

1999 ANNUAL REPORT

ALFRED P. SLOAN FOUNDATION



CONTENTS

1999 Grants and Activities

<i>Science and Technology</i>	5
Fellowships	5
Sloan Research Fellowships	5
Doctoral Dissertation Fellowships	9
Direct Support of Research	11
Neuroscience	11
Computational Molecular Biology	11
Astrophysics	13
Limits to Knowledge	14
Marine Science	14
Other Science	15
Science and Technology Policy	16
History of Science and Technology	17
<i>Standard of Living and Economic Performance</i>	18
Industries	18
Industry Centers	18
Industry Studies	19
Human Resources/Jobs/Income	20
Globalization	21
Business Organizations	21
Nonprofit Sectors	24
Universities	24
Assessment of Government Performance	26
Dual-Career Middle-Class Working Families	28
Centers on Working Families	28
Ethnographies of Everyday Life	29
Alternate Workplace Structures	30
Family-Centered Public Policy	31
Public Understanding of Working Families	32
General	33
<i>Education and Careers in Science and Technology</i>	34
Scientific and Technical Careers	34
Information about Careers	34
Retention	35
Professional Master's Degrees	35
Learning Outside the Classroom	36
Human Resources	42
Education for Minorities and Women	43
Minorities	43
Women's Programs	45

Public Understanding of Science and Technology	46
Books	46
Sloan Technology Book Series	48
Public Television	49
Commercial Television and Films	51
Theater	52
Public Policy	52
<i>Selected National Issues and Civic Program</i>	54
Selected National Issues	54
Civic Program	55
<i>Additional Grants</i>	59
1999 Financial Report	
Financial Review	61
Auditors' Report	62
Balance Sheets	63
Statements of Activities	64
Statements of Cash Flows	65
Notes to Financial Statements	66
Schedules of Management and Investment Expenses	69

1999 GRANTS AND ACTIVITIES



SCIENCE AND TECHNOLOGY

FELLOWSHIPS

Sloan Research Fellowships

\$3,500,000

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 44 years, fellowships have been awarded to over 3,400 scientists and have accounted for expenditures of almost \$84 million. Sloan Research Fellows continue to receive numerous prizes and awards in recognition of their major research accomplishments. Twenty-four Fellows have received Nobel prizes and thirteen have been awarded the prestigious Fields Medal in mathematics.

Fellowships in 1999 were awarded in six fields: chemistry, computer science, economics, mathematics, neuroscience, and physics. 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 1999, the Foundation awarded Research Fellowships of \$35,000 each, over a two-year term, to 100 scholars at 51 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: Richard M. Karp, University of Washington; Barbara Liskov, Massachusetts Institute of Technology; Jeffrey Ullman, Stanford University.

Economics: John Geanakoplos, Yale University; Lars P. Hansen, University of Chicago; Kenneth Rogoff, Princeton University.

Mathematics: George C. Papanicolaou, Stanford University; Peter Sarnak, Princeton University; Karen Uhlenbeck, University of Texas at Austin.

Neuroscience: Darcy B. Kelley, Columbia University; J. Anthony Movshon, New York University; S. Lawrence Zipursky, University of California, Los Angeles.

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

Arizona State University

Mathematics: Anne Gelb

Arizona, University of

Mathematics: Alain Goriely

Boston College

Physics: Hong Ding

Boston University

Physics: Claudio Chamon
Ulrich Heintz

British Columbia, University of

Mathematics: Jingyi Chen

Brown University

Economics: Roberto Serrano

California Institute of Technology

Mathematics: Rahul Pandharipande
Physics: Hideo Mabuchi

California, University of, Berkeley

Chemistry: Douglas L. Gin
Computer Science: Steven McCanne
Economics: Ilya Segal
Neuroscience: Frederic E. Theunissen
Physics: William L. Holzapfel

California, University of, Irvine

Chemistry: David Lee Van Vranken

California, University of, Los Angeles

Chemistry: Benjamin J. Schwartz
Mathematics: Terence Tao
Physics: David Saltzberg

