national organization dedicated solely to the advancement of graduate education and research. Its 480 members include essentially all of the nation's graduate schools and their graduate deans. Its member institutions award over 90 percent of all U.S. doctorates and 75 percent of master's degrees. The CGS has built close working relationships with presidents and provosts of large universities, with senior leaders of statewide university systems, and with other supportive organizations such as the National Conference of State Legislatures and the National Governors Association. As of January 2006 when the CGS grant began, there were approximately 100 PSM programs in operation and admitting students at some 50 institutions. Now there are 62 institutions with 122 PSM programs operating with students and 14 more programs under development. And there are over 60 institutions which currently do not offer a PSM degree program, but are in various stages of planning for over 100 additional PSM degree programs. Two major new thrusts in the CGS project supported by this new grant will be active collaboration with employers via partnerships with the Business Roundtable and the National Association of

Colleges and Employers, and more concerted outreach to policy sectors at the level of states, multi-state regions, and the Federal government. At the end of this grant in December 2010, the CGS expects to be able to sustain continuing activities in support of the PSM degree without additional funding by the Sloan Foundation. Project Director: Carol B. Lynch, Senior Scholar in Residence and Director, Professional Master's Programs.

National Conference of State Legislatures **\$183,132**
Denver, CO 80230

The National Conference of State Legislatures (NCSL) is an organization established in 1975 to improve the quality and effectiveness of state legislatures, to foster interstate communication and cooperation, and to ensure states a strong, cohesive voice in the federal system. The legislators and legislative staff of all 50 states are members. With a 2005 grant, NSL has effectively used their ready access to state legislators to make Professional Science Master's (PSM) degree programs widely visible to lawmakers. State legislatures play an important role in support of PSM degree initiatives since it has been largely state universities that have been leaders in adopting the PSM degree as a normal part of their graduate programs. NCSL efforts have generated interest in new or enhanced PSM initiatives in states such as Kentucky and Iowa. They have worked collaboratively with the Council of Graduate Schools and the National Governors Association as part of a support coalition to promote expansion and sustenance of the PSM degree. The current grant will fund NCSL initiatives in 8-10 additional states to encourage consideration and adoption of PSM degree programs. Project Director: Heather Chikoore, Education Policy Specialist.

The following grant was funded from an appropriation approved by the Board of Trustees to provide support for projects to institutionalize the Professional Science Master's Degree.

University of Arizona **\$85,838**
Tucson, AZ 85722

Support for a sustainability initiative for the Professional Science Master's Degree Program. Project Director: Sheila Tobias, Consultant.

PROFESSIONAL SCIENCE MASTER'S DEGREE, OFFICER GRANTS

Delaware State University Foundation, Inc. **\$50,000**
Dover, DE 19901

To support a planning grant for HBCU/Mid-Atlantic Professional Science Master's Alliance. Project Director: Beverly Karplus Hartline, Dean, College of Mathematics, Natural Sciences, and Technology.

National Academy of Sciences
Washington, DC 20418

\$69,495

For publication and dissemination costs of the new Sloan-supported NRC report, “Science Professionals: Master’s Education for a Competitive World.” Project Director: Peter Henderson, Director, Board on Higher Education and Workforce, Policy and Global Affairs Division, National Research Council.

Oregon University System
Beaverton, OR 97006

\$21,000

A planning grant for a statewide strategy for professional science master’s degrees. Project Director: Bruce Schafer, Director of Industry Affairs.

University System of Maryland Foundation, Inc.
Adelphi, MD 20783

\$40,000

To engage and support leaders of university systems in encouraging development of professional science master’s degrees in their systems. Project Director: Janice Doyle, Chief of Staff and Secretary to the Board of Regents.

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS EDUCATION

STUDENT RETENTION

TRUSTEE GRANTS

The following grants were made from an appropriation approved by the Board of Trustees to fund small projects to encourage universities and colleges to collect and use data related to student completion rates and time-to-degree.

American Society for Engineering Education **\$44,000**
Washington, DC 20036

To develop and prepare for pilot implementation procedures for collecting and analyzing success data for undergraduate engineering students. Project Director: Gene Cilento, Dean, College of Engineering and Mineral Resources, West Virginia University.

National Association of State Universities and Land-Grant Colleges **\$14,500**
Washington, DC 20036

To design a research project to develop and evaluate a standardized reporting model for undergraduate completion rates and time-to-degree by discipline. Project Director: Christine Keller, Director of Research & Policy Analysis.

STUDENT RETENTION, OFFICER GRANTS

Educational Policy Institute, Inc. **\$39,975**
Virginia Beach, VA 23456

To enable the EPI to identify and describe current and recent efforts at the national, regional, state, and institutional levels to collect individual-level data in an effort to track student progress in postsecondary education. Project Director: Watson Scott Swail, President & CEO.

Washington University in St. Louis **\$19,200**
St. Louis, MO 63130

To fund a third meeting for the study of student migration in and out of STEM fields. Project Director: Robert H. Koff, Director, Center for Advanced Learning.

PUBLIC UNDERSTANDING OF SCIENCE, TECHNOLOGY, BUSINESS AND ECONOMICS

BOOKS

TRUSTEE GRANTS

The following grants were funded from an appropriation approved by the Board of Trustees to provide small grants for promising books on science and technology.

Columbia University **\$45,000**
New York, NY 10027

Support for a book on the influence of scientific medicine on leading thinkers and artists.
Project Director: Eric R. Kandel, M.D., Professor, College of Physicians and Surgeons.

Istvan Hargittai **\$13,320**
Budapest 1111, Hungary

Research for a book on Edward Teller. Project Director: Professor Istvan Hargittai,
Institute of General and Analytical Chemistry, Budapest Technical University.

PUBLIC UNDERSTANDING OF SCIENCE, TECHNOLOGY, BUSINESS AND ECONOMICS

RADIO

TRUSTEE GRANTS

L.A. Theatre Works
Venice, CA 90291

\$319,024

L.A. Theatre Works received a previous grant to record four Sloan-commissioned science plays as part of a 13-science play series. These recordings gave new life to the plays and made them known to hundreds of thousands of listeners. L.A. Theatre Works has discovered a real public interest in science theater and their series of plays has become a hit. The recordings, featuring A-list actors, also include interviews with scientists and mathematicians relevant to the plays. With the current grant, L.A. Theatre Works will record four more science plays, including two Sloan-commissioned works, and broadcast the complete 17-science play collection as a separate series on both public radio and the web. A new marketing effort will seek to double the number of public radio stations and number of people who tune in to these broadcasts. One hundred libraries across the country will receive the complete 17-CD Special Collection free of charge and six of the science plays will also be distributed to 100 New York City area public schools with accompanying curricular material. The project will bring entertaining science plays into homes, schools, libraries, offices, and automobiles. Project Director: Susan Albert Loewenberg, Founder and Producing Director.

National Public Radio, Inc.
Washington, DC 20001

\$400,000

A previous grant to National Public Radio's *Science Friday*, the country's most popular radio talk show on science hosted by Emmy Award-winning Ira Flatow, supported the creation of a regular monthly strand focusing on science and the arts. This part of the show has seen leading scientists and engineers regularly interacting with painters, playwrights, screenwriters, musicians, and poets. The current grant will support two more years for the science and arts segments. For the first time, NPR will hire a full-time producer who will develop a dedicated science and arts strand on the web site, where much of the new audience has moved. For example, *Science Friday* now attracts 1.25 million listeners to its weekly radio show, but it has registered 10 million downloads of podcasts from the show as well as specially produced podcasts over the web. Over one million of these podcast downloads were Sloan-supported science and arts segments. Explorations of the further use of such social networking platforms as *Facebook* and *Second Life* will continue and the new producer will also develop audio and video pieces around the science and arts strand. Project Director: Ira Flatow, Host and Executive Producer, *Talk of the Nation: Science Friday*.

WNYC Radio**\$487,500**

New York, NY 10013

Public Radio International's Peabody-awarding *Science 360* has developed a solid infrastructure for integrating science and technology into its arts show. The producers have assembled a core group of 8-10 scientists who work closely with host Kurt Andersen and his team to generate new ideas and review existing shows. An annual workshop brings scientists, engineers, and artists into an intensive all-day exchange. With its prior grant, *Studio 360* devotes about 4 hours of its annual total of 30 hours of programming to science and technology subjects. It reaches a weekly audience of 500,000 and attracts an equal number of listeners through cross-promotion with the *Leonard Lopate Show* and *Morning Edition* shows on WNYC. The podcast audience now adds an extra 100,000 listeners per month. The current two-year renewal grant will allow *Studio 360* to commission new works by scientists and artists and broadcast them on the show. It will also lead to an increasing number of podcasts with the Sloan "science and creativity" themes. Project Director: David Krasnow, Senior Editor, *Studio 360*.

WNYC Radio**\$225,000**

New York, NY 10013

This is a one-year renewal grant for *Radiolab*, the innovative, award-winning science series produced in conjunction with National Public Radio. Each hour-long episode of *Radiolab* centers on a core scientific theme and uses rich and varied audio production techniques. The show is hosted by Robert Krulwich and Jad Abumamad, each of whom brings a curiosity and enthusiasm for science that helps make *Radiolab* unique. From the earlier Foundation grant for this "experimental" pilot show, *Radiolab* has more than tripled the number of public radio stations that carry the series from 50 to 162 and more than doubled its core audience from 400,000 to 920,000 listeners. It has won recognition and many awards for its outstanding content. *Radiolab* also produced 20 shorter segments that aired on National Public Radio shows like *All Things Considered* and *Morning Edition*, garnering 3 million listeners for each piece. The show also registered 4 million podcast downloads, further enhancing the reach of this innovative science series. Project Director: Ellen Horne, Senior Producer.

PUBLIC UNDERSTANDING OF SCIENCE, TECHNOLOGY, BUSINESS AND ECONOMICS

TELEVISION

TRUSTEE GRANTS

CUNY TV Foundation
New York, NY 10016

\$298,253

With this grant, CUNY TV, the cable television station of the City University of New York and the largest non-commercial cable channel in the country, will make a short film about the history of the Sloan Foundation as part of the recognition of the Foundation's anniversary in 2009. The film will consist of interviews with notable Sloan grantees, as well as with Foundation staff and current and past members of the Board of Trustees. Archival footage will cover the earlier years. Two versions of the film will be prepared: a 15-20 minute film that will be screened at a 75th gala event and edited with that audience in mind; and a longer 30-45 minute version to be broadcast on the CUNY TV public access channel for its audience of 2 million households expected to be interested in the story of the Sloan Foundation as an example of the positive impact of philanthropy. Project Director: Robert Isaacson, President.

Fred Friendly Seminars, Inc.
New York, NY 10027

\$1,000,000

Fred Friendly Seminars, the critically acclaimed discussion forum on public television, will use this grant to produce a one-hour special called "Severe Mental Illness: Law, Science and Society." Severe mental illness is a major problem in society that has not been well-handled and remains largely unsolved. The show will explore the challenges in how we treat and care for people suffering from four major types of severe mental illness: schizophrenia; schizo-affective disorder; bipolar illness; and persistent depression. It will use its well-established method of hypotheticals – short imaginary scenarios – that highlight the dilemmas inherent in such issues as involuntary treatment and provision of services, while drawing on its accomplished team of professional moderators and carefully cast panels. The program plans to include several leading neuroscientists and other specialists to provide insight into the latest scientific developments. It will also go beyond the science to look at what can be done today to help deal with this difficult societal health problem. The budget includes funds for significant outreach on television, radio, and the web because the producers expect the broadcast to initiate a major national debate about these issues in various media, in homes, and in classrooms. Project Director: Richard Kilberg, President and Executive Producer.

