

2001 ANNUAL REPORT

ALFRED P. SLOAN FOUNDATION



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2001 GRANTS AND ACTIVITIES



SCIENCE AND TECHNOLOGY

FELLOWSHIPS

Sloan Research Fellowships

\$4,160,000

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 46 years, fellowships have been awarded to over 3,600 scientists and have accounted for expenditures of about \$92 million. Twenty-six Fellows have received Nobel prizes, thirteen have been awarded the prestigious Fields Medal in mathematics, and hundreds have received other prestigious prizes, awards, and honors in recognition of their major research accomplishments..

In 2001, 104 Fellowships were awarded in six fields: chemistry (23), computer science (14), economics (8), mathematics (20), 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 program is described in detail in the [Sloan Research Fellowships Brochure](#).

Candidates for Sloan Research Fellowships are nominated by department heads or other senior scientists familiar with their work. Within each discipline, a committee of three distinguished scientists reviews all nomination documents and recommends the final selections. During 2001, the Foundation awarded Research Fellowships of \$40,000 each, over a two-year term, to 104 scholars at 50 institutions. The following committees reviewed nominations:

Chemistry: Jon C. Clardy, Cornell University; Stephen J. Lippard, Massachusetts Institute of Technology; William H. Miller, University of California, Berkeley.

Computer Science: Randy Katz, University of California, Berkeley; Barbara Liskov, Massachusetts Institute of Technology; Jeffrey Ullman, Stanford University.

Economics: John Geanakoplos, Yale University; Lars P. Hansen, University of Chicago; Paul Romer, Stanford University.

Mathematics: George C. Papanicolaou, Stanford University; Peter Sarnak, Princeton University; Ronald Stern, University of California, Irvine.

Neuroscience: Allison Doupe, University of California, San Francisco; J. Anthony Movshon, New York University; S. Lawrence Zipursky, University of California, Los Angeles.

Physics: Robert J. Birgeneau, University of Toronto; Joseph Polchinski, University of California, Santa Barbara; Scott Tremaine, Princeton University.

SLOAN RESEARCH FELLOWSHIP RECIPIENTS

Baylor College of Medicine

Neuroscience: Fabrizio Gabbiani

Boston University

Mathematics: Alexander Polishchuk

Brandeis University

Mathematics: Dmitry Kleinbock

Brown University

Neuroscience: David L. Sheinberg

Physics: Greg L. Landsberg

California Institute of Technology

Chemistry: Richard W. Roberts

Mathematics: Emmanuel J. Candes

California, University of, Berkeley

Chemistry: Jeffrey R. Long

Peidong Yang

Economics: Kenneth Y. Chay

Mathematics: Allen Knutson

Ai-Ko Liu

Physics: Michael Manga

Dan M. Stamper-Kurn

California, University of, Davis

Chemistry: Matthew P. Augustine

Neuroscience: A. Kimberley McAllister

W. Martin Usrey

California, University of, Los Angeles

Chemistry: Sarah H. Tolbert

Economics: Ekaterini Kyriazidou

Mathematics: Dimitri Shlyakhtenko

California, University of, Riverside

Chemistry: Jingsong Zhang

California, University of, San Francisco

Neuroscience: Fen-Biao Gao

Philip N. Sabes

California, University of, Santa Barbara

Physics: Deborah Kuchnir Fygenson

Carnegie Mellon University

Chemistry: David S. Sholl

Economics: Holger Sieg

Chicago, University of

Chemistry: Ka Yee Christina Lee

Mathematics: Alexander Kiselev

Physics: Savdeep S. Sethi

Columbia University

Computer Science: William Noble

Grundy

Neuroscience: Jacqueline Gottlieb

Physics: Dam Thanh Son

Cornell University

Mathematics: Yuri Berest

Neuroscience: Christiane Linster

Duke University

Neuroscience: Guoping Feng

Michael L. Platt

Emory University

Chemistry: Tianquan Tim Lian

Georgia Institute of Technology

Chemistry: Robert M. Dickson

Computer Science: Elizabeth D. Mynatt

Dana Randall

Harvard University

Computer Science: Norman Ramsey

Economics: Rafael La Porta

David Laibson

Neuroscience: Azad Bonni

Houston, University of
Physics: Kevin E. Bassler

Illinois, University of, at Urbana
Chemistry: Wilfred van der Donk
Mathematics: Jared C. Bronski
Physics: Karin A. S. Dahmen

Johns Hopkins University
Chemistry: John P. Toscano

Massachusetts Institute of Technology
Chemistry: Harold J. Schwalbe
Economics: Sendhil Mullainathan
Mathematics: Hubert L. Bray
Neuroscience: J. Troy Littleton
Physics: Deepto Chakrabarty
Alexander van Oudenaarden

Maryland, University of
Mathematics: Konstantina Trivisa
Jiu-Kang Yu
Physics: Melanie Becker

McGill University
Mathematics: Dmitry Jakobson

Michigan State University
Physics: Hendrik Schatz

Michigan, University of
Computer Science: Sugih Jamin
Steven K. Reinhardt
Mathematics: Brian Conrad
Christopher M. Skinner
Physics: Carolina Lithgow-Bertelloni
Jens-Christian Meiners

New York University
Mathematics: Nader Masmoudi

North Carolina, University of
Mathematics: David Cai

Northwestern University
Chemistry: SonBinh T. Nguyen

Ohio State University
Computer Science: Song Chun Zhu

Pennsylvania State University
Chemistry: Philip C. Bevilacqua

Pennsylvania, University of
Neuroscience: Marc F. Schmidt
Physics: Jay Kikkawa
Matthew Strassler

Princeton University
Economics: Jonathan A. Parker
Mathematics: Wilhelm Schlag
Physics: Uros Seljak

Rice University
Computer Science: Edward W. Knightly

Rochester, University of
Neuroscience: Edward G. Freedman

Rutgers University
Physics: Valery Kiryukhin

Scripps Research Institute
Chemistry: Philip Edward Dawson

Simon Fraser University
Physics: J. Steven Dodge

Stanford University
Chemistry: Hongjie Dai
Mathematics: Andrea Goldsmith

State University of New York – Stony Brook
Chemistry: Peter J. Tonge
Computer Science: Hong Qin
Physics: Alexander G. Abanov
Zurab Kakushadze

Texas A & M University
Mathematics: Catherine Huafei Yan

Texas, University of, at Austin

Chemistry: Angela Belcher

Computer Science: Lorenzo Alvisi

Anna Gal

**Texas Southwestern Medical Center,
University of**

Chemistry: Jef K. De Brabander

Toronto, University of

Computer Science: Kiriakos Kutulakos

Physics: C. Barth Netterfield

Tulane University

Chemistry: Pernilla Wittung-Stafshede

Washington University

Neuroscience: Aaron DiAntonio

Washington, University of

Chemistry: Oleg Prezhdo

Computer Science: Scott Alan Hauck

Dan Suci

Neuroscience: Rajesh P. N. Rao

Wisconsin, University of

Physics: Mark Saffman

Yale University

Chemistry: David J. Austin

Economics: Giuseppe Moscarin

DIRECT SUPPORT OF RESEARCH

NEUROSCIENCE, OFFICER GRANT

University of California, Los Angeles
Los Angeles, CA 90095

\$45,000

To update equipment for use in human brain experiments. Project Director: Itzhak Fried, Associate Professor in Residence, Division of Neurosurgery and Department of Psychiatry and Biobehavioral Sciences, School of Medicine.

COMPUTATIONAL MOLECULAR BIOLOGY, TRUSTEE GRANTS

Florida State University Research Foundation
Tallahassee, FL 32306

\$45,000

This grant, made from an appropriation approved by the Board of Trustees, is for partial support of a meeting of Sloan/Department of Energy postdoctoral fellows and their participation in a meeting on mathematics and molecular biology sponsored by the Burroughs Wellcome Fund. Project Director: Professor DeWitt Sumners, Department of Mathematics.

Sloan/DOE Postdoctoral Awards in Computational Molecular Biology

This fellowship program is a joint venture of the Sloan Foundation and the U.S. Department of Energy. Fellowships provide an in-depth experience in a molecular biology laboratory for recent Ph.D.s, mostly from computationally intensive fields such as mathematics, physics, computer science, engineering, and chemistry. There is exceptional scientific potential in applying modern computational techniques to problems related to data arising from the study of human and other genomes. The program aims to increase the number of scientists possessing the cross-disciplinary skills needed to study these problems. Each two-year fellowship award carries a total budget of \$120,000, which includes stipends, benefits, research expenses, and institutional overhead.

A careful review of applications in the sixth year of the program resulted in the following six awards in 2001. (Grants for the first three awardees are from Department of Energy funds.) The listing below includes the following: name of awardee; Ph.D. field of awardee; Ph.D. institution; postdoctoral sponsoring institution; sponsoring senior scientist; proposed research plan.

Justin Fay; Population Genetics; University of Chicago; University of California, Berkeley; Michael Eisen; "Gene Expression as a Means of Dissecting the Genetic Basis of Complex Traits."

Shayan Mukherjee; Computational Neuroscience; Massachusetts Institute of Technology; Whitehead Institute; Todd Golub; "Support Vector Method for Multivariate Density Estimation."

Duncan Odum; Chemistry; California Institute of Technology; Whitehead Institute; Richard Young; “Systematic Dissection and Dynamic Modeling of the Eukaryotic Heat Shock Response.”

Joyce Duan; Biochemistry; Baylor College of Medicine; University of California, Los Angeles; David Eisenberg; “Computational Analysis of Large Scale Organization of Yeast Signaling Network.”

Hugh MacMillan; Applied Mathematics; University of Colorado; University of California, San Diego; Andrew McCammon; “Multiscale Modeling of Synaptic Transmission at a Neuromuscular Junction.”

Jay Storz; Biology; Duke University; University of Arizona; Michael Nachman; “A Test of Natural Selection on a-Globin Variation.”

COMPUTATIONAL MOLECULAR BIOLOGY, OFFICER GRANTS

Cold Spring Harbor Laboratory **\$39,200**
Cold Spring Harbor, NY 11724

To bring computer scientists and mathematicians with expertise in handling data sets together with biologists who need to use bioinformatic information more fully and productively. Project Director: Jan A. Witkowski, Director of the Branbury Center.

National Academy of Sciences **\$40,000**
Washington, DC 20418

Partial support for a workshop and report on practices and standards for access to data in the life sciences. Project Director: Fran Sharples, Director, Board on Life Sciences.

LIMITS TO KNOWLEDGE, TRUSTEE GRANT

George Mason University **\$300,000**
Fairfax, VA 22030

Prediction of weather is of great scientific, business, and political importance. Spurred in part by concerns about global warming, complex and expensive computer-based models have been constructed to produce scenarios of future climate. However, little work explicitly addresses the fundamental question of what can be known with such models. Can they reliably predict only very broad spatial average changes, such as a three degree global warming, or can they also offer detail about extreme behavior that may accompany a global average change? Jagdish Shukla, director of the Center for Ocean-Land-Atmosphere Studies at George Mason University, is one of the world’s foremost experts in

predictability of weather and climate. With major funding from NASA, he has built a strong research team working on such problems as monsoon forecasts. This grant will supply funds for three years to support a survey of the current state of knowledge of what is known, not known, and unlikely ever to be known about the predictability of weather and climate. Two workshops, one on weather and one on climate, will be held. Viewpoints of users of weather and climate forecasts will be studied and ways will be explored that might make such forecasts and their associated uncertainties more clearly conveyed. Project Director: Professor Jagadish Shukla, School of Computational Science.

MARINE SCIENCE, TRUSTEE GRANTS

Consortium for Oceanographic Research and Education **\$310,000**
Washington, DC 20036

The Consortium has been supported with past grants to establish and operate the international secretariat for the Census for Marine Life. The typical organization for an international scientific project such as the Census is to have a network of national or regional committees to work in close coordination with the international leadership of the program. With this grant, the Consortium will form and support a U.S. national committee for the Census. The main purpose of the national committee is to establish U.S. strategy and priorities for the Census and to work with supporters to assure the needed flow of resources. The committee will serve as a forum in which U.S. government agencies can develop and discuss their ideas about participation in the Census. The National Oceanic and Atmospheric Administration and other agencies are expected to participate in the funding of the national committee. Project Director: Penelope Dalton, Vice President & Technical Director.

Rutgers University **\$616,000**
New Brunswick, NJ 08901

To assimilate the data to be collected for the field program of the Census of Marine Life and to integrate these with historical and other data, the Ocean Biogeographic Information System (OBIS) was created with major funding in 2000 from the Foundation and from U.S. government agencies through the National Ocean Partnership Program. The vision of OBIS is that anyone, anywhere on a computer can click on an area on a map of the oceans and bring up information on what has been reported to live there. OBIS is linked to geo-referenced databases for the oceans' physical, chemical, and geological parameters. In 2001, an International Committee for OBIS was constituted with members from Australia, Canada, Germany, Ireland, Japan, New Zealand, United Kingdom, and the United States. The group formulated both near-term plans and long-range goals. This grant supports continued development of OBIS. Additional datasets will be acquired and protocols will be further refined. Rutgers will host a small technical team dedicated to solving system problems. Demonstrations are planned for 2002 to show that diverse sets of data that conform to OBIS protocols can be integrated and conveniently visualized. Attention will also be paid to building the needed partnerships and a sustainable funding strategy for OBIS. Project Director: Frederick Grassle, Director, Institute of Marine and Coastal Sciences.

Stanford University
Stanford, CA 94305

\$395,000

Miniaturization and improved electronic memory storage and sensors have made it possible to attach tags to a wider range of ocean animals and to make them less disturbing to the animals. They require less power, last much longer, and vastly increase the data able to be collected. This grant will support the planning of a very large tagging project to describe the patterns of movement, distribution, and behavior of pelagic organisms in the North Pacific Ocean. The project, called Tagging of Pacific Pelagics (TOPP), would be the first effort to tag simultaneously a set of the major interacting predators, including tuna, sharks, whales, and seals, and other key animals, such as turtles, squids, and albatross. The eventual field project may involve tagging a total of some 5,000 animals from about ten species. This grant, matched by the David and Lucille Packard Foundation, will enable the TOPP team to test the next generation of tags on target animals, initiate TOPP's data management system, and develop the education and outreach component of TOPP, for which the Monterey Bay Aquarium will take the lead. By the end of the planning period in December 2002, strategies, deliverables, milestones, and budgets for all aspects of the TOPP project will have been outlined. Project Director: Professor Barbara Ann Block, Hopkins Marine Station.

University of Maryland
Cambridge, MD 21613

\$250,000

Among the richest existing databases on marine life is that of the Chesapeake Bay. During the past decade, the National Science Foundation and other government agencies have sponsored highly detailed surveys of many aspects of life in the Bay. This grant will support the integration of these data into the Census of Marine Life. The project team will demonstrate the application of advanced technologies to quantify a wide range of marine life over a large area and will add great value to an existing important data set. They will incorporate the data into the Ocean Biogeographic Information System (OBIS), the information utility developed for the Census of Marine Life, thus testing the applicability of OBIS to highly data-rich field censuses. Project Director: Professor Michael R. Roman, Center for Environmental Science.

Vancouver Aquarium Marine Science Centre
Vancouver, BC
Canada V6B3X8

\$395,000

Salmon are counted in rivers and when they leave and enter, but little is known about their distribution when they are outside the rivers in the open ocean. Major fluctuations in salmon populations may possibly be due to their behavior in the ocean, which has not yet been effectively studied. The project team will put small electronic tags on salmon that allow tracking of individual animals over thousands of kilometers. They will set up arrays of listening devices that can establish the migratory pathways. The two years of activities focus on steelhead salmon leaving the rivers of the U.S. Northwest, British Columbia, and Alaska. The acoustic array, if successful, will make a major breakthrough in marine science, allowing what has up to now been impossible: tracking the movements in detail of fish that are

known to make long migrations. Since the acoustic array concept applies to any animal capable of being tagged, it extends well beyond Pacific salmon, can be applied to other aspects of the Census of Marine Life, and is of broad biological interest. Substantial supplementary support from Canadian and U.S. sources has been obtained for this feasibility project. Project Director: David W. Welch, Program Head, High Seas Salmon Research, Pacific Biological Station, Nanaimo, BC.