California, University of, San Diego

Chemistry: Gourisankar Ghosh

California, University of, Santa Barbara

Mathematics: Igor Mezic

California, University of, Santa Cruz

Mathematics: Jie Qing

Carnegie Mellon University

Computer Science: Todd C. Mowry

Chicago, University of

Economics: Steven Levitt
Mathematics: Benson Farb
Matthias Schwarz
Shankar Venkataramani

Colorado State University

Chemistry: Yian Shi

Colorado, University of

Chemistry: David M. Jonas
Physics: Anton Andreev

Cornell University

Chemistry: Geoffrey W. Coates
Computer Science: Bart Selman
Mathematics: Irena Peeva
Neuroscience: Timothy A. Ryan
Physics: Michelle D. Wang

Dartmouth College

Computer Science: Clifford Stein

Duke University

Physics: Paul S. Aspinwall

Florida State University

Physics: Kun Yang

Harvard University

Economics: Caroline M. Hoxby
Neuroscience: Daniel J. Simons
Physics: Dimitar D. Sasselov

Illinois, University of

Chemistry: David Y. Gin
Todd J. Martinez
Computer Science: Jeffrey G. Erickson
Physics: Naomi C. R. Makins

Louisiana State University

Neuroscience: Jeffrey C. Magee

Maryland, University of

Neuroscience: Birgit Roerig

Massachusetts Institute of Technology

Chemistry: Bruce Tidor
Economics: Dora L. Costa
Neuroscience: Elly Nedivi
H. Sebastian Seung
Physics: Amihay Hanany

Massachusetts, University of

Chemistry: Scott M. Auerbach

Michigan, University of

Chemistry: Mark M. Banaszak Holl

Minnesota, University of

Mathematics: Dihua Jiang
Neuroscience: Sheng He
Physics: Paul A. Crowell

New York University

Neuroscience: Scott G. Clark

Northwestern University

Neuroscience: Indira Raman

Notre Dame, University of

Mathematics: Qing Han

Oregon Health Sciences University

Neuroscience: Henrike von Gersdorff

Oregon, University of

Chemistry: James E. Hutchison

Pennsylvania State University

Chemistry: Karl Todd Mueller
Mathematics: Ken Ono
Physics: William Nielsen Brandt
Yong Baek Kim

Pennsylvania, University of

Computer Science: Rajeev Alur
Mathematics: Tony Pantev
Mary C. Pugh
Physics: Randall D. Kamien
Chung-Pei Ma

Pittsburgh, University of

Chemistry: Tara Y. Meyer
Mathematics: Carson C. Chow
Neuroscience: Julie A. Fiez
Karl Kandler

Princeton University

Chemistry: Kevan M. Shokat
Computer Science: Thomas Funkhouser
Economics: Giovanni Maggi
Mathematics: Wenzhi Luo

Purdue University

Chemistry: Daniel Raftery

Rockefeller University

Chemistry: Thomas William Muir

Rutgers University

Neuroscience: Farzan Nadim

Stanford University

Computer Science: Dan Boneh
Economics: Charles I. Jones
Neuroscience: Jennifer L. Raymond
Physics: Martin Greven
Kathryn Ann Moler
Eva Silverstein

Syracuse University

Physics: Donald Marolf

Texas A&M University

Chemistry: Michael V. Pishko

Texas, University of

Chemistry: Jason Ben Shear

Computer Science: Robert Blumofe

Tulane University

Mathematics: Jim Bryan

Victoria, University of

Physics: Julio F. Navarro

Virginia, University of

Chemistry: Cassandra Lynne Fraser

Mathematics: Almut Burchard

Washington University

Neuroscience: Phyllis Ida Hanson

Washington, University of

Chemistry: Philip J. Reid

Computer Science: Alon Levy

Yale University

Chemistry: Charles A. Schmuttenmaer

Economics: Dirk Bergemann

Doctoral Dissertation Fellowships

\$1,425,000

The Sloan Dissertation Fellowship Program, established in 1984, assists doctoral candidates in two fields of traditional interest to the Foundation: economics and mathematics. Awards allow Fellows to concentrate on completing their doctoral research and writing the dissertation.

