2004 ANNUAL REPORT

ALFRED P. SLOAN FOUNDATION

CONTENTS

2004 Grants and Activities

SCIENCE AND TECHNOLOGY

FELLOWSHIPS

Sloan Research Fellowships **$4,680,000**

The Sloan Research Fellowship Program aims to stimulate fundamental research by young scholars with outstanding promise to contribute significantly to the advancement of knowledge. Over the past 49 years, fellowships have been awarded to more than 3,900 scientists and have accounted for expenditures of approximately $104 million. Thirty-two Fellows have received Nobel prizes, fourteen have been awarded the prestigious Fields Medal in mathematics, 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.

Department heads or other 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 2004, the Foundation awarded Research Fellowships of $40,000 each, over a two-year term, to 116 scholars at 50 institutions in seven fields: chemistry (23), computer science (14), economics (8), mathematics (20), 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 2004 fellowships:

Chemistry: Laura L. Kiessling, University of Wisconsin; Stephen J. Lippard, Massachusetts Institute of Technology; John C. Tully, Yale University.

Computational and Evolutionary Molecular Biology: Barry Honig, Columbia University; Martin Kreitman, University of Chicago; Michael S. Waterman, University of Southern California.

Computer Science: Randy H. Katz, University of California, Berkeley; Jeffrey D. Ullman, Stanford University; Jeannette M. Wing, Carnegie Mellon University.

Economics: Lars P. Hansen, University of Chicago; David K. Levine, University of California, Los Angeles; Paul M. Romer, Stanford University.

Mathematics: Benedict H. Gross, Harvard University; George C. Papanicolaou, Stanford University; Ronald J. Stern, University of California, Irvine.

Neuroscience: David J. Anderson, California Institute of Technology; Allison J. Doupe, University of California, San Francisco; John H. R. Maunsell, Baylor College of Medicine.

Physics: J. Richard Bond, University of Toronto; Laura H. Greene, University of Illinois at Urbana Champaign; Michael E. Peskin, Stanford University.

SLOAN RESEARCH FELLOWSHIP RECIPIENTS

Boston College
Chemistry: Shana O. Kelley

Brown University
Mathematics: Ioannis Kontoyiannis
Molecular Biology: Molly Przeworski

California Institute of Technology
Physics: Andrew W. Blain
Sunil Golwala
Re'em Sari
Tapio Schneider
Mathematics: Nathan N. Dunfield
Vadim Yu Kaloshin

Calgary, University of
Molecular Biology: Dirk P. Tieleman

California, University of, Berkeley
Chemistry: Dirk Trauner
Computer Science: James F. O'Brien
Jonathan Richard Shewchuk
Economics: Chang-Tai Hsieh
Physics: Eugene Chiang
Alessandra Lanzara
Ashvin Vishwanath

California, University of, Davis
Neuroscience: Hwai-Jong Cheng
Elva D. Diaz

California, University of, Irvine
Mathematics: Knut Solna
Physics: Jonathan L. Feng

California, University of, Los Angeles
Mathematics: Rowan Killip
Neuroscience: Ming Guo
Physics: Bradley Hansen

California, University of, San Diego
Chemistry: Karsten Meyer
Computer Science: Henrik Wann Jensen
Stefan Savage
Mathematics: Li-Tien Cheng
Lei Ni
Neuroscience: Emanuel Todorov

California, University of, San Francisco
Molecular Biology: Matthew P. Jacobson
Neuroscience: Loren Magnus Frank

California, University of, Santa Barbara
Chemistry: Joan-Emma Shea

Carnegie Mellon University
Computer Science: Babak Falsafi

Chicago, University of
Chemistry: Rustem F. Ismagilov
Mathematics: Mark Kisin
Molecular Biology: Jonathan K. Pritchard
Physics: Ilya A. Gruzberg

Cold Spring Harbor Laboratory
Neuroscience: Carlos Brody

Colorado, University of
Mathematics: Meredith D. Betterton

Columbia University
Chemistry: Colin Nuckolls

Cornell University
Chemistry: Fernando A. Escobedo
Molecular Biology: Rasmus Neilsen

Dalhousie University
Molecular Biology: Andrew J. Roger

Duke University
Neuroscience: Fan Wang

Florida, University of
Physics: Yoonseok Lee

Fred Hutchinson Cancer Research Center
Molecular Biology: Harmit Singh Malik

Harvard University
Chemistry: Xiaowei Zhuang
Neuroscience: Aravinthan D. T. Samuel
Physics: Matias Zaldarriaga

Illinois, University of, at Chicago
Mathematics: Kevin Whyte

Illinois, University of, at Urbana-Champaign
Physics: Gerard Wong

Johns Hopkins University
Physics: Peter Maksimovic
Nina Markovic

Louisiana State University
Chemistry: Julia Y. Chen

Maryland, University of, College Park
Computer Science: Samrat Bhattacharjee
Economics: Mark Duggan
Mathematics: Thomas J. Haines
Neuroscience: Hey-Kyoung Lee

Massachusetts Institute of Technology
Chemistry: Timothy F. Jamison
Computer Science: Michael John Collins
Mathematics: Jeff Viaclovsky
Physics: Hong Liu
Iain W. Stewart

Michigan State University
Chemistry: Aaron L. Odom

Michigan, University of
Chemistry: Anna K. Mapp
Economics: Dmitriy Stolyarov
Mathematics: Divakar Viswanath
Neuroscience: Jonathan Demb
Physics: Luming Duan

Minnesota, University of
Economics: Marco Bassetto
Julia K. Thomas
Physics: Alex Kamenev

North Carolina State University
Chemistry: T. Brent Gunnoe

North Carolina, University of, at Chapel Hill
Chemistry: Marcey L. Waters
Molecular Biology: Brian Kuhlman

Northwestern University
Economics: Elie Tamer
Mathematics: Roman Bezrukavnikov

Ohio State University
Chemistry: Patrick M. Woodward

Pennsylvania State University
Chemistry: Christine Dolan Keating
Mathematics: Ae Ja Yee
Physics: Reka Z. Albert

Pennsylvania, University of
Computer Science: Sudipto Guha
Economics: Frank Schorfheide
Neuroscience: Joshua Gold

Princeton University
Computer Science: Szymon Rusinkiewicz
David Walker
Mathematics: Robert Seiringer
Benny Sudakov
Molecular Biology: Stanislav Y. Shvartsman
Physics: James D. Olsen

Rice University
Chemistry: Anatoly B. Kolomeisky
Physics: Douglas Natelson

Rochester, University of
Chemistry: Todd D. Krauss
Neuroscience: David J. Pinto

Southern California, University of
Molecular Biology: Ting Chen

Stanford University
Chemistry: Justin Du Bois

Texas, University of, at Austin
Chemistry: Venkat Ganesan
Computer Science: Peter Harold Stone

Toronto, University of
Chemistry: Gregory Scholes
Mathematics: Balint Virag

Utah, University of
Mathematics: Kenneth Bromberg

Virginia, University of
Mathematics: Chongchun Zeng

Washington University
Molecular Biology: Nathan Andrew Baker

Washington, University of
Computer Science: Stephen D. Gribble
David Wetherall
Physics: Mina Aganagic

Wisconsin-Madison, University of
Chemistry: Qiang Cui

Yale University
Chemistry: Joseph Patrick Loria
Computer Science: Ashish Goel
Economics: Jonathan Levin
Molecular Biology: Serafim Batzoglou
Neuroscience: Kalanit Grill-Spector
Tirin Moore
Kang Shen
Anthony D. Wagner

DIRECT SUPPORT OF RESEARCH

THEORETICAL NEUROBIOLOGY, OFFICER GRANT

Cold Spring Harbor Laboratory **$16,000**
Cold Spring Harbor, NY 11724

Support for the workshop "Communications in Brain Systems." Project Director: Jan A. Witkowski, Executive Director, Banbury Center.

ASTROPHYSICS, TRUSTEE GRANT

Astrophysical Research Consortium **$5,400,000**
Seattle, WA 98195

Sloan Foundation funding for the Sloan Digital Sky Survey (SDSS) began in 1992 with $10 million for construction of equipment, including a new telescope designed for an especially accurate and uniform survey of the northern galactic skies. A second $10 million was awarded in 1999 for a five-year observational period. Original goals of the SDSS were to locate and spectroscopically measure hundreds of thousands of galaxies and tens of thousands of quasars, primarily to be used to determine the mass structure of the universe. Many impressive scientific results have followed. These include the use by SDSS astronomers of the Survey's unequaled accumulation of data on the mass distribution in the universe to correlate with the Wilkinson microwave remnants of the Big Bang to confirm the existence of dark energy; the capture of light that had been on the way to us for more than 12.5 billion years from the most remote quasars ever sighted; and the discovery of a new class of objects, brown dwarfs with special chemistry, now known to be quite numerous and perhaps accounting for a large amount of the total mass, and whose presence can only be detected by observing infra-red signals. (Full details of the project, including publicly released data and research reports, can be found on the website www.sdss.org.) This latest grant partially funds a three-year extension of the survey itself and two new scientific projects. The extension will complete the Survey as originally planned by filling in parts of the northern sky that have not yet been spectroscopically measured. One new project is a survey of the Milky Way to determine its present structure and its history of formation. The other is a supernovae survey within distances not covered by other surveys. The total cost of the three-year extension is estimated at $14.9 million and a complete funding plan will be formulated before Sloan funds are made available. Project Director: Richard Kron, Fermilab, Director, SDSS.

The following grant was made from an appropriation approved by the Sloan Foundation Board of Trustees.

The Center for the Advancement of Genomics, Inc. **$2,500,000**
Rockville, MD 20850

The aim of this new program is to understand at the microbial level the human indoor and outdoor environment. Although our natural microbial environment is of interest as a field of scientific research, this area may also help us learn how to make this environment more hospitable to human life or more resistant to biological attacks. Air is a major route of microbial transfer to humans via the mucosal surfaces of the respiratory system. At least some of the many microorganisms in the air make their way past the defense barriers of the nose and mouth to cause infections in the upper or lower respiratory tracts or beyond. Air is also a major microbial transport mechanism across natural ecosystems. For example, the soil that forms on the top of a newly erupted volcano is colonized from the air. What little is known about microbes in the air is based on the ability of scientists to grow the microorganisms in the laboratory. However, over 90% cannot be grown in the laboratory and bacteria lack morphologically distinct characteristics that allow species to be visually differentiated. Recently discovered genomic techniques now allow scientists to begin the process of cataloguing and understanding the vast unseen and unknown microbial world in the oceans, freshwater, soil, and air, including the vast majority of organisms that have defied classification because they do not grow in laboratory cultures. Craig Venter and his colleagues, making use of novel techniques and sophisticated computer technology he and others developed to sequence the human genome, have recently studied seawater from the Sargasso Sea. One billion base pairs of non-redundant sequence data, estimated to be derived from at least 1,800 genomic species and 148 previously unknown bacterial phylotypes, have been discovered. Venter's team is collecting and sequencing samples from the world's seas and air to determine the genome of the environment. The sequencing methods are expensive; it cost nearly $2 million to sequence the DNA isolated from the water samples of the Sargasso Sea. With this grant, Venter and his team of researchers will determine the environmental genome of indoor and outdoor air samples collected in New York City. They intend to collect air samples from the rooftop and inside of a tall building and determine DNA sequences. Results will be published in a peer-reviewed journal and the sequences will be entered into the public domain by means of a new environmental genomics database at the National Institutes of Health. Project Director: J. Craig Venter, President.

LIMITS TO KNOWLEDGE, OFFICER GRANT

New York University **$30,000**
New York, NY 10003

Support of research and writing on the irrationality of "rational expectations" theory in economics. Project Director: Roma Frydman, Professor of Economics.

CENSUS OF MARINE LIFE, TRUSTEE GRANTS

Consortium for Oceanographic Research and Education **$1,240,000**
Washington, DC 20005

The bulk of the field work of the Census of Marine Life will occur during 2005-2008 in anticipation of publishing "The Census" in 2010. Management and coordination will also need to grow. For five years, the Consortium for Oceanographic Research and Education has played the central role in managing the Census, hosting the International Secretariat and International Scientific Steering Committee, as well as the United States National Committee for the Census. Foundation support since June of 1999 for the Consortium's international role has totaled $2.24 million and the Consortium has raised about $1.1 million in matching funds. This new grant will enable the Consortium to continue its international role for two more years at an increased level. Although the Census headquarters is in DC, it operates as a well-distributed program, with major nodes in Japan, Vancouver, Nova Scotia, Norway, Denmark, United Kingdom, Germany, and increasingly the Netherlands, France, Russia, China, India, Australia, New Zealand, Chile, and South Africa. The next two years will see the Consortium concentrating on fostering program integration, identifying additional Census partners and funding sources, and publicizing the activities and progress of the Census. Project Director: Admiral Richard D. West, President.

Marine Biological Laboratory **$900,000**
Woods Hole, MA 02543

This grant supports a project to study the small organisms in the oceans. The planned International Census of Marine Microbes (ICOMM), with co-directors at the Marine Biological Laboratory and the Royal Netherlands Institute for Sea Research, will give the Census of Marine Life complete coverage in size range, from microbes to whales. Despite their tiny size, microbes may account for as much as 90% of the total ocean biomass by weight. ICOMM will be the first global effort to use modern methods of DNA identification to distinguish and identify protozoa, bacteria, and related small organisms and to acquire information about their diversity, distribution, and population structure. It will cover the major groups in benthic (seafloor) systems as well as in open and coastal oceans. Grant funds will be used to support international scientific working groups; to diffuse the technology required for the microbial census; to develop the database resource MICROBIS that will organize morphological, molecular, and

contextual information; to facilitate and coordinate requests for research support from governments and other sources; and to organize educational and outreach efforts. ICOMM will benefit from its ability to collect samples at all depths and latitudes on many other cruises affiliated with the Census of Marine Life. ICOMM is the first Census of Marine Life project with a major presence in the Netherlands and the Dutch have committed long-term funding. ICOMM also has the support of most of the world's leading marine microbiologists and its prospects for funding of the actual research and analysis appear excellent. Project Director: Mitchell L. Sogin, Director.

Rutgers University **$1,500,000**
New Brunswick, NJ 08901

The Ocean Biogeographical Information System (OBIS) of the Census of Marine Life is a rapidly developing, global, four dimensional (3 for position and 1 for depth) atlas of biogeographic information. It has grown to 3 million records about more than 30,000 species, and has in its five year existence become the world's leading source of information on the distribution of marine species. OBIS includes data from all ocean environments and interacts with many other databases, including those with information about temperature, currents, and the shape and geology of the sea floor. In December 2001, a Foundation grant was awarded to Rutgers to provide overall management and a unifying portal for OBIS as part of the Census of Marine Life program. The stakeholders in OBIS have obtained funding around the world of about $15 million for its development. Most of these funds are dedicated to data about the northern hemisphere. This new grant will enable Rutgers to continue managing OBIS and its global portal and also to stimulate and coordinate the development of five regional OBIS nodes covering the southern hemisphere. OBIS will continue assimilating spatially-referenced records of life in the oceans gathered over the past few hundred years. It is preparing to handle the huge data streams of ongoing and forthcoming Census field projects. OBIS will remain accessible to analysts and modelers as implications of Census data are explored. Goals for the next 2 years include development of transparent quality assurance procedures for the data processed by OBIS, doubling OBIS data content to over 6 million records, completing formal agreements with international and national organizations, data providers, and end users, and establishing a diverse funding base and sources that could provide recurrent, routine financial support. The Rutgers team will speed the development of regional nodes so the entire Census program is stimulated throughout the southern hemisphere and data from the hemisphere is attracted into OBIS. OBIS' leaders intend for it to evolve by 2010 from an experimental service developed largely by academics to a utility maintained by national government agencies and international entities dedicated to ocean data. The on-line, digital atlas developed by OBIS should provide a fundamental basis for societal and governmental decisions on how to harvest and conserve marine life. Project Director: Fredrick Grassle, Director, Institute of Marine and Coastal Sciences.

Scientific Committee on Antarctic Research **$525,000**
Cambridge CB2 1ER, England

The waters surrounding Antarctica comprise about 10% of the world's oceans. In the winter, ice covers about 80% of the Antarctic Ocean. The process of ice formation creates dense bottom water rich in nutrients that attracts abundant wildlife: shrimp-like krill, whales, penguins, seals, and seabirds. But the cold also isolates Antarctic fauna and in some groups of species already studied 90% of Antarctic animals are found in Antarctica alone. The remote and extremely harsh environment has kept much unknown. With this grant the Antarctic community will conduct a 5-year Census of Antarctic Marine Life built around the International Polar Year of 2007/2008. Historically, these special years have succeeded in attracting funding and public interest. The outlook for the 2007/2008 International Polar Year is good, especially because of the widespread concerns about the effects of possible global warming in polar regions, where rates of climate change are forecast to be greatest. The Census Antarctic team anticipates nations may support as many as 18 cruises during 2007/2008 that could contribute to Census goals. The Scientific Committee on Antarctic Research (SCAR) has served as the coordinator for Antarctic research programs for many decades. It consists of the program managers of some 30 governments with Antarctic research programs and conducts research and monitoring required by the Antarctic treaty. With this grant, SCAR will form an international steering committee for the Antarctic marine census. Grant funds will be used for the steering committee's travel and secretariat, for assimilation of Antarctic data into the Census of Marine Life's data protocol, for website creation and other outreach efforts, and for integration of the Antarctic project with other Census of Marine Life field projects. Project Director: Colin Summerhayes, Executive Director.