Virginia Institute of Marine Science
Gloucester Point, VA 23062

\$329,000

This grant supports the planning phase of a Census of Marine Life project focusing on the ecosystems associated with the Mid-Atlantic Ridge from Iceland to the Azores. The project aims to describe and understand the patterns of distribution, abundance, and trophic relationships of the organisms inhabiting the mid-oceanic North Atlantic, and to identify and model ecological processes that cause variability in these patterns. The study will focus on the larger animals that live or swim above the ridge, and utilize innovative methods and up-to-date technology to map distributions, analyze community structure, study life histories, and model relationships. The planning phase, to be followed by a field phase in 2003-2005 and an analytical phase in 2004-2008, includes time on board ships to test and adapt instruments for the ridge setting, and will produce detailed plans for the field phase of the project. It also is planned to have financing arranged for the majority of the components of the entire large project. Project Director: Michael Vecchione, Adjunct Professor of Marine Science.

Woods Hole Oceanographic Institution
Woods Hole, MA 02543

\$500,000

A 1999 Foundation grant to the Woods Hole Oceanographic Institution (WHOI) supported initial work on a field project of the Census of Marine Life set in the U.S. and Canadian waters of the Gulf of Maine and Georges Bank. The technical feasibility of the project has been established, a team of outstanding researchers assembled, detailed plans have been prepared, and tentative commitments have been obtained from potential sponsors and partners. The Gulf of Maine census is organized around surveys of five groups: offshore subtidal benthos (bottom dwellers); intertidal and nearshore subtidal benthos; large vertebrates and seabirds; fish and squid; and plankton. The information collected, as well as historical information and data from ongoing surveys by fisheries agencies and others, will be integrated into the Gulf of Maine Biogeographic Information System, a specific implementation of the information system developed for the Census as a whole. With the current grant, WHOI will move forward in making the project actually happen and integrating its activities and results. This grant supports the core activities for year one, as well as staff and consultants to help assure the project receives a full hearing in the capitals of the U.S. and Canada and in relevant states and provinces. Estimated cost of the full set of activities for this large project is \$15 million. Project Director: Kenneth G. Foote, Senior Scientist, Applied Ocean Physics and Engineering Department.

The following grants were funded from an appropriation approved by the Sloan Foundation Board of Trustees to support small grants and expenses for the Census of Marine Life. These grants were for a

variety of purposes: dissemination of information and outreach; strengthening commitments of U.S. constituencies; strengthening cooperation with international organizations; strengthening of national programs for the Census abroad; and pilot program development.

American Geographical Society of New York **\$5,000**
New York, NY 10005

To support a meeting to highlight ocean exploration and the Census of Marine Life. Project Director: William P. Doyle, President.

Association for Biodiversity Information **\$45,000**
Arlington, VA 22209

To assist development of the Ocean Biogeographic Information System of the Census of Marine Life. Project Director: D. James Baker, Distinguished Visiting Scholar.

Centre for Marine Biodiversity Society **\$33,000**
Dartmouth, Nova Scotia B2Y 4A2

For a workshop on Canadian marine biodiversity and Canadian participation in the Census of Marine Life. Project Director: Kees Zwanenburg, Senior Biologist, Marine Division.

Intergovernmental Oceanographic Commission of UNESCO **\$29,000**
Paris, France 75732

To explore options for enhancing the activities of the Census of Marine Life in Southeast Asia and the developing world in general. Project Director: Ned Cyr, Fisheries Biologist.

International Council for the Exploration of the Seas **\$25,000**
Copenhagen, Denmark

For a planning group and other activities in support of the Census of Marine Life in the North Atlantic. Project Director: David Griffith, General Secretary.

New England Aquarium Corporation **\$25,000**
Boston, MA 02110

To develop the outreach and education components of the Census of Marine Life. Project Director: Jerry R. Schubel, President.

OTHER SCIENCE AND SCIENCE POLICY, OFFICER GRANTS

Center for the Study of the Presidency **\$30,000**
Washington, DC 20036

For a program to improve Presidential and Congressional understanding of U.S. support for innovation, science, and technology. Project Director: David M. Abshire, President.

International Institute for Applied Systems Analysis **\$35,000**
Laxenburg, Austria

For research on the relations between individual productivity and aging. Project Director: Cesare Marchetti, Institute Scholar.

Massachusetts Institute of Technology **\$27,000**
Cambridge, MA 02139

Funding for a symposium addressing federal science and technology policy issues. Project Director: Daniel Hastings, Director, Technology and Policy Program.

National Academy of Sciences **\$41,545**
Washington, DC 20418

Partial support for a convocation on enhancing the postdoctoral experience of scientists and engineers. Project Director: Deborah Stine, Associate Director, COSEPUP.

National Academy of Sciences **\$45,000**
Washington, DC 20418

Support of the work of the Science Adviser's office at the U.S. Department of State. Project Director: John B. Boright, Executive Director, Office of International Affairs.

Princeton University **\$34,785**
Princeton, NJ 08544

To support a proposal entitled "Optimal Control of Disease Processes." Project Director: Professor Robert F. Stengel, School of Engineering and Applied Science.

RAND Corporation **\$40,000**
Santa Monica, CA 90407

For promotion of the Sloan-sponsored research and book entitled *The Ph.D. Factory*. Project Director: Charles Goldman, Economist.

HISTORY OF SCIENCE AND TECHNOLOGY

TRUSTEE GRANT

University of Maryland
College Park, MD 20742

\$300,500

The dot com boom and bust of the 1990s is already one of the most famous technology-driven episodes in business history. Given that the Internet is the domain of the dot coms, it seems appropriate to use web-based techniques to investigate and document the rise and fall of Internet companies. This project will generate and attract material about the dot coms, organize and make it accessible, add historical insight, and preserve the digital material for the long run. This project is part of the Foundation's program to develop and diffuse a new way of creating, assessing, and preserving the historical record of major recent technical and scientific events by using the Internet. Project Director: Professor David A. Kirsch, Smith School of Business.

HISTORY OF SCIENCE AND TECHNOLOGY, OFFICER GRANT

Council on Library and Information Resources
Washington, DC 20036

\$44,000

To develop concepts and partnerships to ensure long-term access to web-based documents. Project Director: Abby Smith, Director of Programs.

STANDARD OF LIVING AND ECONOMIC PERFORMANCE

INDUSTRIES

INDUSTRY CENTERS, TRUSTEE GRANTS

Carnegie Mellon University
Pittsburgh, PA 15213

\$1,800,000

This grant supports the creation of a Software Industry Center. The software industry is characterized by a strong dependence on skilled workers, telecommunications infrastructure, and rapid product cycles. The Center will involve Carnegie Mellon faculty from the Heinz School of Public Policy, the School of Computer Sciences, and from the Software Engineering Institute, an in-house research group, representing the disciplines of computer science, software engineering, electrical engineering, economics, and public policy. Among the research themes to be investigated are the following: innovation and business models (specifically, the open source movement, of which Linux is the best known example); intellectual property rights; new models for software distribution; imbedded systems, which are invading automobiles, medical devices, personal portable devices like cell phones, and even appliances; software development practices; advanced manufacturing and factors affecting the demand for manufacturing and engineering software; talent, workforce, and human capital issues; and globalization issues, such as opportunities for software production abroad, the dynamics of competition in the industry, and possible impacts of the availability of low-cost production abroad. At least 12 doctoral students will be brought into Center research projects for their dissertation work. Commitments for funding of the Center's work have been obtained from software industry firms, the state of Pennsylvania, and a consortium of small manufacturers. Project Director: Professor Richard Florida, Heinz School of Public Policy and Management.

Carnegie Mellon University
Pittsburgh, PA 15213

\$1,000,000

This grant, made from an appropriation approved by the Board of Trustees, supports the establishment of a center to study the electric power industry in partnership with the Electric Power Research Institute (EPRI). The Foundation grant is supplemented by a commitment of \$750,000 from EPRI and an expected contribution of \$500,000 from firms in the industry and government sources. CMU's research program is organized around eight basic forces shaping the industry: rapid, uneven restructuring; environmental regulation; technological changes in generation; technological changes in transmission and system coordination; opportunities to enter related businesses; changing nature of demand; globalization; and chronic under-investment in R&D and infrastructure. Project Director: Professor Lester B. Lave, Graduate School of Industrial Administration.

Georgia Tech Research Corporation
Atlanta, GA 30318

\$1,050,000

The Foundation made its initial grant for the creation of a center on the trucking industry to the University of Michigan in 1995 and a renewal grant in 1998. In view of the project director's relocation

and research plans, this final grant has been made to Georgia Tech. The Center has made useful contributions to understanding of the nation's trucking industry. Close contacts developed with people and firms in the industry have helped shape the Center's research agenda around three broad areas: labor and human resources; operations and technology; and case and benchmarking studies of the "less-than-truckload" segment of the industry. An important survey of drivers, conducted by interviews with truckers at highway rest stops, was completed and provides the most comprehensive portrait currently available of the truck-driving workforce, their work, and their opinions about their jobs. The Center has also analyzed the impact of information technology in the industry. A survey of companies has studied the consequences of the integration of the Internet into their business activities. One book has been published (*Sweatshops on Wheels: Winners and Losers in Trucking Deregulation* by Michael M. Belzer, Oxford University Press, 2000) and another is in preparation on motor freight in the age of information. Nine doctoral students have received their Ph.D.s with dissertation work on Center research projects. The current grant, supplemented by substantial funds from industry and government sources, supports continued research, involving both faculty and students at the Center's new location. Project Director: Professor Chelsea C. White, III, School of Industrial and Systems Engineering.

Massachusetts Institute of Technology
Cambridge, MA 02139

\$384,275

The Program on the Pharmaceutical Industry at MIT, now supported by industry funds mainly to support manufacturing or marketing-related projects, was one of the early Foundation-funded industry centers. Program researchers believe that the ability of firms in this industry to deliver affordable medicines to the public depends on how quickly and efficiently they can embrace the rapidly changing scientific and technological advances in areas related to biomedicine. This grant funds studies aimed at assessing the degree to which several emerging technologies have had a role in improving the productivity of drug development, especially for cancer. Project Director: Professor Stan N. Finkelstein, Sloan School of Management.

Rochester Institute of Technology
Rochester, NY 14623

\$500,000

This grant makes it possible for RIT to establish a Printing Industry Center. The Center will involve the College of Imaging Arts and Sciences and the College of Business and will conduct research in selected areas identified as high priority in consultation with industry companies and representatives. These include: new business models for graphic communications; emerging market opportunities for the printing and publishing industries; new workforce requirements for the digital age; and re-engineering print production processes. Master's program students (RIT does not grant Ph.D.s) will participate in Center research projects. An industry board, representing an industry that has committed more than this Foundation grant to support the Center, will offer advice and guidance on the research agenda. RIT will also develop from research projects a set of educational modules that will be made available to the industry via classrooms (on-site or on-campus) and online methods, or as print publications. Project Director: Frank Cost, Associate Dean.

University of Minnesota
Minneapolis, MN 55455

\$1,200,000

This is the second renewal and final Foundation grant in support of continued research at the University's Retail Food Industry Center. Technology and electronic commerce have caused major changes in food retailing and distribution during the six years of the Center's operation. Numerous mergers and acquisitions occurred at all levels of the food supply chain. Consumers continued to shift their purchases to food service places or ready-to-eat foods, and their concerns rose about the health and safety of their food. The Center has conducted 23 research projects, including the Supermarket Panel project that follows a nationally representative sample of grocery stores over time and has provided annual summary reports and confidential benchmark reports to survey participants. Other projects have studied slotting fees paid by a food manufacturer to a wholesaler or retailer to place a new product on their shelves and customer loyalty and shopping patterns as evidenced by scanner data. In this renewal period the Supermarket Panel will be expanded to include more stores and data will be used to study performance measures characteristic of leading stores. New projects will be initiated on the food service segment of the industry and on human resource practices in restaurants. Project Director: Professor Jean D. Kinsey, Department of Applied Economics.

The following grants, made from an appropriation approved by the Board of Trustees, support various activities designed to strengthen the connections among the Sloan industry centers and to increase their visibility and the impact of their studies.

Economic Strategy Institute
Washington, DC 20005

\$39,000

Support for three seminars featuring Sloan industry centers. Project Director: Peter Morici, Research Director.

Economic Strategy Institute
Washington, DC 20005

\$39,000

Support for policy forums in Washington, DC featuring the work and results of Sloan industry centers. Project Director: Peter Morici, Research Director.

Massachusetts Institute of Technology
Cambridge, MA 02139

\$200,000

This grant supports the first in a planned series of annual Sloan Industry Centers Conferences on Understanding Today's Economy. These conferences feature speakers from Sloan industry centers and other researchers as well. They are designed to attract a broad audience from outside the Sloan industry centers, including participants from industry, government, and academia. Project Director: Professor Richard K. Lester, Director, Industrial Performance Center.

Massachusetts Institute of Technology **\$25,000**
Cambridge, MA 02139

Support to plan the 2002 Sloan Industry Centers annual meeting. Project Director: Professor Richard K. Lester, Director, Industrial Performance Center.

The following four grants, also from an appropriation approved by the Board of Trustees, support the awards of Sloan Industry Center Fellowships. Each fellowship carries a stipend of \$50,000 and includes \$7,500 for related expenses of the center at which the fellowship research will be conducted.

Harvard University **\$57,500**
Cambridge, MA 02138

Sloan Industry Center Fellowship for Professor Subhash K. Batra, under the supervision of Professor Frederick H. Abernathy at the Harvard Center for Textile and Apparel Research.

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

Sloan Industry Center Fellowship for Professor Alok K. Chakrabarti, under the supervision of Professor Richard K. Lester at the Industrial Performance Center.

University of Minnesota **\$57,500**
Minneapolis, MN 55455

Sloan Industry Center Fellowship for Professor Timothy A. Park, under the supervision of Professor Jean D. Kinsey at the Retail Food Industry Center.

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

Sloan Industry Center Fellowship for Professor Anne L. Beatty, under the supervision of Professors Richard J. Herring and Franklin Allen at the Wharton Financial Institutions Center.

INDUSTRY CENTERS, OFFICER GRANT

Entertainment Industry Development Corporation **\$18,880**
Hollywood, CA 90028

Support to plan for an Entertainment Industry Center. Project Director: Professor Allen J. Scott, School of Public Policy and Social Research, University of California, Los Angeles.

HUMAN RESOURCES/JOBS/INCOME, TRUSTEE GRANT

Cornell University
Ithaca, NY 14850

\$487,710

Previous Foundation-supported research on wage inequality has shown that in some industries increasing wage inequality may, in some cases, be explained mostly by differences *among* firms in an industry, not by what's happening *within* individual firms. This grant supports an exploration of this issue in the telecommunications industry. With the beginning of deregulation in 1984 and the breakup of the Bell system, wage inequality among telecommunications service and sales workers grew by over 30 percent between 1983 and 1998. The aim of the project is better to understand the factors affecting wages and changes in wage inequality and to link these changes to the practices and strategies adopted by firms in this industry. Project Director: Professor Harry C. Katz, New York State School of Industrial and Labor Relations.

GLOBALIZATION, TRUSTEE GRANT

Council on Competitiveness
Washington, DC 20005

\$100,000

The Council on Competitiveness is a Washington-based industry/academe/labor group created in 1990 to promote competitiveness of U.S. industries. In 1998 the Council organized an Innovation Summit at MIT focused on the nation's capacity to compete through innovation. That meeting, partially supported by a Foundation grant, pointed to weaknesses in the nation's talent pool and research base. Along with funds supplied by the National Science Foundation and the David and Lucille Packard Foundation, this grant supports a second Innovation Summit to be held at the University of California, San Diego. Sessions at the two-day summit will include discussion of fundamental developments in information technology, life sciences, and engineering, and will seek agreement on policy perspectives and actions to deepen the talent pool, strengthen the research base, and increase regional innovation capabilities. Project Director: John N. Yochelson, President.

GLOBALIZATION, OFFICER GRANT

Tata Energy and Resources Institute
Arlington, VA 22209

\$45,000

Support to plan a project to involve western businesses in poverty alleviation. Project Director: R. K. Pachauri, President.