This fellowship program ends with awards made in 1999. Fellowships have been received by 790 graduate students and have accounted for expenditures of over \$17.7 million. In 1999, awards covering tuition and fees plus a stipend of \$15,000 were made to 25 doctoral candidates in each field. Nominations were solicited from the heads of leading graduate departments of economics and mathematics. They were reviewed and final selections made by the following committees:

Economics: Avinash K. Dixit, Princeton University; Claudia Goldin, Harvard University; John B. Taylor, Stanford University.

Mathematics: Luis A. Caffarelli, University of Texas at Austin; Nicholas M. Katz, Princeton University; John Morgan, Columbia University.

DOCTORAL DISSERTATION FELLOWSHIP RECIPIENTS

Brown University

Mathematics: Camil Muscalu

California Institute of Technology

Economics: John W. Patty

Mathematics: Rowan Brett Killip
Tao Li

California, University of, Berkeley

Economics: Enrico Moretti

Mathematics: Danny Calegari
Ezra Miller
Dylan Thurston

California, University of, San Diego

Economics: Silvia Goncalves

Chicago, University of

Economics: Filippo Occhino

Guy Saidenberg
Mathematics: Vladimir Baranovsky

Columbia University

Mathematics: Gautam Chinta

Harvard University

Economics: Peter Eso

Francisco Gomes

Leeat Yariv

Mathematics: Mark Dickinson

Jason M. Starr

Massachusetts Institute of Technology

Economics: Petya Koeva

Botond Koszegi

Markus M. Mobius

Mathematics: Bojko N Bakalov

Alexander Perlin

Catalin Zara

Michigan, University of

Economics: Marc Melitz

Minnesota, University of

Mathematics: Irina S. Mitrea

New York University

Economics: Juan Dubra

Northwestern University

Economics: Benjamin R. Chabot
Mathematics: Alexander Scorichenko

Pennsylvania, University of

Economics: Hanming Fang
Johannes Horner
Mathematics: Rachel J. Pries
Ilia H. Zharkov

Princeton University

Economics: Pierpaolo Benigno
Harry Krashinsky
Wojciech Olszewski
Mathematics: Daniel Grossman
Vadim Kaloshin
Kenneth Koenig

Rochester, University of

Economics: Atila Abdulkadiroglu

Stanford University

Economics: Victor Chernozhukov
Eva Nagypal
Mathematics: Melanie Bertelson

Wisconsin, University of

Economics: Kate L. Antonovics
Mathematics: Olga Holtz

Yale University

Economics: Sarah Elizabeth Senesky
Katsumi Shimotsu
Mathematics: Anders Karlsson
Young-Hoon Kiem
Michael Roitman

DIRECT SUPPORT OF RESEARCH

NEUROSCIENCE, OFFICER GRANTS

California Institute of Technology **\$30,000**
Pasadena, CA 91125

For a workshop on theory and experiment on gain fields in neurobiology. Project Director: Professor Richard A. Anderson, Division of Biology.

Massachusetts Institute of Technology **\$30,000**
Cambridge, MA 02139

To support a conference on persistent neural activity. Project Director: Professor H. Sebastian Seung, Brain and Cognitive Science Department.

COMPUTATIONAL MOLECULAR BIOLOGY

Sloan/DOE Awards in Computational Molecular Biology

This postdoctoral fellowship program, a joint venture of the Sloan Foundation and the U.S. Department of Energy, provides an intensive experience in a molecular biology laboratory for computationally sophisticated young scientists. 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 \$100,000, which includes stipends, benefits, research expenses, and institutional overhead. A careful review of applications in the fourth year of the program resulted in the following nine 1999 awards. Citations are given in the form: awardee; Ph.D. field of awardee; postdoctoral sponsoring institution; sponsoring senior scientist; proposed research plan.