Greater Washington Educational Telecommunications Association, Inc. \$987,160
Arlington, VA 22206

With this one-hour grant, the producers of *The NewsHour with Jim Lehrer* will air and promote a regular, branded, bi-weekly, 10-minute segment that aims to teach the American public about the basics of business, economics, and finance. These will be pieces about bread and butter financial and economic literacy issues like the credit crunch, subprime mortgages, debt security, interest rates, etc. They will be led and broadcast by acclaimed television journalist Paul Solman who can be expected to make this material as entertaining as possible to attract viewer interest and attention while imparting fundamental economic and business principles. *The NewsHour* will broadcast 24 of these short segments on its flagship show over the course of one year. For some timely topics in the news, there will be follow-up interviews and discussions on air. The program website, with a viewership of almost one million visitors and growing, will be used to display enhanced material on financial and economic topics. Materials will include edited pieces from the show, question and answer sessions, blogs, and podcasts, as well as lesson plans and educational materials distributed through *NewsHour Extra*, an online *NewsHour* website developed specifically for teachers and students. The grant budget will allow for the production of some ambitious pieces, for example, an explanation of Franklin Fisher's work on pricing of water in the Middle East and its global dimensions as a way to teach the basics of supply, demand, and pricing, and as an illustration of the potential use of economics to address political tensions. This project will create an opportunity to reach large numbers of viewers of all ages and to address public understanding of business, finance, and economics in a fresh way. Project Director: Lester M. Crystal, President.

National Geographic Society \$1,500,000
Washington, DC 20036

Despite his landmark achievement and centrality to science and the scientific method, Charles Darwin still remains an abstraction to most people. With this grant, National Geographic Television, in partnership with NOVA, will produce and air in 2009 a two-hour documentary about the life of Darwin to coincide with the 150th anniversary of the publication of *The Origin of Species* and the 200th anniversary of Darwin's birth. Darwin's struggles as a young man to find his calling and win his father's respect, his successful marriage to his cousin, a devout Christian, his explorations around the world on *The Beagle* culminating in his revolutionary monumental work, a work that he refused to publish for 14 years until a rival threatened to upstage him, is bound to make for compelling television and stimulate broader interest in Darwin's ideas. The script, *I, Darwin*, draws heavily on new material resulting from the ongoing publication of *The Correspondence of Charles Darwin*, supported by the Sloan Foundation, which allows the producers to use Darwin's own words to provide texture and context. It manages to convey the intellectual excitement, as well as the revolutionary danger, inherent in Darwin's theme of evolution through natural selection. NOVA has agreed to broadcast this drama-documentary on its flagship show, ensuring a primetime audience of 3-5 million viewers. National Geographic, with its own channel in the U.S., a potential

audience of 7 million readers of its magazine and a reputation that reaches 100 million viewers internationally, will significantly expand the audience for the show and its important subject matter. Project Director: Michael Rosenfeld, President, National Geographic Television.

WGBH Educational Foundation
Boston, MA 02135

\$1,700,000

This two-year grant provides the Emmy-nominated series NOVA scienceNOW (NsN), with support for six scientist profiles a year on the television broadcasts, and for the first time ever, sixteen additional profiles a year shot exclusively for the world wide web. This will create 44 new scientist profiles over the next two years. For shooting material directly for the web, NsN will enlist producers experienced in this area. The web profiles will be available as free downloads on NOVA's website and also as video podcasts on iTunes and other podcast aggregators. NsN will have a blogger who writes about each new profile and starts an online conversation between the profiled scientist and the public. A publicist will be engaged specifically to target YouTube, where special video segments and all on-air promos will be posted. A Facebook site will be updated weekly. The original scientist profiles on MsN were funded by Sloan when the show premiered in 2005. Now they have transitioned to a separate banner and identity and continue to thrive with a younger, hipper image. Astrophysicist and Director of the Hayden Planetarium at the Museum of Natural History Neil deGrasse Tyson, is the host of NOVA scienceNOW. He has become a national figure, even regularly appearing on *The Colbert Report*, and has inspired a larger, more youthful audience, thereby creating for this series the opportunity of engaging them with compelling stories about the life and work of contemporary scientists and engineers. Project Director: Paula S. Apsell, Senior Executive Producer, NOVA.

TELEVISION, OFFICER GRANT

Catticus Corporation
Berkeley, CA 94710

\$121,976

For co-production of a two-hour PBS documentary based on Michael Pollan's bestseller, *The Botany of Desire*. Project Director: Michael Schwarz, Producer/Director.

PUBLIC UNDERSTANDING OF SCIENCE, TECHNOLOGY, BUSINESS AND ECONOMICS

FILM

TRUSTEE GRANTS

American Film Institute
Los Angeles, CA 90027

\$312,178

This grant supported the Sloan film summit held in November 2008 in Los Angeles. Attendees included prize-winning students, faculty, and administration from the six Sloan-supported film schools (AFI, Carnegie Mellon, Columbia, NYU, UCLA, and USC), plus the Museum of the Moving Image which curates their films, Sloan's three film festival partners (Sundance, Tribeca, and the Hamptons), plus Film Independent, and the four Foundation theater partners (Ensemble Studio Theatre, Manhattan Theatre Club, the Magic, and Playwrights Horizons). The impact of the three-day summit and its attraction for filmmakers, industry people and press, as well as for Sloan participants, is enhanced by its being held during AFI Fest, an 11-day international film showcase that attracts 65,000 people and 600 press. The summit is an opportunity for Sloan film schools to meet each other and interact with all the other elements of the Sloan program, thereby encouraging the development of new relationships and networks and recruitment of major talent. Among the featured events is a screening showcase of Sloan-winning films and staged readings of excerpts from award-winning Sloan screenplays with well-known directors and actors. A pitch session is held where aspiring filmmakers meet with industry professionals, including producers' representatives, agents, managers and entertainment attorneys, and where sales and deals can be made. A compilation script logbook that lists every Sloan-supported script and film with a description of the film, along with a bio and photo of the screenwriter or filmmaker will be produced, as will a compilation DVD of award-winning Sloan shorts for distribution to production companies. Project Director: Joe Petricca, Executive Vice Dean, AFI Conservatory.

Face Value LLC
New York, NY 10003

\$2,500,000

Face Value, a screenplay about film star Hedy Lamarr and her invention of "frequency hopping," an early form of spread spectrum communications technology that became the basis for WiFi and wireless communication, won the Tribeca Sloan Screenplay Prize in 2004. Even earlier, the Foundation commissioned a play about Hedy Lamarr through Ensemble Studio Theatre that was produced in 2008 in New York. It's a story about a brilliant woman inventor whose scientific gifts were largely overlooked during her lifetime because of the inability of potential users to see beyond her great beauty and stardom. Lamarr did patent her invention, but it wasn't applied until after 1962, when the patent expired, and the basic invention was used during the Cuban Missile Crisis. In 1997, Lamarr belatedly received recognition for her invention from the Electronic

Frontier Foundation. In 2003, the Boeing Corporation used her face as a “woman of science” for their ads. The current grant responds positively to a request for a program related investment (PRI) to co-produce the screenplay as an independent feature film and to broadcast it on television before an audience of millions. Although the proposal was evaluated in the normal fashion for Foundation grants, a PRI means that the Foundation (and other investors) would receive some or all of their investment back in the unlikely event that the film generates revenues in excess of its production and distribution costs. This grant is accompanied by a number of features to minimize the Foundation’s risk. Before any funds are released and before starting production, the television broadcaster would need to agree to broadcast *Face Value* on prime time. All funds required to meet the total expected budget for the project, currently \$11 million, as well as a completion bond guaranteeing that the film will be completed or money returned to investors must be in hand. The key elements of the project include: the screenplay, as revised by the Oscar-nominated screenwriter Jose Rivera; the director Amy Redford; cinematographer Bobby Bukowski; producer Marco Mehlitz; a group of executive producers, including Bob Berney, the distributor of the two largest grossing independent films of all; and several A-list actresses who are currently reading the screenplay. The story of Hedy Lamarr and her invention is not only an inspiring tale of technological progress from an unlikely source, but also a story that has the potential to impact positively the image of women in science and society. Project Director: Rose Ganguzza, Executive Producer

Galatee Films

\$2,700,000

Paris, France 75017

This grant contributes to the support of *Oceans*, Jacques Perrin’s documentary film that promises to show the world a vision of the seas never before experienced or comprehended. Galatee Films has developed new technologies to capture ocean life with unparalleled vividness and accuracy of detail. The film will have major worldwide distribution, with Pathe in France, Disney in the U.S., Universum/Bertelsmann in Germany, and Gaga in Japan all signing on. Several European foundations have provided financial support. The film will be accompanied by major DVD release, television broadcasts, four books, extensive web outreach, and a soundtrack release. *Oceans* has established a strong working relationship with the Foundation’s Census of Marine Life (CoML) program. CoML scientists have worked with Galatee filmmakers around the world and are the principal scientific resource for the film, which will serve as a major public outreach for the ten-year Sloan-initiated Census. The film has undergone many transformations (and resulting budget increases) since Sloan made a \$2 million grant in 2005. It has jettisoned the fictional screenplay component and instead has become a pure nature documentary. The filmmakers have made science and the Census of Marine Life centerpieces of their effort. The current grant includes \$750,000 for specific scientific-related activity. This includes taking many hundreds of hours of footage that will not appear in the film but will have great archival value for scientists, annotating and making it all available online for the benefit of the scientific community and the public. The Smithsonian Institution and the French Natural History Museum will aid this effort. The grant also allocates significant funds for scientific brochures, short films, and online tools about the film aimed at a scientific audience. The budget includes major support for

scientists and scientific discussions at high profile premiere events in eight cities around the world, ensuring that CoML scientists and their research findings stay closely involved with the film as it is released worldwide, and that scientists are publically identified with the film from the outset. This spectacular film celebrating ocean life is scheduled to make its highly anticipated international debut in late 2009. Project Director: Jacques Perrin, Chief Executive Officer, Producer.

Hamptons International Film Festival

\$487,000

New York, NY 10001

The grant to the Hamptons International Film Festival (HIFF) supplies two more years of support to develop the Sloan Film Program. The existing program, including a \$25,000 annual prize with multiple screenings for a feature science and technology film, a panel with filmmakers and scientists, a reception, and an intensive screenwriting workshop, will continue with an expanded workshop by adding two days of mentoring and networking during the October festival. HIFF will also add three completely new elements during the festival: a one-time tenth anniversary retrospective recognizing Sloan films and filmmakers, with clips from the 10 Sloan winning films and speeches by filmmakers, actors and others involved with the program; the commissioning of four science and technology themed short films to be created by established directors and to debut at the festival; and a one-time discretionary fund of \$75,000 toward production financing for any screenplay emerging from the screenwriting workshop and ready to go to the next level. The discretionary fund will only be used if a suitable project emerges and will cover such costs as hiring an executive producer, a casting director, and a line producer. This grant allows the Foundation to continue supporting innovative screenwriters and filmmakers who take on science and technology as legitimate subjects for cinematic exploration and entertainment. Project Director: Karen Arikian, Executive Director.

Sundance Institute

\$487,000

Park City, UT 84068

This two-year grant to the Sundance Institute renews support to build and expand on the Sloan science-in-film program with an annual film prize, film screenings, a film panel and awards reception at the Sundance Film Festival, and a screenwriting development program at the Institute. The Foundation's program with Sundance has been an important positive influence in establishing the role of science and technology films as an integral part of this internationally renowned film festival. For the next generation of filmmakers supported by the Sloan film schools program it is a culminating dream and career launch pad to debut a film at Sundance. The most visible achievement has been the annual Sloan science and technology feature film prize, now fully integrated into the festival and a regular part of the Sundance Awards Ceremony. The past two winners, *Dark Matter* and *Sleep Dealer*, both secured theatrical distribution with a big assist from the Sloan prize, which is covered in all press about the festival. The panel has also been well received with major scientists and filmmakers participating and near sell-out crowds. The Sundance screenwriting program led to one script, *Not By Chance*, that was produced,

played at international festivals, and released theatrically. Another script, *Radioactive Boy Scout*, has attracted well-known producers. A small stipend in this grant will go to support a science advisor for each script in its initial stages, which will serve to ensure that science and technology in the work are integral and accurate. Project Director: Ken Brecher, Executive Director.

Tribeca Film Institute Inc.