Scientific Committee on Oceanic Research **$140,000**
Baltimore, MD 21218

In 2000, a grant of $100,000 to the Scientific Committee on Oceanic Research (SCOR), the leading nongovernmental international association of oceanographers, supported the formation of a working group on new observational technologies in support of the Census of Marine Life. This panel has highlighted available and emerging technologies, has improved plans for the field projects, and has united technologists in support of the Census. This grant funds a three-year extension of the panel's operation. Funds are budgeted for the group's annual meeting, which reviews and comments on the technology in use in the Census, and for panel experts to interact directly with the field projects of the Census, eight of which will be active during the summer of 2004 and which will grow in number and intensity over the following 3-4 years. Panel members are drawn from around the world and from academia, government laboratories, and industry. Computer scientists working with the new chairman, Elgar Desa of the National Institute of Oceanography in Goa, India, plan to make the SCOR panel's website the prime source on the web for information about technologies for observing marine life. Project Director: Edward R. Urban, Jr., Executive Director, SCOR Secretariat, Department of Earth and Planetary Sciences, Johns Hopkins University.

University of Alaska Fairbanks **$598,000**
Fairbanks, AK 99775

The Arctic is a sea of about 10 million square kilometers, half shallow and experiencing fast water changes and half a deep basin where water remains for hundreds of years. There is a large amount yet to be discovered about Arctic species diversity. In the last seven years, 1000 species of free-living invertebrates in Eurasian Arctic seas and adjacent deep waters have been identified by a team of Russian and German scientists. Attendees of a Foundation-funded workshop reviewed what is known and what can be learned about Arctic marine diversity and recommended the undertaking of an Arctic Census of Marine Life that would integrate and augment research efforts through 2010. Some $10-20 million for field programs is needed to achieve Census goals and funding efforts are underway. The fact that 2007-2008 will be one of the "International Polar Years" organized each 25 years to intensify polar observations should facilitate these funding efforts. Organizing questions include: Is the Arctic impoverished relative to lower latitudes in terms of species richness? Are there Arctic "hot spots" in biodiversity? Can species distribution patterns be linked to the geologic history of the Arctic? What can be learned about potential climate change impact on biodiversity from correlating species distribution patterns with environmental data? The Arctic Census will operate a scientific steering group, a network of collaborating researchers, and a project office. It will identify and accumulate available data, fully analyze samples that are already available, provide taxonomic training, fill geographic, taxonomic, and temporal gaps through new collections, and synthesize all collected information as part of the planned 2010 Census of Marine Life. An Arctic Census office at the University of Alaska Fairbanks will coordinate the efforts. The next two years should see the establishment of the office, the linking of databases to OBIS (the Ocean Biogeographical Information System of the Census of Marine Life), the submission and implementation of new biodiversity proposals, especially internationally coordinated proposals for the International Polar Year, the creation of an Arctic web portal to interact with the public and scientists, and the assembling and digitizing of the large amounts of marine Arctic fauna data accumulated in Russia over the last two centuries. Institutions in St. Petersburg and Moscow have agreed to take on this task and form a Russian Center for the Arctic Census. Project Director: Assistant Professor Rolf R. Gradinger, Institute of Marine Science, School of Fisheries and Ocean Sciences.

University of Alaska Fairbanks **$577,000**
Fairbanks, AK 99775

In June of 2002, a grant to a Japanese-led team supported an initial effort toward developing a simple, efficient, inexpensive standardized census of the world's marine life out from shore to a depth of about 20 meters. A protocol was developed and tested. The purpose of this new grant is to strengthen this research network, known as "NaGISA" ("shoreline" in Japanese), and increase sampling using the tested protocol. During the past two years, NaGISA completed baseline measurements at 30 sites in 8 countries, mostly in the East and North Pacific. It also formed an international Steering Committee and regional centers extending its reach to the Caribbean, South America, Europe, and

the Indian Ocean. It secured a continuing commitment of about $1 million per year through 2010 from Japanese sources and commitments in key countries important for any study of near-shore biodiversity, such as Indonesia. The new grant will allow NaGISA to construct a global baseline of near-shore biodiversity and to enter its near-shore data in the Census of Marine Life database, the Ocean Biogeographical Information System. NaGISA's aim by 2009 is to sample in 1134 sites from a map that divides the world's coastlines into 126 regions with distinct features. Foundation funds will be used to support the Steering Committee, to maintain the project website, and to undertake some education and outreach activities, particularly English-language programs. Several important research and administrative aspects of NaGISA are handled from the University of Alaska rather than from Kyoto University, and Foundation support will also assist the Alaska NaGISA regional center. Project Director: Associate Professor Brenda Konar, Global Undersea Research Unit, School of Fisheries and Ocean Sciences.

University of California, San Diego **$600,000**
La Jolla, CA 92093

The ocean floor is dotted by more than 100,000 isolated submarine mountains at least 3,000 feet high. Often extinct volcanoes, these "seamounts" may tower 20,000 feet, and when they pierce the surface they become islands like those of the Hawaiian archipelago. Seamounts provide complex sheltering habitat and thus concentrate marine life. They also often serve as rest stops where fish and marine animals that travel long distances pause to feed. The highest seamounts have recently become targets for fisheries, where trawls catch slow-growing fish in deep water. Only about 350 seamounts have been scientifically surveyed and fewer than 100 in detail. This grant supports an international team to launch the first census of marine life on seamounts. The project seeks to identify the different kinds of communities that characterize seamounts, estimate the extent to which life on each of these submarine islands might be unique, and understand the forces that influence seamount community structure, including impact of fisheries. The project has three components: (1) assemble data already collected on seamounts in "Seamounts on-line," a website that is part of the Ocean Biogeographical Information System; (2) influence numerous cruises already likely to take place to modify their schedules at low cost to include sampling of seamounts; and (3) conduct at least three major expeditions targeted at seamounts. Sloan funds will support a project secretariat, workshops, educational and outreach activities, and a steering committee, including members from India, Australia, South Pacific island nations, Canada, United States, United Kingdom, and Portugal. Project Director: Karen Stocks, Assistant Research Scientist, San Diego Supercomputer Center.

University of Hawaii **$660,000**
Honolulu, HI 96822

Until recently, the abyssal plains at sea depths below 4000 meters were believed to be lifeless deserts due to lack of light, low temperatures, and enormous pressures. Sampling of the sea floor has dramatically changed this picture. Today, deep-sea sediments are thought to be very rich in species. The vast majority of the species now collected in a

typical abyssal sample turn out to be new to science. Such high biodiversity in extreme habitat conditions is a puzzle and research challenge. With this grant, an international network of deep-sea biologists will undertake the Census of the Diversity of Abyssal Marine Life (CeDAMar). Recognizing the logistical challenges and costs of deep-sea exploration, the Scientific Steering Committee of the Census of Marine Life challenged the deep-sea community first to garner the financial support for an essential series of cruises. With especially strong German financial support, about $20 million has been obtained for sampling off Antarctica, Africa, South America, and in the North Pacific. Support for sampling in the Mediterranean Sea, Indian Ocean, and other regions is expected. This grant will be used to support the CeDAMar project manager, steering group meetings, project website, and certain cross-cutting efforts related to databases and taxonomic identification. The leadership of the effort, which includes the world's top deep-sea biologists, is at the German Centre for Marine Biodiversity Research in Wilhelmshaven and at the University of Hawaii, but also includes a strong Brazilian team funded by the Brazilian oil company, Petrobras. Project Director: Craig R. Smith, Professor of Oceanography.

University of New Hampshire **$675,000**
Durham, NH 03824

Zooplankton are the species of animals that drift with ocean currents throughout their lives. They include many jellies, as well as classes of mollusks, arthropods, and about a dozen other taxa. Plankton occur in all marine waters and at all depths. Zooplankton make up the food that supports many fisheries. New molecular and genetic techniques together with better undersea cameras now make it possible to aim for a comprehensive understanding of zooplankton diversity and distribution. This grant supports an international network with centers at the University of New Hampshire, Tokyo University, and the Wegener Institute for Marine Research in Bremerhaven, Germany to organize and carry out a global Census of Marine Zooplankton (CMarZ). This Census will make use of existing data and archived collections, as well as conduct new field work involving dedicated cruises, ships of opportunity (such as ferries or freighters that take samples), and enhancement of surveys carried out by fisheries institutes. CmarZ will cooperate closely with Census of Marine Life projects that operate in particular regions, such as the Arctic, to make sure these projects obtain needed specimens. A database for the project will be created with specimen-based geo-referenced entries, and will be fully integrated into the Ocean Biogeographical Information System of the Census of Marine Life. CmarZ will rely heavily on DNA barcoding to identify species. The Steering Group overseeing CmarZ spans 11 countries. Grant funds will be applied largely to project coordination. Project Director: Ann Bucklin, Professor of Zoology, Ocean Process Analysis Laboratory.

The following seven grants were funded from an appropriation approved by the Sloan Foundation Board of Trustees to support small grants to advance the implementation of the Census of Marine Life. These grants were for a variety of purposes: dissemination of information and outreach; strengthening commitments of U.S. constituencies and

cooperation with international organizations and industries; support of national programs for the Census abroad; and field program development.

DIVERSITAS **$20,000**
Paris 75 015, France

To increase sharing of findings from the Census of Marine Life at the 2005 DIVERSITAS conference, "Integrating Biodiversity Science for Human Well-Being." Project Director: Michael Loreau, Chair, Scientific Committee.

Richard Ellis **$45,000**
New York, NY 10003

For the preparation of a popular book summarizing knowledge accumulated to date by the Census of Marine Life. Project Director: Richard Ellis, Research Associate, American Museum of Natural History.

Rutgers University **$45,000**
New Brunswick, NJ 08901

To develop the Census of Marine Life program in China. Project Director: Yanqing (Phoebe) Zhang, Assistant Research Professor, Ocean Biogeographic Information System.

Scientific Committee on Oceanic Research **$35,000**
Baltimore, MD 21218

To convene a meeting of representatives of the major international ocean research and observation projects and programs, including the Census of Marine Life, to discuss common opportunities, issues and problems. Project Director: Edward Urban, Executive Director.

Scottish Association for Marine Sciences **$45,000**
Argyll PA34 4AD, Scotland

For the European Implementation Committee to meet near-term opportunities to advance the Census of Marine Life. Project Director: Professor Graham Shimmield, Director.

Universidad Simon Bolivar **$45,000**
Caracas, Venezuela

To hold a workshop to advance the Census of Marine Life in the Caribbean Sea. Project Director: Professor Patricia Miloslavich, Laboratory of Marine Biology.

University of Rhode Island **$45,000**
Narragansett, RI 02882

To promote awareness of the Census of Marine Life globally via public service announcements on CNN International. Project Director: Sara C. Hickox, Director, Office of Marine Programs, Graduate School of Oceanography.

The following grant was funded from an appropriation approved by the Sloan Foundation Board of Trustees to support research projects for the Census of Marine Life.

Rutgers University **$45,000**
New Brunswick, NJ 08901

For activities to organize the next phase of development of the Ocean Biogeographic Information System of the Census of Marine Life. Project Director: Fredrick Grassle, Director, Institute of Marine and Coastal Sciences.

CENSUS OF MARINE LIFE, OFFICER GRANTS

Center for Marine Biodiversity **$20,000**
Dartmouth, NS B2Y 4A2

To advance Canadian participation in the Census of Marine Life. Project Director: Ellen Kenchington, Executive Director.

University of Massachusetts **$45,000**
Amherst, MA 01003

To advance the creation of a center for the study of dose-response relationships at very low levels. Project Director: Edward J. Calabrese, Graduate Program Director, Environmental Health Sciences Department.

OTHER SCIENCE, TRUSTEE GRANT

Smithsonian Institution **$669,000**
Washington, DC 20560

Evidence has been rapidly accumulating that very short, cheaply obtained sequences of DNA suffice to identify almost all animals to the level of species, just as longer sequences can definitely identify individuals within a species. A comparably effective gene sequence is expected to be identified for plant species. These minimal DNA sequences sufficient to make taxonomic identification have come to be known as DNA barcodes. Foundation-supported conferences held in 2003 have explored and discussed

the science of DNA barcoding and developed a strategy for an International Barcode of Life Project and Consortium. The essential element of the strategy is to prepare barcodes first for the 500,000 or so plant and animal species already collected in drawers and jars in natural history museums and similar institutions. This grant supports the Smithsonian Institution in forming and operating a consortium of institutions to expedite barcoding. Natural history and university museums in many major cities around the world will cooperate in the project. Among the longer-range goals of the Consortium is creation of a rugged handheld device for use in the field that would accept a tiny piece of leaf or a hair, check its DNA, and identify the species or note it is not yet in the database. Such a "barcoder" could become a fundamental tool of conservation biology as well as a field guide for the 21st century. Grant funds will be used to help the Consortium get started, to support its first director for two years, and also to support a technical working group and conference. The founding institutions are confident that they can obtain funding to cover costs of the actual barcoding. A major role of the Consortium will be to help raise funds. The institutions will assume responsibility for maintaining the Consortium after this initial Foundation support. Project Director: Scott Miller, Chairman, Department of Systematic Biology, National Museum of Natural History.

OTHER SCIENCE, OFFICER GRANTS

Harvard University **$25,000**
Cambridge, MA 02138

For a two-week visit by members of the faculty of Baghdad University to Harvard University to discuss new developments in science and technology. Project Director: Richard Wilson, Professor of Physics.

National Academy of Sciences **$45,000**
Washington, DC 20001

To begin implementation of the IAC report, "Inventing a Better Future: A Strategy for Building Worldwide Capacities in Science and Technology." Project Director: Bruce Alberts, President.

Smith College **$8,900**
Northampton, MA 01063

Partial support for a one-day symposium on Genome Evolution in Eukaryotic Microbes. Project Directors: Associate Professors of Biological Sciences Laura A. Katz (Smith College) and Debashish Bhattacharya (University of Iowa).

HISTORY OF SCIENCE AND TECHNOLOGY

TRUSTEE GRANT

George Mason University Foundation, Inc. **$843,000**
Fairfax, VA 22030

A Foundation grant in 2000 provided funds to George Mason University (GMU) to foster the recent history of science and technology in new media. GMU has become a center for interactive history web sites, emphasizing opportunities for "those who were there" to contribute to an enduring, accessible archive. A "Memory Bank" that encourages visitors to the GMU site to submit recollections has recorded about 1,000 notable contributions. Visitors who explored the site in some detail numbered about 100,000 in 2003. The GMU Center for History and New Media has also trained about 50 people to construct web-based historical archives. With this new grant, the Center will publish a practical guide to doing digital history, train practitioners in depth, expand the role of its site as a portal to valuable online sources in history of science and technology, and create new interactive sites on important topics, including the open source/free software movement. The Center aims to increase contributions that recount the history of science and technology within business and industry. The leadership of GMU has committed to raising the endowment of the Center, now at $2 million, to $5 million over the next three years. Project Director: Roy Rosenzweig, Director, Center for History and New Media, Department of History.

OFFICER GRANTS

American Philosophical Society **$30,000**
Philadelphia, PA 19106

To develop a strategy involving eleven institutions for a Philadelphia center for the history of science and technology. Project Director: Mary Maples Dunn, Executive Director.

Cold Spring Harbor Laboratory **$45,000**
Cold Spring Harbor, NY 11724

To develop a "Memory Board" to capture the recent history of science and technology online. Project Director: Ludmilla Pollock, Director of Library & Archives.

STANDARD OF LIVING AND ECONOMIC PERFORMANCE

INDUSTRIES

INDUSTRY CENTERS, TRUSTEE GRANTS

Carnegie Mellon University **$750,000**
Pittsburgh, PA 15213

The Carnegie Mellon University Electricity Industry Center was established in 2001 as a joint venture between the Foundation and the Electric Power Research Institute (EPRI). A Sloan $1 million grant was matched by the industry, with EPRI contributing $750,000 and individual companies the remaining $250,000. The Center has become the largest interdisciplinary group of researchers and the leading academic center on electricity issues. It has developed close contacts with people and firms in the industry. Its research agenda has focused on market design and investment, distributed resources and micro-grids, reliability and security, and carbon capture and storage. It has offered valuable advice to many state and federal decision makers. Center research has shown how small numbers of firms ("pivotal suppliers") can control the market by withholding their capacity, giving them tremendous power to raise prices. Many in the industry attribute to this work of the Center the issuance of new guidelines by the Energy Regulatory Commission to create a standard market design for competitive power. Twenty-seven research projects are underway at the Center, involving 21 faculty members and 22 graduate students. Eight new MBA and undergraduate courses have been developed by the Center. The original Sloan and EPRI funds were more than doubled with support from other sources. Efforts to raise endowment funds for the Center are underway. This grant contributes additional funds, also to be matched by EPRI, for continued support of Center activities. Project Director: Lester B. Lave, Professor of Economics, Graduate School of Industrial Administration.

University of California, San Diego **$80,000**
La Jolla, CA 92093

A 1998 Foundation grant supported the formation of an Information Storage Industry Center (ISIC) at UC, San Diego. ISIC's research has had a notable impact on academic thinking, on the information storage industry, and on the technology industry as a whole. Much of this is documented in the book by ISIC research director David G. McKendrick, Stephen Haggard and Richard F. Doner, *From Silicon Value to Singapore: Location and Competitive Advantage in the Hard Disk Drive Industry,* Stanford University Press, 2000. A new opportunity for ISIC to benefit the industry derives from the appearance of storage area networks, new ways to implement storage in an enterprise level. In collaboration with the Storage Networking Industry Association, ISIC now plans to establish user groups whose members can access web-based education and technical resources available from academic institutions and also from a website. This grant provides partial support to

ISIC for one year to establish 20 Storage Network Users Groups connected to at least 10 universities and several training firms. ISIC expects this initiative to become more than self-sufficient by the conclusion of the grant and thereafter to create additional funds for its research program. Project Director: Roger Bohn, Associate Professor of Management, Graduate School of International Relations and Pacific Studies.