Jonathan Alberts; Mechanical Engineering; University of Washington; Garrett Odell; *Computational model of cellular protrusion mechanisms.*

Orly Alter; Applied Physics; Stanford University; David Botstein; *Analytical and computational tools for genome wide expression data analysis.*

Keith Frost; Physics; University of Washington; David Baker; *Data based methods for ab initio protein structure prediction.*

Tom Hagedorn; Mathematics; University of Montreal; David Sankoff; *Exploring the geometry of phylogenetic invariants.*

Yuval Kluger; Theoretical Physics; Yale University; Mark Gerstein; *Membrane protein hydrophobicity analysis.*

Kyriacos Markianos; Physics; Fred Hutchinson Cancer Research Institute; Leonid Kruglyak; *Novel computational methods for genetic dissection of complex diseases.*

Nicholaos Schizas; Ecological Genetics of Marine Organisms; University of Chicago; Richard Hudson; *Computational evaluation of the statistical properties of the neural theory of molecular evolution.*

Rimli Sengupta; Computer Science; University of Washington; Lee Hood; *Exploring algorithmic techniques for inferring genetic regularity network.*

Leticia Velasquez; Computational Science and Engineering; Harvard Medical School; Tim Havel; *Automated assignment of biological NMR spectra by global least-squares.*

COMPUTATIONAL MOLECULAR BIOLOGY, TRUSTEE GRANT

Rutgers University
Piscataway, NJ 08854

\$361,778

This grant supports a special program in computational molecular biology to be held at the Center for Discrete Mathematics and Theoretical Computer Science (DIMACS). The program has the following goals: to influence the career interests of outstanding young scientists and mathematicians; to create partnerships between biological and mathematical/computer scientists as a means of dealing with combinatorial and algorithmic questions that are central to modern molecular biology; and to establish and nurture lines of communication and collaboration between applied math/computer science and molecular biology. The program will begin in the fall of 2000 and run for the following three academic years. During this period, DIMACS will design and hold nine 3-5 day workshops on central challenges facing computational molecular biology. Each workshop will include a structured tutorial designed to bridge the gaps of language and tools that now separate molecular biology and mathematics/computer science. Published research proceedings will disseminate results to a broad audience. A number of shorter workshops on more narrow topics will also be held. DIMACS will host numerous visits by graduate students and postdoctoral scientists interested in developing research capabilities in computational molecular biology. Project Director: Fred S. Roberts, Professor of Mathematics and Director, DIMACS.

COMPUTATIONAL MOLECULAR BIOLOGY, OFFICER GRANTS

Cold Spring Harbor Laboratory **\$9,650**
Cold Spring Harbor, NY 11724

Support for junior investigators to attend the First Cold Spring Harbor Workshop on Computational Biology. Project Director: David Stewart, Director of Meetings and Courses.

Georgia State University **\$9,015**
Atlanta, GA 30303

For a study of hiring patterns experienced by students enrolled in bioinformatics and computational biology. Project Director: Paula Stephan, Professor of Economics.

Stanford University **\$20,833**
Stanford, CA 94305

Bridge funding for Sloan/DOE postdoc Steven E. Brenner. Project Director: Professor Michael Levitt, Department of Structural Biology.

University of California, San Diego **\$30,000**
La Jolla, CA 92093

Partial support for Sloan/DOE postdoctoral fellows to attend the workshop and symposium, "Quantitative Challenges in the Post Genomic Sequence Era." Project Director: Professor Jose Onuchic, Physics Department.