\$689,000

New York, NY 10013

The Tribeca Film Festival, with the allure of new films and its co-founders Robert de Niro and Jane Rosenthal, generates high interest from press and public for ten days each year. The Foundation's support includes year-round work with the Tribeca Film Institute to develop science screenplays into feature films. This partnership has produced the single most important pipeline of science screenplays being developed toward production with award-winning scripts about Hedy Lamarr, Rosalind Franklin, Richard Feynman, Edwin Hubble, and Srinivasa Ramanujan, all of which have attracted industry involvement, as well as several promising science and technology comedies with brand name actors and directors. High profile screenings, readings, panels and receptions at the film festival will continue. A new TFI Sloan Filmmaker Fund will be created to support promising science and technology films at any stage of production, with an emphasis on experienced film producers who have a strong track record. \$140,000 in awards will go directly to filmmakers for script development, matching funds toward co-production and post-production or finishing funds. Tribeca believes this increased flexibility will help identify better targets of opportunity. They have also added, for the first time, a year-round manager to oversee and focus on Sloan-supported projects. In addition to funding at different phases, each Sloan project will receive mentorship and networking opportunities from film industry financiers and producers. Tribeca has helped put the Sloan film program on the film industry map and has provided the largest number of screenplays and film projects with science and technology themes. The new TFI Sloan Filmmaker Fund promises to move these projects closer to production, hereby increasing their chances of finding a wide general audience. Project Director: Jane Rosenthal, Co-Founder and Co-Chairman, Board of Directors; Film producer.

FILM, OFFICER GRANT

Brooklyn Academy of Music

\$20,000

Brooklyn, NY 11217

To screen two Sloan winning Sundance films and to hold a panel with Sundance Institute filmmakers at the BAM festival. Project Director: Karen Brooks Hopkins, President.

**PUBLIC UNDERSTANDING OF SCIENCE, TECHNOLOGY,
BUSINESS AND ECONOMICS**

THEATER

OFFICER GRANT

Hourglass Group, Ltd.
New York, NY 10018

\$20,000

Support for a play about the secret communication system invented by Hedy Lamarr and George Antheil. Project Director: Elyse Singer, Artistic Director.

PUBLIC UNDERSTANDING OF SCIENCE, TECHNOLOGY, BUSINESS AND ECONOMICS

OTHER EFFORTS

TRUSTEE GRANTS

Metropolitan Opera Association, Inc. **\$1,000,000**
New York, NY 10023

This grant funds the New York Metropolitan Opera's PBS broadcast and live high-definition transmission into movie theaters of John Adams' acclaimed science opera *Dr. Atomic*. Together with associated science symposia and a host of outreach activities, this work is expected to reach millions in the U.S. and around the world. *Dr. Atomic* explores the final days of the development of the atomic bomb at Los Alamos and its test at Alamogordo, New Mexico. The main characters are physicist Robert Oppenheimer, director of the Los Alamos Laboratory, his wife Kitty, and General Leslie Groves, who in 1942 was placed in charge of the Manhattan Engineer Project, whose mission was to build an atomic bomb. Peter Sellars adapted the libretto from primary historical sources. The opera has been favorably received and welcomed by the scientific community. It will go on from New York to the English National Opera in February 2009. The PBS opera will be part of the Great Performances series that reaches over a million people. Live theater transmissions were recently initiated by the Met and proved a great success, adding about 100,000 new viewers to each performance. During intermission, special material about the scientific and historical context of the story appears on the theater screen. The grant also funds live radio broadcasts of the opera (3 million listeners in the U.S., 13 million worldwide), live streaming and background material over the web (2 million visitors), a DVD, and live transmission into six New York City public schools with an enriched curriculum. A series of symposia will be organized centering on the science, history, and cultural implications of *Dr. Atomic*. This project is a unique combination of science and the novel art form of opera. It should stimulate many more people to read and learn about Oppenheimer, the atomic bomb project, and nuclear science and will make it possible for millions who cannot attend the Met to see and hear this seminal science opera. Project Director: Elizabeth Hurley, Director of Development.

Science Festival Foundation **\$650,000**
New York, NY 10036

The Sloan Foundation supported the development of a business plan for the first World Science Festival in 2008 and was one of its key early funders. Held in New York City, it was a great success, with every event sold out and massive media attention, demonstrating the public interest in science when it is presented in a compelling fashion. The core objective of the Festival is to inform the general public of the value and wonder of science and engage them in thinking more broadly about its place in modern life. It was led by the distinguished Columbia physicist and bestselling author Brian Greene and

internationally renowned actor Alan Alda. It enjoyed the participation of thirty major higher educational institutions in New York, ten leading cultural institutions, including Lincoln Center for the Performing Arts, the New York Public Library, the Museum of Modern Art and the Guggenheim Museum, all major New York science organizations, from the Museum of Natural History and the Rose Center for Earth and Science to the New York Academy of Sciences and the New York Hall of Science. Distinguished scientists, including a dozen Nobel laureates, along with leading figures from the arts helped turn the inaugural World Science Festival into an unqualified success and a must-see event. The current grant will continue to assist the Festival in becoming a regular feature of the cultural calendar. There are plans for the next Festival to include events directly related to Sloan grantees in film, theater, television, and other media, all aspects of the Foundation's program in Public Understanding of Science, Technology, Business and Economics. Project Director: Judith Cox, President.

OTHER EFFORTS, OFFICER GRANTS

American Museum of Natural History

\$44,000

New York, NY 10024

To develop a web version of "The Biology of the Horse" interactive that is part of "The Horse" exhibition at the Museum of Natural History. Project Director: Steven Mau, Director, Digital Media.

Richard Dawkins Foundation for Reason and Science

\$45,000

Savannah, GA 31416

Support for science and arts lecture and performance series. Project Director: Karen Owens, Trustee.

ECONOMIC PERFORMANCE AND QUALITY OF LIFE

ECONOMIC INSTITUTIONS, BEHAVIOR, AND MARKET PERFORMANCE

TRUSTEE GRANTS

Brookings Institution
Washington, DC 20036

\$406,495

The Brookings Institution is a leading bipartisan “think tank” in Washington focusing on economic research and policy developments. The journal *Brookings Papers on Economic Activity* (BPEA) is recognized for inviting a wide spectrum of participants to prepare papers and be discussants for conferences focused on important economic policy issues. The refereed and revised papers together with discussants’ remarks are then published to make them available to a large public audience. Many of the most distinguished and active economists on the national scene have found this an effective vehicle for presenting ideas in a relatively non-technical but highly policy-relevant format. During the duration of this three-year grant, BPEA will hold two conferences per year that will involve research presentations on financial markets and institutions. This is a subject of great current interest and importance and the formulation of sound new regulations and other reforms depends critically on reaching a better understanding of recent financial developments. Potential topics range from subprime lending and commodity price trends to exchange rates, inflation indexed bonds, and regulatory institutions. The journal will publish the resulting conference proceedings, both papers and written comments of discussants, so these research findings become known to both current policymakers and other researchers. Project Director: Douglas W. Elmendorf, Senior Fellow, Economic Studies.

Economic Strategy Institute
Washington, DC 20005

\$300,000

Discussion and debate within policy, academic, and business circles continue on both the impact of globalization on American jobs and competitiveness and on appropriate national policies concerning globalization. This grant supports an online magazine, *Global Strategy Watch*, to be published by Economic Strategy Institute, an early version of which was supported by a 2007 Foundation grant. The magazine will be expanded with this new grant to encompass a range of topics such as global trade and financial flows, international relations and foreign policy issues, globalization strategies of major nations, and economic strategy and policy issues specific to the U.S. This interactive web magazine is expected to create an online community of writers, analysts, and readers who should improve the quality and depth of the public debates surrounding globalization, while promoting effective public policies designed to stimulate growth, equity, and sustainable international development. The magazine will also feature an e-mail newsletter to a subscriber list that aggregates views from a selected set of serious blogs and contributions from a selected set of “columnists” or “contributors.” Although this

one-year grant provides only a portion of the funding needed to fully develop the magazine, the Institute is confident that it will be able to obtain supplementary funding. Project Director: Clyde V. Prestowitz, President.

National Bureau of Economic Research, Inc.
Cambridge, MA 02138

\$588,800

With this grant, the National Bureau of Economic Research (NBER) will organize three overlapping research groups with 30 participants each to study financial markets and risk. The first, led by Darrell Duffie and Ken Singleton (both from Stanford), will focus on issues involving financial security design, a topic of substantial interest since the creation of complex financial products derived from home mortgages has been widely cited as a trigger for the recent crisis. A second group, organized by Mark Carey (Federal Reserve) and Rene Stulz (Ohio State), will examine the linkages between financial market participants, including connections among clearing banks, investment firms, and prime brokers, and explore the determinants of market liquidity more generally. The third group, directed by Raghuram Rajan (Chicago) and Jeremy Stein (Harvard), will examine how the internal organization of financial institutions affects the degree of risk-bearing, risk management protocols, and the reporting of changing financial circumstances within these organizations. Working groups will meet with practitioners and government officials for discussions aimed at clarifying, prioritizing, and coordinating the research needed. Research results will be presented and critiqued at an academic conference in 2010. In addition to appearing in the NBER Working Papers series, commissioned papers will be published in their final form as a special issue of an appropriate research journal. Project Director: James Poterba, President and Chief Executive Officer.

National Bureau of Economic Research, Inc.
Cambridge, MA 02138

\$302,000

The research supported by this grant to the National Bureau of Economic Research (NBER) focuses on the globalization of clinical trials which are becoming increasingly dispersed geographically to both developed and emerging economies around the world. Such trials account for about 70 percent of commercial biopharmaceutical R&D spending. Many firms in the industry are globalizing trials as a way to realize improvements in speed, costs, access to patients and markets, and even research quality. The first task will be the development and analysis of a dataset that will allow detailed documentation of clinical trial activity and the factors driving its geographic location, as well as econometric estimation of various models of location choice. The second part of the project involves interviewing industry decision makers and participants in a variety of organizations and locations to develop qualitative insights that can be used to help generate hypotheses for analysis, and to validate results and preliminary findings from the econometric analyses. Both co-directors of this project have participated in MIT's pharmaceutical industry center established by the Foundation in 1991 and not only know the industry well but also have teamed up with medical doctors with exceptional experience with clinical trials. The results of this project are expected to improve understanding of the causes and effects of globalization in the pharmaceutical industry,

and its effects on the U.S. economy. Project Director: Ernst R. Berndt, Director, Program on Technological Progress and Productivity Measurement and Professor of Applied Economics, Sloan School of Management, Massachusetts Institute of Technology.

New America Foundation
Washington, DC 20009

\$350,000

This grant supports the launching by the New America Foundation of a new program focused on policies for economic growth and competitiveness in a global economy, which they are calling the Smart Globalization Initiative. By convening key people in a series of conferences and workshops, and writing and publishing articles and op-ed pieces, the Initiative aims to move the globalization debate in Washington away from a narrow focus on “free trade” to a broader one that includes serious attention to new strategies to promote U.S. economic growth and the growth of a strong and productive American middle class. To be explored are policies that could be used to counter mercantilist practices when used by other countries, to provide guidelines for future trade and investment agreements, and to strengthen the domestic economy, improve productivity, and increase the number of good-paying, high value-added jobs in the U.S. Project Director: Steven C. Clemons, Director, American Strategy Program.

Office for Oregon Health Policy Research
Salem, OR 97301

\$1,000,000

Despite widespread debate about extending health insurance to the uninsured, little is known about how health insurance affects health care utilization and health outcomes and about how the benefits of insurance coverage compare to its costs. Much has changed regarding the availability and use of health care services since the federally-funded Rand Health Insurance Experiment, conducted over thirty years ago, examined the effects of health insurance on the utilization of health care services. A current experiment has begun in Oregon that makes it possible accurately to measure differences in utilization between the insured and uninsured populations. In early 2008, Oregon allowed low income adults to enroll in its previously closed public health insurance program. The program could support only 10,000 people, but 100,000 signed up. Starting in March 2008, the State began a lottery in which 10,000 names were randomly drawn from the applicant pool. With support from Oregon to collect the necessary data on utilization and health outcomes for both those who get insurance via the lottery and a sample of those who do not, it will be possible to measure the effects of the provision of insurance on health service utilization using randomized trial methods. An outstanding team of health economists from Harvard and MIT is collaborating with individuals from Oregon’s health policy research office who have in-depth knowledge of the Oregon health plan and are providing access to the State’s hospital and emergency room data. Phase I of the study, fully funded by the Robert Wood Johnson Foundation and the National Institutes of Aging, involves surveying the 10,000 lottery winners and a comparable sample of those not selected about their access to and use of medical care, its effects on them financially, and self-reports on their health status. Such surveys will be conducted immediately after the lottery and again six and twelve months later. The current grant

supports Phase II of the study, which will use hospital and emergency room data as well as biomarkers of physical health (such as blood sugar, blood pressure, etc.) and assessment of mental health for a subsample of 8,000 study participants. The total cost for Phase II is estimated to be \$10 million. Grants made to Oregon's Office for Health Policy Research qualify for one-to-one matching funds from the federal government. This initial \$1 million grant (plus the federal match) is expected to provide significant leverage for raising the additional funds required. The study is likely to be a most important source of information guiding the decisions of national policy makers as they consider the expansion of health insurance coverage. Project Director: Amy Finkelstein, Professor of Economics, Massachusetts Institute of Technology.