George Washington University
Washington, DC 20052

\$182,664

A 1998 Foundation grant supported a program aimed at getting new scholarly inputs, mainly from social science research, into corporate law. A conference and summer “retreat” of scholars exposed groups of corporate law faculty to important ideas from sociology, psychology, political science, and behavioral economics that are relevant to the functioning of business organizations and has led to new research. This grant supports a second round of these activities to strengthen both the scholarship and the network of participating scholars. Project Director: Professor Lawrence E. Mitchell, Law School.

New York University
New York, NY 10012

\$306,176

Many theorists within schools of management and law have been heavily influenced by a “rational man” model of human behavior, which places heavy emphasis on the role of incentives and sanctions in motivating human behavior. This tends to ignore other sources of human motivation, such as values, commitment to the organization, and attitudes toward work. It also does not consider people’s perceptions of the fairness of decisions made by organizations within which they work or of the extent to which these organizations contribute to their feelings of self-worth and self-esteem. Social scientists have studied these aspects of human motivation, but they have not yet been integrated into a coherent model along with incentives and sanctions. This grant supports research toward this goal, including empirical tests using survey methods, aimed primarily at corporate law scholars, whose work has been heavily influenced by the “rational man” model over the past decades. Project Director: Tom R. Tyler, Professor of Psychology.

Social Science Research Council
New York, NY 10019

\$340,843

A 1999 Foundation grant to the SSRC aimed to develop a new subfield within sociology focused on the study of business, and to increase the number of sociologists doing research in this area. The SSRC program, called “The Corporation as a Social Institution,” has included two competitions for dissertation fellowship awards and has held workshops for selected fellows and senior scholars. This grant will extend the program for another two years, continuing the emphasis on dissertation grants, workshops, and conferences, and adding a more aggressive effort to publicize the program among social scientists, including the presentation of research results at professional society meetings. Project Director: Doug Guthrie, Program Director.

University of North Carolina
Chapel Hill, NC 27599

\$398,000

What people want and get from their jobs are central topics in business. For example, a company’s decisions about how to organize work and what kinds of incentives to provide its employees rely on

assumptions about what motivates people to work hard in the organization's behalf. The International Association of Machinists and Aerospace Workers (IAM) has a long history of surveying its members about such matters. This grant supports survey research on these employees' motivations for doing their jobs, how their work is organized, their attitudes toward the job, company, and union, and the extent to which they are able to balance their work and family lives. Project Director: Professor Arne L. Kalleberg, Department of Sociology.

BUSINESS ORGANIZATIONS, OFFICER GRANTS

Jack Beatty **\$45,000**
Pomfret, VT 05067

For research and writing of a book on the role of the corporation in American history. Project Director: Jack Beatty, Author.

Cornell University **\$39,000**
Ithaca, NY 14853

To conduct research on effects of corporate restructuring on working couples. Project Director: Professor Phyllis Moen, Director, Cornell Employment and Family Careers Institute.

University of Illinois **\$39,036**
Urbana, IL 61801

To obtain a detailed analysis of the process of announcing and implementing layoffs by interviewing the business executives involved. Project Director: Professor Kevin F. Hallock, Department of Economics.

University of Southern California **\$30,000**
Los Angeles, CA 90089

For support of a conference to stimulate collaboration between behavioral economists and corporate law scholars. Project Director: Jennifer H. Arlen, Professor of Law and Business, The Law School.

University of Texas **\$26,700**
Austin, TX 78712

To write a scholarly historical account of the complex interaction between consumers, dealers, and auto producers from 1895 through the 1960's. Project Director: Professor Sally Clarke, Department of History.

ECONOMICS RESEARCH AND OTHER WORK, TRUSTEE GRANTS

Council on Competitiveness **\$150,000**
Washington, DC 20005

The Council has been organizing a program of briefings for congressional decision-makers on issues arising from developments in modern science or technology. This Congressional Forum on Technology and Innovation provides expert speakers, often on different points of view about a selected topic. Nonpartisan and open to the media, it is sponsored and co-chaired by Senators Bill Frist (R-Tennessee) and John D. Rockefeller IV (D-West Virginia). An average of 200 persons attend each session, including chiefs of staff, legislative directors, professional committee staff, legislative assistants, and other Congressional personnel. This grant supports a continuation of the Forum program for another two years. Project Director: Peter W. Rooney, Executive Director, Forum on Technology and Innovation.

Harvard University **\$100,000**
Cambridge, MA 02138

National Governors Association Center for Best Practices **\$100,000**
Washington, DC 20001

These grants provide support for a series of projects to assist U.S. governors to develop policies that support long-term economic development in their states. The program will be undertaken in conjunction with the Council on Competitiveness and will draw heavily upon the “cluster-based economic strategy” work of Michael Porter. Detailed industry cluster profiles for each of the states will be prepared and a *Guide for Governors on Designing and Implementing a Cluster-Based Economic Strategy* will be produced. Three reports will also be prepared: on needed changes in the current workforce system; on building science and technology capacity; and on maximizing the benefits of trade and investment. Two regional forums for state economic development personnel will be convened. Project Directors: Professor Michael E. Porter, Harvard Business School, and Evelyn Ganzglass, Director, Employment & Social Services Policy Studies, NGA.

ECONOMICS RESEARCH AND OTHER WORK, OFFICER GRANTS

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

Partial support for the 50th anniversary celebration of the Sloan School of Management, honoring Alfred P. Sloan, Jr. Project Director: Dean Richard Schmalensee, Sloan School of Management.

Rutgers University **\$40,780**
New Brunswick, NJ 08901

To study how well passenger connections are coordinated within and across airlines. Project Director: Professor Saul A. Rubinstein, School of Management and Labor Relations.

University of Pittsburgh
Pittsburgh, PA 15260

\$35,796

To study what lessons can be learned from the current transition from craft to assembly line in the Volvo automobile plant in Uddevalla, Sweden. Project Director: Assistant Professor Frits K. Pil, Katz Graduate School of Business.

NONPROFIT SECTORS

UNIVERSITIES, TRUSTEE GRANT

University of Pennsylvania **\$150,000**
Philadelphia, PA 19104

Virtual U, the university simulator developed with Foundation funds and released for sale in July of 2000, allows experimentation with the operation of an entire university. This computer simulation serves as a significant aid for education about universities and also for research on universities. Virtual U, as the first working numerical simulation of a university, opens the prospect of a new, more analytic approach than is usual in research on higher education. This grant, from an appropriation approved by the Board of Trustees, supports a variety of activities intended to enlarge and deepen the user community for Virtual U. Project Director: Professor Robert Zemsky, Director, Institute for Research on Higher Education.

UNIVERSITIES, OFFICER GRANT

Education Commission of the States **\$37,273**
Denver, CO 80202

To evaluate the demand and define the development needs for a simulator of community colleges. Project Director: Katherine Boswell, Executive Director.

ASSESSMENT OF GOVERNMENT PERFORMANCE, TRUSTEE GRANTS

Advocates for Children of New York, Inc. **\$654,936**
New York, NY 10001

On its public school-oriented website, Advocates for Children now provides data from the New York Board of Education, offers qualitative evaluations of New York's best schools, posts news stories about schools, and permits parents and others to post comments about schools. This grant supports an expansion of this website to make it more comprehensive, more interactive, better promoted, and more widely used as a venue for parents and others to relay comments about the schools to responsible city agencies. Statistical indicators of school performance and qualitative evaluations of more schools will be added to the site. The site will be aggressively promoted through advertising and partnerships with libraries, parent organizations, schools, and community-based organizations. The procedure for registering a complaint or concern will be made more automatic and user-friendly. The site will also be used to disseminate new policy and legislative initiatives and action alerts. The grant extends over an initial eighteen-month period. Project Director: Jill Chaifetz, Executive Director.

Connecticut Policy and Economic Council
Hartford, CT 06103

\$579,010

A 1999 Foundation grant to the CPEC supported the creation of a program of performance assessment by citizens in Hartford and Stamford. Neighborhood-based assessment of local conditions, using citizens with hand-held computers, an approach that came to be called “City Scan,” was to be used. With this new grant, CPEC will extend the work in Hartford and Stamford, and add one other city. In Hartford they will work with Neighborhood Revitalization Zone committees to decide on issues of interest, then conduct multiple-issue scans in six neighborhoods during the summer of 2002, and prepare to add six more neighborhoods. They will also work with Hartford 2000, a citywide citizen group, to identify at least two citywide measures and carry out citywide scans. CPEC will attempt to institutionalize City Scan in a Stamford neighborhood and will implement the scan methodology in one other Connecticut city. In addition to these local efforts, CPEC will continue to refine its techniques, explore long-term sustainability options, and continue to prepare to launch a statewide assessment program. Project Director: Michelle Doucette Cunningham, Director of the City Scan Project.

Connecticut Policy and Economic Council
Hartford, CT 06103

\$550,000

With this grant, CPEC will create an interactive website, called CivicRADAR, that will enable residents to make service requests of their local municipal government. Over a two-year period, the project will be implemented in at least six Connecticut communities. In addition to permitting service requests, CivicRADAR will also include web-based citizen surveys of government services and will allow for comment and conversation about municipal services. To encourage people to use CivicRADAR, it will be imbedded and prominently displayed in a website called Connecticut Community Network, a resource to provide residents with information about many different kinds of local activities of wide interest. Project Director: Michelle Doucette Cunningham, Director of the City Scan Project.

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

\$3,566,280

Two major Foundation grants, in 1995 and 1998, supported the Center on Municipal Government Performance at the Fund for the City of New York. The current grant will allow the Center to continue and expand its work for another three years. During this period, the Center will complete and report on another round of focus groups of New York City residents about evaluating selected city services; issue a manual on how to measure street rideability; produce a third report on street rideability in New York; have the grass-roots evaluation of neighborhoods called Computerized Neighborhood Environment Tracking (ComNET) operating in at least 30 areas of the city and disseminate the methodology to three other cities; operate an interactive website to collect data on the performance of city agency personnel as they interact with city residents and report these data annually; host another meeting of Sloan grantees to discuss municipal assessment issues; and plan for sources of long-term funding. Project Director: Barbara Cohn, Vice President.

Iowa League of Cities
Des Moines, IA 50309

\$1,216,342

The Iowa League of Cities has assembled a team of university people and have identified a group of nine Iowa cities whose governments and citizens are eager to participate in a project to introduce and institutionalize citizen-based performance assessment. Three cities have already selected the areas of government services on which they will focus. The others will rely on performance assessment committees, to be created in each city and including elected officials, city employees, and mainly citizens, to select the service areas for attention. These committees will also oversee the project in each city, design data collection and reporting techniques, work with the city to ensure that the performance assessment information is utilized in city planning and budgeting, and serve as the entity through which performance assessment will be institutionalized. The project team will offer an array of options for soliciting citizen inputs: focus groups; town meetings; citizen surveys; computer-assisted information kiosks in public places; neighborhood surveys conducted by citizens using hand-held computers; and interactive websites. To promote dissemination, the Iowa project will reproduce and post on-line case studies describing the activities of the project, training materials that can be used in other jurisdictions, journal articles, and conference presentations. A national conference in 2004 will be hosted to highlight project results. Project Director: Paul Coates, Director, Office of State and Local Government Programs.

National Civic League
Denver, CO 80202

\$6,000

This grant, from an appropriation approved by the Board of Trustees, supports a workshop at the next National Conference on Governance. Project Director: Derek Okubo, Director of National Headquarters.

Rutgers University
Newark, NJ 07102

\$530,310

The goal of the Foundation's government performance assessment program is to encourage the creation and widespread adoption of measures of government performance to objectively measure outcomes that matter to people. In addition to supporting demonstration projects around the country, another way to promote the program's goal is to bring citizen-based performance assessment into the curriculum of schools of public administration and of other organizations that train students for public service careers in city and county governments. This grant supports the creation, dissemination, and promotion of curricular materials to support such an educational effort. The newly created course modules will be used in graduate courses in the public administration program at Rutgers and will be exported for use in such programs at other universities. The materials will also be suitable for other venues where professional training of current and future government officials takes place, such as certified public manager programs and in-service training sessions for municipal and state officials. The materials will be available for both web and face-to-face delivery. Project Director: Professor Marc Holzer, Chairman, Graduate Department of Public Administration.

New York State Office of the State Comptroller
Albany, NY 12236

\$45,000

To help introduce citizen-based performance assessment in New York State local governments. Project Director: Debora Wagner, Manager, Performance Assurance.

WORKPLACE, WORKFORCE AND WORKING FAMILIES

CENTERS ON WORKING FAMILIES, TRUSTEE GRANTS

Massachusetts Institute of Technology
Cambridge, MA 02129

\$2,500,000

This grant supports the establishment of the first Sloan Center on Workplaces for Working Families. The Center will focus on firms in three industries in the Boston area, including health care, biotechnology, and law. It has two primary goals: to improve the quality of life of employees by working with all relevant parties to ameliorate conflicts between work and family for employees; and to use the research and data generated in meeting the first goal to change the thinking of academics in schools of business, engineering, and social science so they adopt a systemic approach to the study and design of workplace practices that examines workplace and family interrelationships and outcomes. The Center will coordinate a series of projects aimed at profiling firms in the three industries with respect to work practices. It will then design interventions in specific firms to ensure that the current workplace, where almost all jobs are full time and full year, can begin to change to accommodate workers with different needs. For example, the health care industry currently faces an acute shortage of licensed nurses, many having dropped out of the workforce due to unacceptable work conditions. By bringing together employers, unions, and professional associations to determine how the time and scheduling of work and the design of work practices can better meet the needs of both nurses and employers, the Center may serve to stem the attrition of nursing staff or lure non-working nurses back to work. Firm profiles and suggested interventions produced in Center projects will be used to develop course materials for teaching future managers in schools of business, engineering, and social sciences. Project Directors: Professors Lotte Bailyn and Tom Kochan, Sloan School of Management.

University of California, Berkeley
Berkeley, CA 94720

\$30,200

The Berkeley Center on Working Families started in 1998 and will conclude its operations at the end of the academic year 2001-2002. This grant, from an appropriation approved by the Board of Trustees, covers additional costs of the final year. Project Director: Barrie Thorne, Professor of Sociology and Director, Center on Working Families.

University of California, Los Angeles
Los Angeles, CA 90095

\$159,000

This grant, from an appropriation approved by the Board of Trustees, supplies funds to support a postdoctoral fellow who will do research at UCLA's Center on the Everyday Lives of Families. Project Director: Professor Elinor Ochs, Director, Center on the Everyday Lives of Families.

University of Michigan
Ann Arbor, MI 48109

\$2,888,013

The University of Michigan's Center for the Ethnography of Everyday Life has been instrumental in changing the course of research in American anthropology to include the study of *mainstream* U.S. culture. Panels on middle class working families, for example, are now included in annual meetings of the American Anthropological Association. This renewal grant will develop a series of projects based on work-family issues arising at the Visteon plant of the Ford Motor Company. The relatively manageable size of this company, the mix of employees (some unionized), and the researchers' familiarity with and acceptance by both management and the union provide the possibility of bringing all dimensions of the work-life domain together. The research will focus on the structure of work and shop floor activities and relate these to informal networks. One important topic to be examined is the impact on the workplace and the work lives of employees of large-scale organizational change, for example in the scheduling of work. By forging this close connection with Visteon and working closely with both management and labor, the research team may have an opportunity to consider changes in work practices and work schedules that could enhance the lives of the employees and also promote the needs of the firm. In addition to the core project at Visteon, the Center will consider selected faculty and student projects conceptually related to the Visteon site but based elsewhere. Project Director: Thomas E. Fricke, Associate Professor, Anthropology Department, and Director, Center for Ethnography of Everyday Life.

CENTERS ON WORKING FAMILIES, OFFICER GRANTS

Cooper Union for the Advancement of Science and Art
New York, NY 10003

\$45,000

Support of research for a book on the standard of living. Project Director: Jeffrey Madrick, Adjunct Professor, Social Sciences Department.

University of Michigan
Ann Arbor, MI 48109

\$44,781

For conducting a survey of work-family policies affecting faculty in higher education. Project Director: Carol Hollenshead, Director, Center for the Education of Women.

WORKPLACE STRUCTURE AND OPPORTUNITY, TRUSTEE GRANTS

American University
Washington, DC 20016

\$44,990

This grant is from an appropriation approved by the Board of Trustees to promote quality part-time careers in a number of professions, including law, medicine, accounting, and management. It is the second to American University's Washington College of Law for study of part-time careers in law. The

first dealt with developing a model policy on part-time careers in law partnerships. This second grant supports work on issues of part-time legal careers in general counsel offices. Project Director: Joan Williams, Professor of Law.