University of Kentucky Research Foundation **$295,000**
Lexington, KY 40506

This grant supplements significantly greater funding from the aluminum industry and the University of Kentucky for the formation of an Aluminum Industry Center. Over the past two decades, the bulk of primary aluminum production and related jobs have moved offshore, although the semi-fabricated and fabricated products sectors of the North American industry have remained competitive. Nevertheless, the challenges of global competition have forced many of these firms to downsize and cut costs, including reducing their investments in technology R&D and equipment. In the mid-1990s these competitive pressures led the industry to develop partnerships to conduct R&D, two of which are located at the University of Kentucky: the Center for Aluminum Technology (CAT); and Secat, a for-profit contract research organization that shares space and management with CAT. Both are well established and sustained by company contributions and contracts, as well as state and federal government grants. The new Center's research agenda will be established in close connection with industry and will fund multidisciplinary research teams who go out into the field for observations and data collection. Three research topics are planned: aluminum recycling; workforce development and deployment; and supply chain management. The Center will involve faculty and students from the Gatton College of Business and Economics, the College of Engineering, and the Martin School of Public Policy, as well as from the University of Louisville's Center for Business Logistics. It will sponsor educational activities, doctoral dissertation research, case studies for use in courses, and field trips for students to aluminum firms. The Center, with commitments already in hand sufficient to start and operate, has a realistic plan for raising additional funds over the next three years and for being fully self-sustaining thereafter. Project Director: Paul Jarley, Professor of Economics; Associate Dean, Gatton College of Business and Economics.

University of South Carolina Research Foundation **$400,000**
Columbia, SC 29208

U.S. companies have traditionally been highly competitive in travel and tourism, an industry that is a large segment of the U.S. economy and a large provider of jobs. Understanding the changes the industry now faces is critical for these companies to continue to defend their domestic market positions and to grow their international positions. This grant contributes modest funding toward the establishment of a center at the University of South Carolina to study the travel and tourism industry. Center research will involve close contact with people and companies in the industry, as is characteristic of Sloan Industry Centers. Initial efforts will concentrate on the U.S.-based multinational hotel and lodging segment of the industry. Research will be organized into three major

areas: corporate strategy and management practice; financial management and risk reduction; and organizational transformation and workforce/workplace issues. The Center will examine the issues and structural problems that challenge broadly diversified corporations such as Marriott, Hyatt, and Starwood, who have agreed to participate in the Center's research. As this research makes it appropriate, the Center will also look beyond the hotel industry into other elements of the travel and tourism system, such as transportation and food services. Interest in the Center is widespread across the university and faculty from many disciplines will participate in research projects. Substantial matching funds are expected from industry companies and associations, from government agencies and departments, and from the University that will be sufficient to launch the Center and maintain it for another decade after this Foundation grant. Project Director: Professor Carl A. Boger, Jr., Chair, School of Hotel, Restaurant, and Tourism Management.

Virginia Polytechnic Institute and State University **$100,000**
Blacksburg, VA 24061

This grant supports the formation of a Forest Products Industries Center at Virginia Tech. Forest products, not including paper, account for about $160 billion in annual value of manufactured product shipments. The forest products industry faces significant challenges. As one example, U.S. manufactured furniture has lost about 40% of its market share over the past decade, with attendant job losses, especially in states such as North Carolina. The Center will develop information, conduct research, and also provide mechanisms to link manufacturers, suppliers, government and environmental stakeholders. Emphasis will initially be placed on furniture and selected home products (veneer, doors, etc.). The Center will gradually move into other areas, such as forest and sawmill operations and distribution of various products. A database of information not now widely available to firms in the industry will be created on such topics as consumer and manufacturing trends in furniture and market demands for various types of lumber. An initial research project will focus on potential inefficiencies in the supply chain for veneer wood products. Foundation funds have been more than matched by over $600,000 already obtained from the University, U.S. Forest Service, and the industry. The University is confident that additional funds will be obtained to enable the new Center to maintain itself over the years. Project Director: Professor David Brinberg, Department of Marketing.

The following grants, from an appropriation approved by the Trustees, support the awards of Sloan Industry Center Fellowships. Each fellowship carries a stipend of $50,000 and includes $7,500 for expenses of the center at which the fellow will work.

Carnegie Mellon University **$57,500**
Pittsburgh, PA 15213

Sloan Industry Center Fellowship at the Carnegie Mellon Software Industry Center for Jennifer Kuan, under the supervision of Professors Richard Florida and Ashish Arora.

Columbia University **$57,500**
New York, NY 10027

Sloan Industry Center Fellowship at the Columbia Institute for Tele-Information for Christiaan Hogendorn, under the supervision of Professor Eli M. Noam.

Massachusetts Institute of Technology **$57,500**
Cambridge, MA 02139

Sloan Industry Center Fellowship for Jessica Lang Kosa at the MIT Program for the Pharmaceutical Industry, under the supervision of Professor Stan Finkelstein.

Massachusetts Institute of Technology **$57,500**
Cambridge, MA 02139

Sloan Industry Center Fellowship for Stoyan V. Sgourev at the MIT International Motor Vehicle Program, under the supervision of Professor John Paul MacDuffie.

University of Pennsylvania **$57,500**
Philadelphia, PA 19104

Sloan Industry Center Fellowship for Bertrand Venard at the Wharton Financial Institutions Center, under the supervision of Professor J. David Cummins.

INDUSTRY CENTERS, OFFICER GRANT

University of Maryland Foundation, Inc. **$45,000**
Adelphi, MD 20783

Support to develop a funding base to establish a biotechnology industry center. Project Director: Professor Jacques S. Gansler, Director, Center for Public Policy and Private Enterprise.

INDUSTRY STUDIES, TRUSTEE GRANTS

University of Pittsburgh **$347,500**
Pittsburgh, PA 15260

This grant renews support for efforts to build and strengthen the community of industry studies scholars. This community includes not only those at Sloan Industry Centers, but also graduates who have continued to pursue industry studies research, interested faculty who once were involved in a center but have moved on to other activities, and individual researchers who independently follow industry studies. The community has expanded to include many people who do not themselves do industry studies, but who draw on

industry studies research to enrich or complement their own. All of those who are not currently at Industry Centers are identified as industry studies "Affiliates." In January 2003, the Committee for Industry Studies was formed to provide leadership and services for this community. The model of "community" is a professional academic society or association and much progress has been made toward developing many elements of such an association. These include membership and officers; annual meetings with published proceedings; working papers and journals; prizes and awards; interest groups and regional meetings; newsletters and formal communications; a website; and professional development opportunities. Over 500 scholars now officially belong to and identify with this community, which is beginning to be called the "industry studies association." The University of Pittsburgh group manages the Industry Studies Fellowship program, the Affiliates program, the listserv, the working paper series, the academic workshop program, small grants for industry studies book promotion and seminar series, start-up of special interest groups, as well as operations of the Committee for Industry Studies. This grant supports the continuation and expansion of this work over the next two years as means to move further in the direction of establishing a professional association. Project Director: Professor Frank Giarratani, Department of Economics.

University of Pittsburgh **$138,000**
Pittsburgh, PA 15260

This grant, supplementing the one described above, provides funds to be transferred from the University of Pittsburgh to other universities for three purposes: small grants, at most $5,000, to host seminars on industry studies topics; $5,000 to $10,000 grants to promote new industry studies books; and travel grants, generally $5,000 or less, to convene face-to-face meetings of new special interest groups or to organize panels of industry studies researchers at professional society meetings. The Committee for Industry Studies has developed procedures for evaluating such grant proposals and will be responsible for making decisions about these awards. Project Director: Professor Frank Giarratani, Department of Economics.

The following grants were made from an appropriation approved by the Board of Trustees in 2003 to support services that have been identified by the industry studies community as having the highest priority for achieving the goal of building and strengthening the community.

Duke University **$37,824**
Durham, NC 27708

To support an academic workshop on "Globalization, Economic Development and Employment." Project Director: Professor Gary Gereffi, Department of Sociology.

Massachusetts Institute of Technology **$10,000**
Cambridge, MA 02139

To support communication and outreach activities for a new book, *Innovation – The Missing Dimension*. Project Director: Professor Richard K. Lester, Department of Nuclear Science and Engineering; Director, Industrial Performance Center.

Stanford University **$34,635**
Stanford, CA 94305

To support a workshop on "Allocation of Value in the Services Value Chain." Project Director: Henry S. Rowen, Professor of Public Management, Graduate School of Business.

University of California, San Diego **$32,000**
La Jolla, CA 92093

To support a workshop on "Best Practices in Achieving Financial Sustainability for Sloan Industry Centers," Project Director: Roger Bohn, Associate Professor of Management, The Graduate School of International Relations and Pacific Studies.

University of Washington **$34,300**
Seattle, WA 98195

To support an academic workshop on the rise of global marketing, merchandising and retailing intermediaries and their impact on manufacturers in consumer products industries. Project Director: Professor Gary G. Hamilton, Department of Sociology.

INDUSTRY STUDIES, OFFICER GRANTS

National Academy of Sciences **$45,000**
Washington, DC 20001

Support for the 2004 congress to develop general principles governing intellectual property negotiations between U. S. universities and industry. Project Director: Merrilea Mayo, Director, Government-University-Industry Research Roundtable.

Western Reserve Historical Society **$45,000**
Cleveland, OH 44106

Partial support for creating and distributing an archive of LTV Steel and predecessors. Project Director: Kelly Falcone, Director of Foundation and Government Grants.

Aspen Institute **$355,000**
New York, NY 10016

The team production model of the corporation developed by Margaret Blair and Lynn Stout appears to be a compelling alternative to the "principal agent" and shareholder primacy models that for many years have not only dominated corporate law scholarship but also much of the business school curriculum. Other models that have been advanced, such as stakeholder theory, have not been able to challenge the dominance of the traditional models whose proponents are often from the mainstream disciplines of finance, accounting, business law, and economics. A 2003 grant to the Aspen Institute supported initial efforts to test the feasibility of bringing the team production model into the business school. Twenty-nine faculty members from the mainstream business school disciplines were interviewed in depth and participated in a special workshop with Blair and Stout. They expressed high interest in having teaching materials that would help them incorporate aspects of the team production model in their courses and expressed confidence in Aspen's plan to bring these ideas and materials to the attention of and use by other business school faculty. With this new grant, the Aspen Institute Business and Society Program will involve about 25 leading business school faculty members in developing cases and other materials for teaching team production and testing them in their courses. They will conduct focus groups, arrange presentations at key academic meetings, and make these materials readily available on the internet via Caseplace.org, a website designed to facilitate curricular change in business schools. Project Director: Judith F. Samuelson, Executive Director, Initiative for Social Innovation through Business.

Brooklyn Law School **$20,000**
Brooklyn, NY 11201

For a symposium to share insights from law, social psychology, and sociology on corporate misbehavior. Project Director: Lawrence M. Solan, Professor of Law.

Kent State University Foundation, Inc. **$45,000**
Kent, OH 44242

To support research and analysis of government investments in for-profit business organizations and their implications for the concept of "fair exchange" legislation. Project Director: Professor John Logue, Department of Political Science; Director, Ohio Employment Ownership Center.

Brookings Institution **$120,000**
Washington, DC 20036

A Foundation-supported June 2003 Brookings workshop focused on data improvements needed to assess better the size and effects of the offshoring of services, i.e., the procurement abroad of business processes, whether via foreign subsidiaries of a multinational firm or through arms-length contracts with other firms. Attendance was heavily oversubscribed, and presentations so rich and challenging that Brookings intends to devote its annual two-day Brookings Trade Forum to a more in-depth discussion of the offshoring of services. This grant supports the planned Forum. Substantial papers by leading experts will be commissioned, participants drawn from academia, government, international institutions and the private sector will attend, and results will be published as a formal Brookings volume. The agenda includes contributions from three Sloan-supported researchers who have conducted in-depth studies of specific industries for which offshoring has become a significant issue: software services, semiconductors, and call center operations. Also on the proposed agenda are sessions on current and prospective impacts of offshoring on U.S. labor markets, especially those in high-tech fields, and on alternative taxation or adjustment policies that might address such workforce effects. Project Directors: Susan Collins and Lael Brainard, Senior Fellows.

Massachusetts Institute of Technology **$175,000**
Cambridge, MA 02139

As part of a past Sloan-supported project, Frank Levy, a labor economist at MIT, studied the computerization of work. As the project progressed, Levy became increasingly interested in the offshoring and outsourcing of jobs, since he observed that much of the work that was being outsourced to lower-wage workers in distant locations was often the same work that most easily lent itself to computer substitution. These two alternatives, computer substitution and offshoring, are choices that often overlap. For example, call center jobs are lost both to continuous speech recognition software and to offshore facilities where operators read scripts from screens. However, computerization and offshoring have very different implications for the U.S. economy, and the choices being made of one versus the other have important effects. This new grant supports a research project in which the effects of offshoring and computer substitution will be studied in the high-skill occupation of diagnostic radiologist. Radiologists will be interviewed and observed in practice and training. Case studies will be developed of individuals who work in radiology, including radiologists, software developers, and others, documenting the changing nature of their work over time. The project should shed light on the potential for computer substitution and offshoring to affect demand for U.S. diagnostic radiologists and hopefully, produce insights on similar impacts on other mid- and high-skill jobs. Project Director: Professor Frank Levy, Department of Urban Studies and Planning.

University of California, Berkeley **$151,400**
Berkeley, CA 94720

This grant supports a project to study the semiconductor industry and the decisions that some 6-10 firms selected from the industry are making to locate their R&D outside the U.S. The research aims to uncover what new strategies or approaches companies are following to organize their R&D efforts. Researchers will analyze the implications of these changes for the U.S. and suggest national policies that might affect the outcomes as they impact U.S. companies. Global manufacturing networks are today well-established in high technology industries, including semiconductors. There are growing signs of increased movement of R&D functions offshore as well. This trend could have important implications for industrial innovation, the economic competitiveness of U.S. firms, and the nature of jobs available for U.S. workers. The study should shed light on this important trend. Project Director: Henry W. Chesbrough, Executive Director, Center for Technology Strategy and Management, Haas School of Business.

GLOBALIZATION, OFFICER GRANTS

Carnegie Mellon University **$45,000**
Pittsburgh, PA 15213

Support for adding the study of the software industry to the Sloan Globalization Network Project. Project Director: Ashish Arora, Professor of Economics and Public Policy, The Heinz School.

Columbia University **$39,000**
New York, NY 10023

For study of human resources issues in outsourcing/offshoring of financial services. Project Director: Hitendra Wadhwa, Assistant Professor of Marketing, Columbia Business School.

Marquette University **$16,000**
Milwaukee, WI 53201

Partial support for study of offshore programmer retention. Project Director: Kate M. Kaiser, Associate Professor of Management, College of Business Management.

Massachusetts Institute of Technology **$44,000**
Cambridge, MA 02139

To establish a working group to examine the definitional and measurement issues that hamper research on offshoring, and to make recommendations for improvement. Project Director: Professor Frank Levy, Department of Urban Studies and Planning.

Stanford University **$21,195**
Stanford, CA 94305

Support for adding the study of business process outsourcing in the electronic industry to the Sloan Globalization Network Project. Project Director: Professor Henry S. Rowen, Asia-Pacific Research Center.

NONPROFIT SECTORS

UNIVERSITIES, OFFICER GRANT

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

For convening a workshop to draw lessons from the university simulator, Virtual U, for applications of interactive simulation in secondary and higher education management. Project Director: Henry Jenkins, Professor of Humanities; Director, Comparative Media Studies Program.

ASSESSMENT OF GOVERNMENT PERFORMANCE, TRUSTEE GRANTS

Financial Accounting Foundation **$415,000**
Norwalk, CT 06856

Two prior grants to the Governmental Accounting Standards Board (GASB) through its parent body, the Financial Accounting Foundation, have supported staff work on performance measurement and reporting. This final grant will continue the work and lead to a staff recommendation to the GASB Board about whether and when to add to its active agenda a project to establish guidelines or standards for reporting performance information as part of external financial reporting. These guidelines would not mandate the use of performance measurement, but would specify how performance measurement should be reported by those jurisdictions that choose to make such reports. If approved, such GASB guidelines would be a substantial stimulus to making widespread the use and public reporting of measures of municipal government performance. Over the next two and a half years, the GASB staff will prepare training modules on the use of the suggested criteria, a guide to assist citizens in using performance reports, and an implementation guide to help those working to use the suggested criteria. Presentations will be made at conferences and to regional associations, citizen groups, and governmental entities on how to use the suggested criteria. Staff will conduct discussion groups with citizens and elected officials in jurisdictions that have issued reports using these criteria. At least 30 state and local governments interested in using the criteria will be assisted, articles on the suggested criteria will be prepared for key publications, and quarterly assessments of the results of experimentation with the criteria will be produced. Based on feedback from governments and citizens using the suggested criteria, a revised set of suggested criteria will be prepared by June 2006. By the end of that year, a recommendation from the staff will go to the GASB Board. Project Director: Wilson Campbell, Project Manager, Governmental Accounting Standards Board.