ASTROPHYSICS, TRUSTEE GRANT

Astrophysical Research Corporation **\$10,000,000**
Seattle, WA 98195

Past Foundation grants have supported the design and construction of a special telescope and associated complex software in preparation for the gathering of position and intensity data for 100 million objects, from which 1 million galaxies and 100,000 quasars are expected to be identified. This largest and most detailed collection of optical and spectral data (the Sloan Digital Sky Survey) will serve as a key archive for astronomers. The project is being carried out by the Astronomical Research Consortium. ARC now consists of universities (Princeton, Chicago, Johns Hopkins, University of Washington), the Institute for Advanced Study, Fermi Laboratory, U.S. Naval Observatory, and the Japan Participation Group (astronomers from several Japanese universities and the National

Astronomical Observatory). This grant supplies partial support for the five-year period of observations, scheduled to begin during the spring of 2000. Project Director: John Peoples, Director, Sloan Digital Sky Survey, Fermilab.

LIMITS TO KNOWLEDGE, OFFICER GRANT

Marine Biological Laboratory **\$30,000**
Woods Hole, MA 02543

For research on the limits to knowledge of genotype-phenotype relationships. Project Director: Dr. Michael P. Cummings, Assistant Scientist.

MARINE SCIENCE, TRUSTEE GRANTS

Consortium for Oceanographic Research and Education **\$293,118**
Washington, DC 20036

A major worldwide long-range project like the Census of Marine Life, designed to assess and explain the diversity, distribution, and abundance of marine life, requires planning, coordination among interested constituencies, and detailed consideration of priorities, strategies, and costs. This grant will enable The Consortium for Oceanographic Research and Education (CORE) to establish a secretariat to advance the Census. CORE's members include 53 U.S. research institutions, universities, laboratories, and aquaria representing the nucleus of U.S. oceanographic research and education. The secretariat will include an international steering committee and professional staff. Its main function is the development of a detailed plan for the Census, integrating into operational terms the ideas and results of the nine Foundation-supported conferences on the feasibility of the project, as well as other materials. In addition, the Secretariat will work with the Foundation to address unanswered questions about feasibility, and to lift awareness of the Census in the media, with the U.S. Congress, and other concerned groups. Project Director: Admiral James D. Watkins, President.

The preceding grant, as well as the following two smaller grants, were made from appropriations approved by the Sloan Trustees.

The Oceanographic Society **\$30,000**
Washington, DC 20036

Support for a special issue of the journal *Oceanography* on the Marine Census. Project Director: Richard W. Spinrad, Editor, *Oceanography*.

University of California, San Diego
La Jolla, CA 92093

\$29,250

This grant supports funding for an international meeting of oceanographic institutions to cooperate on collection of observations pertinent to the Census of Marine Life. Project Director: Charles F. Kennel, Director, Scripps Institution of Oceanography.

Woods Hole Oceanographic Institution
Woods Hole, MA 02543

\$595,000

A Census of Marine Life, were it to be implemented, would aim to assess and explain the diversity, distribution, and abundance of the upper trophic levels of marine life, such as fish, throughout the world. Given the huge size of such a project, its technical and political feasibility deserves testing in a smaller pilot study. This grant supports the preliminary work involved in planning, preparing, and building support for a pilot project for a census of marine life limited to the Gulf of Maine and Georges Bank, extending roughly from Cape Cod to Nova Scotia. Despite the area's commercial importance for its fish stocks, especially cod and haddock, now severely depleted, there is much yet to learn about the marine life contained within its boundaries. The goal of the pilot census would be to gather data on taxonomic composition, numerical density, and size structure of the marine animal populations by means of acoustical and optical sensors, supplemented by physical capture and measurements of the environment. This grant aims to produce sound scientific plans and to obtain the commitments needed for the Gulf of Maine Census to take place beginning in the fall of 2001. Scientific and technical planning will require the cooperation and involvement of several research institutions in the region. Substantial commitments of funds, ships, and personnel from both United States and Canadian government agencies, as well as the support of commercial fishers and environmental groups, will be needed if the planned pilot census is to prove feasible. Project Director: Dr. Kenneth G. Foote, Physicist and Senior Scientist.