Brandeis University
Waltham, MA 02454

\$393,545

The most recent federal statistics reveal that one in three employed Americans work non-standard shifts. Many of these workers are parents of young children. The main aim of this study will be to understand the processes by which dual-earner couples with young children decide that mothers, and perhaps fathers, will work the evening shift. The study will explore the extent to which this decision is voluntary or involuntary. Did the mothers have other options at the time they started to work the evening shift? In a world with more options, is this the arrangement they would keep or would they seek another option, for example, daytime but part-time work? Researchers will also study mothers who currently work day shifts, but who used to work in the evening, to determine why they made the change. They will also use a variety of measures to examine the degree to which maternal evening work affects children, especially those in their preteen years. Project Director: Rosalind C. Barnett, Senior Scientist, Women's Studies Research Center.

Families and Work Institute
New York, NY 10016

\$525,000

The Families and Work Institute resurrected a statistical survey of the American workforce formerly conducted by the U.S. Department of Labor, amplified it to include more comprehensive questions on work and family issues, and conducted it in both 1992 and 1997. This survey, entitled the National Study of the Changing Workforce (NSCW), is considered the most comprehensive and statistically representative survey of U.S. workers and their personal lives. The data are important for research and for public understanding of issues faced by working families at home and at work. This grant supports the costs of fielding the third cycle of the NSCW in 2002. Project Director: James T. Bond, Vice President.

Pennsylvania State University
University Park, PA 16802

\$391,219

The goal of this project, involving faculty in labor studies, women's studies, and higher education, is to map U.S. colleges and universities according to the variety of ways that faculty's work and family responsibilities are respected and supported through formal and informal policies and practices. There are three stages to this project. Stage I entails a survey of faculty at 600 U.S. colleges and universities. This includes a random, stratified sample of 500 institutions, data from which will be used to study the effects of various factors on the work-family climate for faculty and the degree to which faculty engage in behaviors to avoid biased treatment. To supplement this sample of 500, an additional targeted sample of 100 institutions, already recognized for their work-family practices, will also be included. Stage II involves in-depth case studies, including focus groups, of the work-family climate, practices, and

policies at twelve colleges and universities. In stage III, 16 tenure-track faculty at two of the schools will be shadowed on a daily basis to learn how they handle joint work and family responsibilities. Project Director: Robert Drago, Professor of Labor Studies and Women's Studies.

Purdue University
West Lafayette, IN 47907

\$373,845

Purdue University is involved with labor and management problems at a Southern Indiana packaging plant. This plant employs 700 production workers, using multiple shift work combinations, involving 12-hour shifts with one weekend day always included. This rigid shift structure is not working well. The project team has been invited by both plant management and labor leaders to find more creative scheduling approaches. The researchers will assess the relationships between existing work schedules and productivity, absenteeism, and the quality of work and family life. They will then design and implement a cooperative effort of labor and management to develop new schedule options. Project Directors: Professor Shelley M. MacDermid, Department of Child Development and Family Studies, and Professor Robert Perrucci, Department of Sociology and Anthropology.

University of Virginia
Charlottesville, VA 22903

\$197,356

The most common response by universities to family-work conflict is to offer faculty parental leave and an extension to the tenure review schedule. This project aims to understand this policy and its career consequences. A survey of 75 universities will be conducted to determine the content of their parental leave and tenure policies, their objectives, their usage by faculty, and the extent of support for and controversy about these policies. Members of tenure review committees will be surveyed to learn how the tenure cases of young faculty with children who use these policies are impacted. Finally, a panel survey will be conducted of 450 junior faculty with children less than 18 months of age to learn about the usage of these policies and what effect they have had on the careers of faculty. Project Director: Professor Steven Rhoads, Department of Government and Foreign Affairs.

Urban Institute
Washington, DC 20037

\$181,864

During the 1970s and 1980s, employers provided their older employees with incentives for early retirement. Barriers were put in place to discourage continuing workforce participation among older groups. The availability of gradual or partial retirement options was often limited. Such policies now warrant scrutiny in view of the projected rapid increase in over-65s in the U.S. population. Some current pension practices may be serving as barriers for those who wish to continue working, including on a part-time basis, after age 65. This project will explore these retirement issues and seek ways to reduce the legal barriers to phased retirement and part-time and part-year work for older Americans, without incurring adverse, unintended consequences. Results will be disseminated by publication of a series of Urban Institute Policy Briefs, and by the convening of a major conference in Washington. Project Director: Rudolph G. Penner, Senior Fellow.

Work in America Institute
Scarsdale, NY 10583

\$390,387

This project will study part-time work arrangements for rank and file union members and will deepen our understanding of current union practices and attitudes toward part-time work. It will produce a summary of current best practices and innovations in reduced hour arrangements and a set of proposed new modes of reduced-hour work, including appropriate contract language. These study findings will be translated into a media campaign targeted to the public and business and union leaders as a way to promote “good” part-time work arrangements that can begin to meet the needs of both the firm and the employee. Project Director: Jill Casner-Lotto, Vice President.

WORKING FAMILIES AND EVERYDAY LIFE, TRUSTEE GRANT

Boston College
Chestnut Hill, MA 02167

\$573,250

Boston College developed the Sloan Electronic Network on Work-Family Research in 1998. The Network, the first research-based site devoted to work-family issues, consists of four main components: research literature database; research and policy newsletter; research and policy panels; and on-line resources for faculty. In 2000, the Harvard Business Review identified it as one of the ten best sites for academics and featured it on their Graduate School website. During the last two years, over 17,000 users visited the site, with 7,000 using the literature database. The Network provides an important resource for the work-family research and policy community. This grant supports its continued operation. Project Director: Assistant Professor Marcie Pitt-Catsouphes, Graduate School of Social Work.

WORKING FAMILIES AND EVERYDAY LIFE, OFFICER GRANTS

Institute for Civil Society
Newton, MA 02458

\$14,320

Support for travel for a writer to visit Sloan Centers on Working Families. Project Director: Maggie Jackson.

National Parenting Association, Inc.
New York, NY 10016

\$44,800

To do preliminary work on and pilot an index of parent stress. Project Director: Nancy Rankin, Executive Director.

Oklahoma State University
Stillwater, OK 74078

\$41,725

To support research on work-family issues of women faculty. Project Director: Kelly Ward, Assistant Professor of Higher Education, College of Education.

Purdue University
West Lafayette, IN 47907

\$30,000

To conduct a national conference on work-family research. Project Director: Shelly M. MacDermid, Professor of Family Studies.

Rutgers University
New Brunswick, NJ 08901

\$41,000

For research on the nature of volunteer activities by professional women in dual-earner families. Project Director: Professor Mary S. Hartman, Women's and Gender Studies Department.

San Jose State University
San Jose, CA 95192

\$39,384

To write two books based on ethnographic research on everyday lives of working families in Silicon Valley. Project Director: Professor Charles Darrah, Department of Anthropology.

University of Arizona
Tucson, AZ 85721

\$5,500

Supplementary funding for a meeting of the College and University Work/Family Association focused on work/life issues for women faculty. Project Directory: Mimi Gray, President, College and University Work/Family Association.

EDUCATION AND CAREERS IN SCIENCE AND TECHNOLOGY

SCIENTIFIC AND TECHNICAL CAREERS

ANYTIME, ANYPLACE LEARNING, TRUSTEE GRANTS

Association of Joint Labor/Management Educational Programs **\$310,000**
New York, NY 10016

One aspect of the Foundation's ALN Program is to encourage labor and management in selected industries to cooperate toward development of ALN programs for workers. This grant supports the establishment of an ALN program for information technology workers of the State of Illinois, a joint effort of the state, the union, and Lincoln Land Community College in Springfield, IL. The Association has worked closely with the state and the workers' union to spell out the skills and competencies required at different levels of certain information technology positions, for example, data processing technician, data processing supervisor, and specialists in data processing and information services. Lincoln Land Community College will convert about 30 courses into an ALN format for delivery to state employees. Existing classroom courses will be adjusted and then converted to assure alignment with worker skills and competencies. The aim is to allow a worker wishing to advance to a higher job title to identify the competencies he or she needs to acquire, and then be able to take the relevant courses, pass a state test, and move up. Completing a sufficient number of such courses will lead to an associates degree. Lincoln Land has an articulation agreement with the University of Illinois (Springfield) that enables workers to progress to a bachelor's degree in information science. The Association will spread awareness of the program among state employees through union and state channels, and directly through union counselors who are in direct contact with employees. Project Director: Marshall Goldberg, Executive Director.

Council for Adult and Experiential Learning **\$250,000**
Chicago, IL 60603

Past Foundation grants to the Council supported a series of meetings with representatives of the major firms and key unions in the telecommunications industry that produced a curriculum for an associates degree for network technicians. A national program for delivery of the curriculum via an asynchronous learning network (ALN) was organized. Pace University provides the courses and CAEL provides overall general project management. An industry/union advisory group, the National Coalition for Telecommunications Education and Learning (NACTEL), oversees the program. Although the program is off to a good start, the industry is very large and many thousands of workers in the country could benefit by participating. A portion of this current grant will be used to develop a deeper understanding of the enrollment potential for the degree. It also enables CAEL to markedly upgrade efforts to increase awareness of the NACTEL degree program and to begin the development of similar programs for two additional industries, electric power and healthcare. Meetings with representatives of 12 electric utilities and the International Brotherhood of Electrical Workers (IBEW), the main union involved, have

discussed an associates degree curriculum in Electric Power Technology for technicians working in the generation and transmission of electricity. The development of an ALN program for continued learning of certified nursing assistants, licensed practical nurses, and registered nurses has been discussed with a number of healthcare providers and the Service Employees International Union. A portion of the current grant will continue these efforts to implement a NACTEL-like ALN program in electric power and healthcare and to plan for converting courses into ALN form. Project Director: Pamela Tate, President.

Council for Adult and Experiential Learning
Chicago, IL 60603

\$1,075,000

This grant will allow NACTEL to launch a new associates degree in the customer service part of telecommunications and also to implement a marketing program aimed at doubling enrollments for each of the next three years. (See the preceding grant for background information.) A second component of this grant is a new program for the power generation and distribution industry. A coalition of firms in the industry and the union has been assembled, a degree program has been selected for workers on the distribution side, and Bismark State College in North Dakota has been chosen to convert existing courses and develop new courses in ALN format. This grant enables the college to complete all courses for the degree program and funds CAEL's implementation of a detailed marketing plan. CAEL will also continue to explore the area of healthcare (specifically nursing) as a candidate for a similar industry-related ALN project. Project Director: Pamela Tate, President.

Franklin W. Olin College of Engineering
Needham, MA 02492

\$690,000

This grant, made from an appropriation approved by the Board of Trustees, supports a variety of activities related to Sloan-C projects. Sloan-C is the consortium of institutions, ranging from elite universities to community colleges, that have received ALN grants from the Foundation or that have strong ALN online educational programs. Speakers and consultants to help institutions become members of Sloan-C will be organized. Various activities for the annual ALN conference, including online publication of the proceedings will be continued, as will publication of the Journal of ALN, the newsletter, and books on ALN topics. The website for ALN programs will be maintained and the Sloan-C catalog improved. Efforts involving benchmarking and identifying effective practices will allow for improvements in quality of teaching and learning in Sloan-C programs and in activities associated with the U. S. Army's online university project. Project Director: John R. Bourne, Professor of Electrical and Computer Engineering.

Franklin W. Olin College of Engineering
Needham, MA 02492

\$170,000

The U.S. Army has selected a contractor to implement an online university for army personnel. This involved setting up a learning portal through which soldiers could access a catalog, register for courses, and link to appropriate courses at participating colleges, as well as providing laptops and internet access to soldiers. The Foundation has provided advice and guidance throughout the bidding process and subsequently, on matters of program development and quality issues, at the request of the winning team

from PricewaterhouseCoopers. This has been done with the help of an external advisory committee and selected members of the Sloan Consortium of experienced ALN users. This grant makes possible Professor Bourne's continued advisory role through 2002. He will continue to make use of the external committee and Sloan Consortium members. Project Director: John R. Bourne, Professor of Electrical and Computer Engineering.

Pennsylvania State University
University Park, PA 16802

\$650,000

Past grants helped establish the Penn State World Campus, the beginning of a "virtual university," i.e., an institution that offers a multiplicity of programs in many disciplines, appeals to a broad cross section of society, and enrolls large numbers of learners who are taught online by regular campus faculty. This grant will be used to explore new kinds of relationships with learners and faculty participating in the World Campus. Student retention in courses and completion of programs will be improved, as will such student services as career advisement. Closer contact with students will be maintained online concerning nonacademic matters. Obtaining the involvement of more tenured faculty in World Campus teaching is another aim of the project. Faculty workshops and assessments of faculty experiences in teaching across a broad spectrum of courses are planned. Internal processes germane to online education will be reconsidered and streamlined. The aim is to make a detailed assessment of all World Campus costs associated with course development, course delivery, support services, marketing, etc., and to reduce that cost substantially. Project Director: Gary Miller, Assistant Vice President and Executive Director of the World Campus.

Skidmore College
Saratoga Springs, NY 12866

\$460,000

Although almost all small private high quality liberal arts colleges tend to focus mainly on their campus programs, Skidmore College has taken a broader view and has attempted to establish programs for nontraditional learners using a variety of technological approaches, such as independent study combined with online interaction with faculty. This grant enables Skidmore to develop over 30 undergraduate courses and to offer an entirely online asynchronous learning network (ALN) humanities degree with three possible areas of emphasis: American History and Culture; Human Nature and Behavior; and Communication and Arts. Skidmore plans to serve students who have already accumulated roughly the first two years of a degree program. The online courses will allow such learners to complete the full bachelor's degree. If some courses needed for the degree are not available online, Skidmore will transfer course credit (in most cases) if the student attends an accredited local institution. If all goes well in this three-year project, the college expects to be able to add courses to this program so the degree is fully online. Project Director: Cornel J. Reinhart, Director, University Without Walls.

Stanford University
Stanford, CA 94305

\$400,000

Stanford has been offering courses over the Internet for the past seven years and a past Foundation grant was instrumental in initial development of Stanford Online, which now makes over 200 courses

available and has recorded thousands of enrollments. With this new grant, Stanford will further strengthen this online activity by adding about 60 “courselets,” short online education modules that are much less than full courses but cover specific topics designed to fill knowledge gaps for some learners. The “courselets” will range over a variety of topics connected with graduate engineering courses, such as matrix algebra, discrete Fourier transform, spread spectrum, and code division multiple access. Over 40 such modules will be created. Topics will be determined by what has been learned to date about small but essential gaps that need to be filled in the backgrounds of many online graduate students in order to improve their success rate in courses. Additional modules will also be created in noncredit areas such as steel making, spot welding, die casting, etc. The modules will all be available online and learners will be able to study them anytime, anyplace, and at their own pace. They will not be taught by an instructor, but a registered Stanford student will have access to an instructor if assistance is needed. Project Director: Professor Dale Harris, Department of Electrical Engineering.

University of Washington
Seattle, WA 98195

\$165,000

The University of Washington has a substantial program for delivery of education to off-campus learners through an asynchronous learning network (ALN). This grant will enable the University to add a fully online degree program in Construction Engineering, the first of its kind to be offered online. This program is directed at practicing engineers who are in heavy construction (for example, major infrastructure efforts such as bridges and airports) and who wish to upgrade their education. Students will come from private, military, and government construction sectors, groups often required to travel internationally to various sites, who should be attracted to an online educational program. Students will be able to earn certificates along the M.S. degree path (Heavy Construction Project Management, Infrastructure Construction, and Quantitative Construction Management). Those completing the three certificates and a graduate research report will earn the M.S. degree. Students will be served by UW Online, a student/faculty support infrastructure that allows easy access to such services as the bookstore, advising, and libraries. Project Director: David Szatmary, Vice President of Educational Outreach.