University of Pennsylvania
Philadelphia, PA 19104

\$733,318

The Financial Institutions Center at the Wharton School has maintained strong connections with financial scholars as well as practitioners from around the world. Center researchers are able to provide an independent examination of financial markets, financial services organizations, and regulatory developments from a broad perspective and with unbiased attention to specific cases. They have raised important fundamental questions. Regulation, they observe, is usually justified as a remedy for market failures of some sort. What precisely prevents financial markets from operating efficiently absent government regulation? It is only relative to a good answer to this question that the costs and benefits of alternative regulatory mechanisms and institutions can be evaluated. In view of recent events, the argument that imperfections in financial markets can be explained largely as a consequence of information asymmetries seems inadequate. With this three-year grant, Wharton will take a fresh approach to developing principles that can guide the regulation of today's financial markets and institutions. One workshop and one conference per year will bring together young investigators and seasoned experts in the field, including project co-directors Franklin Allen, Richard Herring, Carol Leisenring, and Francis Diebold, along with bankers, CEOs, and government officials. In addition, a group of distinguished international expert and experienced invitees will target the Basel banking agreements as the starting point for their analyses. The project is expected to result in at least ten commissioned papers, three refereed journal articles, and a series of biannual policy briefs. Project Director: Franklin Allen, Nippon Life Professor of Finance and Economics, Wharton School.

ECONOMIC INSTITUTIONS, BEHAVIOR AND MARKET PERFORMANCE, OFFICER GRANTS

Columbia University
New York, NY 10027

\$100,000

For a conference to spur discussion of "imperfect knowledge economics" for problems in exchange rates, equity markets, and behavioral economics. Project Director: Edmund S. Phelps, Professor of Political Economy, Department of Economics; Director, Center on Capitalism and Society.

Harvard University
Cambridge, MA 02138

\$60,000

To organize and hold a conference about promising new areas of research in corporate governance. Project Director: John C. Coates, Professor of Law and Economics.

Harvard University
Cambridge, MA 02138

\$58,880

Support for a meeting to explore the issue of IT diffusion in U.S. healthcare and to determine if there is a feasible and important research agenda in this area. Project Director: David M. Cutler, Otto Eckstein Professor of Applied Economics.

National Academy of Sciences
Washington, DC 20418

\$15,728

Support for travel by international experts to attend the NAS Workshop on Assessing Economic Impacts of Greenhouse Gas Mitigation. Project Director: James J. Zucchetto, Senior Board/Program Director, Board on Energy and Environmental Systems.

University of California, Berkeley
Berkeley, CA 94720

\$24,154

To support a workshop on “Globalization and Economic Insecurity.” Project Director: Clair Brown, Director, Center for Work, Technology, and Society, Institute of Industrial Relations.

University of California, Los Angeles
Los Angeles, CA 90095

\$35,000

For support to continue for one more year Professor Stout’s outreach activities on team production. Project Director: Lynn A. Stout, Professor of Corporate and Securities Law, School of Law.

ECONOMIC PERFORMANCE AND QUALITY OF LIFE

FEDERAL STATISTICS

TRUSTEE GRANT

The Levy Economics Institute at Bard College
Annandale-on-Hudson, NY 12504

\$332,450

There is widespread interest in comparisons across countries of standards of living or economic well-being. A commonly used measure at the national level is gross domestic product (GDP) per capita, usually expressed in terms of purchasing power parities to take account of distortions in exchange rates and differences in the prices of key goods. At the level of the household, the most widely used measure is “gross money income,” in part because the data needed are widely available. This measure suffers from a number of well-known weaknesses, such as its exclusion of possibly large upward adjustments for government social benefits and income from household wealth, and similar exclusion of possibly large reductions attributable to taxation. A number of experimental measures have been developed to address some of these weaknesses. The Levy Institute Measure of Economic Well-Being is among the most comprehensive. It includes estimates of the long-term economic benefits of household wealth; of public consumption (government expenditures on products that can be freely used by households, such as healthcare, roads or public education, but not on national defense); of household production (unpaid work such as cooking, cleaning, and childcare); and of taxes on consumption (e.g., sales taxes in the U.S. and value-added taxes in most other industrialized countries). Long-term trends in this measure for the U.S. from 1959 up to 2001 are now available as a result of a prior year Foundation grant. The current grant provides partial support for an project to extend comparisons of the U.S. data already developed with those of Canada, France, Germany, and the United Kingdom, four other economically advanced countries. The Levy Economics Institute research group has attracted the interest and commitment of a very strong group of research collaborators in the other four study countries. This comparative study can be expected to provide new and more comprehensive insights than are currently available into the living standards of U.S. households as compared with those of four comparable industrialized countries. Project Director: Edward N. Wolff, Senior Scholar; Professor of Economics, New York University.

ECONOMIC PERFORMANCE AND QUALITY OF LIFE

INDUSTRY STUDIES

TRUSTEE GRANTS

University of Pittsburgh
Pittsburgh, PA 15260

\$300,000

Since the beginning of the 1990s, faculty and students affiliated with the Sloan Industry Centers and, later, the larger Industry Studies Program, have met at regular intervals in conference settings. Over the years, the number of Industry Centers and the number of researchers interested in various aspects of industry studies, both in the Centers and elsewhere, increased significantly. The conferences grew in size and cost, with the latest (May 1-2, 2008) conference drawing 300 attendees. Starting in 2001 and recognizing the emergence of a growing community of industry studies researchers, the Foundation gradually adjusted the annual conference format so as to make it closely resemble the annual meeting of a professional association. Given that the Foundation's Industry Studies Program is coming to an end, it is now appropriate to determine whether an Industry Studies Association can achieve self-sufficiency. The Foundation and the conference organizers have agreed that in 2009 the amount of funding Sloan will provide for the annual conference will drop to about half of 2008 funding and the conference will charge registration fees for the first time. In 2010, Sloan support will be further reduced by half again and no funding will be provided for future conferences. This will allow the industry studies community to show whether there is sufficient interest to support an independent professional Industry Studies Association, including a self-sufficient annual conference. The University of Pittsburgh, as the "home" of this new Association, will receive and manage this grant and Sloan funds yet to be received. Project Director: Professor Frank Giarratani, Department of Economics, and Director, Center for Industry Studies.

Each of the following grants was funded from an appropriation approved by the Board of Trustees to support the Sloan Industry Studies Fellowship Program, academic workshops, and other services in support of the industry studies community. (Each Sloan industry studies fellow receives a grant of \$45,000 for a two-year period, administered by his or her institution.)

Carnegie Mellon University
Pittsburgh, PA 15213

\$45,000

Sloan Industry Studies Fellowship for Assistant Professor Francisco Veloso, Department of Engineering and Public Policy.

Georgia Institute of Technology

\$45,000

Atlanta, GA 30332

Sloan Industry Studies Fellowship for Assistant Professor Dan Breznitz, Sam Nunn School of International Affairs.

Johns Hopkins University **\$45,000**
Baltimore, MD 21218

Sloan Industry Studies Fellowship for Assistant Professor Ravi Aron, Carey Business School.

University of Pennsylvania **\$45,000**
Philadelphia, PA 19104

Sloan Industry Studies Fellowship for Assistant Professor David Hsu, Management Department, Wharton School.

University of Washington **\$45,000**
Seattle, WA 98195

Sloan Industry Studies Fellowship for Assistant Professor Sonali Shah, Foster School of Business.

INDUSTRY STUDIES, OFFICER GRANTS

Carnegie Mellon University **\$20,000**
Pittsburgh, PA 15213

Support for travel to India to interview pharmaceutical firms as part of a research project on the Indian pharmaceutical industry. Project Director: Ashish Arora, Professor of Economics and Public Policy.

University of Illinois at Urbana-Champaign **\$12,000**
Champaign, IL 61820

To support travel to the 2008 Industry Studies Annual Conference by doctoral students from four U.S. schools of labor and employment relations. Project Director: Joel Cutcher-Gershenfeld, Dean and Professor, School of Labor and Employment Relations.

ECONOMIC PERFORMANCE AND QUALITY OF LIFE

MAKING MUNICIPAL GOVERNMENTS MORE RESPONSIVE TO THEIR CITIZENS

TRUSTEE GRANTS

City of Portland

\$135,011

Portland, OR 97204

ParkScan, developed with Foundation support by the Neighborhood Parks Council (NPC) in San Francisco, allows members of the public to report problems in any of San Francisco's 209 neighborhood parks. It also allows San Francisco's Department of Recreation and Parks to generate maintenance and repair work orders, to develop maintenance standards for its personnel, to train staff and volunteers, and to help plan capital improvement budgets. The City of Portland received a small officer grant to explore the feasibility of implementing ParkScan for its parks. Following consultations with Portland's parks advocacy organizations and city agencies, Portland Parks and Recreation (PP&R) has decided to implement ParkScan. This grant will support the project and enable ParkScan to be fully operational for all 200 of Portland's developed parks by May 2009. Business practices will be established to ensure that citizen input through the system is received and answered in a manner consistent with response standards to be developed. PP&R expects ParkScan to result in better maintenance of the City's parks and will use ParkScan data to evaluate and report to the public on its performance. Grant funds will be used by PP&R to cover NPC's and its contractor's expenses to implement ParkScan in Portland. All PP&R staff costs and some of NPC's expenses will be covered by PP&R. Once the system is operational, NPC will cover the cost of maintaining it for one year and PP&R is committed to covering maintenance costs for three more years. PP&R will also encourage ParkScan's adoption elsewhere by means of presentations at regional conferences, by inviting officials of other northwest cities to ParkScan events, and by offering training for neighboring cities. Project Director: Eileen Argentina, Manager, Park Services.

Congressional Quarterly, Inc.

\$277,275

Washington, DC 20037

Governing is a monthly magazine with a circulation of 85,000 subscribers who work for governments at the state, county, city, and special district levels, plus several thousand more in corporations, nonprofit organizations, and the media. It estimates its total readership at about 280,000. The user base of its associated website, Governing.com, continues to grow and is now almost 80,000 unique users monthly. Both the magazine and its website reach the people who can be instrumental in launching or continuing citizen-informed performance measurement and reporting in their communities, even as the Foundation's grantmaking in this municipal government program comes to a close. With this two-year grant, *Governing* will continue publishing four articles per year on

performance measurement and reporting, as well as on the value of including the interests and perspectives of citizens. Also, the Citizens and Performance section of Governing.com, which contains both the articles and links to other related materials, will be continued. Project Director: Elder Witt, Deputy Publisher and General Manager.

International City/County Management Association **\$486,145**
Washington, DC 20002

One of the aims of the Foundation's program to make municipal governments more responsive to their citizens has been to accelerate the diffusion of telephone-based 311 systems and their online equivalents, together called Citizen Relationship Management (CRM) systems. Seven of the ten largest American cities have 311 systems in place. A previous grant to the International City/County Management Association (ICMA) supported a national survey of municipalities with a population of at least 25,000 and counties with an appointed administrator or council-elected executive about their interest in CRM systems. Four case studies have been completed and a report is in preparation that will include recommendations that ICMA suggests for the field. The current grant is designed to encourage local governments to adopt CRM systems. ICMA will conduct a number of studies important to jurisdictions considering introducing or improving such systems. An online discussion forum for government officials involved with CRM systems will be launched. ICMA will also widely disseminate the products of its work and actively promote the introduction of CRM systems using the norms developed as a result of the earlier project. Project Director: Cory Fleming, Senior Project Manager.