New York Public Interest Research Group Fund **$180,000**
New York, NY 10007

Past Foundation grants to the New York Public Interest Research Group (NYPIRG) have supported performance measurement and reporting work by its Straphangers Campaign, focused on public transportation in New York City. The Campaign has produced annual reports on the state of New York's subways and buses and issued reports on subway car cleanliness and announcements, and subway payphones. These reports have received extensive attention from the print and broadcast media of New York City. The Campaign has an active website and more than 200,000 comments have been placed on its online complaint board. The Straphangers continue to be the country's leader in citizen-based performance measurement and reporting about public transportation. They helped launch the Campaign for Better Transit in Chicago and continue to provide technical assistance. They played an instrumental role in convincing the Metropolitan Transit Authority to hire a consultant to study Rapid Bus Transit options for New York based on experience elsewhere and successfully promoted increased transparency and accountability of the MTA. The current final grant funds three additional years of work by the NYPIRG. Project Director: Gene Russianoff, Staff Attorney.

Rutgers University **$443,850**
Newark, NJ 07102

A 2001 grant to Rutgers funded a project at its National Center for Public Productivity (NCPP) to create, disseminate, and promote curricular material related to citizen-based performance measurement of local services. By the spring of 2003, the Graduate Department of Public Administration at Rutgers-Newark had incorporated the new material into 24 MPA and doctoral courses. By that autumn, the curricular material was also being used in similar graduate programs in 38 other universities. Use continues to increase each year. The new curricular material has also been presented and disseminated in training courses offered by professional organizations. The Rutgers team, believing that presenting the materials online would be a more effective means of reaching the target audience, created a set of 15 online modules offered initially in November 2002. These too have seen growing use. The current grant will enable NCPP to support and promote the online certificate program over a period of three years. The long-term plan anticipates growth each year until 1300 registrations are obtained in 2006-07. With these numbers and assuming modules are priced competitively with comparable professional training opportunities, the certificate program is expected to be self-sustaining. Project Director: Marc Holzer, Chair, Graduate Program in Public Administration.

The following seven grants, funded from an appropriation approved by the Board of Trustees, support small projects in the Foundation's program on citizen-based performance assessment of municipal governments.

The Fund for Public Advocacy **$19,240**
New York, NY 10007

To enable the completion and piloting of a database for the Ombudsman Unit of the Office of the Public Advocate. Project Director: Betsy Gotbaum, Public Advocate.

GreenTreks Network, Inc. **$45,000**
Philadelphia, PA 19102

To promote the work of the Connecticut Policy and Economic Council on performance measurement and direct service request. Project Director: Tim Schlitzer, President.

New Yorkers for Parks **$45,000**
New York, NY 10022

To enable New Yorkers for Parks to develop and institutionalize a community report card for neighborhood parks in New York City. Project Director: Maura Lout, Research Director.

New York Public Interest Research Group Fund **$5,000**
New York, NY 10007

Partial support for an exhibition highlighting the past 25 years of the Straphangars campaign in New York City. Project Director: Gene Russianoff, Staff Attorney.

Radford University Foundation **$44,000**
Radford, VA 24182

To enable the Governmental and Nonprofit Assistance Center of Radford University to identify performance measures that would provide meaningful comparisons among Virginia's local and county governments and to make them available on the Center's website. Project Director: Professor Bruce W. Chase, Department of Accounting, Finance, and Business Law.

Texas A & M University **$44,981**
College Station, TX 77843

For a study of performance measurement by special districts and of citizen involvement therein. Project Director: Assistant Professor Kimberley R. Isett, George Bush School of Government and Public Service.

Worcester Regional Research Bureau **$60,000**
Worcester, MA 01608

To fund a meeting of Sloan Foundation grantees on the subject of the sustainability of performance measurement projects. Project Director: Robert Schaefer, Executive Director.

WORKING FAMILIES AND EVERYDAY LIFE, TRUSTEE GRANTS

Boston College **$780,265**
Chestnut Hill, MA 02467

It was six years ago that the Foundation funded development of the Sloan Work and Family Research Network. Since that time, this network has come to be recognized within the United States and Europe as the only one of its kind providing needed resources, research, and teaching tools for scholars engaged in work-family research. The Network has produced an extensive database with over 5,000 annotated citations, as well as a series of teaching resources for faculty members teaching in the area of work and family. These teaching resources include the *Work-Family Encyclopedia* and the *Work-Family Glossary.* The Network produces three Newsletters a year on Sloan-funded research and convenes research forums on specific themes. A resource volume, *Work-Family Handbook: Multidisciplinary Perspectives and Methods,* is expected to be published in 2006 by Erlbaum Publishers. Nearly 900 scholars are currently affiliated with the Network, of whom 250 have actively contributed to the Network's website. There have been 24,000 unique visitors to the home page, with evidence showing that many users pass on information to others. This grant renews support for the Network, which will continue its services to the academic community and extend its work by providing resources to state legislators and managers in human resources. Project Director: Assistant Professor Marcie Pitt-Catsouphes, Graduate School of Social Work.

Emory University **$2,965,705**
Atlanta, GA 30322

Established as a result of a Foundation grant in 2000, the Center on Myth and Ritual in American Life (MARIAL) at Emory University is unique in contemporary American anthropology for its examination of myth and ritual in American mainstream middle-class families. The MARIAL Center has produced a new and distinctive understanding of middle-class working families by examining the role of myth and ritual in their lives. It appears that the developmental course of such families is unusual in that it aims to self-destruct by sending adult children out from the family to make their own family units rather than continuing their families of origin. As the family gets older, it becomes increasingly dependent on ritual events to maintain the continuity of the old family in the face of its progressive dissolution. This fact underlies the importance of rituals in family life, especially homecoming rituals, and explains many of the tensions that such occasions produce among family members. Two psychologists associated with MARIAL are studying how families develop story-telling skills and practices, as well as the consequences of family storytelling on children's development and well-being. The more the child knows about his or her family and is encouraged to listen to and tell stories about the family, the higher the child's self-esteem and the more resilient the child. It appears that the telling of family stories and the instillation of a family history into

children are associated with better emotional adjustment and increased ability to bounce back emotionally from disappointments and setbacks. In addition to its research, MARIAL has sought creative ways to communicate issues about middle-class families to a broader public. Collaborating with Theater Emory, MARIAL selected an American play from each decade of the 20th century that exemplified how family was being represented in its time. Weaving a key scene from each play into a new composite play, the new drama depicted the unfolding of the American idea of family over the years. The production was considered a highlight of Atlanta's 2002 theater season. MARIAL also produced a documentary on religious reunions for broadcast on public television. This renewal grant will enable MARIAL to continue its research program and to communicate its findings to the general public. Project Director: Professor Bradd Shore, Department of Anthropology.

University of California at Los Angeles **$3,578,990**
Los Angeles, CA 90095

UCLA houses the Center on the Ethnography of Everyday Life of Families (CELF). Established in 2001, the Center's primary purpose is to document in fine-grained detail the lives of working families. CELF's research makes extensive use of video cameras to capture in detail how people actually live their lives. The cameras stay on the families from early in the morning to late at night, during the week and also weekends, documenting them getting kids off to school, making meals, commuting to and from work, doing homework, etc. Data have been collected on 22 of the intended 30 families. There are 1000 hours of video, 12,400 digital photographs of home spaces and artifacts, 500 hours of tracking movements of family members throughout the home, and 200 hours of audio data. All data have been digitized and entered into CELF's Working Family Digital Archive Server. Full analyses will be completed when data on all 30 families have been collected. Research topics to be explored include the following: identifying the kinds of family and household activities carried out by members of the family; determining how family members collaborate and communicate with one another in the course of carrying out these activities; identifying how parents manage employment obligations while at home; determining how families reunite at the end of the day and act as "restorative" environments for children and adults; studying how homework and other learning activities take place in the home; and interpreting how the everyday activities of the families are rooted in working middle-class family and community practices, beliefs, and values. This renewal grant will see the Center complete data collection and make complete analyses of what will prove to be the richest available data set on working families. Project Director: Elinor Ochs, Professor of Anthropology; Director, Center on Everyday Lives of Families.

The following grant is funded from an appropriation approved by the Board of Trustees to support study of the mismatch between the workplace and the changing workforce. The traditional workplace, requiring full-time, full-year work, with minimal to no time off and maximum opportunities for overtime, no longer fully fits the needs of the diverse

workforce. Although many workers, especially working parents and older workers, are interested in part-time and part-year work, such arrangements are limited and often carry penalties of disproportionate pay, few or no benefits, limited career opportunities, and virtually no movement between full-time and part-time work. Grants under this appropriation are designed to study various aspects of the mismatch between the current workplace and the current workforce and to raise awareness of this fundamental problem. (Grants were also made from this appropriation in 2002 and 2003.)

9to5 Working Women Education Fund **$45,000**
Milwaukee, WI 53203

For study of best practices for part-time workers. Project Director: Ellen Bravo, National Director.

WORKING FAMILIES AND EVERYDAY LIFE, OFFICER GRANTS

Boston College **$44,945**
Chestnut Hill, MA 02467

For study of the impact of work in later life on the psychological health and well-being of older workers. Project Director: Jacquelyn B. James, Director, Research, Center for Work and Family.

Georgetown University **$45,000**
Washington, DC 20001

To complete a book on how working parents form their work and parenting identities through their talk. Project Director: University Professor Deborah Tannen, Department of Linguistics.

University of Kansas **$5,500**
Lawrence, KS 66106

Support for a conference on carework. Project Director: Mary K. Zimmerman, Professor of Sociology and Professor of Health Policy and Management.

WORKPLACE FLEXIBILITY, TRUSTEE GRANTS

The BOLD Initiative, Inc. **$251,839**
New York, NY 10016

This grant to the BOLD Initiative (Business Opportunities for Leadership Diversity) supports a project to enhance performance and productivity by increasing workplace flexibility in ten companies. The project requires demonstrable measures of increased

utilization of flexible arrangements and improved performance measures, with performance defined in the context of each work unit in each participating company. BOLD initiated this project with a 2003 grant, but difficulties arose that limited its demonstration projects to two companies and required modifications in the project design. This new grant will allow for the completion of the demonstration projects in eight additional companies already identified and for the collection of data on flexibility utilization and performance in all ten companies. Project results, if they show that introducing more flexible work arrangements generally has positive effects on employee performance and productivity, can be expected to improve the likelihood that business people will embrace the business case for workplace flexibility. Project Director: Beatrice A. Fitzpatrick, President and Chief Executive Officer.

Corporate Voices for Working Families **$125,000**
Washington, DC 20036

Corporate Voices is a nonpartisan, nonprofit corporate partnership organization created to improve corporate practices on issues affecting working families. With this grant and working with the consumer brand companies among its partner firms, Corporate Voices will develop a series of corporate examples and case studies by which they can identify and document the costs and benefits accruing to employers and their employees as a result of implementing various flexible work arrangements. As part of this project, the relevant direct costs incurred by employers in providing flexibility will be identified and, where possible, measured. Specific cost savings to the employer will also be identified. These include those savings resulting from reduced turnover or absenteeism, as well as cost avoidances, for example, those due to lesser use of recruitment firms resulting from lower employee turnover. Both tangible and intangible benefits to the firm and to its employees will be specified. This collection of case studies will be disseminated widely so other employers can determine whether the relative costs and benefits presented in the cases are applicable to their situations and can serve as a guide to their decisions about offering more flexible work arrangements. Project Director: Donna Klein, President and Chief Executive Officer.

Employment Policy Foundation **$131,580**
Washington, DC 20005

The Employment Policy Foundation (EPF) is a nonprofit, nonpartisan public policy research and educational foundation supported in large part by corporate members. Its research has demonstrated that work and family balance is regarded by corporate employees as one of their top three priority issues. Yet, corporate human resources practitioners at the most senior levels are not sufficiently informed on a regular basis about work and family research and employment practices. As a result, EPF developed a newsletter, *The Balancing Act*, the first four issues of which were supported by a Foundation officer grant. This is a 4-5 page electronic publication for the busy senior executive. Issues feature Sloan-funded as well as EPF research on such topics as phased retirement, workplace flexibility, part-time work, and telework. The newsletter is sent electronically to nearly 3000 recipients in over 570 companies. A recent survey of readers

revealed that information in *The Balancing Act* was leading 76 of the companies to consider new or modified policies on phased retirement or caregiver arrangements. This grant supports continued publication of *The Balancing Act*. Project Director: Edward Potter, President.

Georgetown University **$320,000**
Washington, DC 20001

This grant funds continued efforts by Georgetown University to create a Workplace Flexibility Policy Initiative in Washington, D.C. in a bipartisan manner focused on consensus building. Attempts to bring together leaders from different constituent groups, including business, labor, and advocacy will be continued without advancing any specific policy proposals. The project will complete a full analysis of existing federal laws and the ways they either impede or facilitate flexibility. Some progress has been made in making workplace flexibility a compelling, bipartisan issue in Washington. A Congressional hearing has been held in which the need for workplace flexibility was a major issue. Also, discussions have been held about enactment of a bipartisan bill modeled in part on Congressional action in 1987 creating the award program named after Malcolm Baldrige, Secretary of Commerce from 1981 to 1987. Criteria for the Baldrige Awards were designed to help U.S. organizations enhance their competitiveness by focusing on two goals: delivering ever improving value to customers and improving overall organizational performance. The new bill under discussion would create a new award for business excellence in workplace flexibility. Project Director: Professor Chai Feldblum, Law Center.

Massachusetts Institute of Technology **$2,500,000**
Cambridge, MA 02142

The MIT Workplace Center was established in 2001. Its research, education and outreach efforts have been aimed at contributing to a better alignment between workplace practices and the needs of the workforce. Employers, professional associations, unions, and family advocates were all engaged at three different levels: the workplace level; the associational/institutional level; and the state level. At the workplace level, Center faculty and graduate students partnered with Boston hospitals to conduct research on many topics, including the self-scheduling of nurses to provide greater autonomy and work-family balance; recalibrating workloads for surgical residents; and developing models of career flexibility for physicians in health maintenance organizations. In each research project, existing assumptions underlying work practices were examined and the possibility of crafting new and more flexible workplace policies explored. At the associational level, the Center has brought the empirically grounded data from their workplace research into discussions with unions, professional associations, industry and trade associations, and other organizations representing workers, employers, and community groups. Center aims are to create a greater understanding of work-family issues in these groups and the larger public, and to engage the support of these associations and institutions in diffusing flexible work practices across the occupations and industries in which they work. At the state level, the Center started a Work-Family

Council to promote collaborative public-private efforts to achieve the workplace policies and practices needed to support the modern workforce and economy in the State of Massachusetts. About 100 people associated with a variety of organizations have become actively engaged in the initiative and have formed specific working groups. The Flexibility Working Group is conducting a survey of hiring, promotion, and turnover rates of male and female attorneys in major Massachusetts firms. The Family Care Working Group has explored with public relations professionals a public education campaign on supports necessary for family care. The current grant renews support of the Center for a final period of three years. Workplace research and intervention projects in health care, legal services, and high technology firms in Massachusetts will be expanded. Education and outreach to associations will be deepened and broadened so as to make flexible workplace policies and practices better known. Dialogue and innovation among private and public sector senior leaders will be supported by the Work-Family Council. Project Directors: Lotte Bailyn and Tom Kochan, Professors of Management.

Pennsylvania State University **$629,661**
University Park, PA 16802

With this grant, Penn State researchers will study the quality of work life for hotel managers and will disseminate results to the hotel industry. Strategic changes will be identified that can strengthen hotel companies, managers, and their families. They will examine how managers perceive, react to, and manage the requirements and challenges of their jobs and how these occupational characteristics are associated with positive and negative psychological and performance outcomes at work and at home. Workplace conditions will be identified that mitigate or exacerbate negative outcomes. Tangible ways will be identified by which hotel companies can tailor workplace policies and practices to optimize flexibility for hotel managers. Findings and recommendations will be disseminated throughout the industry in trade publications and by presentations at meetings and conferences. The research project involves an initial survey of 500 hotel managers in some 20 hotels across the country and, where relevant, their spouses. This will be followed by an in-depth, daily diary study of 120 of the managers and their spouses to gain a more detailed picture of day-to-day stresses and satisfactions characteristic of this work, of conditions giving rise to negative stresses, of implications of stress for managers' productivity, job satisfaction, and for both managers' and spouses' well-being and perceptions of work-family conflict. An Advisory Council, with members who are leading executives from the hotel industry, will participate in all stages of the project, from surveys to dissemination of results and recommendations to the industry. Project Directors: Professor Ann C. Crouter, Department of Human Development and Family Studies; Assistant Professor John W. O'Neill, School of Hotel, Restaurant, and Institutional Management.

Research Foundation of City University of New York **$304,750**
New York, NY 10010

With this grant, an interdisciplinary team will undertake an international comparative study on working time patterns in eight countries. The project will focus on two groups:

working parents and older workers. It will study hours spent working for pay in the United States and seven comparison countries, including Australia, Canada, France, Germany, the Netherlands, Sweden, and the United Kingdom. The aim is to understand how work hours vary across these countries and have changed over the last decade. The study will also aim to identify patterns of variation in work hours, both within and across countries, with respect to key demographic and employment factors, such as marital status, age, educational level, and employment status. The relationship between preferred hours and actual hours and how that relationship varies from country to country will be assessed. Another project goal is to understand the consequences for workers and their families of the amount of time spent in paid work and how that varies across countries. Two types of consequences will be emphasized: effects of paid work hours on how time is used during non-work hours, including time spent in care giving, leisure, and personal care; and effects of hours worked on the economic well-being of workers and their families. Finally, the project aims to understand how working time regulations vary across countries in order to assess where and for which workers the institutional context provides employees with the most genuine choice and control related to their work hours. Project Directors: Janet Gornick, Associate Professor of Political Science; Tim Smeeding, Professor of Economics and Public Administration; Gary Burtless, Senior Fellow in Economic Studies; Liana Sayer, Professor of Sociology.