Western Governors University
Salt Lake City, UT 84117

\$150,000

Members of the Western Governors Association conceived in 1995 of Western Governors University (WGU) as a complement to traditional campus-based universities, one that would support online learners and award degrees and certificate credentials on the basis of competency. Full accreditation is expected within two years and should make the university more attractive to degree-seekers. WGU now offers seven degrees, one of which is a master’s degree for teachers (M.A. in Learning and Technology). This grant provides partial support to create a special focus within the university: a Teachers College that will develop and offer at least four new degrees and certifications (Education, English Language Learning, Mathematics Education, and Science Education), as well as in-service courses for the teacher community. Project Director: Robert W. Mendenhall, President.

University of Wisconsin Colleges **\$45,000**
Madison, WI 53780

Support to develop elements of a student support system for ALN programs. Project Director: Pat Fellows, Director of Distance Education.

The following two 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 ALN usage.

Franklin W. Olin College of Engineering **\$45,000**
Needham, MA 02492

Support for Sloan-C speakers and consultants for New York City ALN projects. Project Director: John R. Bourne, Professor of Electrical and Computer Engineering.

Stevens Institute of Technology **\$25,000**
Hoboken, NJ 07030

Support for a project to increase understanding of the media, especially in New York City, about asynchronous learning networks. Project Director: Robert Ubell, Director, Web-based Distance Learning.

ANYTIME, ANYPLACE LEARNING, OFFICER GRANTS

University of Massachusetts **\$30,000**
Amherst, MA 01003

Support for developing an online case method for teaching high-tech entrepreneurship. Project Director: James M. Theroux, Professor of Entrepreneurship.

University of Massachusetts, Lowell **\$45,000**
Lowell, Ma 01854

Support for training faculty in ALN course development and teaching. Project Director: Jacqueline F. Moloney, Dean of Continuing Studies, Corporate and Distance Education.

Texas Tech University **\$45,000**
Lubbock, TX 79409

Support to increase enrollments in ALN engineering degree programs. Project Director: Brent Guinn, Director of Distance Learning.

Case Western Reserve University
Cleveland, OH 44106

\$150,000

Two years ago, the CWRU physics department partnered with the school of management to introduce a new “physics entrepreneurship” program. This grant supports the implementation of similar programs in four more science departments: biology, chemistry, mathematics, and statistics. Each program includes: core technical courses within the science discipline; core courses in management; a business-oriented thesis with technical content, in collaboration with a company or new business venture; and a seminar series with intellectual property experts, venture capitalists, and other business leaders with scientific and engineering backgrounds. CWRU aims to award about 85 master’s degrees per year from the five programs (including physics) and will provide up to 100 tuition waivers for students to help launch the programs. Project Director: Cyrus Taylor, Professor of Physics.

Council of Graduate Schools
Washington, DC 20036

\$471,961

Past grants in this program have supported the creation of professional master’s degrees in the sciences, mainly in Ph.D.-granting institutions. This grant seeks to enlarge the program to include “master’s-focused institutions” whose primary emphasis is on education at the bachelor’s and master’s level. Most of the master’s degrees now offered by such institutions are one-year degrees within a particular discipline and hence often are not sufficient to prepare their recipients for professional careers in scientific fields. With this grant, the Council will invite up to 100 such institutions with strong science facilities to undertake a planning and assessment process among their faculties, and a careful survey among employers in their regions. Small planning grants of \$7,500 each will be provided to approximately 50 of these invited institutions that wish to undertake such a process. The goal is to determine the levels of faculty and administrative support for and employer interest in transforming some of their current master’s programs into two-year professional master’s degrees or creating new degrees of this type. Proposals for implementation will be prepared. The Council will convene an expert committee consisting of graduate deans, employers of science professionals, and experts in master’s-level education to assist Foundation staff in reviewing the resulting implementation proposals. Project Directors: Peter D. Syverson, Vice President for Research and Information Services, and Les B. Sims, Dean in Residence and Director, External Grants Program.

Indiana University
Indianapolis, IN 46202

\$75,000

This grant will enable Indiana University and Purdue University at Indianapolis to create a new professional master’s degree in laboratory informatics, a specialized application of information technology to optimize and extend laboratory operations. Laboratory informatics involves knowledge of such fields as lab automation and robotics; instrumentation, such as chromatography systems; and data analysis. Tighter regulatory requirements, the movement to electronic laboratory notebooks, and other forces are strongly favoring the spread of sophisticated laboratory information systems in place of the

traditional laboratory. The new program, the first of its kind, will consist of a mixture of additional training in the relevant fields of science, as well as in management information systems, operations research, statistical methods, computer networking, and project management. Project Director: Douglas Perry, Associate Dean for Graduate Studies and Research, School of Informatics.

North Carolina State University
Raleigh, NC 27695

\$150,000

With this grant North Carolina State University will establish professional master's degrees in financial mathematics and microbial biotechnology. The financial mathematics program will include stochastic processes and probability, statistics and computation, and study of institutional operation of financial markets. The departments of mathematics, statistics, economics, industrial engineering, and agricultural and resource economics will all be involved. Courses scattered throughout many degree programs will be integrated into the new program, together with internships and a final project. The master's in microbial biotechnology will involve education in three areas: microorganisms, including their role in biotechnology; laboratory techniques in biotechnology; and an MBA-level introduction to the management of money, people, processes, and information. Led by the department of microbiology, the program will have the cooperation of the school of management and will require industrial internships. Project Director: Margaret F. King, Associate Vice Chancellor for Research and Graduate Studies.

Northeastern University
Boston, MA 02115

\$75,000

This grant supports the creation of a new professional master's degree in biotechnology, designed to provide highly qualified scientific personnel for the dynamic biotechnology industry in the Boston metropolitan area. Students enrolled for the new degree will pursue a common core curriculum for the first year and then elect one of three specialized tracks for the second year: molecular biotechnology; pharmaceutical biotechnology; or engineering biotechnology. A six-month internship in an area biotechnology firm will be required. Steady enrollment of 40 students is expected to produce a two-year degree program that will be self-financing from tuition after an initial start-up period. Project Directors: H. William Detrich, Professor of Biochemistry and Marine Biology; Mansoor Amiji, Associate Professor of Pharmaceutical Sciences; Carolyn Lee, Assistant Professor of Chemical Engineering.

Oregon State University
Corvallis, OR 97331

\$400,000

Oregon State University is able to enroll additional students in many areas of the sciences, especially so for students who will spend a limited time in on-campus research laboratories. As a leading land-grant institution in the Pacific Northwest, it also has a long tradition of working closely with regional industries. This grant will enable the university to initiate new professional master's degree programs in applied physics, environmental science, applied biotechnology, and quality systems analysis. All four programs will include both substantial course work to deepen students' understanding of relevant scientific fields and also increased preparation in (a) information technology and information sciences; (b) professional skills, including business, law, and communications; and (c) internships in area firms. Project Director: Professor Stella Coakley, Chairperson, Department of Botany and Plant Physiology.

Research Foundation of State University of New York
Amherst, NY 14228

\$225,000

With this grant SUNY at Buffalo will establish three new professional master's degrees in the following interdisciplinary scientific fields: molecular chemical biology; computational chemistry; and environmental geographic information systems. Faculty from biology, chemistry, computer science, geography, and mathematics have been involved in planning the programs, which will also benefit from two major research centers at the university: the National Science Foundation Industry/University Cooperative Research Center in Biosurfaces and the National Center for Geographic Information and Analysis. Students in the degree programs will share a central core of courses in computational science and applied mathematics as well as a four-semester sequence of seminars organized with the School of Management on human resource issues, finance, organizational behavior, and other managerial subjects. Each program will provide specialty courses focused on sciences translatable into current and future needs of the relevant industries. Project Director: E. Bruce Pitman, Vice Provost for Educational Technology, University of Buffalo, SUNY.

Rice University
Houston, TX 77005

\$405,000

The University plans with this support to establish professional master's degree programs in three scientific fields: nanoscale physics; catalysis; and energy and environment. By combining additional exposure to advanced physics with training in management and communications, the nanophysics degree will produce graduates who can occupy niches in growing fields such as advanced sensors, microelectronics, optoelectronics, photonics, and data storage. The catalysis degree will include advanced study of catalytical chemistry, as well as the skills in teamwork and management urgently needed to make the science useful in a variety of industries. The energy and environment program will integrate training in geology, environmental sciences, and ecology to create graduates well prepared to face the modern operating environment of energy industries. Along with advanced disciplinary training, all the programs involve added work in computation, industrial internships, and education in management, communication, and ethics. Project Director: Kathleen S. Matthews, Dean and Stewart Memorial Professor, Weiss School of Natural Sciences.

San Diego State University
San Diego, CA 92182

\$105,000

SDSU's charter is to provide undergraduate and master's degrees in professional areas that serve community interests. The master's program has often been a one-year continuation of the corresponding undergraduate curriculum. This grant will support SDSU's work to enhance its master's degree in computational sciences and to explore the potential throughout the sciences for new professional master's degrees requiring two years of full-time study. The computer science department will upgrade its master's degree by requiring courses that link closely to industries and by adding internships, team projects, and courses in management and communications. The university expects to identify at least three more scientific areas in which it can build professional master's degrees. Project Director: Thomas R. Scott, Dean, College of Science.

San Jose State University Foundation
San Jose, CA 95192

\$75,000

SJSU is located in one of the top regions for biotechnology industries. It is one of the largest sources of BS and MS graduates in the state – the undergraduate program in biology enrolls 550 students. The university has state-of-the-art equipment and laboratories needed for education in biotechnology. This grant will support SJSU's development of a two-year master's degree program in biotechnology that will involve cooperation between the Department of Biological Sciences and the Business School. The curriculum will include intensive laboratory training, MBA-level business electives, an internship, and a capstone project. The program will be designed to be convenient for nontraditional students, including working professionals. Project Director: Professor Chris Brinegar, Department of Biological Sciences.

University of Arizona
Tucson, AZ 85721

\$420,000

Two past Foundation grants have supported activities based at the University of Arizona to enhance the diffusion of professional science master's degrees throughout the United States. Two major conferences of the universities offering such degrees have been held. A website, www.sciencemasters.com, has been established and maintained. Visits and correspondence have stimulated interest of additional institutions in considering professional master's degree programs. Favorable coverage for new programs has been obtained in many publications. This grant will support the continuation of this work for two additional years. Activities will focus on four areas: (1) increasing the number of professional science master's degree programs and their size, and attracting partners in government and industry for their support; (2) assuring that graduates of Sloan programs in 2002 and 2003 find first jobs in appropriate career paths; (3) sharing best practices and benchmarking in order to encourage continuous improvement of programs; and (4) monitoring and evaluation of programs by means of timely collection of data on enrollments, jobs obtained by graduates, and faculty issues. Project Director: Sheila Tobias, Science-Education Consultant.

University of Connecticut
Storrs, CT 06269

\$415,000

This grant will support the creation of new professional master's degree programs in industrial microbiology, applied genomics, and applied financial mathematics. These fields have strong regional labor markets. The new programs will enable the University to take a more active role in regional economic development by supplying well-prepared graduates for positions in biotechnology, pharmaceutical, and insurance companies, all well-represented in Connecticut. The industrial microbiology program integrates microbiology with other life sciences (genetics, cell and developmental biology) as well as with chemical engineering, statistics, and food sciences. Applied genomics extends from its core in genetics to biochemistry, computer science, and statistics. The mathematics program will complement mathematics department courses with offerings from statistics, finance, economics, and computer science. All programs require specialized seminars in communication, law, and management, along with team projects and industrial internships. Project Director: Professor Linda Strausbaugh, Department of Molecular and Cell Biology.

University of Utah
Salt Lake Cities, UT 84112

\$400,200

This grant supports the establishment of new professional master's degree programs in environmental science, science instrumentation, and computational science. Students in these science degree programs will share a set of "cohort courses" in advanced quantitative skills (computing, statistics, and modeling), and in business skills (communications, project management, finance, and accounting). The environmental program will seek students (and mid-career practitioners) with physical science and biology backgrounds and will emphasize hydrology, hazardous waste management, and environmental monitoring systems. The scientific instrumentation program will deal with the large variety of instruments used in the pharmaceutical, biotechnology, and defense industries. The computational science program will be oriented to students with undergraduate training in mathematics, physics, and computer science, and will emphasize visualization and modeling. Project Director: David S. Chapman, Associate Vice President for Graduate Studies and Dean of the Graduate School.

The following two grants made in 2001 are funded from an appropriation approved by the Board of Trustees to provide start-up funding for new professional master's degree programs in bioinformatics and computational molecular biology. These specialties offer real promise for developing attractive scientific career paths at the master's level and there is strong and growing demand for skilled scientists in these fields at this level. (Eight grants were made from this appropriation in 2000.)

Arizona State University
Tempe, AZ 85287

\$149,903

Project Director: Professor Rosemary Renaut, Chair, Department of Mathematics.

Rochester Institute of Technology
Rochester, NY 14623

\$150,000

Project Director: Gary R. Skuse, Professor of Biological Sciences.

PROFESSIONAL MASTER'S DEGREES, OFFICER GRANTS

Center for Science and the Media, Inc.
Stamford, CT 08906

\$44,460

Planning and preparation for a web-based National Doctoral Program Survey. Project Director: Geoff Davis, software developer.

Council of Graduate Schools, Inc.
Washington, DC 20036

\$45,000

To engage predominantly master's degree-granting institutions in discussions of professional master's degrees in the sciences. Project Director: Peter D. Syverson, Vice President for Research and Information Services.

University of Southern California
Los Angeles, CA 90089

\$45,000

To strengthen computational linguistics as a field for the professional master's degree. Project Director: Hans Bozler, Professor of Physics.

INFORMATION ABOUT CAREERS, TRUSTEE GRANT

American Association for the Advancement of Science
Washington, DC 20005

\$230,000

Science's Next Wave is a web-based magazine and information resource produced by *Science Magazine* (published by the AAAS) mainly for graduate students and young faculty in the sciences. Last year the Foundation made a start-up grant to provide a new and actively managed on-line site through which now-scattered postdocs and postdoc associations can interact easily, exchange ideas and concerns, and discuss topics of mutual interest. The new Postdoc Network has produced, on a biweekly basis, a web-based magazine of original editorial content that includes articles on problems facing postdocs and solutions developed by various universities, on professional career advice for postdocs, and on the development of postdoc associations. Annotated lists of links to other sources of information on the postdoc experience have been prepared. Special promotional efforts have created a growing virtual community using the Network for interaction among postdocs around the country, among growing numbers of postdoc associations, and among administrative offices for postdocs that have recently been established by a number of research universities. The current grant supports the continued operation of the Postdoc Network for another two years, during which period the Network will strive to become financially self-sustaining. Project Director: Crispin Taylor, Managing Editor, *Science's Next Wave*.

INFORMATION ABOUT CAREERS, OFFICER GRANTS

**American Institute of Mining, Metallurgical, and
Petroleum Engineers**
New York, NY 10016

\$45,000

Support to plan a Careers Cornerstone web resource. Project Director: Nellie Guernsey, Executive Director.

**American Institute of Mining, Metallurgical, and
Petroleum Engineers**
New York, NY 10016

\$45,000

Support for Cornerstone distribution through 2001. Project Director: Nellie Guernsey, Executive Director.

ENTRY AND RETENTION, OFFICER GRANT

Carnegie Mellon University
Pittsburgh, PA 15213

\$30,000

To promote the book *Unlocking the Clubhouse* by Allan Fisher and Jane Margolis. Project Director: Allan Fisher, Principal Systems Scientist

SCIENCE AND ENGINEERING EDUCATION, TRUSTEE GRANT

National Academy of Sciences
Washington, DC 20418

\$150,000

In 1982 and again in 1995, a consortium of research organizations produced a comparative assessment of U.S. research doctoral programs. This is the source of the widely-cited “ratings” of such programs, by institution and discipline. The National Research Council is planning to assess the merits of a further such study. Methodological improvements are required. New approaches need to be considered in light of the significant changes in doctoral programs over the past decade. Past studies relied mainly on ratings provided by university faculty and administrators. The NRC study will investigate how the perspective of graduate students and recent graduates might be included in assessments of doctoral programs, perhaps by web-based survey approaches. The bulk of the funding for this NRC study will come from Federal agencies. This Foundation grant will ensure that attention is paid to new methods for obtaining inputs from graduate students and recent graduates. Project Director: Charlotte Kuh, Deputy Executive Director, Policy and Global Affairs.