National Center for Civic Innovation, Inc. **\$2,942,880**
New York, NY 10013

The Center for Government Performance (CGP) of the National Center for Civic Innovation has been the driving force in the Foundation's efforts to introduce the perspective of citizens into government performance measurement and reporting. This three-year renewal grant will support the following activities: (1) continue and expand the so-called Trailblazer Network of governments to which CGP has provided impetus and technical assistance as they have introduced and sustained citizen-informed performance measurement and reporting; (2) run a third round of citizen focus groups in New York City, this time with the approval of the Mayor's office, cost-shared with the City, and coordinated with the first-ever and city-funded citizen survey of New Yorkers; (3) assist governments and non-government organizations that want to introduce or continue to use Computerized Neighborhood Environmental Tracking (ComNET), the powerful and popular civic engagement program using hand-held computers and a web-enabled database, and work to place this innovative program on a more self-sustaining basis; (4) continue to publicize the importance of and methods involved in citizen-informed performance measurement and reporting by means of presentations and workshops at national and regional meetings, CGP conferences, interviews, participation in advisory boards and task forces, and by writing articles directed to government leaders, managers, and students; (5) prepare a report that will anchor and encourage the growth of citizen-informed performance measurement and reporting by explaining what types of

governments are most likely to benefit from initiating such measurement and reporting, what results can be obtained, how such a program can be sustained, and what factors derail and discourage its development; (6) produce a book, *The Streets of the City: A Proxy for Local Government Performance*, with data and analysis from over 60,000 observations made during 240 community surveys covering at least 21,000 blocks to help city officials and managers recognize the importance of street-level conditions and assist them in developing indicators that cut across agency responsibilities. In short, this grant enables CGP to strengthen the national movement of citizen-informed performance measurement and reporting in which it has played a central role. Project Director: Barbara Cohn Berman, Vice President.

Public Technology Institute
Washington, DC 20004

\$179,550

The Public Technology Institute (PTI) works with local governments and industry to develop and apply technology to the challenges facing communities. This grant will enable PTI to launch a Citizen-Engaged Designation Program that would identify, recognize, and promote best practice in telephone-based 311 systems and their online equivalents, together called Citizen Relationship Management (CRM) systems. Drawing, in part, on the research and recommendations of the International City/County Management Association (see grant above), and with advice from a national advisory board that it will constitute, PTI will develop and test evaluation criteria for its designation program, to be launched within two years and widely advertised to encourage applications. The promotion of the program's criteria and the publicity associated with awarding of the PTI designation as a Citizen-Engaged Community are expected not only to increase diffusion of CRM technology, but also its adoption in a manner that promotes citizen engagement and performance reporting. The program is expected to be self-sustaining once it is launched. Project Director: Alan Shark, Executive Director.

Rutgers University
Newark, NJ 07102

\$291,295

The Public Performance Measurement and Reporting Network, created with a two-year 2006 Foundation grant and managed by the National Center for Public Performance (NCPP) at Rutgers University, Newark, brings together performance measurement practitioners from government and nongovernment organizations, academics and other researchers, and consultants and others who provide services and expertise within the field. Network members provide mutual support, share experiences, and work together to strengthen the field. With this one-year renewal grant, NCPP will create a complete makeover of its website and employ a new full-time, experienced project manager, and will launch more realistic revenue generating projects. New resources put online will cater more to the interests of practitioners, the monthly newsletter will be improved, input from bimonthly user surveys will be relied upon to fine tune the program, and four new "communities of practice," subnetworks of people with similar programmatic interests will be launched. NCPP understands that it will have to become self-supporting within a

few years. Project Director: Marc Holzer, Executive Director, National Center for Public Performance.

The following grant was made from an appropriation approved by the Board of Trustees to fund start-up or planning grants, small projects, and community building activities in the Foundation's program for citizen-based performance assessment of municipal governments.

Community Indicators Consortium, Inc. **\$25,600**
Lynn, MA 01904

To prepare the ground for a larger effort to link community indicator projects and government performance measurement. Project Director: Allen Lomax, President.

The following grant was funded from an appropriation to support the initial stages of website improvement by grantees in the Foundation's program to make municipal governments more responsive to their citizens.

University of Central Florida **\$3,250**
Orlando, FL 32816

To explore upgrading the website of the Florida Benchmarking Consortium. Project Director: Marilyn Crotty, Director.

MAKING MUNICIPAL GOVERNMENTS MORE RESPONSIVE TO THEIR CITIZENS,
OFFICER GRANT

Community Indicators Consortium, Inc. **\$120,400**
Lynn, MA 01904

To promote citizen-based and citizen-informed government performance measurement and reporting by creating stronger linkages between community indicator projects and government performance measurement. Project Director: Allen Lomax, President.

ECONOMIC PERFORMANCE AND QUALITY OF LIFE

SCIENCE AND ENGINEERING WORK FORCE

TRUSTEE GRANTS

Population Reference Bureau, Inc. **\$383,000**
Washington, DC 20009

The American Community Survey (ACS), developed over the past decade and now being implemented by the U.S. Census Bureau, is replacing the census “long form” previously collected once every ten years from a 1-in-6 sample of U.S. households. In contrast, the ACS will collect detailed data each year on a rolling sample of three million U.S. households. Most of the detailed information about the U.S. population will come from these sample data. The ACS makes possible for the first time the development of reasonably current information on the U.S. science and engineering workforce, not only at the national and state level, but down to local levels of cities, counties, and metropolitan areas. This grant supports a project by the Population Reference Bureau (PRB) to produce annual estimates from the ACS of the size and characteristics of the science/technology work force in each of the 100 largest cities, 100 largest counties, and 50 largest metropolitan areas from 2005 through 2009, along with comparable data for the 50 states and for the nation as a whole. The large size of the ACS sample allows data breakdowns for important population subgroups, including women, racial/ethnic minorities, foreign-born, and age groups. The PRB will also add a time series dimension by providing multiple years of data at each geographic level. Finally, the new city, county, and metropolitan area data on science and technology workforce will be made downloadable at no cost to researchers, government officials, and all other interested users via the PRB’s website. Project Director: Mark Mather, Associate Vice President, Domestic Programs.

The following grants were made from an appropriation approved by the Board of Trustees designed to expand the growing but still-limited pool of active researchers focused on the U.S. science and engineering workforce.

Southern Utah University **\$34,478**
Cedar City, UT 84720

For study of job satisfaction of Ph.D. scientists and engineers. Project Director: Joe Garrett Baker, Professor of Economics, School of Business.

Syracuse University
Syracuse, NY 13244

\$40,216

For study of gender and racial patterns in the attainment of a science/engineering baccalaureate. Project Director: Yingyi Ma, Assistant Professor in Sociology, Maxwell School of Citizenship and Public Affairs.

University of Illinois at Urbana-Champaign
Champaign, IL 61820

\$44,286

For study of underrepresented undergraduates in STEM fields from matriculation to degree completion at large, research-intensive, public universities. Project Director: Assistant Professor Gregory Kienzl, College of Education.

University of Missouri, St. Louis
St. Louis, MO 63121

\$41,166

For study of foreign talent in the science and engineering workforce. Sharon Levin, Research Professor and Professor Emeritus of Economics.

University of St. Thomas
St. Paul, MN 55105

\$41,179

For study of occupational trends in job loss and dislocation among U.S. scientists and engineers. Project Director: Kenneth Root, Professor, School of Social Work.

University of Washington
Seattle, WA 98195

\$25,319

For evaluating the role of postdoctoral training in the career achievement of Ph.D.s: a secondary analysis using data from the "Ph.D.s Ten Years Later" Study. Project Director: Maresi Nerad, Associate Graduate Dean, Center for Innovation and Research in Graduate Education.

SCIENCE AND ENGINEERING WORK FORCE, OFFICER GRANTS

National Postdoctoral Association
Washington, DC 20005

\$44,833

A planning grant for a possible National Postdoctoral Survey Project. Project Director: Alyson Reed, Executive Director.

Population Reference Bureau, Inc.
Washington, DC 20009

\$45,000

For exploratory research to assess the feasibility of filling gaps in comparative international data on the science and technology workforce. Project Director: Marlene Lee, Senior Research Associate, Domestic Programs.

ECONOMIC PERFORMANCE AND QUALITY OF LIFE

WORKPLACE, WORK FORCE AND WORKING FAMILIES

TRUSTEE GRANTS

American Council on Education
Washington, DC 20036

\$697,303

With Foundation support, in 2005 the American Council on Education (ACE) released a report, *An Agenda for Excellence: Creating Flexibility in Tenure Track Faculty Careers*, signed by presidents of ten major research universities. Later that year, ACE hosted a by-invitation-only conference to further the national conversation about the need for more flexibility in academic careers and to generate practical approaches for increasing career flexibility. Teams from 32 research universities were in attendance. Based on the feedback from the ACE report and conference, the Foundation initiated a new awards program, the Alfred P. Sloan Awards for Faculty Career Flexibility. ACE has worked to design and administer two rounds of these awards, the first in 2006 for research universities, with five winners, and the second round ending in early 2008 for universities mainly emphasizing master's degree programs, with six winners. In addition to administering these awards, ACE has successfully explained the program and prepared liberal arts colleges as candidates for the third round of this awards program. With the current grant, ACE will carry out the following activities: (1) it will monitor the progress made by the 11 winners of the first two rounds to ensure they achieve the goals they set for themselves in their award applications; (2) it will disseminate the lessons learned from these winning institutions throughout higher education; (3) it will administer a third round of awards for the 286 Carnegie-classified baccalaureate – liberal arts colleges; and (4) it will begin work with medical schools in anticipation of the next round of Sloan awards on career flexibility. According to the American Association of Medical Colleges (AAMC), increased opportunities for career flexibility would be instrumental in enhancing the medical schools' ability to recruit and retain a diverse faculty. To that end, AAMC will partner with ACE to customize an awards application process for medical schools. Funding for administering these awards will be considered in 2010. Project Director: Claire A. Van Ummersen, Vice President, Center for Effective Leadership.

Boston College
Chestnut Hill, MA 02467

\$3,561,685

The Center on Aging & Work/Work Flexibility at Boston College, established three years ago with a Foundation grant, focuses on the aging of the work force, one of the most significant issues in today's economy. Current projections hold that over the next 20 years the baby boom generation, aged 62 and older, will increase from 45 million to 80 million. Nearly four out of five of these boomers intend to extend their work life beyond age 65, particularly if they can work part time or part year. The issue of workplace flexibility has thus become of paramount importance to both older workers and their

employers. Within the business community, the Center is becoming recognized as the premier source for up-to-date information and data on the aging work force and promising workplace flexibility practices. This Center is unique among university-based centers on aging in that it is positioned to work with business collaborators, including major companies across industries such as Duke Energy, Fidelity Investments, GlaxoSmithKline, and Deloitte & Touche. These collaborations have led the Center to take its information gathering and research in new directions. The original interest in workplace flexibility has broadened into discussion of talent management, aging has been reframed into a multigenerational focus, and the Center's domestic-focused research has expanded into a more global examination of talent management. In addition to developing these important business collaborations, the Center has assembled an extensive international team of researchers to develop country-based research on global talent management, including workplace flexibility. The Center has produced peer-reviewed conference proceedings for submission to professional journals. Several of the first international case studies are being prepared for publication. Corporate memberships are expected to increase over the next three years and will serve as an indication of the support of the Center by the business community. The current three-year renewal grant will support the continuation of Center research. Project Director: Marcie Pitt-Catsouphes, Director of Policy and Research Development.

Rutgers University Foundation
New Brunswick, NJ 08903

\$236,937

With this grant, Rutgers University's Bloustein School of Planning and Public Policy will conduct research on five nationally organized mothers' groups. Each such group has been organized mainly around the nature of the affiliation of mothers with the labor market. The research project aims to determine how nonprofit, nongovernmental groups, such as mothers' groups, form and how potential alliances could be built between and across these individual groups around the issue of workplace flexibility. This project will produce peer-reviewed scholarly articles and a book. Also, the project has the potential to contribute valuable information and insight to the efforts of the Sloan-supported Georgetown University's Workplace Flexibility 2010 project that works to develop grassroots support for a range of legislative ideas regarding workplace flexibility, a topic recognized to be of particular concern to mothers. The Georgetown project strongly supports this new research effort and anticipates building a solid working relationship with the Rutgers project leadership. Associate Professor Jocelyn Elise Crowley, Bloustein School of Planning and Public Policy.