University of Iowa **$170,069**
Iowa City, IA 52242

Many employees resist working flexible schedules for fear of incurring penalties in wages and promotions. A 1998 grant to the University of Iowa supported a project to assess the effects of flexible employment on working mothers' wage growth over time. The research demonstrated that managerial and professional mothers pay a steep price for using flexible employment practices in the workplace. This new grant funds research to determine whether all employees, not just working mothers, who utilize flexible employment practices, including full time and part time, are subject to wage penalties. The research will assess if wage penalties differ depending on characteristics of the worker (gender, parental status) or characteristics of the employing firm (government, private for-profit, self-employment) or other organizational variables (firm size, standard versus nonstandard employment, gender composition of the work group). Project Director: Professor Jennifer L. Glass, Department of Sociology.

The following five grants are funded from an appropriation approved in 2002 by the Board of Trustees to support the Dual Ladder Program, an action program to provide incentives for colleges and universities to add to the existing tenure ladder a second, or dual, ladder for career advancement of those currently in the secondary labor pool, e.g., adjuncts and part-time instructional staff. The dual ladder will provide opportunities for promotion, equitable compensation, and consideration for tenure-track appointments for these employees. The Program also aims to rethink the current rigid tenure track by promoting part-time tenure track and tenured career paths in order to increase the

probability of women advancing to senior faculty positions. (Grants from this appropriation were also made in 2002 and 2003.)

American Association for Higher Education **$43,725**
Washington, DC 20036

Support for a special issue of *Change* magazine on the work lives of faculty. Project Director: Clara Lovett, President

Association for Women in Science **$38,500**
Washington, DC 20017

To conduct a literature review of gender differences among non-tenure faculty in science and engineering. Project Director: Catherine Didion, Executive Director.

Brandeis University **$44,471**
Waltham, MA 02454

For support of research on barriers and opportunities for women's advancement in academic medical careers. Project Director: Linda Pololi, Visiting Scholar, Women's Studies Research Center.

University of Kansas **$45,000**
Lawrence, KS 66045

For support of research on the institutional barriers and facilitators to family-friendly policies for faculty members. Project Directors: Lisa Wolf-Wendel, Associate Professor, Department of Teaching and Leadership, School of Education, University of Kansas; Kelly Ward, Associate Professor, Department of Educational Leadership and Counseling Psychology, College of Education, Washington State University.

University of Utah **$44,920**
Salt Lake City, UT 84112

Support of research on family formation and professional advancement in academia. Project Director: Nicholas H. Wolfinger, Assistant Professor, Department of Family and Consumer Studies.

The following three grants are funded from an appropriation approved by the Board of Trustees for small grants to raise the visibility of the issue of workplace flexibility.

American University **$44,850**
Washington, DC 20016

To produce a report on "Opt Out or Pushed Out." Project Director: Joan Williams, Professor of Law.

Pennsylvania State University - Abington College **$44,850**
Abington, PA 19001

For support of research on overemployment and potential consequences for workplace flexibility. Project Director: Lonnie Golden, Associate Professor, Department of Economics.

Research Foundation of City University of New York **$43,953**
New York, NY 10021

Support for a book on professional women and their decisions to leave the workforce for family reasons. Project Director: Professor Pamela Stone, Department of Sociology.

WORKPLACE FLEXIBILITY, OFFICER GRANTS

Pennsylvania State University **$32,350**
University Park, PA 16802

Support for the 2005 College and University Work Family Association conference. Project Director: Robert Drago, Professor of Labor Studies and Women's Studies.

University of Washington **$44,825**
Seattle, WA 98195

Support for a pilot program for national leadership development workshops for science, engineering, and mathematics department chairs. Project Director: Eve A. Riskin, Professor of Electrical Engineering and Director, ADVANCE Center for Institutional Change.

PUBLIC UNDERSTANDING OF WORKING FAMILIES, TRUSTEE GRANTS

American Public Media **$168,000**
Saint Paul, MN 55101

Marketplace is a 30-minute early evening program that airs weekdays on more than 330 public radio stations nationwide. The associated nine-minute program, *Marketplace Morning Report*, airs on weekday mornings. Together they reach more than 7 million different listeners. Over the next year, the Work-Family Desk of the two programs will

produce and air 40 stories related to working families and the changing workplace. This grant ensures that 29 of these 40 stories will focus on workplace flexibility. A one-day meeting of leading business and work-family experts will address salient story lines. Stories under discussion include a series describing new forms of flexibility, such as part-year work, career breaks, or "second acts" programs that bring people back into the workforce after time off for caring. Project Director: J. J. Yore, Executive Producer and Vice President, Programming.

Persephone Productions, Inc. **$187,500**
Washington, DC 20006

To The Contrary is a Public Broadcasting Station news analysis program that airs weekly on more than 240 PBS stations and on the United States Information Agency's Worldnet, reaching an audience of almost a million viewers. The show has the highest percentage of women viewers aged 34 to 54 of any public affairs program. Each weekly program consists of two taped segments on critical issues of the day, followed by an in-studio panel discussion by Washington, D.C.-based women who represent different points of view on the issues. Women consistently rank workplace flexibility as a compelling work-family issue. With this grant, three segments on workplace flexibility will be produced and aired on *To The Contrary*. These three programs will inform the American public about cutting edge workforce patterns that point to the need for a more flexible workplace. For example, the segment on phased retirement will point up the growing interest in flexible work by the aging workforce. By 2010, 80 million baby boomers will reach 65 years of age. A significant proportion anticipate working beyond the conventional retirement age, but have an interest in flexible work arrangements since they do not want to work full time or full year. Project Director: Bonnie Erbe, Chief Executive Officer.

EDUCATION AND CAREERS IN SCIENCE AND TECHNOLOGY

SCIENTIFIC AND TECHNICAL CAREERS

ANYTIME, ANYPLACE LEARNING, TRUSTEE GRANTS

Babson College **$205,000**
Babson Park, MA 02457

With Foundation support, Elaine Allen and Jeff Seaman of Babson College conducted 2003 and 2004 surveys of online education. They assessed enrollment levels and growth rates, attitudes of chief academic officers, and other related matters. The second annual survey, released in November 2004, reported that in 2004 about 2 million learners enrolled in at least one online course, up from 1.6 million reported as part of the previous year's survey. It confirmed the finding of the previous survey that a majority of academic officers believed online courses were of equivalent quality to traditional classes. The report is available on the Sloan-C website, www.sloan-c.org. The current grant will support the surveys of online education for another three years. Project Director: Elaine Allen, Associate Professor of Statistics and Entrepreneurship.

Council for Adult and Experiential Learning **$175,000**
Chicago, IL 60603

Prior Foundation grants to the Council for Adult and Experiential Learning (CAEL) have supported ALN degree programs for workers in the telecommunications and electric power industries. The first of these projects, now known as NACTEL (National Coalition for Telecommunications Education and Learning), involves CAEL and Pace University. Verizon, SBC, Qwest, and Frontier, as well as the key unions CWA and IBEW, are participants. Pace courses and degrees currently enroll workers in 40 states. The second project, EPCE (Electric Power Coalition for Education) is also managed by CAEL and ALN courses and degrees are provided by Bismarck State College in North Dakota. It is focused on education for the electric power industry. Each program enrolls about 2,000 students and is now self-sustaining. The current grant will enable CAEL to develop a coalition of industry participants for a similar project for the wireless industry and to make arrangements for determining a suitable curriculum for workers in this part of the telecommunications industry. CAEL will seek other funds to implement the project. The grant will also enable CAEL to bring additional companies into an existing nuclear power coalition and aim to enroll 800 to 1000 workers for the ALN courses and degrees under development at Bismarck State College for the nuclear component of the electric power industry. Project Director: Jo Winger de Rondon, Vice President.

Franklin W. Olin College of Engineering **$900,000**
Needham, MA 02492

This grant renews support for a variety of activities, carried out at the Franklin W. Olin College of Engineering, to strengthen mechanisms for disseminating knowledge about effective ALN practices and creating an effective community of ALN users. The online refereed *Journal of Asynchronous Learning Networks* will continue to be published. The Center will be involved in developing the program for the annual Sloan Consortium (Sloan-C) ALN conference. The Olin group will continue to have full responsibility for all aspects of the Sloan-C summer workshops. They prepare and distribute all books and other documents emerging from these meetings. They operate the Sloan-C website which contains ALN announcements, news, a catalog of Sloan-C degree and certificate programs, a section on Effective Practices, and a listing of members. They also create and distribute a newsletter (*Sloan-C Views*) to 6000 addressees, organize the Sloan-C reviews for the U.S. Army's continuing education eArmyU program, and operate the Sloan-C Speaker/Consultant service. The Olin group will develop their outreach work under the Sloan-C theme of "Quality with Scale and Breadth" and will add members to the Sloan Consortium. Areas to be emphasized include blending (a mixture of ALN and traditional learning), corporate e-Learning, and achieving institutional goals through ALN. Project Director: John R. Bourne, Professor of Electrical and Computer Engineering.

Research Foundation of the City University of New York **$1,000,000**
Albany, NY 12246

In 1999, a Foundation grant funded a pilot project to initiate an ALN program at CUNY. The program was enlarged substantially with funds from a second Foundation grant received the following year. Since then, CUNY has delivered about 750 ALN courses to over 16,000 learners in the New York City area. About 60% of these courses are full ALN and the rest are "blended," i.e., mix at least half ALN with traditional classroom learning. Such blended classes, for example, may meet on campus just once a week instead of three times, with other activities left to be carried out online. They are particularly useful in urban environments where students are likely to be able to attend classes occasionally because of proximity to a campus, but have limitations imposed by work and family obligations. ALN allows CUNY students in one borough to connect with campuses and courses in other boroughs. It advances the objective of being able to assure incoming students that graduation in four years is possible for all by making course offerings available online in those cases where students are closed out of a section or need to make up courses but cannot enroll in traditional classes due to other obligations. This new grant will allow CUNY to involve more faculty members in their ALN efforts and will result in a larger number of available ALN courses. CUNY's ambitious goal is to have 25% of their 200,000 or so students enrolled in ALN courses (blended or full) within three years. Project Director: George Otte, Director of Instructional Technology, CUNY.

Rutgers University **$850,000**
New Brunswick, NJ 08901

In 2001, the U.S. Department of Labor awarded $500,000 to New Jersey to explore the effectiveness of online learning for a small population of low-income working adults. About 125 women (average income $16,900) were accepted into the pilot project, each receiving a computer, Internet access, and a choice of online courses to improve their office skills. These women had many responsibilities, such as child-care, jobs, and home-making, and had little support for dealing with them. Many faced transportation problems. In spite of these handicaps, the results were surprisingly positive. Over 90% of the women stayed with the program, completing a number of courses and upgrading their office skills. In some cases, full certification, such as a Microsoft Office User Certificate, was gained. Some have gone on to better jobs. Nearly all claimed that they could not have enrolled for traditional classroom courses because of their life circumstances. The pilot project demonstrated that the online approach permits access to education resources to many in this population who would otherwise be excluded, and that this population can achieve both high retention and effective learning, and in a cost-effective manner. A 2003 Foundation grant allowed Rutgers to stay involved in assessment of this project, to disseminate the results to other states, and to assist other states in getting similar efforts underway. This new grant will enable Rutgers to work closely with another group of states in implementing similar pilot efforts and to continue working with New Jersey to increase participation beyond the pilot level. Florida, Illinois, Maine, Wyoming, and Delaware are expected to participate and Kansas may also join the project. Rutgers will identify successful practices and offer detailed consultations with state leaders on implementation. Success of these projects in this handful of states and dissemination of findings through such channels as the National Governor's Association could result in widespread adoption of such an online program as a federal or state option for worker training and retraining. Project Director: Mary L. Gatta, Director of Research and Analysis, Center for Women and Work.

University of Illinois at Springfield **$1,210,000**
Springfield, IL 62794

This grant will enable the University of Illinois, Springfield (UIS), already a prominent user of ALN in their educational programs, to start a process aimed at converting their entire curriculum to ALN. They intend to set an example of what can be done at a public institution that is committed to ALN and how that can benefit the institution and the state. The three campuses of the University of Illinois, all recipients of Foundation grants, have been pioneers in ALN delivery and have made Illinois one of the two most ALN-intensive states in the country, the other being New York, on a per capita basis. UIS now envisions a future in which a number of comprehensive institutions (non-Ph.D. granting) will each operate a "mirror campus," i.e., an entirely online campus equivalent in every way to the brick and mortar campus. Students will be free to take classes in either campus and will be awarded degrees based on credits earned in either or both "campuses." With this grant, UIS will create another 8 fully online degree programs, doubling its total to 16 or 84% of their degree programs. The University will hire 30 new tenure-track faculty to

teach in these new online degree programs, expecting by the academic year 2007/08 that 32% of total student enrollments will be in online courses. This is to be a fully self-sustaining operation. Following completion of this Foundation-funded project, UIS will use the new income stream to add additional degree programs to make available online all 19 degree programs it now offers. New faculty members will be appointed as needed. A full mirror campus is expected to be in place shortly thereafter, one that accounts for 50% of university enrollments, with faculty capable of teaching in either the classroom or in an online modality. Project Director: Michael Cheney, Provost and Vice Chancellor for Academic Affairs.

The following grants were made from appropriations approved by the Sloan Foundation Board of Trustees to fund small projects for the ALN Program.

American Distance Education Consortium **$45,000**
Lincoln, NE 68583

For increasing minority representation at the annual ALN Conference in Orlando. Project Director: Janet Poley, President.

Hunter College of the City University of New York **$45,000**
New York, NY 10021

Support to represent Sloan-C by means of special sessions and representatives at conferences. Project Director: Professor Anthony Picciano, School of Education.

Kent State University **$16,000**
Kent, OH 44242

For a project on content analysis of ALN learner feedback. Project Director: Professor Karen Swan, Research Center for Educational Technology.

The League for Innovation in the Community College **$45,000**
Phoenix, AZ 85048

Support for the development at three community colleges of nine ALN courses in homeland security. Project Director: Stella Perez, Director of League Online.

Pace University **$45,000**
New York, NY 10038

For planning and development of a NACTEL-like program for the cable industry. Project Director: David Sachs, Associate Dean.

Research Foundation of State University of New York **$15,000**
Albany, NY 12246

Support for planning the establishment of a multi-campus ALN electrical engineering degree. Project Director: David Porush, Executive Director, SUNY Learning Environments.

Rutgers University **$44,000**
New Brunswick, NJ 08901

Support for a conference emphasizing online training for entry-level workers. Project Director: Mary Gatta, Director of Research and Analysis.

Stevens Institute of Technology **$44,000**
Hoboken, NJ 07030

Support for a one-day workshop to bring together corporate and academic online learning practitioners. Project Director: Robert N. Ubell, Dean, Online Learning.

University of Illinois at Chicago **$45,000**
Chicago, IL 60612

Support to organize and host a small conference on blended learning. Project Director: Mary P. Niemiec, Executive Director, External Education.

Western Washington University **$10,000**
Bellingham, WA 98225

Support for a conference on remote access to chemistry laboratory tools. Project Director: Devon A. Cancilla, Director, Scientific Technical Services.

The following grants were made from an appropriation approved by the Board of Trustees for support of exploratory efforts to make New York City a leader in the use of asynchronous learning networks (ALNs) for anytime, anyplace learning.

College of Aeronautics **$25,000**
Flushing, NY 11369

Support for the development of two ALN Certificate programs. Project Director: Ray Axmacher, Director, Distance Education.

College of Saint Elizabeth **$20,000**
Morristown, NJ 07960

Support to develop a new ALN Certificate program. Project Director: William Alexander, Director of Academic Advancement.

ANYTIME, ANYPLACE LEARNING, OFFICER GRANTS

American Distance Education Consortium **$40,000**
Lincoln, NE 68583

Support for a series of electronic meetings for presidents and provosts on aligning institutional goals with ALN. Project Director: Janet Poley, President.

Council for Adult and Experiential Learning **$45,000**
Chicago, IL 60603

Support to launch an ALN program for the pharmaceutical industry. Project Director: Pamela Tate, President.

Graduate Center of CUNY **$45,000**
New York, NY 10016

Support to obtain project funding for training immigration representatives through ALN. Project Director: Mary Milton, Executive Director, NYC Distance Learning Collaborative.

New Jersey Institute of Technology **$35,500**
Newark, NJ 07102

To support the Institute's ALN research site for an additional 12 months. Project Director: Distinguished Professor Roxanne Hiltz, Department of Information Systems, College of Computing Sciences.

University of North Carolina **$30,000**
Chapel Hill, NC 27599

Partial support of ALN certification in molecular diagnostics. Project Director: Professor Rebecca Laudicina, Department of Allied Health Services, School of Medicine.