EDUCATION FOR MINORITIES AND WOMEN

MINORITIES, TRUSTEE GRANTS

National Action Council for Minorities in Engineering, Inc. **\$64,460**
New York, NY 10118

This grant enables the National Action Council for Minorities in Engineering (NACME) to administer the Sloan Foundation's minority Ph.D. program. NACME administers its own and also a NASA fellowship program and therefore has both experienced staff and excellent data management capability. NACME will receive applications for Sloan scholarships from eligible students, i.e., new minority students entering Ph.D. programs to work with faculty approved by the Foundation. It will select awardees using Foundation-specified criteria, make awards, receive student requests for payments, and make these payments. It will monitor the progress of each student and ensure that students report on their academic progress and expenditures. NACME will award the recruitment grants of \$2000 per Sloan Scholar to participating universities and will also make payments for and monitor the grants to the undergraduate and master's feeder programs. NACME will provide some assistance to faculty participating in the minority Ph.D. program as they continue to seek and recruit new minority doctoral students for their departments. It will advertise this minority Ph.D. program to its undergraduate fellowship recipients and to the many minority undergraduates who attend the annual meetings of various science and engineering societies where it has a presence. Finally, it will create and maintain a website that will encourage and help interested minority mathematics, science, and engineering undergraduates to make contact with faculty in the Sloan program. This grant funds the cost of NACME's administration through the end of calendar year 2002. (See below for funds received by NACME to be used to fulfill the outstanding obligations of the program.) Project Director: Aileene Walter, Vice President, Scholarship Management.

The following grants are funded from an appropriation approved by the Sloan Foundation Board of Trustees for the Minority Ph.D. program. The aim of the program is to increase the number of underrepresented minority Ph.D.s in mathematics, science, and engineering. Recruitment and retention efforts and direct aid for students are part of the program, as are meetings of faculty participants and Sloan Scholars (students participating in the program). The program is now administered by the National Action Council for Minorities in Engineering (see the preceding grant description for details). The program includes a feeder component in which grants are made to selected departments that (1) have a high percentage of minority students and (2) send on for Ph.D.s in science and technology fields a significant number of their minority graduates following the predoctoral degree. The aim is to encourage and support efforts within such selected departments to increase this number of minority Ph.D. students.

City College of the City University of New York **\$95,000**
New York, NY 10031

To fund the third meeting of faculty participants in the Sloan minority Ph.D. program. Project Director: Daniel Akins, Professor of Chemistry.

Cornell University **\$180,000**
Ithaca, NY 14853

To increase the number of minority graduates from the Mathematical and Theoretical Biology Institute who go on for the Ph.D. degree. Project Director: Professor Carlos Castillo-Chavez, Director, Mathematical and Theoretical Biology Institute.

Michigan State University **\$210,000**
East Lansing, MI 48824

To fund recruitment and retention activities for minority Ph.D. students in the Department of Computer Science and Engineering and the Department of Electrical and Computer Engineering. Project Director: Percy Pierre, Professor of Electrical and Computer Engineering.

National Action Council for Minorities in Engineering, Inc. **\$2,849,960**
New York, NY 10118

Funds to be used by NACME to fulfill outstanding obligations of the minority Ph.D. program. (For details see the Trustee grant to NACME described above.) Project Director: Aileene Walter, Vice President, Scholarship Management.

National Action Council for Minorities in Engineering, Inc. **\$45,000**
New York, NY 10118

Funds to administer the Sloan minority Ph.D. program until the end of 2001. Project Director: Antoinette Torres, Vice President, Educational Strategies.

**National Consortium for Graduate Degrees for Minorities
In Engineering and Science, Inc.** **\$25,000**
Notre Dame, IN 46556

To prepare and make available to faculty for recruitment purposes a list of potential minority Ph.D. students in mathematics, science, and engineering. Project Director: Sandra D. Johnson, Executive Director.

North Carolina A&T State University **\$60,000**
Greensboro, NC 27411

To increase the number of minority graduates from the Physics Department who enter Ph.D. programs.
Project Director: Caesar R. Jackson, Associate Dean, College of Arts and Sciences.

Rice University **\$180,000**
Houston, TX 77005

To fund Professor Tapia's recruitment and retention program for minority Ph.D. students. Project
Director: Richard Tapia, Adjunct Professor, Department of Computational and Applied Mathematics.

Southern Regional Education Board **\$294,584**
Atlanta, GA 30318

To fund continued participation of Sloan Scholars and their faculty mentors in the Compact for Faculty
Diversity's Institute on Teaching and Mentoring. Project Director: Ansley Abraham, Director, Doctoral
Scholars Program.

Under the same Board-approved appropriation for funding the Minority Ph.D. Program, grants of \$2,000
for each newly enrolled Sloan Scholar in the indicated science and technology departments were made
in 2001 to the following institutions for recruitment of additional minority doctoral students. The total
number of such \$2,000 grants made in 2000 to each institution is given in parentheses.

Georgia Institute of Technology (1)
Department of Aerospace Engineering

Massachusetts Institute of Technology (2)
Department of Aeronautics and Astronautics

Oklahoma State University (1)
Department of Microbiology and Molecular Genetics

Pennsylvania State University (2)
Department of Agricultural and Biological Engineering

Purdue University (12)
Department of Chemistry

University of Colorado (1)
Department of Geological Sciences

University of Maryland (2)
Department of Materials and Nuclear Engineering

University of Michigan (2)
Department of Industrial and Operations Engineering

University of Rhode Island (1)
Graduate School of Oceanography

University of South Carolina (4)
Department of Chemical Engineering

MINORITIES, OFFICER GRANTS

American Association for Higher Education **\$11,058**
Washington, DC 20036

Partial support for a study of Hispanic-serving institutions that send large numbers of graduates into Ph.D. programs. Project Director: Maricel Quintana-Baker, Human Resource Development Consultant.

Clark Atlanta University **\$29,250**
Atlanta, GA 30314

To fund publication of an edited volume on the life and career of Dr. Edward A. Boucher. Project Director: Professor Ronald Mickens, Department of Physics.

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

Support of summer workshops to promote recruitment, retention, and academic achievement of minority students at NCSSSMST schools. Project Director: Betty C. Stapp, Curriculum Coordinator, Science Academy at Lyndon Baines Johnson High School, Austin, TX.

WOMEN, TRUSTEE GRANTS

The following ten grants were made from an appropriation approved by the Sloan Board of Trustees to support the pilot phase of 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 for a fellowship to the indicated faculty member, the amount to be matched by the faculty member's home institution. In each case, a supplement of \$5,000 has 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 now been discontinued.

Ithaca College **\$24,823**
Ithaca, NY 14850

Fellowship to Dr. Susan Allen-Gil. Project Director: Professor Vicki Cameron, Chair, Biology Department.

North Carolina State University **\$17,119**
Raleigh, NC 27695

Fellowship to Dr. Montserrat Fuentes. Project Director: Professor Thomas M. Gerig, Head, Department of Statistics.

Rose-Hulman Institute of Technology **\$25,000**
Terre Haute, IN 47803

Fellowship for Dr. Richard Anthony. Project Director: Professor Lee Waite, Chairman, Department of Applied Biology and Biomedical Engineering.

Rose-Hulman Institute of Technology **\$14,743**
Terre Haute, IN 47803

Fellowship for Dr. Tanya Leise. Project Director: Professor Allen Broughton, Chair, Department of Mathematics.

Rose-Hulman Institute of Technology **\$24,600**
Terre Haute, IN 47803

Fellowship for Dr. Karen McNally. Project Director: Professor Lee Waite, Chairman, Department of Applied Biology and Biomedical Engineering.

University of California, Santa Cruz **\$25,000**
Santa Cruz, CA 95064

Fellowship for Dr. Andrew Chisholm. Project Director: Professor Manuel Ares, Jr., Chair, Department of Molecular, Cell, and Developmental Biology.

University of California, Santa Cruz **\$25,000**
Santa Cruz, CA 95064

Fellowship for Dr. Slawek Tulaczyk. Project Director: Professor Elise Knittle, Chair, Department of Earth Sciences.

University of Maryland **\$25,000**
College Park, MD 20742

Fellowship for Dr. Zhongchi Liu. Project Director: Professor Ibrahim Ades, Chair, Department of Cell Biology and Molecular Genetics.

University of Michigan **\$25,000**
Ann Arbor, MI 48109

Fellowship for Dr. Ana Sirviente. Project Director: Professor Michael Bernitsas, Chair, Department of Naval Architecture and Marine Engineering.

University of Pittsburgh **\$24,862**
Pittsburgh, PA 15260

Fellowship for Dr. Xiao-Ming Yin. Project Director: Professor George K. Michalopoulos, Chairman, Department of Pathology.

PUBLIC UNDERSTANDING OF SCIENCE AND TECHNOLOGY

BOOKS, TRUSTEE GRANTS

The following grants were made to authors for writing projects as specified.

Harold M. Evans **\$144,000**
New York, NY 10022

For research and travel for the preparation of a book, *The Innovators: America's Business Genius at Work*.

Felice Frankel **\$125,000**
Cambridge, MA 02139

To research and write an illustrated book on nanotechnology.

Robert Pool **\$125,000**
Tallahassee, FL 32312

To research and write a book to increase public understanding of the known, unknown, and unknowable in a variety of fields and to encourage appreciation of the limits of knowledge and the meaning of uncertainty and unpredictability.

Richard Rhodes **\$132,500**
Madison, CT 06443

For research and writing of a book on the history of the nuclear era.

The following two grants were made from appropriations approved by the Board of Trustees, the first from an appropriation for support of books aimed at increasing public understanding of science and technology, the second from an appropriation related to the new series of books on inventors/entrepreneurs:

Michael D. Lemonick **\$45,000**
Princeton, NJ 08540

To write a book about cosmic microwave background radiation and the MAP probe.

WGBH Educational Foundation **\$45,000**
Boston, MA 02134

To research and write a treatment for a TV series based on The Innovators. Project Director: Margaret Drain, Executive Producer.

BOOKS, OFFICER GRANTS

The following grants were awarded for writing projects as indicated.

Council for the Advancement of Science Writing **\$37,000**
Greenlawn, NY 11740

For a book of interviews with scientists.

Arlene Judith Klotsko **\$35,000**
London W1T 4JF, England

To research and write a short book on cloning.

Steve Lohr **\$15,000**
New York, NY 10025

For research and writing of a book on the history of software programming.

Henry Petroski **\$45,000**
Durham, NC 27705

For research and writing of an engineer's memoir.

Teresa Riordan **\$45,000**
Arlington, MA 02476

For research, writing and illustration of a book on the technology of womanhood.

Jonathan Weiner **\$40,000**
Doylestown, PA 18901

Research and travel for a book on the new biology.

SLOAN TECHNOLOGY BOOK SERIES

The Foundation is sponsor of a series of books intended to broaden public understanding of important modern technologies. Books in the Sloan Technology Series describe the development of specific technologies, including the circumstances of their emergence, their early development and use, their applications, and their actual and potential impacts on society.

Sixteen books have been published in the series:

Craig Canine, *Dream Reaper: The Story of an Old-Fashioned Inventor in the High-Tech, High-Stakes World of Modern Agriculture* (Knopf, 1995)

T. A. Heppenheimer, *Turbulent Skies: The History of Commercial Aviation* (Wiley, 1995)

Richard Rhodes, *Dark Sun: The Making of the Hydrogen Bomb* (Simon & Schuster, 1995)

Robert Buder, *The Invention That Changed the World: How a Small Group of Radar Pioneers Won the Second World War and Launched a Technological Revolution* (Simon & Schuster, 1996)

Martin Campbell-Kelly and William Aspray, *Computer: A History of the Information Machine* (Basic Books, 1996)

David E. Fisher and Marshall Jon Fisher, *Tube: The Invention of Television* (Counterpoint, 1996)

Stephen S. Hall, *A Commotion in the Blood: Life, Death, and the Immune System* (Henry Holt, 1997)

Robert Kanigel, *The One Best Way: Frederick Winslow Taylor and the Enigma of Efficiency* (Viking, 1997)

Bettyann Holtzmann Kevles, *Naked to the Bone: Medical Imaging in the Twentieth Century* (Rutgers University Press, 1997)

Robert Pool, *Beyond Engineering: How Society Shapes Technology* (Oxford University Press, 1997)

Michael Riordan and Lillian Hoddesen, *Crystal Fire: The Birth of the Information Age* (Norton, 1997)

Victor K. McElheny, *Insisting on the Impossible: The Life of Edwin Land* (Perseus Books, 1998)

Dorsey, Gary, *How One Small Start-Up Went Over the Top to Beat the Big Boys Into Silicon Heaven* (Perseus Books, 1999)

Hecht, Jeff, *City of Light: The Story of Fiber Optics* (Oxford University Press, 1999)

Rhodes, Richard (Editor), *Visions of Technology: A Century of Vital Debate About Machines, Systems and the Human World* (Simon and Schuster, 1999)

Waldrop, M. Mitchell, *The Dream Machine: J.C.R. Licklider and the Revolution That Made Computing Personal* (Viking, 2001)

RADIO, TRUSTEE GRANT

National Public Radio
Washington, DC 20001

\$400,000

Two programs focused on science and technology are supported with this grant. The first will explore the relationship between science, technology, and the arts. It will air for one hour each month as part of *Science Friday*, the interview show hosted by Emmy Award-winning TV journalist Ira Flatow. Guests will include leading scientists and technologists as well as writers and artists from the world of television, theater, painting, and film. The second show will feature interviews, profiles, reviews, essays, stories, and even songs about what science is and how it works. It will air in 12-15 minute segments as well as in shorter segments on the popular newsmagazine shows, *Morning Edition* and *All Things Considered*. The emphasis will be on the process of doing science, for example, tracking the long journey from the lab bench to the clinic, and will feature in-depth interviews and profiles of working scientists. Project Director: Barbara A. Hall, Vice President, Development.

RADIO, OFFICER GRANT

Daniel Charles
Washington, DC 20016

\$34,000

To research and broadcast 12-24 technology segments on National Public Radio. Project Director: Daniel Charles, Journalist.

Educational Broadcasting Corporation (WNET/Thirteen)

\$500,000

New York, NY 10001

This grant is partial funding for *The Frontier House*, a six-hour PBS series on pioneer life in the 1880s. Three contemporary families will be transported back to 1883. Carrying only their most essential items in a covered wagon, the families will journey to Montana where they will build a home, work the land, raise and slaughter animals for food, use a hand-shoveled well and an out-house. A single wood-burning stove will be the only source for lighting, cooking, laundering, ironing, and warmth. Viewers will have a rare opportunity to relive an important era in American history and to acquire a practical understanding of the technologies of late 19th century domestic and agricultural life. They will be able to assess for themselves the benefits and drawbacks of technological development over the last century. Project Director: Beth Hoppe, Director, Science Programs.

Film/Video Arts, Inc.

\$2,000,000

New York, NY 10013

This grant partially supports the development, production, and airing of a 4-6 part PBS series on genetics as seen through the eyes and career of James Watson. The double helix has changed the way we think about life and about ourselves. In practical terms, too, its impact has already been huge: DNA has changed medicine, agriculture, and the law. The series will follow Watson's personal odyssey and include many leading researchers, including Francis Crick, as it seeks to explain the extraordinary developments in biology and their impacts on society. WNET/13 will be the presenting station. Project Director: Eileen Newman, Executive Director.

KCET Community Television of Southern California

\$1,000,000

Los Angeles, CA 90027

KCET, the leading PBS station in Los Angeles, will create a special drama production and website for *Copenhagen*, Michael Frayn's Tony award-winning Broadway play. Frayn is adapting the play himself. It will be produced with the BBC and include both a short documentary to orient viewers to the subject matter before the show and a short sequel to encourage discussion of the action and themes after the show. KCET has received permission to reveal for the first time the contents of a famous letter written by Bohr to Heisenberg but never mailed, a letter that may help answer the central question at the heart of Frayn's play: why did Heisenberg come to Copenhagen? PBS will air the show at least twice more during the first three years and a videotape will also be made available. There should be a very large number of viewers for this groundbreaking play featuring real science and complex scientific characters. KCET and the BBC will cover the remainder of the \$2.2 million budget for this project. Project Director: Mary Mazur, Senior Vice President, Programming and Production.