University of California Hastings College of the Law
San Francisco, CA 94102

\$387,195

The activities of Joan Williams and the Center for WorkLife she founded at the University of California's Hastings College of the Law have been supported by the Foundation since 2000. In this final grant, the Center will address a real and systemic problem related to the stigma associated with flexible work arrangements, particularly part time work. The project consists of three main activities: (1) Convening an

interdisciplinary working group of scholars to produce an interdisciplinary volume on the stigma surrounding workplace flexibility; (2) Establishing a brain trust of 5-8 management-side lawyers to enable the Center to work with employers and attorneys; and (3) Working with the press to disseminate the story about flexibility stigma. Williams and the Center will focus on analytically connecting family responsibility discrimination to flexibility and translating this research to the legal community. Her work with management attorneys will serve the Center for WorkLife's goal of training management-side attorneys throughout the country to educate their corporate clients about flexibility stigma and how to prevent it in their workplaces, thereby avoiding risk of potential legal liability under current law and guidelines of the Equal Employment Opportunity Commission. Project Director: Joan C. Williams, Professor of Law; Director, Center for WorkLife Law.

The following grants were made from an appropriation approved by the Board of Trustees to support the Sloan Early Career Development Grant Program for Work-Family Research. This program's early career research grants aim to support promising assistant professors from a wide range of social sciences to either continue or to start research on issues of work and family, thereby serving to continue the momentum the Foundation has established in funding basic research in this area over the past years. Award winners are chosen on the basis of their prior scholarly record, the excellence of their proposed research, and the promise of continued productive scholarship. The Foundation makes a two-year \$45,000 grant to each institution employing an award winner, allowing each awardee up to two years to spend grant funds in support of his or her work-family research.

Clark University **\$45,000**
Worcester, MA 01610

Sloan Work-Family Early Career Development Grant to Assistant Professor Abbie E. Goldberg, Department of Psychology.

Pennsylvania State University **\$45,000**
University Park, PA 16802

Sloan Work-Family Early Career Development Grant to Assistant Professor Jennifer L. Hook, Department of Sociology.

Research Foundation of the State University of New York **\$45,000**
Albany, NY 12201

Sloan Work-Family Early Career Development Grant to Assistant Professor Robert L. Wagmiller, Department of Sociology.

University of Virginia **\$45,000**
Charlottesville, VA 22903

Sloan Work-Family Early Career Development Grant to Assistant Professor Allison Pugh, Department of Sociology.

University of Wisconsin **\$45,000**
Milwaukee, WI 53201

Sloan Work-Family Early Career Development Grant to Assistant Professor Noelle Chesley, Department of Sociology.

The following grants were made from an appropriation approved by the Board of Trustees to support the Alfred P. Sloan Awards for Faculty Career Flexibility in the academy. This second round of awards was directed to large master's degree universities. Each of the \$200,000 grants below is designed to implement a faculty flexibility accelerator program in association with the Alfred P. Sloan Awards for Faculty Career Flexibility. The two smaller awards of \$25,000 each were made to masters-focused universities that have a particularly innovative or promising flexibility practice in place.

Benedictine University **\$25,000**
Lisle, IL 60532

Project Director: Sandra Gill, Dean, College of Business.

Boise State University **\$200,000**
Boise, ID 83725

Project Director: Sona Andrews, Provost and Vice President for Academic Affairs.

Canisius College **\$200,000**
Buffalo, NY 14208

Project Director: Jerome L. Neuner, Associate Vice President, Academic Affairs.

Plymouth State University **\$25,000**
Plymouth, NH 03264

Project Director: Ann E. Thurston, Assistant Provost for Academic Administration.

San Jose State University **\$200,000**
San Jose, CA 95192

Project Director: Jerri Carmo, Deputy Chief Operating Officer, San Jose State University Research Foundation.

Santa Clara University **\$200,000**
Santa Clara, CA 95053

Project Director: Don Dodson, Senior Vice Provost.

Simmons College **\$200,000**
Boston, MA 02115

Project Director: Adele Langevin, Vice President, Human Resources.

University of Baltimore **\$200,000**
Baltimore, MD 21201

Project Director: Susan Rawson Zacur, Interim Provost.

The following grants were made from an appropriation approved by the Board of Trustees for small grants to raise the visibility of workplace flexibility as a strategic tool to achieve business goals.

University of California Hastings College of the Law **\$44,200**
San Francisco, CA 94102

To conduct a study of part-time legal partners and compensation patterns. Project Director: Joan C Williams, Professor of Law and Director, Center for WorkLife Law.

University of Massachusetts **\$34,094**
Amherst, MA 01003

To support research on unofficial flexibility through an analysis of day-to-day schedule changes. Project Director: Professor Dan Clawson, Department of Sociology.

WORKPLACE, WORK FORCE AND WORKING FAMILIES, OFFICER GRANTS

American Psychological Association **\$45,000**
Washington, DC 20002

Support for panels and presentations regarding Sloan-supported research on the aging working force, working families and workplace flexibility at the 7th international conference on occupational stress and health. Project Director: Gwendolyn Puryear Keita, Executive Director, Public Interest Directorate.

Brandeis University
Waltham, MA 02454

\$45,000

Support of pilot research to assess how caregiving responsibilities affect decisions by older workers to remain employed. Project Director: Rosalind C. Barnett, Senior Scientist, Women's Studies Research Center; Director, Community, Families and Work Program.

Persephone Productions, Inc.
Arlington, VA 22201

\$125,000

To support production of two segments on aging and work/workplace flexibility stories for the PBS show, *To The Contrary*. Project Director: Bonnie Erbe, Chief Executive Officer.

RJ Berrier Ltd.
Narberth, PA 19072

\$28,750

To support preliminary work on a strategic communications plan regarding workplace flexibility. Project Director: Robert Berrier, President & Chief Executive Officer.

University of Michigan
Ann Arbor, MI 48109

\$15,000

To support continuation of the National Clearinghouse on Academic Work Life. Project Director: Gloria D. Thomas, Director, Center for the Education of Women.

DIGITAL INFORMATION TECHNOLOGY and the DISSEMINATION OF KNOWLEDGE

TRUSTEE GRANTS

Wikimedia Foundation
San Francisco, CA 94107

\$3,000,000

Wikipedia was founded in 2001 and is the largest encyclopedia in human history, with over 2.6 million articles in English alone, compared to 85,000 in *Encyclopedia Britannica*. It is written entirely by volunteers in a unique process of collaborative text production. With online versions in some 250 languages, Wikipedia is the fourth largest web site in the world and now attracts about 30 million visitors per day. It is distributed under an open source license, which means its content can be modified, shared and used for any purpose, without permission. The Wikimedia Foundation, a nonprofit with less than 20 employees, runs Wikipedia and has achieved remarkable results on a shoestring budget and the passion and dedication of its volunteers. However, as a result of its enormous popularity and success it needs to expand and professionalize its operation. This grant supports recruitment of eleven new full-time employees, including four software developers who will focus on improving the quality of Wikipedia's entries with such techniques as version tags, stable versions and endorsed versions. For example, it should be possible to flag "endorsed" revisions, i.e., versions of articles that have been reviewed by authenticated members of established educational and scientific institutions. The new employees will include a systems administrator, a partnership coordinator and assistant who will help distribute Wikipedia content beyond the website via DVDs, books, USB sticks, etc., and a new public outreach assistant who will focus on recruiting fifty new countries with Wikipedias or Wikipedia Academies and broadening participation from developing countries with educational tools such as computers available under the One Laptop per Child program. Two additional important new positions will be a head of programs, responsible for overall execution and supervision of key program activities, and a head of fundraising to focus on major donors and public support. This three-year grant is the first major grant awarded to Wikipedia and will significantly enhance its organizational capacity, improve the accuracy of its content, and hopefully attract additional funders. The Foundation is aware of criticism of Wikipedia from more traditional sources of knowledge and information and also resulting from the occasional incident of inaccurate or "vandalized" pages (which are quickly corrected, usually within 24 hours). A number of independent scientific studies have shown that Wikipedia is already at least as accurate as *Encyclopedia Britannica* and other print compendia. Moreover, the accuracy of Wikipedia's articles continues to improve and this grant should bring it to a new level of quality, coverage and sustainability. Wikipedia represents an historic development combining digitization and the World Wide Web with a single, credible source and repository for the sum of all human knowledge. Project Director: Erik Möller, Deputy Director.

The following grant was made from an appropriation approved by the Board of Trustees to encourage the establishment of a regional scanning center in the mid-Atlantic states for digitizing library collections under open principles.

PALINET **\$250,000**
Philadelphia, PA 19104

PALINET is one of the largest U.S. member-owned and governed regional library networks, representing over 600 libraries, information centers, museums, archives, and other similar organizations throughout Delaware, Maryland, New Jersey, Pennsylvania, West Virginia and beyond. With this grant, PALINET will begin to establish a collaborative digitization service which will support free and open access to the rich materials of its member institutions. This is a first installment of a \$1 million appropriation allocated to PALINET. Project Director: Catherine C. Wilt, Executive Director.

DIGITAL INFORMATION TECHNOLOGY AND THE DISSEMINATION OF KNOWLEDGE,
OFFICER GRANT

Public Library of Science **\$45,000**
San Francisco, CA 94107

To develop a business plan for creating on-line hubs around scientific and medical subjects. Project Director: Peter Jerram, Chief Operating Officer.

SELECT ISSUES

BIOSECURITY

TRUSTEE GRANTS

Hastings Center

\$512,365

Garrison, NY 10524

Synthetic biology is a new and rapidly growing scientific field where information technology, biotechnology and nanotechnology converge. Synthetic biologists seek to build new systems from the ground up. Although they are designed to serve precisely specified purposes of their creators and the field has significant potential for societal benefits, it is possible that the synthetically created systems will have characteristics never before found in biological systems. As a result, synthetic biology could introduce new risks to human societies and to the environment. The goal of the Sloan Foundation's Synthetic Biology Initiative is to identify and address the risks associated with research in and applications of developments in synthetic biology. Over the next five years, this program will focus on ethical, governance, and policy issues. A successful program will educate scientists, policy makers, the media, and the public to better understand the risks and issues arising from synthetic biology research. The program will also help create a cadre of young scholars and practitioners to work on the ethical, social, and public policy issues raised by synthetic biology. A 2007 officer grant to the Hastings Center funded the mapping of the ethical issues raised by applications of synthetic biology in a paper entitled, "Ethical Issues in Synthetic Biology: An Overview of the Debates." With the current two-year grant, the Center will investigate these ethical issues in greater depth. The project aims to make a serious contribution to the scholarly literature on the social and ethical issues of synthetic biology, thereby producing a base for further scholarship and facilitating public policymaking for the science. A working group of participants from inside and outside the Center will be convened for sustained, structured, face-to-face interactions in a series of three project meetings. Based on these discussions, the plan is to produce 12-14 essays, some to be published independently and others as a collection in a special journal or book. The Center will also seek opportunities to publish op-eds in leading newspapers, essays in *Bioethics Forum*, and short pieces in scientific journals, and will create a synthetic biology hub on their web site. Project Director: Thomas H. Murray, President and CEO.

ICPO-INTERPOL

\$1,850,000

Lyon 69006, France

INTERPOL is the world's largest international police organization, with 186 member countries. Created in 1923, it facilitates cross-border police cooperation and supports and assists all organizations, authorities, and services whose mission is to prevent or combat international crime. Its bioterrorism program was established in 2004 with a grant from the Sloan Foundation. More than 500 delegates from 155 countries and 16 international

organizations participated in the “First Interpol Global Conference: Preventing Bioterrorism.” INTERPOL also created the Bio-Terrorism Incident Response Guide and conducted three regional workshops in Africa, Asia, and the Americas to raise awareness. With a second grant in 2006, INTERPOL conducted bioterrorism training sessions in Kenya, Romania, the Philippines, Peru, and Egypt to help member countries to ward the establishment of national bioterrorism programs. Many members have taken significant steps to counter bioterrorism. With the current final three-year grant, INTERPOL will conduct activities aimed at achieving four objectives: further engage and train police to counter bioterrorism; work with policy-making and other professional communities to improve bioterrorism prevention and preparedness; organize and deliver relevant meetings that will strengthen INTERPOL’s capacity for preventing bioterrorism; and institutionalize its bioterrorism program. INTERPOL will conduct training sessions to engage over 45 countries in the Arab world, Central Asia/Eastern Europe, South Asia, Latin America, and Africa. Follow-up support will be provided to help these countries develop national bioterrorism prevention and preparedness programs. Two tabletop exercises and 30 outreach missions are planned and the incident response guide will be updated. A new set of educational materials, including a basic bioterrorism training package especially developed for the police academy curriculum, will be created. By the end of this grant, it is expected that 15-25 additional countries will be developing national bioterrorism initiatives and that the INTERPOL bioterrorism program will be institutionalized with direct financial and in-kind support from its member countries. Project Director: Ronald Kenneth Noble, Secretary General.