Commission on Professionals in Science and Technology **$187,849**
Washington, DC 20005

The Commission on Professionals in Science and Technology (CPST) collects, analyzes, and disseminates information about the human resources of the United States in the fields of science and technology. It promotes best possible programs of education and training for potential scientists, engineers, and technicians and develops policies for the utilization of scientific and technological human resources by educational institutions, industry, and government for the optimum benefit of the nation. A 2002 Foundation grant supported a set of coordinated efforts by CPST to facilitate efforts to scale up and mainstream professional science master's degree programs. They have posted on their website a compilation of data on the education and employment of science master's degree recipients and created a website dedicated to master's education. In regular issues of its primary publication, *CPST Comments*, it tracks master's education, with special reference to professional science master's programs and their graduates. CPST has developed contacts with corporations and with federal departments and agencies that are likely to be very interested in the graduates of professional science master's degrees. This new grant will support continuation and expansion of these activities. Project Director: Eleanor Babco, Executive Director.

University of Arizona **$100,000**
Tucson, AZ 85721

The professional science master's degree program has grown dramatically in the last few years. A total of about 1000 students enrolled in September 2004 in 45 institutions in 20 States. Early evidence suggests good job placement for the several hundred students who have already graduated. Yet if the new degree is to succeed on a scale that matters nationally, it must be seen and perceived by others to be useful and essential. With this grant, Sheila Tobias at Arizona and Gehrung Associates, a public relations firm specializing in strategic communications for higher education, will plan activities to make the professional science master's degree program more visible. These include face-to-face meetings of program leaders with editors and reporters, production of Op-Ed pieces, and assembling background materials and contact information to ease the work of interested reporters. Special emphasis will be paid to media heeded by employers, as well as electronic outlets. To build the program's name recognition, stature, and validity for business leaders, recruiters, and others, brochures and other materials about the professional science master's degree program will be prepared that will be useful for the range of institutions offering these degrees. Laufer Green Isaac, a public relations and strategic marketing firm with experience in workforce issues, will assist Tobias in preparing the communication package. Project Director: Joaquin Ruiz, Dean, College of Science.

PROFESSIONAL MASTER'S DEGREES, OFFICER GRANTS

National Governors Association Center for Best Practices **$44,000**
Washington, DC 20001

For outreach on professional master's degrees to the Governors' advisors on workforce and economic policy. Project Director: Stephen Crawford, Director, Social, Economic and Workforce Programs Division.

Rochester Institute of Technology **$43,900**
Rochester, NY 14623

To identify core knowledge and curriculum needs in bioinformatics. Project Director: Gary R. Skuse, Director of Bioinformatics and Associate Professor of Biological Sciences.

University of North Carolina at Chapel Hill **$45,000**
Chapel Hill, NC 27515

Support to assess the demand for professional science master's degrees in North Carolina and prepare to expand offerings in the University of North Carolina system. Project Director: Gretchen M. Bataille, Senior Vice President for Academic Affairs.

INFORMATION ABOUT CAREERS, TRUSTEE GRANT

South Shore Educational Collaborative **$265,000**
Hingham, MA 02043

The Sloan Careers Cornerstone program has had the goal of informing high school and college students about the nature of work in various careers that are pursued by graduates in mathematics, science, and engineering fields. The program supports a website (www.careercornerstone.org) that is widely accessed by students, counselors, teachers, and faculty. The aim of this grant is to move Cornerstone towards becoming the premier and preferred site for career information for those interested in science-related careers. An Advisory Committee will be established to approve removal of out-of-date career materials and addition of new materials to the existing Cornerstone website. It will also approve the addition of new disciplines not presently represented, such as industrial, nuclear, and aeronautical engineering, bioengineering and other disciplines based in the life sciences, such as biology and applied areas like nursing. A long-range plan will be developed to strengthen the entire Cornerstone series and its website so it becomes the source of the best-known and most-accessed information about science-based careers. Project Director: Chor Tan, Consultant.

RETENTION, OFFICER GRANTS

University of Maryland **$2,515**
College Park, MD 20742

To fund the cost of Dr. Barbara Lovitts' presentation of the results of her study of criteria and standards for doctoral dissertations at the June 2004 Assessment Conference of the American Association for Higher Education. Project Director: Barbara Lovitts, Research Associate, Department of Sociology.

University of Pittsburgh **$36,000**
Pittsburgh, PA 15261

For an experiment to determine whether enhancing students' sense of identification with their undergraduate institutions will improve retention rates. Janet Schofield, Professor of Psychology.

SCIENCE AND ENGINEERING WORKFORCE, TRUSTEE GRANTS

American Association for the Advancement of Science **$437,296**
Washington, DC 20005

A Foundation grant in December 2002 enabled the AAAS to establish a new national organization of postdoctoral scientists, the National Postdoctoral Association (NPA). Because this was a new enterprise operating in uncharted waters, half of the requested support was provided, with renewal funding to be contingent upon satisfactory progress during the initial grant period. Postdoctoral fellows ("postdocs") have become increasingly numerous and increasingly important in U.S. research institutions. Postdocs are not graduate students, faculty, staff scientists, nor even employees in many cases. They often fall between the cracks of the science workforce. Many science-related organizations have called for substantial modifications and improvements in the informal employment arrangements that have prevailed for postdocs. Grassroots organizations of postdocs have been established at a number of leading research universities and some such institutions have created new administrative offices to monitor and improve the postdoc experience. The new National Postdoctoral Association has already proved itself as an influential organization. Its leaders are mature, organized, and sophisticated. The NPA decided early to engage not only postdocs themselves, but all the stakeholders in the "postdoctoral community," which includes principal investigators, funding agencies, and academic and research institutions. The NPA created an Advisory Board that includes a number of senior university administrators and others with influence. These and other efforts to develop constructive engagement have been welcomed by the leading science funding agencies, research universities, and higher education and research associations. The NPA is a promising new organization directed toward improving the quality of the postdoctoral experience. This grant renews support for its continued operation. Project

Director: Shirley M. Malcom, Head of the Directorate for Education and Human Resources Programs.

American Association for the Advancement of Science **$400,000**
Washington, DC 20005

This grant enables the AAAS to launch a Center for Advancing Science and Engineering. The Center will provide consulting services to individual colleges and universities to help them increase the participation of American students, especially women and underrepresented minorities, in mathematics, science, and engineering, starting at the undergraduate level. The Center would work by deploying individuals or teams of consultants to client campuses. The list of consultants includes many people who have themselves succeeding in recruiting and graduating women and minority students in mathematics, science, and engineering. The AAAS believes that the Center will provide a valuable service that colleges and universities want and will pay for. It expects to complete a business plan and work with at least 3 client institutions in the first year of Center operation. AAAS envisions increasing revenues and expects the Center to be self-sufficient and have its continued operation assured by the end of this three-year grant. Project Director: Shirley M. Malcom, Head of the Directorate for Education and Human Resources Programs.

National Academy of Sciences **$500,000**
Washington, DC 20418

The National Academies' *Assessment of Research-Doctoral Programs*, an influential study of graduate education undertaken once a decade at most, provides the only methodologically sound evaluation at the national level of Ph.D. programs in all fields. The last such study was conducted in the early 1990s and is well out of date by now. In 2001, the Academies established an expert committee to advise on methodologies that might improve the next such study. The Foundation, part funder of this effort, urged that special attention be addressed to issues such as time-to-degree, completion rates, and attrition rates for the nation's Ph.D. programs, subjects for which there are no credible data, although concerns are widespread about the apparent lengthening of time to degree completion and indications that as many as half of entering graduate students do not complete their degree programs. The preparatory methodological study has been completed. Its recommendations led to substantial revisions in the overall plan for the assessment. In collaboration with the Council of Graduate Schools, the committee succeeded in developing an approach through which the proposed 2005 Assessment can be used to collect, for the first time, comparative national data on time-to degree, completion rates, and attrition rates among the nation's thousands of Ph.D. programs in 57 fields. The estimated budget for the new Assessment is about $5 million. This grant is conditioned on the National Academies obtaining funding commitments from other sources sufficient to complete the full study. Grant funds will be directed toward assuring collection and analysis of data on completion, attrition, and time-to-degree that this comprehensive and nationally comparative study can best provide. Project Director: Charlotte Kuh, Deputy Executive Director, Division on Policy and Global Affairs.

Business and Technology Outreach Corporation **$45,000**
Atlanta, GA 30311

Support to pilot a software development project based on a new cooperative format involving up to 100 American software developers and four or more corporate participants. Project Director: Steve Stephens, Strategic Technology Architecture Consultant.

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

Support for the MIT engineering systems symposium. Project Director: Daniel Roos, Professor of Engineering Systems and Civil and Environmental Engineering.

National Bureau of Economic Research, Inc. **$45,000**
Cambridge, MA 02138

To fund a planning grant for a policy-briefing project on the United States science and engineering workforce. Project Director: Richard Freeman, Professor of Economics, Harvard University; Director of Labor Studies Program, NBER.

University of Montana **$195,740**
Missoula, MT 59812

This grant supports a project at the University of Montana to increase the number of American Indian students earning Master's and Ph.D. degrees in science and engineering. American Indians are the largest minority in Montana, making up 6.2 percent of the population. Seven reservations and seven of the country's 34 tribal colleges are in Montana. Nine more tribal colleges are in neighboring North and South Dakota. The University of Montana campuses at Missoula and Butte have strong commitments to increasing the number of American Indian students on their campuses and to ensuring their success. In Missoula, the Division of Biological Sciences and the Departments of Ecosystem and Conservation Sciences, Forest Management, Chemistry, Computer Science, Geology, Geography, Mathematical Sciences, and Environmental Sciences will be included in the program. At Montana Tech in Butte, the departments within the School of Mines and Engineering will participate. Each campus will add to its existing recruitment and retention efforts directed at American Indian students. As for the comparable program at the University of Arizona, the program includes Sloan scholarships of $30,000 for new M.S. students and $36,000 for new Ph.D. students and will be administered by NACME in the same manner as for the regular minority Ph.D. program. The campuses will provide the needed additional support for each of the students by means of research or teaching assistantships. Project Director: David Strobel, Dean of the Graduate School.

The following grants are funded from appropriations approved by the Sloan Foundation Board of Trustees for the Minority Ph.D. Program and the University of Arizona American Indian Program. The aim of the Minority Ph.D. Program is to increase the number of underrepresented minority Ph.D.s in mathematics, science and engineering by 100 per year. The aim of the American Indian Program is to recruit and graduate American Indian science and engineering students at the Master and Ph.D. levels. Recruitment and retention efforts and direct aid for students are part of the programs, as are meetings of faculty participants and Sloan Scholars (students participating in the program). The programs are administered by the National Action Council for Minorities in Engineering. The Minority Ph.D. Program includes a feeder component in which grants are made to selected departments that both have a high percentage of minority students and also send on for Ph.D.s in science and technology fields a significant number of their minority bachelor's and master's degree graduates. The aim is to encourage and support efforts within the selected departments to increase the number of such minority Ph.D. students.

American Indian Graduate Center **$20,000**
Albuquerque, NM 87109

Support to launch a pre-graduate school workshop for American Indian students. Project Director: Norbert Hill, Executive Director.

National Action Council for Minorities in Engineering, Inc. **$3,375,130**
New York, NY 10118

This grant enables the National Action Council for Minorities in Engineering (NACME) to continue to administer the Sloan Foundation's Minority Ph.D. Program and the University of Arizona American Indian Program during the academic year 2004-05. 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. Project Director: Aileen Walter, Vice President, Scholar Management.

National Action Council for Minorities in Engineering, Inc. **$12,000**
White Plains, NY 10601

For a full-page ad in the journal associated with NACME's 30th Anniversary Gala and for a table seating 10. Project Director: Aileen Walter, Vice President, Scholar Management.

National Consortium for Graduate Degrees for Minorities in Engineering and Science, Inc. **$20,000**
Notre Dame, IN 46556

To assist with recruiting of students for the Sloan Foundation Minority Ph.D. Program. Project Director: Saundra Johnson, Executive Director.

North Carolina A&T State University **$139,000**
Greensboro, NC 27411

To fund a meeting of faculty participating in the Sloan Minority Ph.D. Program. Project Director: Caesar Jackson, Interim Dean, College of Arts and Sciences.

National Consortium for Specialized Secondary Schools of Mathematics, Science and Technology **$45,000**
Lynchburg, VA 24502

Support to increase the population of underrepresented minority students at Consortium schools. Project Director: Joan Barber, Senior Vice President for Student Life, North Carolina School of Science and Mathematics.

University of Montana **$45,000**
Missoula, MT 59812

Help for the College of Forestry and Conservation to launch the Native American Program. Project Director: James Burchfield, Associate Dean, College of Forestry and Conservation.

The following grants were made from an appropriation approved in 2000 by the Sloan Board of Trustees to support the Sloan Pre-Tenure Leave Fellowship Program. The goal of this program was to make more acceptable a faculty member's taking of a leave for purposes of childbearing, infant care, and other unexpected dependent care, and to promote institutional mechanisms that would minimize the career cost of taking such a leave. Each grant provides funds for a fellowship to the indicated faculty member, the amount to be supplemented by the faculty member's home institution. In each case, funds have been added for the fellow's department, to be used to focus attention on and address work-family issues for other faculty, postdoctoral fellows, or graduate students. (This program has been discontinued. In its place is the Dual Ladder Program, designed to improve the career advancement of women in the academy. Grants in this new program are described under the heading "Workplace, Workforce and Working Families" in the section of the Annual Report titled "Standard of Living and Economic Performance.")

North Carolina State University **$8,220**
Raleigh, NC 27695

Partial funding of a fellowship for Dr. Brenda Judge Brizuela. Project Director: Professor Thurman Grove, Head, Department of Zoology.

University of Maryland **$8,334**
College Park, MD 20742

Partial funding of a fellowship for Dr. Jennifer Becker. Project Director: Professor Fredrick W. Wheaton, Chairman, Department of Biological Resources Engineering.

BOOKS, TRUSTEE GRANTS

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

Georgina Ferry **$12,500**
Oxford OX2 6J2, England

Research and travel for a biography of Max Perutz. Project Director: Georgina Ferry, writer.

M. G. Lord **$41,000**
Los Angeles, CA 90036

Research and travel for a father-daughter memoir about the Jet Propulsion Laboratory. Project Director: M. G. Lord, Writer.

Henry Petroski **$45,000**
Durham, NC 27707

For research and writing of a book on the toothpick. Project Director: Henry Petroski, Professor of Civil Engineering, Duke University.

Peter Pringle **$27,240**
New York, NY 10003

Research and travel for a biography on Russian botanist and geneticist Nikolai I. Vavilov. Project Director: Peter Pringle, Author.

Ullica Segerstrale **$20,000**
Chicago, IL 60616

For research and writing of a biography of William Hamilton. Project Director: Ullica Segerstrale, Professor of Sociology, Illinois Institute of Technology.

BOOKS, OFFICER GRANTS

Richard Cohen **$45,000**
New York, NY 10028

For research and writing of a book about the sun. Project Director: Richard Cohen, Publisher/Editor/Author.

Council on Foreign Relations **$45,000**
New York, NY 10021

For science and technology advice and public discussion of a book about military technology revolutions. Project Director: Max Boot, Author and Senior Fellow, National Security Studies.

RADIO, TRUSTEE GRANT

National Public Radio, Inc. **$300,000**
Minneapolis, MN 55403

National Public Radio's weekly two-hour talk show on science, *Science Friday*, has an audience of 1.3 million people. Listeners can call in and participate, making science and scientists more accessible to the public. In 2002, the Foundation made a grant to National Public Radio to create a regular monthly strand focusing on science and the arts. The segments have now become an integral part of the show. Leading scientists and engineers regularly interact with painters, playwrights, screenwriters, musicians, and poets on this popular show. This new grant renews support for the science and art segments on *Science Friday*. The major addition will be four remote broadcasts each year. These are shows broadcast from different locations across the country where local institutions are visited and the show is hosted live from the remote site. For example, sites such as the Ensemble Studio Theatre in New York or the Marc Taper Forum Theater in Los Angeles would allow discussion of science and technology plays or other artistic ventures in production. Project Director: Ira Flatow, science correspondent, TV journalist.

PUBLIC TELEVISION, TRUSTEE GRANTS

International Documentary Association **$350,000**
Los Angeles, CA 90017

This grant supports the preparation of a one-hour PBS show focusing on Lise Meitner, Otto Hahn, and the discovery of nuclear fission. The discovery by Meitner and Hahn that the uranium nucleus could be split ushered in the nuclear era and it is an important story that has not been told on television. The show will have a distinguished group of science advisors and consulting historians, including Ruth Simes, author of the scientific biography, *Lise Meitner: A Life in Physics*. Both PBS central and KQED, the local San Francisco PBS station, have endorsed this documentary, ensuring that it will get a prime time broadcast. Project Director: Rosemary Reed, Filmmaker.

WGBH Educational Foundation **$214,000**
Boston, MA 02134

With this grant WGBH's NOVA, the highly rated PBS series, will produce and broadcast a one-hour documentary based on Paul Hoffman's bestselling book, *Wings of Madness: Alberto Santos-Dumont and the Invention of Flight*. Santos-Dumont is considered by many to be the father of aviation. He flew the first motorized airship in 1898 and was the first man to fly an airplane in public, in 1906, beating the Wright Brothers who had flown earlier but never in public. Between 1898 and 1909, Santos-Dumont designed and built 20 different airships: balloons, dirigibles, biplanes, and monoplanes. He was not only a pioneering inventor and engineer, but also a very flamboyant character with a colorful life, which makes him an appealing subject for public television. The show on Santos-Dumont will be the first of a three-part NOVA series on aviation. Project Director: Tim Smith, President, Docere Digital Studio, Inc.