Twin Cities Public Television, Inc.
St. Paul, MN 55101

\$309,096

Twin Cities is producing a 3-part PBS series on the life of Benjamin Franklin. This grant will support enriched treatment of the scientific aspects of Franklin's career. He is an appealing role model since he was intimately involved in the major historical events of his time, bridging the worlds of science, business, the arts, and civic service. This grant will enable the production team to highlight Franklin's role as a leading man of science and to showcase his achievements in the science of electricity, his lifelong interest in invention, and his concern for improving everyday life through practical applications of science. The producers will also interview various scholars of the history of science about Franklin and 18th century science. The series is expected to be broadcast in 2002. Project Director: Catherine Allen, Senior Executive Producer.

WGBH Educational Foundation
Boston, MA 02134

\$2,075,000

This grant supports the production, as part of *The American Experience*, the acclaimed history series on PBS, of three science- and technology-related documentaries: (1) *The Transcontinental Railroad*, about the great 19th century engineering feat that created a truly "united" country; (2) *John Nash: A Beautiful Mind*, based on Sylvia Nassar's acclaimed biography of the Nobel laureate mathematician; and (3) *The Pill*, about the birth control scientific and technological developments that revolutionized American life. The budget includes money for web sites and support for radio ads for each of the three programs, all of which will contribute to enlarging the already very large following of *The American Experience* and ensure an audience for these shows in the millions. Project Director: Margaret Drain, Executive Producer, WGBH.

COMMERCIAL TELEVISION AND FILMS, TRUSTEE GRANTS

American Film Institute
Los Angeles, CA 90027

\$198,500

The first Sloan film summit was held in 1998. This grant supports a second such meeting in 2002. One night will be devoted to screening completed films awarded the Sloan prize and another night to dramatic readings excerpted from winning Sloan scripts. A celebrity host will moderate and professional actors will read. Industry representatives, including leading agents and key development personnel from the studios and networks, are expected to attend. As with the first summit, panels will be convened on writing television scripts that feature science and technology. A film panel on writing and producing films on science and technology themes will also be part of the program. The summit brings together all six Foundation-supported film schools and their prize-winning students, as well as leading scientists and engineers, who participate as panel members.
Project Director: Joe Petricca, Vice Dean, AFI Conservatory Administration.

Carnegie Mellon University
Pittsburgh, PA 15213

\$186,000

Carnegie Mellon's Dramatic Writing Program was invited to join the Sloan film program in 1998 and has been an outstanding performer, producing several excellent scripts on science and technology themes. This grant will expand the CMU program in several ways. In light of the wealth of qualified scripts submitted by students, CMU will now be able to make two annual screenwriting awards instead of one. Noted Hollywood screenwriters will be able to spend a week with CMU students discussing the writing of commercially successful scripts that deal with science and technology. Also, a small annual travel scholarship fund is included to send students who have written prize-winning Sloan scripts to the Los Angeles Showcase of New Talent, a key opportunity to advance their careers and meet with industry representatives. Project Director: Milan Stitt, Head of Dramatic Writing, School of Drama.

Columbia University
New York, NY 10027

\$180,263

This renewal grant supports the Sloan emphasis on stimulating young film directors and screenwriters to create compelling drama about science and technology and to more accurately portray scientists and engineers in film and television. Columbia's Film Division is nationally recognized and one of only six such university film programs invited to participate in the Foundation's program. The grant will result in Sloan prizes for two annual full-length screenplays and one short, fully-produced film that will be shown at festivals. Each student film project will be assigned a science advisor to help guide the writing project and ensure that it is scientifically and technologically sound. Also, an annual seminar will bring leading scientists and engineers to the film program to discuss their lives and work with film students. Project Director: Dan Kleinman, Chairman, Film Division, School of the Arts.

COMMERCIAL TELEVISION AND FILMS, OFFICER GRANT

University of California
Los Angeles, CA 90095

\$36,764

For a two-page ad announcing winners of the Sloan Film Prize. Project Director: Professor Robert Rosen, Chairman, Department of Film and Television.

THEATER, TRUSTEE GRANT

Ensemble Studio Theatre
New York, NY 10019

\$951,000

This is a three-year renewal grant designed to build and expand the Ensemble Studio Theatre (EST) pioneering program to encourage playwrights, actors, and directors to create and stage new plays centered on science and technology themes. Since the initial grant in 1998, the EST/Sloan Science and

Technology Project has been a major success. Over 400 scripts have been received for consideration and 53 artists have been commissioned. Three main stage shows have been produced, *Tesla's Letters* in 1999, *Moving Bodies* in 2000, and *Louis Slotin's Sonata* in 2001, all well reviewed. Various EST/Sloan plays have had subsequent presentations, both here and abroad, and have been published. EST also inspired new relationships with other drama companies, including the Manhattan Theater Club, the Berkeley Repertory Theater, and the Mark Taper Forum in Los Angeles. All of this activity has helped propel a shift toward more science-based plays across the country. Project Director: Curt Dempster, Artistic Director.

THEATER, OFFICER GRANTS

Center Theatre Group
Los Angeles, CA 90012

\$43,850

For a series of public events to promote a new play about Richard Feynman. Project Director: Gordon Davidson, Artistic Director/Producer.

Ensemble Studio Theatre
New York, NY 10019

\$16,933

For a reading of the new Sloan-supported play at Los Alamos. Project Director: Curt Dempster, Artistic Director.

GENERAL

OFFICER GRANT

New York University
New York, NY 10003

\$45,000

Support for a two-day conference on the role of scientific instruments in the history of western art.
Project Director: Lawrence M. Weschler, Director, New York Institute for the Humanities.

SELECTED NATIONAL ISSUES AND THE CIVIC PROGRAM

SELECTED NATIONAL ISSUES

SEPTEMBER 11, TRUSTEE GRANTS

At their October 2, 2001 meeting, the Board of Trustees of the Sloan Foundation approved an appropriation to be used for disaster recovery related to the terrorist attack of September 11, 2001. The first four of the following grants were funded from this appropriation.

ACCION New York **\$357,650**
Brooklyn, NY 11211

ACCION New York is among the most successful micro-lenders committed to providing access to credit to small business owners when traditional channels are closed or too slow. Through small loans and other business services, ACCION helps businesses grow and communities develop. They have set up a special team to make low cost loans to businesses affected by the September 11 disaster. The loans will only be made to businesses located south of 14th Street. This grant will be used for staffing costs associated with making these loans, which are expected to total at least \$2 million. Project Director: Terri Ludwig, President and CEO.

New York Community Trust **\$1,000,000**
New York, NY 10016

This grant is the Foundation's contribution to the New York Community Trust's September 11th Fund, intended specifically for the use of families of the victims of the September 11, 2001 terrorist attack on New York City. Project Director: Lorie A. Slutsky, President.

Pace University **\$500,000**
New York, NY 10038

Pace University's downtown campus is only blocks away from the World Trade Center site and was seriously affected by the September 11 attack. Electricity, telephone service, and Internet connectivity were lost and classes suspended for ten days. Dozens of students had to be relocated from damaged housing facilities. Pace's World Trade Center Institute on the 55th floor of Tower 1 was, of course, totally lost. Over three hundred students who had registered for the fall semester withdrew. This and the following grant were made to Pace in the light of these facts.

Although students have been reluctant to attend class in the aftermath of the September 11 attack, many have indicated an interest in continuing their studies online via computer. New or prospective students have expressed the same reaction. The university has been an important grantee in the Foundation's asynchronous learning network (ALN) distance learning program, but not for its own undergraduate division. Pace has served as the principal course provider in the Foundation's project to offer employees

in the telecommunications industry the opportunity to learn and advance via ALNs. This grant responds to the university's interest in supplying its own students the opportunity to continue their education via the computer. The university, given its past experience in the Foundation's ALN program, is able to move rapidly and effectively. It will create and make available to its students fifty undergraduate and graduate ALN courses. Project Director: David Sachs, Associate Dean, School of Computer and Information Systems.

Pace University
New York, NY 10038

\$350,000

Pace has one of the largest cooperative education programs in the country. The intern program is one of the attractions of Pace for many of its students. In the aftermath of the September 11 attack, businesses and other organizations in lower Manhattan need Pace interns more than ever to help with their recovery, but many will be unable to afford the extra expense. To ensure that interns are available to help with the rebuilding of downtown and at the same time to attract students back to its campus by ensuring such internship positions can be filled, Pace will create a temporary Co-op Scholarship Program to Help Rebuild Downtown. The interns in this program will be paid by the university and will work to help businesses in downtown Manhattan. This grant funds seventy co-op students in this special scholarship program. Project Director: David Sachs, Associate Dean, School of Computer and Information Systems.

Research Foundation of the City University of New York
New York, NY 10016

\$350,000

George Mason University
Fairfax, VA 22030

\$175,000

The Foundation has been supporting projects capitalizing on the emergence of new electronic media and networks to collect and preserve recent history of science and technology. This grant supports the work of a team of historians to use electronic media to collect, preserve, and present the history of the September 11 terrorist attacks and public responses. The project will have three components: (1) organizing and collecting the electronic record and annotating 400 key websites relating to 9/11; (2) collecting digital narratives and evidence of the attack and its aftermath, and emphasizing first-hand recollections, gathered online, from ten major firms, organizations, and communities who were witnesses to the World Trade Center and Pentagon attacks; and (3) developing tools and models for preserving and presenting the past electronically. The team of historians undertaking this joint project is based at the American Social History Project at CUNY and the Center for History and New Media at George Mason University. Project Directors: Professor Roy Rosenzweig, Director, Center for History and New Media, GMU; Joshua Brown, Executive Director, American Social History Project, Center for Media and Learning, CUNY.

DePaul University
Chicago, IL 60604

\$177,615

Weaponization of pathogens by terrorists is neither an international nor a national crime under the laws of all but a handful of nations. No restrictions apply to the international distribution of pathogens or critical equipment. No aspect of international law authorizes any law enforcement activity to detect or interdict the preparation of bioweapons by terrorists. Even if such activity were authorized, there is no institutional capability to carry out law enforcement obligations. This grant supports the convening of a workshop of leading international experts to discuss these issues, to lay the foundation for more functional schemes of mutual law enforcement assistance, and to specify legal instruments to promote the international investigation and interdiction of bioterrorists. The expected outcome is a set of international legal initiatives that will stimulate wide discussion and eventually may be embodied in a convention or treaty to prevent bioterrorism and aid in bringing bioterrorists to justice. Project Director: Professor Barry Kellman, College of Law.

Georgetown University
Washington, DC 20057

\$633,836

There has been a long historical neglect of public health law concerning infectious disease epidemics, either natural or man-made. The emergency powers of local and national governments have not been adapted to the specific challenges of a bioterrorist attack. The legal system lumps bioweapons with other weapons of mass destruction (chemical and nuclear) and then trains first responders to be police and firefighters instead of medical professionals and public health officials. This grant supports a three-year plan by the Center for Law and the Public's Health at Johns Hopkins and Georgetown to prepare for the legal aspects of bioterrorist events. The first objective is to acquire and access the many existing laws that are relevant to the prevention of bioterrorism and the needed responses to a bioterrorist event. Legal relationships among federal, state, and local governments will be analyzed. Initial findings will be widely distributed. Next, the group will determine what changes in policy and law would facilitate the most effective responses to a bioterrorist event. A model law will be developed for improving legal and policy preparedness that can ultimately be considered for adoption by the states. A series of case studies illustrating contemporary health problems and the legal challenges they pose, a website, and extensive training materials will be prepared. A leaders' conference on bioterrorism policy will be convened and a scholarly text created. Project Director: Professor Lawrence O. Gostin, Georgetown University Law Center.

National Academy of Sciences
Washington, DC 20418

\$420,970

Today, many members of the scientific community are not aware of potential dangers of taking basic research and inadvertently or deliberately adapting it to create biological weapons. What sort of systematic oversight is appropriate for research that may lead to such results? What publication restrictions, if any, might be helpful if such results occur in the course of research? This grant will

support an exploration of these and related issues to prevent destructive applications of research in biotechnology. The Working Group on Biological Weapons (BW) of the Committee on International Security and Arms Control, and other experts in international security and the life sciences, will undertake a series of international consultations on expanding U.S. and international capacity to provide standards and oversight for research in biotechnology. A separate ad hoc committee under the direction of the Policy and Global Affairs Division will at the same time undertake a study of current institutional arrangements and processes in the United States intended to guard against the destructive application of advanced biotechnology and how these might be improved. The committee will include some members of the BW Working Group and other individuals with expertise in related scientific areas as well as in bioethics, public health, biological weaponry, and regulatory practice and enforcement. It will also include membership of major stakeholders in biotechnology, including the pharmaceutical industry and biotechnology firms, and the biomedical research establishment. The ad hoc committee will issue formal recommendations in a report intended to inform and affect U.S. and ultimately international policy. Project Director: Jo L. Husbands, Director, Committee on International Security and Arms Control.

University of Maryland Foundation, Inc.
Adelphi, MD 20783

\$500,026

This grant supports a study that coordinates with the work planned by the National Academy of Sciences aimed at prevention of destructive applications of research in biotechnology. (See the preceding grant description.) It adds to the input to the NAS committees the views of people versed in regulatory issues and international arms control. The study will explore and develop an international framework for overseeing research on dangerous pathogens. Existing research rules, associated legal issues, and current practices for disclosure and monitoring work with dangerous pathogens will be examined. A series of workshops will be held and a network of scientists, arms control experts, information technology specialists, lawyers, regulators, and institutional experts will be developed to identify the key issues and options. An oversight regime will be drafted, presented to various communities, including the Working Group on Biological Weapons Control of the National Academy of Sciences' Committee on International Security and Arms Control. Input from these groups will be used to refine the oversight regime. Case studies, policy briefs, and papers identifying key problems and exploring possible solutions will be produced. An interactive website will be developed and a conference hosted. Project Director: Professor John D. Steinbruner, Director, Center for International and Security Studies at Maryland, School of Public Affairs.

BIOTERRORISM, OFFICER GRANTS

Annapolis Center for Science-Based Public Policy
Annapolis, MD 21401

\$37,500

To fund a forum and report on disease surveillance, bioterrorism, and homeland security. Project Director: Harold M. Koenig, Chairman and President.

City of New York Office of Emergency Management **\$38,000**
New York, NY 10019

To cover pre-conference administrative and printing expenses for the “Urban Emergency Management” conference, cancelled due to September 11, and future work on bioterrorism preparedness. Project Director: Richard Rotanz, Deputy Director.

National Strategy Forum, Inc. **\$40,310**
Chicago, IL 60604

To support a CDC/ABA consensus forum, “State Emergency Public Health Powers and the Bioterrorism Threat.” Project Director: Anthony D. Moulton, Director, Public Health Practice Program Office, Centers for Disease Control and Prevention.

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

To support a preliminary assessment of domestic and international efforts to prevent dangerous use of pathogens. Project Director: Professor John D. Steinbruner, School of Public Affairs.

ENERGY, TRUSTEE GRANT

Massachusetts Institute of Technology **\$450,000**
Cambridge, MA 02139

In its initial incarnation in this country, the nuclear power enterprise did not give rise to a viable and continuing industry. The Nuclear Regulatory Commission has not issued a new construction license for more than twenty years and no new plants have been announced. High costs and public concerns about nuclear safety, waste disposal, and nuclear proliferation are formidable obstacles. This grant funds a study of the future of nuclear power in the United States. It will address industry structure, regulatory and other institutional issues; reactor design, fuel cycle, safety and other technical issues; nuclear waste management; risks associated with terrorism; economic issues; public perceptions; and relevant international considerations. An advisory committee has been selected that covers the full range of perspectives on nuclear power. The report that emerges from this study should go a long way toward helping the country make a decision as to whether there is a technological and institutional approach to nuclear power that would contain the risks within acceptable bounds and allow society to gain the benefits at a reasonable cost. Project Director: John M. Deutch, Institute Professor.