International Council for the Life Sciences

\$200,000

Washington, DC 20006

This one-year grant provides partial support for the International Council for the Life Sciences (ICLS), a nonprofit organization dedicated to enhancing global biological security and safety, to organize and conduct Biosafety and Biosecurity International Conference 2009 (BBIC 2009), scheduled to take place in Morocco in April 2009. Partners of ICLS in this event are the Kingdom of Morocco’s Ministry of Education, Higher Education, Training and Scientific Research, the Environmental Agency of Abu Dhabi, and Jordan’s Royal Scientific Society. The conference will host over 100 participants from countries in the Gulf, Arab Middle East, North Africa, and Iran. The project will result in several scholarly papers on biological risks in the region, a conference report, a website and briefings for the diplomatic community in Morocco and the Washington, DC community interested in biosecurity. In addition, the conference organizers will produce an agreed-upon framework for a regional biosecurity strategy. Project Director: Terence Taylor, Director and Chairman of the ICLS Board of Directors.

J. Craig Venter Institute

\$595,749

Rockville, MD 20850

Synthetic genomics is a new and rapidly developing scientific field in which novel organisms are produced from DNA sequence information. This 2-year grant supports the J. Craig Venter Institute (JCVI) in an examination of societal concerns in synthetic

genomics. (See the grant above to the Hastings Center for background information concerning the Sloan Foundation's Synthetic Biology Initiative.) Although JCVI will be primarily addressing the synthetic biology science and engineering community, the goals of the project are to educate not only scientists about the societal issues surrounding synthetic biology, but also journalists and policy makers about the science so they and the scientists can engage in informed discussions. By bringing clarity and specific understanding of the science and its ethical implications to the fore, the JCVI aims to help educate and inform the public, the media, policymakers, and the scientists themselves and thereby foster constructive discussion among them. A series of three workshops will be convened to discuss such concerns as risks to the environment, the distribution of benefits from the new technology, and a number of philosophical and theological concerns. A core group of 20 individuals, including the four members of the grant project team and with expertise in ethics, philosophy, public policy, science and engineering, risk perception, journalism and communication, will attend all three meetings. About 10 additional participants will be invited to each workshop to bring special subject matter expertise to the group. Brief papers on specific topics will be commissioned. A carefully constructed set of plausible technology scenarios will frame the group discussions. Four dimensions for these scenarios have been identified: (1) Taxonomic (What type of organism is being modified or constructed?); (2) Degree of modification (How far from a natural state is the constructed organism?); (3) Purpose of the new organism (Will it be used to solve some real world problem?); and (4) The perceived intent and integrity of the scientist (Is the scientist trusted to have society's best interest at heart?). For each scenario/hypothetical case study, the group will explore environmental and philosophical/ethical concerns associated with the introduction of the new synthetic genomics technology. Findings will be communicated widely by means of publications in scientific journals and the more popular press, by a report for distribution to interested stakeholders, and by presentations at scientific meetings. Project Director: Michele S. Garfinkel, Policy Analyst.

National Academy of Sciences
Washington, DC 20418

\$55,000

The National Academy received an early 2008 Foundation officer grant to support a planning meeting for a proposed symposium to bring together the scientific, engineering, legal, and policy communities, and the public to explore both opportunities and challenges posed by the emerging field of synthetic biology. (See the grant above to the Hastings Center for background information concerning the Sloan Foundation's Synthetic Biology Initiative. The preceding grant to the J. Craig Venter Institute also falls within this initiative.) The current grant will support the National Academies, in collaboration with the Royal Society and the Organization for Economic Cooperation and Development, to organize and hold such an international symposium in Washington, DC in early 2009. Over 300 participants are expected to attend. The total cost of the project is estimated at \$375,000. Project Director: Anne-Marie Mazza, Director, Committee on Science, Technology, and Law.

New York University
New York, NY 10012

\$150,000

New York University's International Center for Enterprise Preparedness (InterCEP) is dedicated to private sector crisis preparedness, management and business continuity. Over the past three years and with Sloan support, InterCEP made the business case for preparedness and began establishing a series of business incentives based on legal, insurance, rating agency, and regulatory approaches. Although there was a general willingness to acknowledge and reward corporate preparedness, none of the important stakeholders wanted to be responsible for defining the meaning of "good" preparedness or for "measuring" preparedness, i.e., determining the extent to which a business is actually prepared. Following close work with Congressional staff and with industry representatives by InterCEP to create a voluntary business preparedness certification program, this recommendation was passed into law in August 2007 in Title IX of U.S. Public Law 110-53: *Implementing the Recommendations of the 9-11 Commission Act of 2007*. This final grant will partially fund InterCEP efforts to encourage and support private sector crisis preparedness initiatives. It will conduct a series of events to identify and engage relevant stakeholders, distill stakeholder input into recommendations for the voluntary business preparedness certification program, communicate these recommendations to the U.S. Department of Homeland Security, the ANSI-ASQ National Accreditation Board, and other bodies, and collaboratively develop guidelines for use of the certification program. Project Director: William G. Raisch, Director, International Center for Enterprise Preparedness.

University of Exeter
Exeter EX4 4QJ, United Kingdom

\$221,695

Two prior grants to the University of Exeter have supported work to raise awareness in the bioscience community about issues raised by dual-use research. In the most recent grant period, project leaders conducted forty seminars reaching about one thousand scientists, briefed policy makers in eight countries, adapted their training materials and posted them online, and produced several articles and a book on dual-use issues. In South Africa, India, Argentina, and Japan they trained local collaborators to conduct the training on dual-use issues. (Argentina has incorporated the training into the university curriculum.) With the current one-year final grant, the Exeter team will foster the development of national efforts about dual-use research issues in eight more countries. For each country, they have developed a plan to train locals to extend the training program. In Australia, for example, they have arranged to train members of the National Centre for Biosecurity. Over the course of the grant, they will conduct at least 16 workshops, prepare a practitioner monograph, and submit reports to relevant national agencies. They will present their work at sessions of the 2009 Biological Weapons Convention. The project will create an international network of scientists, policy makers, and others interested in raising awareness about dual-use research. Project Director: Professor Brian Rappert, Department of Sociological Studies.

University of North Carolina at Chapel Hill
Chapel Hill, NC 27514

\$199,743

Good Samaritan laws have been enacted in most states to provide liability protection to individuals who voluntarily assist injured persons in an emergency situation. However, these laws most often do not extend to businesses and nonprofit entities that also provide assistance during an emergency. A 2006 Foundation grant to the University of North Carolina supported a project that outlined the key legal issues and policy alternatives for Good Samaritan liability protection for businesses and nonprofits, such as the Red Cross, that participate in emergency response. A national coalition called the Emergency Volunteer Action Network (EVAN) was created comprised of organizations representing public health, emergency management, business and nonprofit entities, professional associations, and academia, all with a common interest in emergency legal preparedness. Working with EVAN members and using the UNC team's materials, five states drafted specific legislation to amend current state statutes to extend Good Samaritan liability protection to business and nonprofit organizations assisting in emergency response. Two of the states, Iowa and Georgia, have enacted laws. With the current one-year renewal grant, UNC will expand the membership of EVAN and develop local coalitions of business and public health leaders in at least ten states. Legal/policy tools and templates for Good Samaritan emergency liability protection will be disseminated and programs to educate lawmakers will be developed. UNC team members expect to give talks at five conferences, publish four articles in business and public health journals and/or newsletters, and prepare a final "lessons learned" report. Their work will help improve business and public health preparedness and emergency response by helping to remove the threat of liability to businesses and nonprofits. Project Director: Edward L. Baker, Director, North Carolina Institute for Public Health, School of Public Health.

University of Pittsburgh Medical Center
Baltimore, MD 21202

\$750,000

During the past eight years of Sloan support the Center for Biosecurity, currently affiliated with the University of Pittsburgh Medical Center, has provided national and international leadership to reduce the threat of bioterrorism. The Center's main priority continues to be improving national strategy, policy and practice in ways that increase the biosecurity of the U.S. and strengthen national resilience against major biological threats. Because the Center is an academic think tank with independent funding, it is able to brief those making policy and decisions frankly and in depth on both the range of biosecurity threats and challenges and on the effectiveness of the governmental and nongovernmental programs. With the current two-year grant, the Center will provide initial and ongoing briefings, analyses, and recommendations to the new Administration and Congress regarding the nature and seriousness of existing threats posed by biological weapons and large-scale epidemics; the trends in biological science and biotechnology that are driving the evolution of biological threats; the developments that are increasing the prospects of major global epidemics; and the actions the U.S. should take to address these challenges and strengthen the nation's biosecurity. Center staff will seek to engage with the newly appointed leaders in the White House and the relevant agencies; the Senate and House

Congressional budget authorization, appropriations, and oversight committees that have policy and program responsibility for evaluating biological threats, setting strategy, and executing programs to respond to these threats; and with respected leaders in the national security community who are not formally part of Congress or the Administration but whose views are widely influential and important in the Washington policy community. Briefings of key individuals, giving Congressional testimony, conducting off-the-record expert presentations to Congressional members and staff on important topics, meetings with small groups of senior-level persons from the policy-making community for candid discussions of major biosecurity challenges, offering a seminar series on the Hill in year 2 of the grant, posting policy briefings and reports on the Center's website, publishing commentaries and articles in the journal *Biosecurity and Bioterrorism*, and interacting with the media on issues related to the biological threat and its implications for national policy will all be pursued by Center staff. The aim is to have U.S. policy leadership well-informed about the gravity and potential consequences of the biological threats faced by the nation and also with the variety of strategy and policy options that best address them. Project Director: Tara J. O'Toole, Chief Executive Officer and Director, Center for Biosecurity of UPMC; Professor of Medicine & Public Health, University of Pittsburgh.

Woodrow Wilson International Center for Scholars
Washington, DC 20004

\$525,000

Interest of the Woodrow Wilson International Center for Scholars in nanotechnology spawned their interest in synthetic biology. (See the grant above to the Hastings Center for background information concerning the Sloan Foundation's Synthetic Biology Initiative. Grants described above to the J. Craig Venter Institute and the National Academy of Sciences are also part of this Foundation initiative.) With a 2007 Foundation officer grant, the Center mapped out the policy issues in synthetic biology and established a website (www.synbioproject.org) for the larger synthetic biology stakeholder community of policy makers, media, the educated public, NGOs, and scientists. The current grant will support work to identify and start to address risks associated with synthetic biology. The project goal is to ensure that, as synthetic biology moves forward, policy makers are informed, public concerns are understood, regulatory weaknesses are addressed, and risks are identified early so that potential benefits to society can be realized. During the duration of this two-year grant, the Center will conduct 8-10 meetings to educate policymakers and build community. They will also hold one Congressional briefing. Two papers will be prepared analyzing the adequacy of specific regulations for synthetic biology, beginning with the Coordinated Framework for Biotechnology. Two focus groups will be conducted to explore public attitudes toward synthetic biology. They will grow and maintain their website dedicated to synthetic biology in order to ensure that it has broad reach and appeal to multiple stakeholders, including nonscientists. Project Director: David Rejeski, Director, Foresight and Governance Projects.

The following grant was funded from an appropriation approved by the Board of Trustees for support of short-term projects and the planning stages of promising larger projects to reduce the threat of bioterrorism.

Dartmouth College **\$45,000**
Hanover, NH 03755

To complete a book on the history of vaccine development. Project Director: Kendall L. Hoyt, Assistant Professor of Medicine, Dartmouth Medical School; Lecturer, Thayer School of Engineering.