WGBH Educational Foundation **$500,000**
Boston, MA 02134

NOVA, one of the most popular series on public television, plans to produce a two-hour documentary on Einstein's famous equation, based on the bestselling book by David Bodanis, *$E = MC^2$: A Biography of the World's Most Famous Equation*. The program will reveal how the equation marked the culmination of a centuries-long quest to understand the basic laws of nature and specifically, the atom. It breaks down and traces each of the elements of the equation, shows how Einstein came to formulate it, and examines its impact on science, technology, and everyday life. The show will use dramatized sequences from the lives of other great scientists, such as Faraday, Lavoisier, and Meitner, who laid the foundations for Einstein's breakthrough. This grant completes funding for the project. Project Director: Paula Apsell, Executive Producer, NOVA.

PUBLIC TELEVISION, OFFICER GRANT

Educational Broadcasting Corporation **$45,000**
New York, NY 10001

Support to broadcast three *Open Mind* interviews on biological, chemical, and nuclear terrorism. Project Director: Richard Heffner, Producer and Moderator of *The Open Mind*.

COMMERCIAL TELEVISION AND FILMS, TRUSTEE GRANTS

Carnegie Mellon University **$371,000**
Pittsburgh, PA 15213

This grant will enable the School of Drama at Carnegie Mellon University (CMU) to continue supporting selected film students who write screenplays about science and technology. Also, as a one-year pilot, four science and technology teleplays will be developed for broadcast in a one-hour slot on public television. The grant includes two

major screenwriting awards each year, as well as an annual science and film symposium featuring renowned scientists, engineers, and technologists. A distinguished professional screenwriter will be invited each year to work with CMU's Sloan students on their scripts. Graduate students who have written science and technology scripts will attend the annual Los Angeles Showcase of New Talent, a career development opportunity for students to meet agents and other film industry representatives. For the pilot public television effort, four teleplays by CMU film students will be produced with professional actors and broadcast in one hour during prime time on Pittsburgh's PBS station, WQED. Television writer-producer John Welles, a CMU graduate, has agreed to mentor this pilot project, ensuring high quality and visibility. Project Director: Milan Stitt, Head of Dramatic Writing, School of Drama.

Columbia University **$192,000**
New York, NY 10027

With this grant, Columbia University's School of the Arts will continue for another three years to support select film students who write screenplays and produce films on science and technology themes. The grant includes two annual screenwriting awards and one film production award each year. It also supports an annual science and film symposium and stipends for science advisors for each submitted script. The annual Sloan Symposium has become a high-profile event, featuring science and film notables. This year, all three winners of the Eastern region Student Academy Awards were Columbia students. Project Director: Dan Kleinman, Chair, Film Division, School of the Arts.

Tribeca Film Institute Inc. **$281,100**
New York, NY 10013

With this grant, the Tribeca Film Institute will host the third triennial Sloan Film School Summit. The two previous meetings, hosted by the American Film Institute, took place in Los Angeles, so this would be the first meeting in New York. Columbia and NYU, the two New York film schools in the Foundation's film program, will serve as co-hosts. The two and a half day meeting brings together all six schools participating in the Sloan film program, Sloan award-winning screenwriters and filmmakers, film faculty, and science advisors. Representatives from the Hamptons, Sundance, and Tribeca film festivals and the Foundation's main theater partners, Ensemble Studio Theatre and Manhattan Theater Club, are expected to attend. Prominent members of the film and entertainment industry and leading scientists and engineers will also participate. Special events will include an evening screening of award-winning short films and staged readings of award-winning screenplays by professional actors. A logbook of all Sloan scripts with biographical information about screenwriters and a compilation video of Sloan short films will be produced. An award update luncheon gives students an opportunity to talk about their own experience writing or making films in the Sloan film program. Project Director: Madelyn Wils, President and CEO.

The Culture Project **$45,000**
New York, NY 10012

To develop a screenplay for a feature film on Nikola Tesla. Project Director: Bob Balaban, Actor/Film Producer.

Jon Palfreman **$43,405**
Lexington, MA 02420

To develop a treatment for a one-hour PBS documentary about Tommy Gold and the deep hot biosphere. Project Director: Jon Palfreman, documentary filmmaker.

TalkingScience, Inc. **$39,730**
Stamford, CT 06906

Support for a strategy meeting on starting a science cable channel. Project Director: Ira Flatow, science correspondent, TV journalist.

Ensemble Studio Theatre **$1,524,430**
New York, NY 10019

Ensemble Studio Theatre (EST) is recognized as a leading developmental theater company in the United States and their embrace of science and technology as playwriting themes has had a significant impact on the national theater scene. This renewal grant will enable EST to build and expand on its program of creating plays about science and technology. EST is a center of innovation, commissioning, workshopping, reading, rehearsing, and producing dozens of new works each year. It has developed a successful program of coordinating with regional theaters across the country. In 2003, the EST/Sloan main stage production featured Cynthia Nixon of Sex and the City in *String Fever*, which broke box office records and received outstanding reviews. EST has successfully enlisted support from the scientific community, inviting many scientists and engineers to join their play-reading and advisory committees and holding events at the Rockefeller University, the City University of New York, the Institute for Advanced Study at Princeton, and at Los Alamos. The new grant includes one $20,000 commission a year to attract to the science/technology theme a major playwright like John Guare, Wendy Wasserstein, or David Mamet, all of whom have been produced at EST. The grant also includes funds to reflect the real costs of the mainstage production and for a dedicated press representative. A new initiative is a $55,000 production enhancement grant awarded to a major regional theater that agrees to produce the EST mainstage play during the same year. This would ensure a longer life and bigger audiences for the annual production, which now runs for three weeks, and also increase visibility for the play and

the EST/Sloan theater program. Project Director: Curt Dempster, Founder and Artistic Director.

Magic Theatre **$396,800**
San Francisco, CA 94123

This grant funds a three-year effort by the Magic Theatre to commission, develop, and present new plays about science and technology. The core of the project is five new annual playwright commissions at the Magic Theatre, as well as three commissions a year to West Coast partner theaters, resulting in a total of twenty-four playwright commissions over the three-year period. There will also be three staged readings a year, each followed by discussion as part of the *Science on Stage* program with the San Francisco Exploratorium. The Magic Theatre will also host five readings and one major workshop production each year for a promising new play. A national conference, two local conferences, and readings at Stanford University's National New Play Center will be held. Beginning with the second year, the grant supports an annual world premiere production of a Foundation-supported play on science and technology. Project Director: Chris Smith, Artistic Director.

NEW MEDIA, OFFICER GRANT

Mathematical Sciences Research Institute **$41,500**
Berkeley, CA 94720

To support a pilot for an Internet Mathematics Museum. Project Director: David Gale, Emeritus Professor of Mathematics, University of California, Berkeley.

PUBLIC POLICY, TRUSTEE GRANT

Massachusetts Institute of Technology **$191,345**
Cambridge, MA 02142

Grants in 1993 and 1999 enabled MIT to hold three-day seminars on science and technology policy issues for senior Congressional staff. The current grant renews support for this program. The intensive seminars give invited participants a chance to hear from experts and an opportunity to interact with fellow staffers from other committees and parties who have similar interests in science and technology issues. Visits to graduate laboratories on the MIT campus are included in the program. Previous subjects have included information technology, biology and biotechnology, new manufacturing technologies, climate change, the Internet, energy, transportation, and health care. In 2003, two members from the relevant science and technology agencies within the Executive Office of the President were added to the invitation list. Their attendance added new dimensions to discussion of the issues and led to even broader interactions among the participants. The program will henceforth include 2-5 members of the

Executive branch each year, in addition to the 20 Congressional staff attendees. Project Director: Professor Stephen Ansolabehere, Department of Political Science.

SELECTED NATIONAL ISSUES AND THE CIVIC PROGRAM

SELECTED NATIONAL ISSUES

BIOTERRORISM, TRUSTEE GRANTS

International Criminal Police Organization - Interpol **$943,600**
Lyon 69006, France

Preventing bioterrorism requires consensus action by the entire global community. The mission of Interpol, the world's largest international police organization, is to help police and law enforcement officers cooperate and work together to combat crime. It offers three core services: a unique global police communication system, a range of criminal databases and analytical services, and proactive support for police operations throughout the world. This grant enables Interpol to develop its capacity to counter bioterrorism by raising awareness, developing police training programs, and strengthening law enforcement. A conference will be held in 2005 to launch the program to senior police officials. Conference participants will include professionals from a wide range of disciplines involved in preventing or responding to bioterrorism. Interpol will produce training materials to form the basis for conference discussions. Based on the conference, Interpol will draft the Police Training Course for Bioterrorism. During the second year, Interpol will hold three workshops to train regional leaders — in Asia, the Americas, and Africa — at which it will use the course materials, adapting them as needed by special circumstances present in a particular region. Following the regional workshops, the training materials will be prepared, published, and distributed worldwide. Interpol will establish in-house capability to develop training materials and to provide technical assistance and backup to trained officials. A consortium of professionals will be developed with different types of expertise in bioterrorism (public health, science, legal, etc.) upon whom Interpol can call. A strategic plan will be developed for implementing and funding national police training programs in bioterrorism in order to sustain the program beyond the term of this grant. Project Director: Ronald K. Noble, Secretary General.

National Academy of Sciences **$216,460**
Washington, DC 20001

This grant supports a project by the National Academies to engage the international scientific community in making a sustained commitment to address the potential misuse of biotechnology research. To begin the engagement process, the Academies expect to be able to get biosecurity issues on the agendas of three planned international activities: The UN High Level Panel on Threats, Challenges, and Change (April 2004), The Science and Technology for Society Forum (November 2004), and the Amaldi Conference on Global Peace and Security (late 2004). They have partnered with the Inter-Academy Panel to develop a statement of issues in biosecurity and will work to develop the steering committee and host committee to organize a major 2005 International Forum on

Biosecurity. The Academies will publish proceedings of the forum and a summary report to highlight accomplishments and gaps in the response of the international scientific community. Project Director: Jo L. Husbands, Director, Committee on International Security and Arms Control.

University of Pittsburgh Medical Center **$2,000,000**
Pittsburgh, PA 15260

A 2000 Foundation grant of $3.5 million supported the work of the Center for Civilian Biodefense Studies at Johns Hopkins University. At the time, a year before 9/11, the Center was one of the few institutions in the country trying to improve the country's preparedness for bioterrorism attacks and the only one with substantial expertise in medicine and public health. The Center became the international leader in civilian biodefense. They wrote the definitive papers on the medical and public health management of the six principal threat agents: anthrax, smallpox, plague, tularemia, botulinum toxin, and hemorrhagic fever viruses. The Center authored "Dark Winter," an interactive fictional scenario depicting smallpox attacks that led to the realization that the country was not prepared and paved the way for many changes, including the procurement of 300 million doses of smallpox vaccine. They created the only peer-reviewed journal devoted to biodefense, *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*. They convened many meetings, provided expert testimony to Congress, briefed numerous senior government officials, and played a significant role in increasing federal funding for bioterrorism. In November 2003, the entire staff "left" Johns Hopkins University, affiliated with the University of Pittsburgh Medical Center (UPMC), and became the Center for Biosecurity, all without leaving Baltimore. UPMC provided the Center with a $12 million endowment. This renewal grant will enable the Center to continue to provide national and international leadership in reducing the threat of bioterrorism. The Center will conduct independent analyses of the U.S. biodefense strategy and of the major biodefense initiatives of the federal government. It plans to initiate prototype biodefense response programs in Pittsburgh, such as commercial building filtration, mass casualty care, and regional mass vaccinations. The Center will expand its efforts to build a multidisciplinary biodefense professional community through further development of the Dinner Series, the biosecurity and bioterrorism journal, and its website. It plans to analyze the U.S. biodefense countermeasure development and acquisition process and make practical recommendations for the acceleration of countermeasure development and the process by which large-scale acquisitions are made for the U.S. National Pharmaceutical Stockpile. Project Director: Tara O'Toole, M.D., CEO and Director, Center for Biosecurity.

The following seven grants were funded from an appropriation approved by the Board of Trustees for support of short-term projects and the planning stage of larger projects to reduce the threat of bioterrorism.

Georgia Tech Research Corporation **$25,000**
Atlanta, GA 30318

To support the workshop "Bioterrorism Preparedness: The Imperative for a Public-Private Partnership." Project Director: William J. Long, Professor and Chair, Sam Nunn School of International Affairs, Georgia Institute of Technology.

Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. **$95,000**
Rockville, MD 20852

To prepare citizens for terrorism through workplace preparedness. Project Director: Professor Robert J. Ursano, Chairman, Department of Psychiatry, Uniformed Services University of the Health Sciences.

Manhattan Institute for Policy Research, Inc. **$45,000**
New York, NY 10017

To improve terrorism preparedness by educating the law enforcement community about the analyses and recommendations of the Center for Tactical Counterterrorism. Project Director: R. P. Eddy, Senior Fellow for Counter Terrorism.

Massachusetts Institute of Technology **$5,000**
Cambridge, MA 02139

To provide partial support for the 4th Technology and Policy Forum. Project Director: Professor Dava J. Newman, Department of Aeronautics and Astronautics.

Mayor's Fund to Advance New York City **$45,000**
New York, NY 10006

To conduct planning activities for the development of a terrorism preparedness initiative for New York City's cultural institutions. Project Director: Kate D. Levin, Commissioner, City of New York Department of Cultural Affairs.

Monterey Institute of International Studies **$45,000**
Monterey, CA 93940

To assess the operation of the World Health Organization's oversight of variola (smallpox) virus research. Project Director: Jonathan B. Tucker, Senior Researcher.

University of the Pacific **$45,000**
Sacramento, CA 95817

To conduct planning activities for the development of an Interpol police training program to prevent bioterrorism. Project Director: Elizabeth Rindskopf Parker, Dean, McGeorge School of Law.

BIOTERRORISM, OFFICER GRANTS

Citizens Committee for NYC, Inc. **$45,000**
New York, NY 10001

To support "The Prepared Neighborhood" initiative to improve disaster preparedness in New York City. Project Director: Michael E. Clark, President.

Council for Excellence in Government **$45,000**
Washington, DC 20005

To design a prototype public readiness index. Project Director: Patricia McGinnis, President and CEO.

National Defense University Foundation **$44,394**
Washington, DC 20319

To prepare citizens for terrorism by printing and distributing "Coping with an Attack: A Quick Guide to Dealing with Biological, Chemical, and 'Dirty Bomb' Attacks." Project Director: Col. Patricia K. Coomber, Senior Research Fellow, Center for Technology and National Security Policy.

National Foundation for the Centers for Disease Control and Prevention, Inc. **$45,000**
Atlanta, GA 30303

To convene a meeting of key stakeholders to reexamine the SARS outbreak for lessons learned regarding business and public health preparedness. Project Director: Gene W. Matthews, Director, Institute of Public Health Law.

Thomas Sherman Training, Scholarship and Safety Fund **$44,970**
New York, NY 10013

For support of "Project Safe and Secure: Summer 2004" to train building service workers to prepare and respond to terrorism. Project Director: Linda G. Nelson, Director.

University of Texas Health Science Center at Houston **$45,000**
Houston, TX 77225

To examine the effectiveness of UV air disinfection on pathogenic respiratory viral aerosols. Project Director: Professor Gwang-Pyo Ko, Division of Environmental and Occupational Health.

World Cares Center, Inc. **$9,530**
New York, NY 10018

To support a disaster preparedness fair to take place in New York City on August 13, 2004. Project Director: Lisa Orloff, Founder and Executive Director.

World Health Organization **$45,000**
1211 Geneva 27, Switzerland

To prevent bioterrorism by educating the 192 member states of the World Health Organization about dual-use issues in biotechnology. Project Director: Ottorino Cosivi, Department of Communicable Disease, Surveillance and Response.

FEDERAL STATISTICS, OFFICER GRANT

The Brookings Institution **$30,000**
Washington, DC 20036

Support for a workshop on needed improvement in federal statistical data on services outsourcing. Project Directors: Senior Fellows Susan Collins, Barry Bosworth, and Lael Brainard.

ENERGY, TRUSTEE GRANT

Massachusetts Institute of Technology **$400,000**
Cambridge, MA 02139

Coal is the most abundant fossil fuel and currently is used for almost one quarter of the world's primary energy production. Large resources of coal exist in regions that will experience significantly increased energy demand in the next half century, notably the United States, China, India, and Russia. In the absence of widespread efforts either to restrict coal use or, more likely, to reduce the release of carbon as a result of coal combustion, carbon release into the atmosphere as a result of coal use is likely to double by mid-century. This will accelerate the global warming trend already underway due to

the increased loading of greenhouse gases in the earth's atmosphere. This grant partially supports a project to study the future of coal. (A similar project funded in 2001 enabled the same MIT researchers to study the future of nuclear power. That study resulted in the 2003 report, *The Future of Nuclear Power*, which has had a significant effect on policy discussions and both legislative and executive branch action in the United States.) The coal project will involve detailed economic and technical analysis, attention to relevant public attitudes, and a policy perspective. A broad-based advisory group will be constituted similar to the one used by the nuclear study team. The coal study will aim to define a possible technical and economic pathway that will permit expanded use of coal while reducing carbon emissions significantly compared to business-as-usual scenarios. Project Director: John M. Deutch, Institute Professor.