FEDERAL STATISTICS, TRUSTEE GRANT

Brookings Institution
Washington, DC 20036

\$293,833

A 1997 Foundation grant to Brookings supported a project on “productivity in the service sector.” It had been generally accepted that productivity measures, especially in the service sector, needed to be improved. The grant supported a series of workshops that proved to be a successful mechanism for establishing ties among the nation’s leading economic researchers and senior managers of the federal statistical agencies. The current grant supports six additional targets for such in-depth workshops, mostly in the service sector, but including two large high tech fields (telecommunications and computers) that are partly services and partly manufacturing yet also pose serious problems for official measures of productivity. The six workshops will focus on improvements in productivity measures in: non-bank finance (investment banking, hedging, financial advising, mutual fund management); business services; wholesale trade; telecommunications; computers; and health. Connections will be expanded to statistical agencies of other industrialized countries and international organizations, such as the European Union and the Organization for Economic Cooperation and Development, in order to seek common definitions and procedures that would allow credible productivity comparisons across the countries. Project Directors: Barry Bosworth, Senior Fellow, and Jack Triplett, Visiting Fellow.

FEDERAL STATISTICS, OFFICER GRANT

University of Michigan
Ann Arbor, MI 48109

\$35,000

To make data from the U.S. Survey of Consumers useful for trend analysis and easily accessible via the web. Project Director: Richard D. Curtin, Director, Survey of Consumers, Survey Research Center.

PUBLIC POLICY RESEARCH, TRUSTEE GRANT

National Academy of Sciences
Washington, DC 20418

\$350,000

This grant provides partial support for an appraisal of privacy issues as they are affected by the evolution of information technology, especially the Internet. It will be undertaken by a committee established by the Computer Science and Telecommunications Board of the National Academies. Members will include experts on key communication and database technologies, lawyers specializing in intellectual property and data privacy issues, economists and other social scientists with expertise in the Internet, and participants from Internet, computer, and telecommunications companies. It will consider the special risks associated with rapidly advancing computer and network technologies, the incidence of actual problems, and the tradeoffs involved in the value of improved data about individuals (e.g., in the health care field) versus potential privacy risks and costs. The committee will recommend tools and

strategies for responding to such privacy issues, including alternative approaches that might improve benefits and reduce concerns. Project Director: Marjory S. Blumenthal, Director, Computer Science and Telecommunications Board.

THE CIVIC PROGRAM

TRUSTEE GRANTS

AMDeC Foundation
New York, NY 10020

\$250,000

AMDeC, an Academic Medicine Development Company, was founded in 1997 by leading New York science and health research institutions to support and build biomedical research and biotechnology in New York. It has been very successful in building collaborative research efforts among its member institutions and in assisting them to obtain funding. AMDeC is now turning its attention to facilitating the creation and growth of successful biotechnology companies in the New York City region. Three sets of activities are planned: (1) Create a venture capital fund for biotechnology in New York, dedicated to commercializing the biotechnology-relevant discoveries of New York research institutions; (2) Facilitate and catalyze a development effort to identify land, secure sponsors, prepare construction plans, and otherwise work with member institutions, City and State economic agencies, and selected companies in health-related industries in order to create marketing, manufacturing and other needed space for maturing start-up companies; and (3) work with New York State leaders and the New York Biotechnology Association to make the tax and regulatory environment for biotechnology more competitive with surrounding areas. This grant, matched by the New York City Council, supports one-half of the budget for this set of activities. Project Director: Maria K. Mitchell, President.

Research Foundation of the City University of New York
New York, NY 10021

\$400,000

The grant supports a plan by The City University of New York (CUNY) and the New York City Investment Fund (NYCIF) to create a series of incubators associated with various CUNY campuses to assist the launching of new businesses in the City. The incubators will nurture start-up companies. The first three will be located at Hostos, Borough of Manhattan, and LaGuardia Community Colleges. Each of the incubators will focus on business areas that correspond to areas of strength of the hosting CUNY campus. Twenty-four million dollars is the estimated cost of renovating and leasing space and of operating these first three incubators for five years. Each firm seeking to be housed in an incubator will need to be approved by a committee of the NYCIF whose members are sector experts. Over a five-year period, each incubator expects to host about forty companies. In exchange for providing low-cost rental space and professional services, as well as access to expertise and investment capital, the incubator will take an equity share in each of its companies. The NYCIF has committed \$2 million as seed capital for companies located in the incubators and estimates that a total of \$30 million will be invested in the companies. Additional operating funds are expected to be obtained from the City and State, from the New York City Economic Development Corporation, and, if needed, from CUNY's capital budget. This grant funds operating costs for two years of CUNY Economic Development Corporation, a new not-for-profit entity created to manage the incubators. Project Director: Louise Mirrer, Executive Vice Chancellor for Academic Affairs.

THE CIVIC PROGRAM, OFFICER GRANTS

CUNY Graduate Center Foundation, Inc. **\$5,400**
New York, NY 10021

To fund a meeting, convened by the New York City Distance Learning Coalition, intended to identify New York City opportunities for asynchronous learning networks in the human services sector. Project Director: Mary Milton, Executive Director, New York City Distance Learning Coalition.

CUNY Graduate Center Foundation, Inc. **\$44,356**
New York, NY 10021

To fund a pilot asynchronous learning project in a New York City agency. Project Director: Mary Milton, Executive Director, New York City Distance Learning Coalition.

Municipal Art Society **\$44,000**
New York, NY 10022

For the dissemination of recommendations from the manufacturing land-use and zoning study. Project Director: Eva Hanhardt, Director, The Planning Center.

New York Biotechnology Association **\$26,000**
New York, NY 10022

For building the biotechnology industry in New York City. Project Director: Karin Duncker, Executive Director.

ADDITIONAL GRANTS

OFFICER GRANTS

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

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

Independent Sector **\$10,500**
Washington, DC 20036

General support (dues). Project Director: Sara E. Melendez, President.

New York Regional Association of Grantmakers **\$10,500**
New York, NY 10018

General support (dues). Project Director: Barbara Bryan, President

2001 FINANCIAL REPORT



2001 FINANCIAL REVIEW

The financial statements and schedules of the Foundation for 2001 and 2000 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 2001 was \$31,463,443, a decrease of \$5,752,532 from \$37,215,975 in 2000. After the deduction of investment expenses and provision for taxes, net investment income was \$22,915,695 in 2001 as compared with \$25,387,364 for the prior year. Investment expenses during 2001 totaled \$7,482,748 of which \$5,817,568 represented investment management fees. The provision for taxes amounted to \$1,065,000. The total of these deductions from investment income in 2001 was \$8,547,748 versus \$11,828,611 in 2000.

Grants authorized (net of grant refunds) and management expenses during 2001 totaled \$63,521,690, which was \$40,605,995 greater than 2001 net investment income. Of this total, grants authorized (net of refunds) amounted to \$58,467,848 while management expenses were \$5,053,842. Since the Foundation's inception in 1934, the cumulative excess of grants and expenses over the Foundation's net investment income has amounted to \$221.1 million.

Grant payments in 2001 were \$60,842,714 compared with \$52,672,072 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 2001 was \$75,025,218 while in 2000 the amount was \$68,989,151.

Grants authorized and payments made during the year ended December 31, 2001 are summarized in the following table:

Grants unpaid at December 31, 2000	\$ 66,960,831
Authorized during 2001	59,005,506
Payments during 2000	<u>(60,842,714)</u>
Grants unpaid at December 31, 2000	<u>\$ 65,123,622</u>

The fair value of the Foundation's total assets was \$1,314,367,357 at December 31, 2001 including investments valued at \$1,312,764,115 as compared with total assets of \$1,373,141,818 at December 31, 2000.

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 as of December 31, 2001 and 2000, 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 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, 2001 and 2000, 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, 2001 and 2000 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

February 22, 2002

BALANCE SHEETS
DECEMBER 31, 2001 AND 2000

	<u>2001</u>	<u>2000</u>
Assets		
Cash	\$ 674,416	\$ 527,816
Investments:		
Equities	947,434,716	981,882,845
Fixed income	251,483,730	262,547,227
Limited marketability	113,845,669	128,183,930
Total investments	<u>1,312,764,115</u>	<u>1,372,614,002</u>
Other	928,826	-
Total	<u>\$1,314,367,357</u>	<u>\$1,373,141,818</u>
Liabilities and Net Assets		
Grants payable	\$ 65,123,622	\$ 66,960,830
Deferred federal excise tax	640,078	2,006,909
Other	-	189,746
	<u>65,763,700</u>	<u>69,157,485</u>
Net assets - unrestricted	1,248,603,657	1,303,984,333
Total	<u>\$1,314,367,357</u>	<u>\$1,373,141,818</u>

See accompanying notes to financial statements.

STATEMENTS OF ACTIVITIES
YEARS ENDED DECEMBER 31, 2001 AND 2000

	<u>2001</u>	<u>2000</u>
Investment Income:		
Interest	\$ 19,770,450	\$ 23,767,570
Dividends	11,692,993	13,448,405
	31,463,443	37,215,975
Less:		
Investment expenses	7,482,748	8,478,611
Provision for taxes	1,065,000	3,350,000
	8,547,748	11,828,611
Net investment income	22,915,695	25,387,364
Expenses:		
Grants authorized (net of refunds of \$537,658 in 2001 and \$439,881 in 2000)	58,467,848	62,783,640
Management expenses	5,053,842	4,829,349
	63,521,690	67,612,989
Excess of expenses over net investment Income	(40,605,995)	(42,225,625)
Investment Gains (Losses):		
Net gain on disposal of investments	52,200,029	94,479,601
Decrease in unrealized appreciation of investments, net of deferred federal excise tax	(66,974,710)	(62,300,312)
	(14,774,681)	32,179,289
Decrease in net assets	(55,380,676)	(10,046,336)
Net assets at beginning of year	1,303,984,333	1,314,030,669
Net assets at end of year	\$1,248,603,657	\$1,303,984,333

See accompanying notes to financial statements

STATEMENTS OF CASH FLOWS
YEARS ENDED DECEMBER 31, 2001 AND 2000

	<u>2001</u>	<u>2000</u>
Cash flows from operating activities:		
Decrease in net assets	\$ (55,380,676)	\$ (10,046,336)
Adjustments to reconcile decrease in net assets to net cash used in operating activities:		
Net gain on disposal of investments	(52,200,029)	(94,479,601)
Decrease in unrealized appreciation of investments	68,341,541	63,571,747
Decrease in deferred federal excise tax	(1,366,831)	(1,271,435)
Increase in other assets	(928,826)	-
Decrease in other liabilities	(189,746)	(3,297)
(Decrease) increase in grants payable	(1,837,208)	10,551,449
Net cash used in operating activities	<u>(43,561,775)</u>	<u>(31,677,473)</u>
 Cash flows from investing activities:		
Proceeds from sales of investments	1,861,743,622	2,404,224,292
Purchases of investments	(1,818,035,247)	(2,372,731,202)
Net cash provided by investing activities	<u>43,708,375</u>	<u>31,493,090</u>
Net increase (decrease) in cash	<u>146,600</u>	<u>(184,383)</u>
Cash at beginning of year	527,816	712,199
Cash at end of year	<u>\$ 674,416</u>	<u>\$ 527,816</u>

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 the 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 managers of the various interests.

2. Investments

Investments at December 31, 2001 and 2000 are summarized as follows:

	2001		2000	
	<i>Cost</i>	<i>Fair Value</i>	<i>Cost</i>	<i>Fair Value</i>
<i>Equities</i>				
Large Capitalization	\$ 262,158,712	\$ 281,720,729	\$ 287,214,174	\$ 307,652,979
Small Capitalization	100,996,665	106,961,935	95,515,147	125,553,893
Equity Hedge Funds	100,000,000	114,521,734	85,000,000	98,583,380
Focused Equity Strategies	246,561,671	257,923,646	242,664,642	238,582,017
Non-U S	181,024,490	187,715,428	186,984,179	213,441,457
Pending equity transactions, net	(1,408,756)	(1,408,756)	(1,930,881)	(1,930,881)
<i>Fixed Income</i>	190,662,424	192,775,953	257,040,803	264,500,664
Pending fixed income transactions, net	105,738,674	105,738,674	49,741,645	49,741,645
Obligation to return collateral held under securities lending agreement	(47,030,897)	(47,030,897)	(51,695,082)	(51,695,082)
<i>Limited Marketability</i>				
Real Estate	7,133,215	4,896,753	7,445,108	6,381,470
Private Equity	135,409,593	109,434,485	114,288,870	121,802,460
Pending limited marketability transactions, net	(485,569)	(485,569)	-	-
Total	\$ 1,280,760,222	\$ 1,312,764,115	\$ 1,272,268,605	\$ 1,372,614,002

2. Investments (continued)

At December 31, 2001, the Foundation had unfunded commitments to limited partnerships of approximately \$146 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 financial futures, forward foreign currency contracts and loaned securities.

The Foundation is subject to market risk associated with the changes in the value of the futures contracts. Below is a table summarizing the long and short exchange-traded financial futures positions at December 31, 2001 and 2000.

	<i>December 31, 2001</i>		<i>December 31, 2000</i>	
<i>Futures Contracts</i>	<i>Number of Contracts</i>	<i>Value (Millions)</i>	<i>Number of Contracts</i>	<i>Value (Millions)</i>
U.S. Treasury Futures				
Long	47	\$ 8.2	418	\$ 65.8
Short	(275)	(28.9)	(306)	(32.1)

These amounts, however, may differ from the Foundation's future cash requirements as the Foundation may close out futures positions prior to settlement and thus be subject only to the change in value of the futures contracts since the contracts are valued daily using the mark-to-market method. The net appreciation in the market value is recognized as received. The margin requirements on deposit with a third party for futures contracts were approximately \$0.5 million at December 31, 2001 and \$0.3 million at December 31, 2000.

In addition, the Foundation engages from time to time in interest rate options (puts and calls) and futures for the purpose of implementing their investment strategies in an efficient manner. No transactions were outstanding at December 31, 2000; however, the value of these transactions at December 31, 2001 was approximately \$142.3 million. Such transactions are subject to market risk as described above and, to varying degrees, risk of loss arising from the possible inability of counterparties to meet the terms of the contract. Required collateral was held by a third party.

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, 2001 were valued at approximately \$12.4 million and \$11.7 million, respectively, and, as of December 31, 2000, at approximately \$16.6 million and \$15.3 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.

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

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, 2001 and 2000 amounted to \$46 million and \$51 million, respectively. The Foundation holds collateral of 103% 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 met the requirements for the 1 percent tax for the year ended December 31, 2001 and did not meet the requirements for the reduced tax for the year ended December 31, 2000. Therefore, current taxes are estimated at 1 percent of net investment income for 2001 and at 2 percent of net investment income for 2000. Deferred taxes represent 2 percent of unrealized appreciation of investments at December 31, 2001 and 2000, as qualification for the 1 percent tax is not determinable until the fiscal year in which gains are realized. Additionally, certain of the Foundation's investments give rise to unrelated business income tax liabilities. Such tax liabilities for 2001 and 2000 are not significant to the accompanying financial statements; however, the provision for taxes, as of December 31, 2001, includes an estimate of tax liabilities for unrelated business income.

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 \$415,422 and \$402,260 in 2001 and 2000, 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 \$115,688 and \$95,586 in 2001 and 2000, 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 is approximately \$633,000; however, as a result of certain rent abatement clauses in the lease which were effective through the year 2000, rent expense for 2000 amounted to \$501,852. Rent expense for 2001 was \$667,303.

**SCHEDULES OF MANAGEMENT AND INVESTMENT EXPENSES
YEARS ENDED DECEMBER 31, 2001 AND 2000**

	<u>2001</u>	<u>2000</u>
Management expenses		
Salaries and employees' benefits:		
Salaries	\$3,370,482	\$3,257,024
Employees' retirement plan and other benefits	<u>1,191,625</u>	<u>1,147,023</u>
Total	<u>4,562,107</u>	<u>4,404,047</u>
Rent	667,303	501,852
Program expenses	630,363	628,638
Office expenses	508,046	517,201
Website and publications	50,654	60,862
Professional fees	<u>300,549</u>	<u>245,269</u>
Total management expenses	<u>6,719,022</u>	<u>6,357,869</u>
Less management expenses allocated to investments	<u>1,665,180</u>	<u>1,528,520</u>
Management expenses	<u><u>\$5,053,842</u></u>	<u><u>\$4,829,349</u></u>
Investment expenses		
Investment management fees and expenses	\$5,817,568	\$6,950,091
Management expenses allocated to investments	<u>1,665,180</u>	<u>1,528,520</u>
Investment expenses	<u><u>\$7,482,748</u></u>	<u><u>\$8,478,611</u></u>