BIOSECURITY, OFFICER GRANTS

BioBricks Foundation, Inc. **\$60,500**
Cambridge, MA 02139

To enhance discussions of ethical, policy, and societal dimensions at the 4th annual international meeting of the synthetic biology community. Project Director: Lauren Bic Ha, Managing Director.

Hastings Center **\$45,000**
Garrison, NY 10524

To map out the ethical issues in synthetic biology. Project Director: Thomas H. Murray, President and CEO.

J. Craig Venter Institute **\$19,706**
Rockville, MD 20850

To conduct planning activities to examine societal concerns in synthetic genetics. Project Director: Michele S. Garfinkel, Policy Analyst.

National Academy of Sciences **\$35,000**
Washington, DC 20418

Support for the planning stages of an international meeting to explore the opportunities and challenges posed by the emerging field of synthetic biology. Project Director: Anne-Marie Mazza, Director, Committee on Science, Technology, and Law.

Tulane University **\$69,000**
New Orleans, LA 70112

To research historical data about the effectiveness of school closings, quarantine and other measures during the 1918 influenza pandemic. Project Director: John M. Barry, Distinguished Visiting Scholar, Center for Bioenvironmental Research.

Woodrow Wilson International Center for Scholars
Washington, DC 20004

\$45,000

To map out policy issues and establish a website in synthetic biology. Project Director:
David Rejeski, Director, Foresight and Governance Project.

SELECT ISSUES

ENERGY AND ENVIRONMENT

TRUSTEE GRANTS

Massachusetts Institute of Technology
Cambridge, MA 02139

\$400,000

Two very successful energy studies by MIT faculty, each led by John Deutch, have been supported by the Sloan Foundation with past grants, one on nuclear power and the other on coal. Both study reports, *The Future of Nuclear Power* (2003) and *The Future of Coal* (2007), received much media attention, influenced government R&D programs and industry actions, and had a significant effect on the public debate about energy choices. An MIT team, again led by Deutch, has now launched a third study, on the future of solar energy. The Chesonis Family Foundation has funded most of the cost of this study as part of its recent \$10 million gift to MIT aimed at “making solar energy America’s primary carbon-free fuel.” The study will cover all direct solar technologies (direct solar heating and cooling, photovoltaics, solar thermal power, solar production of liquid fuels) and energy storage that is necessary to make intermittent solar resources economically useful. It will include both on-grid and off-grid applications in both centralized and distributed configurations. The study team will examine the future of solar energy in the United States and globally, including in developing countries. The time horizon is 2050. The study report will make recommendations with respect to government and industry R&D investments, strategies for commercialization, and government policies, including direct production subsidies, tax credits, funding demonstration projects, and regulation. The MIT team includes faculty from relevant science and engineering departments, economics, and management. The potential pro-solar biases of those who have extensive experience working with the solar industry or on government research grants in the area are balanced by team members who are skeptics. As for the two other projects, this study will also benefit from an advisory committee chaired by Philip Sharp, President of Resources for the Future. The current grant supplies supplementary support for this important energy study. Project Director: Professor John M. Deutch, Department of Chemistry.

Resources for the Future, Inc.
Washington, DC 20036

\$330,000

Wood in forests has been valued by humans mainly for lumber and for fuel to burn. Forests were cleared to plant crops and graze animals. Now we have come to value forests for the biodiversity they shelter and the carbon they capture from the atmosphere and store. To measure forests turns out to be difficult. Discrepancies abound between reports of different agencies about changes in forest cover in the U.S. and also abroad. Studies of climate change policy often price carbon at \$30 per ton or more. Discrepancies in reports of the extent of forests translate into differences of many hundreds of millions

of dollars of worth. Technical challenges explain some such discrepancies. Measuring relatively few trees and then extrapolating to vast acreages is fraught with difficulties and can account for significant differences in measurements of the same forest area. Even experts using satellites who survey vast forest regions must still transform measures of greenness or other attributes that cannot be sensed remotely into tons of carbon or cubic meters of wood or other variables, and discrepancies persist. While the value of forests may not formerly have justified frequent, accurate measures, benefits may also accrue to some interest groups from inaccurate reporting. Emergence of carbon markets as part of climate change policy makes objectivity in forest and associated carbon measurement newly urgent. The instruments chosen to implement carbon trading programs should match the accuracy of the information about carbon sequestered in forests and how it changes. With this grant, Resources for the Future (RFF), a nonpartisan research institute respected for expertise in economics and natural resources, will initiate an effort to document shortcomings in measurement and monitoring of forests and to stimulate improvements. RFF will work with the many organizations concerned with aspects of forests to create an integrated, transparent picture of forest information and develop technical designs for more accurate systems fitting possible carbon markets. Project Director: Molly Macauley, Senior Fellow and Director of Academic Programs.

SELECT ISSUES

ADDITIONAL PROJECTS

OFFICER GRANTS

American Public Media
St. Paul, MN 55101

\$45,000

To complete the development of an interactive internet game about the U.S. federal budget. Project Director: Michael Skoler, Founding Executive Director, Center for Innovation in Journalism.

Philanthropic Research, Inc.
Williamsburg, VA 23188

\$5,000

Support for a complete data redesign for the new Form 990. Project Director: Kelly Ann Whalen, Development Director.

CIVIC INITIATIVES

SLOAN PUBLIC SERVICE AWARDS

TRUSTEE GRANT

Fund for the City of New York
New York, NY 10013

\$450,000

The annual Sloan Public Service Awards have been supported by the Foundation since 1990. This award program is operated by the Fund for the City of New York, an operating foundation that from its own resources provides the majority of the annual support needed. Winners are selected for outstanding performances from among the city's work force of some 300,000 individuals, have come from all ranks, levels, and agencies of city government, and receive recognition at their workplaces, at a citywide awards ceremony, and in the media. The core purpose of the program is to recognize and bring to the public's attention the importance and quality of public service provided by the city's work force, via recognition of six exemplary employees who have demonstrated some combination of extraordinary qualities of service, responsiveness to public need, reliability in times of crisis and under the pressures of daily routine, willingness to take risks to improve service and correct abuses or inequities, an ability to adapt effectively to changing circumstances, and as servant of the public interest amidst competing pressures, demands, and interests. The annual award process involves expansive solicitation of nominations, a careful and independent screening process to determine the six winners, and a high-profile series of celebrations for the winners with their colleagues, government and community leaders, past winners, families and friends. A brochure and website on the awards is produced and distributed widely throughout the city. The program has been a clear success and the current grant continues the Foundation's support for an additional three years. Project Director: Mary McCormick, President.

CIVIC INITIATIVES

SLOAN AWARDS FOR EXCELLENCE IN TEACHING SCIENCE AND MATHEMATICS

TRUSTEE GRANT

Fund for the City of New York

\$1,360,750

New York, NY 10013

This grant establishes an experimental annual awards program, the Sloan Awards for Excellence in Teaching Science and Mathematics. The primary goals of these awards is to recognize exemplary science and mathematics teachers in New York City public high schools and to disseminate widely to other teachers around the country the teaching strategies and course materials that have made them award-winning exemplars. This new award program will be modeled after the Sloan Public Service Awards, also operated by the Fund for the City of New York, that annually honor six outstanding New York City civil servants. The new Sloan awards for science and mathematics teachers have received strong support from both the New York City Department of Education and the United Federation of Teachers, the dominant teachers union for New York City teachers. The new Sloan award program will honor seven science or mathematics teachers (or teams of teachers) in New York City public high schools who have taught in the system for at least five years, have demonstrated real excellence in teaching science or mathematics, and have achieved extraordinary results. Candidates will be nominated by colleagues, supervisors, parents, students, or others familiar with their work. All nominations will be reviewed by the Fund and some 12 to 14 finalists will be selected for whom extensive individual profiles will be developed. Final selection of the awardees will be made by an independent Selection Panel of approximately 15 outstanding leaders in the science and mathematics communities in New York. Selection criteria to be used by the Panel include (1) student achievements, progress and outcomes, taking into account the “raw material” with which the teachers have to work, the challenges they must overcome, and their success in motivating students with diverse or special backgrounds; (2) teaching style and effectiveness; (3) innovation and creativity in the classroom; (4) creation of successful extracurricular science or mathematics activities for students; (5) use of technology where appropriate; (6) leadership role as mentor/leader/coach to other teachers; and (7) leadership role in promoting science and mathematics in their schools. Each awardee will receive an individual award of \$5,000, and \$2,000 will go to his or her department to use as it determines to improve the teaching of science and mathematics at the school and to support the program’s goal of disseminating the awardee’s innovative teaching strategies and materials to a broader national audience. Each Sloan Award will be presented at two ceremonies, one at a daytime assembly at each awardee’s school, the other at an evening citywide event. The Fund for the City of New York will develop procedures to disseminate widely information about the Sloan Awardees and the teaching innovations that have been developed and applied. A multimedia, searchable website will be designed and maintained by the Fund both to highlight the Sloan Award winners and

also to present information and easy access to the teaching strategies, experiments, and other course materials that have led to their exemplary teaching successes. The Fund will also seek city-wide media (newspaper, radio, and television) coverage of the Sloan Awards and their recipients. Although this is a five-year grant, funds will be released year to year and the program will receive careful review and evaluation at the end of the third year. If the Sloan Award program continues to the end of the five-year period, a further evaluation will be conducted on the basis of which a decision will be made whether to continue the program beyond the term of this grant. Project Director: Mary McCormick, President.

CIVIC INITIATIVES

UNIQUE OPPORTUNITIES

TRUSTEE GRANT

American Red Cross in Greater New York
New York, NY 10019

\$236,779

The American Red Cross in Greater New York (ARC/GNY) is a key partner and a vital participant in New York's plans and programs to help residents during emergencies and disasters. It is the largest chapter in the American Red Cross system, serving the needs of nine million people in the five New York City boroughs and four counties of the Lower Hudson Valley. ARC/GNY is creating and launching the NYC Emergency Preparedness Campaign, a new project to improve the preparedness of New Yorkers for an emergency or terrorist attack. The campaign is a collaborative effort of ARC/GNY, the New York City Office of Emergency Management (OEM) and the Advertising Council. OEM is the agency that plans and prepares for emergencies, educates the public about preparedness, and coordinates emergency response and recovery. The Ad Council is a private, nonprofit organization that makes use of volunteer talent from the advertising and communication industries and produces, distributes, and promotes public service campaigns on behalf of nonprofit organizations and government agencies. The goal of the new Emergency Preparedness Campaign is to increase the key preparedness behavior measures, such as having emergency supplies and a family communication plan, by two percentage points per year and to achieve a 10 point increase in each measure by 2012. The campaign is expected to receive \$5 to \$10 million in donated media each year. ARC/GNY expects the campaign to increase volunteer applications and attendance at preparedness events. The campaign model and plans are to be shared with the 40 largest chapters in the country, and will assist chapters in Boston, Chicago, Los Angeles, and Miami in developing their own campaigns. The new NYC Campaign will build on the success of two ongoing citizen preparedness programs: the US Department of Homeland Security's READY campaign and City's own Ready New York campaign, both of which have received prior Sloan support. This new project, partially supported by the current grant, is expected to greatly benefit New York City. Project Director: Theresa A. Bischoff, Chief Executive Officer.

OFFICER GRANT

**Neil D. Levin Graduate Institute of International
Relations & Commerce Foundation, Inc.**
New York, NY 10022

\$60,000

Support for "Innovate New York," a panel discussion series on how to make New York City more innovative. Project Director: Garrick Utley, Vice Chairman.

ADDITIONAL GRANTS

TRUSTEE GRANTS

Council on Foundations, Inc.
Arlington, VA 22202

\$45,000

General support (annual membership dues). Project Director: Steve Gunderson, President and CEO.

Foundation Center
New York, NY 10003

\$195,000

Renewal of operational support at \$65,000 per year for three years. Project Director: Alyson Tufts, Vice President.

Independent Sector
Washington, DC 20036

\$15,000

General support (annual membership dues). Project Director: Diana Aviv, President and CEO.

New York Regional Association of Grantmakers
New York, NY 10003

\$24,000

General support (annual membership dues). Project Director: Ronna D. Brown, President.