TRUSTEE GRANTS

Fire Safety Education Fund **$150,000**
Brooklyn, NY 11201

A $45,000 Foundation grant in 2002 helped the New York City Fire Department (FDNY) implement the recommendations of the then-recent McKinsey study of what the FDNY should do to prepare for future catastrophic events. FDNY raised an additional $300,000 for this effort. Much of the money was used to initiate the development of a new Electronic Command Board (ECB). The FDNY believes that the replacement of mechanical by electronic command boards can have a dramatic positive impact on its command and control operations at emergencies. A prototype with part of the desired functionality exists and detailed specifications for a fully developed ECB have been developed. The FDNY estimates it will need $450,000 to complete development and testing. A total of $300,000 is expected from other funders. This grant provides the balance requested by the FDNY to move this project forward. Project Director: Assistant Commissioner, Technology Development and Systems, NYC Fire Department.

New York Academy of Sciences **$200,000**
New York, NY 10021

A 2004 initiative of the New York Academy of Sciences was the launch of a *Science and the City* calendar, the first website in New York to provide a complete daily calendar of activities related to science events, including the arts, humanities, education, and the scientific community. This unique interdisciplinary gateway brings together for the first time the programmatic and informational assets of New York's educational, cultural, technological, academic, and commercial science institutions into an attractive and user-friendly site. Not only will people learn about any scientific lectures taking place that day throughout the city, they will also discover theater or dance events related to science. This grant will enable the Academy to enhance the content and graphical interface of the calendar and to significantly expand its use. The Academy will seek to double coverage from an average of 100 events to 200 events a week. The grant will support staffing, content development, promotion/marketing, and user testing during the one-year grant period. Project Director: Ellis Rubinstein, President.

New York Academy of Sciences **$30,000**
New York, NY 10021

A 2004 $40,000 Foundation officer grant enabled the Academy to launch a "Women Investigators Network" and a "Minority Investigators Network" to help advance the careers of both academic and private sector women and minority scientists and engineers in New York City and environs. A focus group luncheon with more than 30 women

scientists, engineers and others was held in June 2004 to launch the Women Investigators Network. A steering committee for the Network and a rich program of activities are planned. This supplementary grant will fund the first meeting of the Minority Investigator Network. It will also enable the Academy to hold four or five meetings of each Network over the coming year. The Academy expects that it will by then have other funding, largely from interested companies, to support continued operation of the Networks. Project Director: Rashid Shaikh, Program Manager.

Project Rebirth **$225,435**
New York, NY 10272

Project Rebirth is an innovative effort to record the rebuilding of Ground Zero, the site of the destruction of the twin towers in New York City, minute by minute, over a decade. It uses six time-lapse cameras, positioned strategically around the site, to record an image every five minutes, 24 hours a day. A 2003 Foundation grant enabled the creation of a website for Project Rebirth in order to allow millions of people who are not able to make the trip to Ground Zero to log on and "visit" the site in real time, and to witness and learn about the reconstruction and its engineering and other challenges. The new website went live in September 2004. After one month, over a quarter of a million viewers had visited the site, including thousands from Europe and Asia. The current grant will enable Project Rebirth to develop the website by including weekly updates of articles and photos, new film footage and slide shows, an "ask the expert" section, and a guest book. Interviews will be featured with various site workers, including electricians, engineers, construction workers, and site managers. The Port Authority's General Manager of Construction and his entire team are cooperating as advisors on the engineering, urban planning, and architectural issues involved in the rebuilding. Project Director: Jim Whitaker, President, Motion Pictures, Imagine Entertainment (Beverly Hills, CA).

World Trade Center Memorial Foundation **$1,000,000**
New York, NY 10022

The World Trade Center Memorial Foundation is the nonprofit entity established in April 2003 that will raise funds for and coordinate the planning and construction of the memorial, the interpretive museum, and four cultural institutions to be located on the World Trade Center site. Most of the Foundation's initial operating and fundraising expenses will be paid by the Lower Manhattan Development Corporation, the joint State-City corporation created by New York Governor Pataki and then-Mayor Giuliani to help plan and coordinate the rebuilding and revitalization of lower Manhattan. A $6.3 million target has been set by the Foundation for its first phase of fundraising. Building of the World Trade Center Memorial and placing of the four cultural institutions (Joyce Theater, Signature Theater, Drawing Center, and International Freedom Center) on the World Trade Center site can be expected to yield large benefits to New York City. This grant represents the Sloan Foundation's contribution to the project. Project Director: John C. Whitehead, Chairman, Board of Directors, Lower Manhattan Development Corporation.

Center for Economic and Environmental Partnership, Inc. **$42,500**
Albany, NY 12207

To help launch a network of economic development officers of New York City's knowledge-based institutions. Project Director: Ira Rubinstein, Chairman.

Health Science Center at Brooklyn Foundation **$10,000**
Brooklyn, NY 11203

To enable SUNY Downstate Medical Center and its partners to continue advancing the proposed Center for Excellence in Biotechnology at the Brooklyn Army Terminal. Project Director: Eva Cramer, Vice President for Biotechnology and Scientific Affairs; Professor of Anatomy and Cell Biology, SUNY Downstate Medical Center.

National Academy of Sciences **$45,000**
Washington, DC 20001

To support the work of the National Academies' Committee on Human Rights. Project Director: Carol Corillon, Director, Committee on Human Rights, The National Academies.

New York Academy of Sciences **$40,000**
New York, NY 10021

To help launch women investigators and minority investigators networks. Project Director: Rashid Shaikh, Program Manager.

New York Public Interest Research Group Fund, Inc. **$45,000**
New York, NY 10007

To enable the Open Accessible Space Information System to develop a strategic plan for expansion and to achieve sustainability. Project Director: Steven Romalewski, Director, Community Mapping Assistance Project.

Textile/Clothing Technology Corporation **$45,000**
Cary, NC 27511

To plan for the next steps to revitalize the New York City apparel manufacturing industry. Project Director: Michael Fralix, President.

ADDITIONAL GRANTS

TRUSTEE GRANTS

Council on Foundations **$45,000**
Washington, DC 20036

General support (dues). Project Director: Dorothy S. Ridings, President and CEO.

Independent Sector **$12,500**
Washington, DC 20077

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

New York Regional Association of Grantmakers **$16,000**
New York, NY 10018

General support (dues). Project Director: Michael Seltzer, President.

2004 FINANCIAL REPORT

2004 FINANCIAL REVIEW

The financial statements and schedules of the Foundation for 2004 and 2003 have been audited by KPMG LLP. They include the balance sheets, statements of activities and cash flows, and schedules of management and investment expenses.

Investment income for 2004 was $20,840,906, a decrease of $2,409,023 from $23,249,929 in 2003. After the deduction of investment expenses and provision for taxes, net investment income was $11,371,572 in 2004 as compared with $16,329,528 for the prior year. Investment expenses during 2004 totaled $6,744,334 of which $4,345,214 represented investment management fees and expenses. The provision for taxes amounted to $2.725,000. The total of these deductions from investment income in 2004 was $9,469,334 versus $6,920,401 in 2003. Total investment gains for 2004 were $181,054,706 as compared with $255,917,264 in 2003.

Grants authorized (net of grant refunds) and management expenses during 2004 totaled $66,492,347, which was $55,120,775 greater than 2004 net investment income. Of this total, grants authorized (net of refunds) amounted to $60,420,669 while management expenses were $6,071,678. Since the Foundation's inception in 1934, the cumulative excess of grants and expenses over the Foundation's net investment income has amounted to $375.6 million.

Grant payments in 2004 were $59,727,832 compared with $65,045,903 for the prior year. Together with management expenses, investment expenses, taxes paid and other charges, the total of cash expenditures net of grant refunds in 2004 was $74,427,700 while in 2003 the amount was $77,784,435.

Grants authorized and payments made during the year ended December 31, 2004 are summarized in the following table:

Grants unpaid at December 31, 2003	$ 59,607,010
Authorized during 2004	60,705,191
Payments during 2004	(59,727,832)
Grants unpaid at December 31, 2004	$ 60,584,369

The fair value of the Foundation's total assets was $1,505,602,994 at December 31, 2004 including investments valued at $1,504,809,087 as compared with total assets of $1,376,350,059 at December 31, 2003.

AUDITORS' REPORT

Report of KPMG LLP
Independent Auditors

The Board of Trustees
Alfred P. Sloan Foundation:

We have audited the accompanying balance sheets of the Alfred P. Sloan Foundation (the Foundation) as of December 31, 2004 and 2003, and the related statements of activities and cash flows for the years then ended. These financial statements are the responsibility of the Foundation's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Alfred P. Sloan Foundation as of December 31, 2004 and 2003, and the changes in its net assets and its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

Our audits were made for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplementary information included in the schedules of management and investment expenses for the years ended December 31, 2004 and 2003 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the audits of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

KPMG LLP

March 4, 2005
New York, New York

BALANCE SHEETS
DECEMBER 31, 2004 AND 2003

	2004	2003
Assets		
Cash	$ 724,042	$ 730,363
Investments:		
Equities	1,105,515,417	1,004,405,582
Fixed income	245,277,385	248,118,270
Limited marketability	154,016,285	122,836,598
Total investments	1,504,809,087	1,375,360,450
Other	69,865	259,246
Total	$1,505,602,994	$1,376,350,059
Liabilities and Net Assets		
Grants payable	$ 60,584,369	$ 59,607,010
Deferred federal excise tax	5,749,281	3,705,012
Other	297,376	-
	66,631,026	63,312,022
Net assets - unrestricted	1,438,971,968	1,313,038,037
Total	$1,505,602,994	$1,376.350,059

See accompanying notes to financial statements.

STATEMENTS OF ACTIVITIES
YEARS ENDED DECEMBER 31, 2004 AND 2003

	2004	2003
Investment Income:		
Interest and dividends	$ 20,840,906	$ 23,249,929
Less:		
Investment expenses	6,744,334	6,280,401
Provision for taxes	2,725,000	640,000
	9,469,334	6,920,401
Net investment income	11,371,572	16,329,528
Expenses:		
Grants authorized (net of refunds of $284,522 in 2004 and $304,725 in 2003)	60,420,669	66,883,639
Management expenses	6,071,678	5,520,061
	66,492,347	72,403,700
Excess of expenses over net investment income	(55,120,775)	(56,074,172)
Investment Gains (Losses):		
Net gain on disposal of investments	80,885,574	21,237,935
Unrealized gain in investments, net of deferred federal excise tax	100,169,132	234,679,329
	181,054,706	255,917,264
Increase in net assets	125,933,931	199,843,092
Net assets at beginning of year	1,313,038,037	1,113,194,945
Net assets at end of year	$1,438,971,968	$1,313,038,037

See accompanying notes to financial statements.

STATEMENTS OF CASH FLOWS
YEARS ENDED DECEMBER 31, 2004 AND 2003

	2004	2003
Cash flows from operating activities:		
Increase in net assets	$ 125,933,931	$ 199,843,092
Adjustments to reconcile increase in net assets to net cash used in operating activities:		
Net gain on disposal of investments	(80,885,574)	(21,237,935)
Unrealized gain in investments	(102,213,401)	(238,384,341)
Increase in deferred federal excise tax	2,044,269	3,705,012
Decrease in other assets	189,381	115,778
Increase in grants payable	977,359	2,142,461
Increase in other liabilities	297,376	-
Net cash used in operating activities	(53,656,659)	(53,815,933)
Cash flows from investing activities:		
Proceeds from sales of investments	596,241,077	1,277,943,162
Purchases of investments	(542,590,739)	(1,223,396,866)
Net cash provided by investing activities	53,650,338	54,546,296
Net decrease in cash	(6,321)	730,363
Cash at beginning of year	730,363	-
Cash at end of year	$ 724,042	$ 730,363

See accompanying notes to financial statements.

NOTES TO FINANCIAL STATEMENTS

1. Summary of Significant Accounting Policies

The accompanying financial statements have been prepared substantially on the accrual basis of accounting. Investment income and investment and management expenses, including post-retirement benefit expense, are recorded on the cash basis, the effect of which on the accompanying financial statements is not materially different from the accrual basis. Grants are accrued when authorized by the Trustees. Certain accounting estimates are a routine part of financial statements prepared by management and are based upon management's current judgments. Actual results could differ from these estimates.

Gains or losses on disposal of investments are determined on the first-in, first-out basis. Fair value for public securities is based on quoted market prices. Investments within equity hedge funds, focused equity strategies, and limited marketability are reported at estimated fair values based upon information provided by the investment managers. The valuations may be subject to liquidity restrictions in the event of a sale.

2. Investments

Investments at December 31, 2004 and 2003 are summarized as follows:

	2004		2003	
	Cost	*Fair Value*	*Cost*	*Fair Value*
Equities				
Large Capitalization	$ 279,987,037	$ 355,106,856	$ 261,678,985	$ 314,800,323
Small Capitalization	70,527,746	116,147,579	105,744,163	133,279,754
Equity Hedge Funds	106,662,409	162,175,101	84,021,837	122,200,582
Focused Equity Strategies	138,453,568	194,019,547	149,506,576	197,564,987
Non-U.S.	182,954,787	278,002,123	163,656,032	226,707,292
Pending equity transactions, net	64,211	64,211	9,852,644	9,852,644
Fixed Income				
Bonds and Notes	286,269,325	291,783,784	290,418,740	291,305,072
Obligations to return collateral held under securities lending agreement	(46,506,399)	(46,506,399)	(43,186,802)	(43,186,802)
Limited Marketability				
Real Estate	15,140,377	13,488,251	5,865,265	3,596,209
Private Equity	183,792,740	140,528,034	162,552,352	119,240,389
Total	$1,217,345,801	$1,504,809,087	$1,190,109,792	$ 1,375,360,450

At December 31, 2004, the Foundation had unfunded commitments to limited partnerships of approximately $160 million.

3. Financial Instruments with Off-Balance-Sheet Credit or Market Risk

The Foundation's investment strategy incorporates certain financial instruments which involve, to varying degrees, elements of market risk and credit risk in excess of the amounts recorded in the financial statements. These instruments include forward foreign currency contracts and loaned securities.

The Foundation purchases forward foreign currency contracts as a hedge against fluctuations in currency prices. Forward foreign currency buy and sell contracts held as of December 31, 2004 were valued at approximately $1.6 million and $1.6 million, respectively, and, as of December 31, 2003, at approximately $6.4 million and $6.3 million, respectively. Such contracts involve, to varying degrees, risk of loss arising from the possible inability of counterparties to meet the terms of the contract.

Through a securities lending program managed by a custodian firm, the Foundation loans certain stocks and bonds included in its investment portfolio. The custodian firm has indemnified the program. The Foundation's gross securities loaned to certain borrowers at December 31, 2004 and 2003 amounted to $45 million and $42 million, respectively. The Foundation holds collateral of 103 percent of the market value of the lent securities.

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

4. Taxes

The Foundation is liable for a federal excise tax of 2 percent of its net investment income, which includes realized capital gains. However, this tax is reduced to 1 percent if certain conditions are met. The Foundation did not meet the requirements for the 1 percent tax for the year ended December 31, 2004; however, it did meet the requirements for the 1 percent tax for the year ended December 31, 2003. Therefore, current taxes are estimated at 2 percent of net investment income for 2004 and at 1 percent for 2003. Additionally, certain of the Foundation's investments give rise to unrelated business income tax liabilities. Such tax liabilities for 2004 and 2003 are not significant to the accompanying financial statements; however, the provision for taxes, as of December 31, 2004 and 2003, includes an estimate of tax liabilities for unrelated business income.

Deferred taxes principally arise from differences between the cost value and fair value of investments. Since the qualification for the 1 percent tax is not determinable until the fiscal year in which net gains are realized, deferred taxes represent 2 percent of unrealized gains at December 31, 2004 and 2003.

5. Retirement Plan

The Foundation has a defined contribution retirement plan covering substantially all employees under arrangements with Teachers Insurance and Annuity Association of America and College Retirement Equities Fund which provides for the purchase of annuities for employees. Retirement plan expense was $506,320 and $475,430 in 2004 and 2003, respectively. In addition, the Foundation provides certain health care and life insurance benefits to its retirees. The cost of providing these benefits to retirees was $177,522 and $162,851 in 2004 and 2003, respectively, on a pay-as-you-go basis.

6. Lease

The Foundation entered into a ten-year lease effective January 1, 1999. The lease contains an escalation clause which provides for rental increases resulting from increases in real estate taxes and certain operating expenses. Annual base rent expense increased in 2004 to approximately $707,000 from approximately $652,000 in 2003. Rent expense for 2004 and 2003, including escalations, was $816,383 and $775,969, respectively.

SCHEDULES OF MANAGEMENT AND INVESTMENT EXPENSES
YEARS ENDED DECEMBER 31, 2004 AND 2003

	2004	2003
Management expenses:		
Salaries and employees' benefits:		
Salaries	$4,113,462	$3,864,452
Employees' retirement plan and other benefits	1,523,890	1,452,336
Total	5,637,352	5,316,788
Rent	816,383	775,969
Program expenses	1,087,500	799,599
Office expenses	507,300	551,854
Website and publications	37,130	47,863
Professional fees	385,133	282,522
Total management expenses	8,470,798	7,774,595
Less direct investment and other management expenses allocated to investments	2,399,120	2,254,534
Management expenses	$6,071,678	$5,520,061
Investment expenses:		
Investment management fees and expenses	$4,345,214	$4,025,867
Direct investment and other management expenses allocated to investments	2,399,120	2,254,534
Investment expenses	$6,744,334	$6,280,401