OTHER SCIENCE, OFFICER GRANTS

Pennsylvania State University
University Park, PA 16802

\$30,000

Support for a conference on "interdisciplinarity" in materials science. Project Director: Rustum Roy, Evan Pugh Professor of the Solid State.

University of Notre Dame
Notre Dame, IN 46556

\$30,000

Support for the "Open Science Project," a web-based home for open source scientific software. Project Directors: Assistant Professor J. Daniel Gezelter, Department of Chemistry and Biochemistry, and Geoff Davis, Researcher, Microsoft Research.

Harvard University
Cambridge, MA 02138

\$30,000

To plan a conference on the contributions of basic scientific research to national goals for influential members of the science and technology policy community. Project Director: Professor Lewis M. Branscomb, Kennedy School of Government.

HISTORY OF SCIENCE AND TECHNOLOGY

TRUSTEE GRANT

JSTOR

\$125,000

New York, NY 10011

JSTOR is a not-for-profit organization that provides an on-line database comprised of the complete back issues of core academic journals. Some 117 journals in 15 disciplines are included. More than 500 libraries around the world subscribe to the service, paying an access charge scaled to their size and anticipated level of use. JSTOR intends to establish cooperative relationships with organizations providing on-line access to current issues of journals. It will develop technological means by which linkages can be established between JSTOR back files and the current issues available from other services. This grant will enable JSTOR to develop the necessary software technology for such linkages and thus to start the process that should end with scholars having seamless access to entire publications, from first volume to the latest issue. Project Director: Kevin M. Guthrie, President.

STANDARD OF LIVING AND ECONOMIC PERFORMANCE

INDUSTRIES

INDUSTRY CENTERS, TRUSTEE GRANTS

Massachusetts Institute of Technology
Cambridge, MA 02139

\$2,000,000

This grant supports the creation of a new Airlines Industry Center. Faculty and doctoral students from several engineering departments, including aeronautics and civil engineering, the Sloan School of Management and the Harvard Business School, and the MIT economics and political science departments, will participate in Center research. The Center will focus on airlines as a service industry, dealing with aircraft, engines, and other physical elements as supplies. Important issues have been identified as the result of a round of visits to airline companies. Planned study topics include productivity and competition, economics and deregulation, strategic alliances, operations management, network issues, and safety and security. Since airline regulations differ around the world, as does management, financing, and ownership style, international comparisons will be important. Project Director: Armedeo R. Odoni, Professor of Aeronautics and Astronautics.

University of Pennsylvania
Philadelphia, PA 19104

\$1,000,000

The Wharton School received grants in 1993 and 1995 to fund the Center for Financial Institutions. The current renewal grant continues support for a third phase of research. Over 60 faculty members from Wharton and other schools have participated in major industry research studies. Some 30 doctoral degrees have been awarded. Six books and more than 200 papers and reports have been written. The largest research efforts dealt with retail banking, life insurance, and risk. A substantial fraction of the American industry was represented in banking and insurance productivity studies. Detailed examinations were made of company practices needed for serving customers. The effectiveness of new technology, workplace practices, and human resource management methods was tested. Research findings were discussed with companies and industry representatives and presented at industry conferences and academic workshops. Reports and articles have appeared in the trade and academic literature. In the third phase, the Center will create new industry forums and deal further with information technology and human resources issues in the industry. Another topic to be studied is the application of risk management practices to firm risk in the new industry environment in which banking, insurance, and investment are rapidly converging. Project Director: Professor Anthony M. Santomero, The Wharton School.

INDUSTRY CENTERS, OFFICER GRANT

Carnegie Mellon University
Pittsburgh, PA 15213

\$28,500

Support to plan for a Center on the software industry. Project Director: Richard Florida, Professor of Economic Development, School of Public Policy and Management.

INDUSTRY STUDIES, TRUSTEE GRANTS

Massachusetts Institute of Technology
Cambridge, MA 02139

\$750,000

MIT received grants in 1991 and 1995 to create and support the Industrial Performance Center (IPC). This new grant supplies partial funding for continued research. The Center's program deals with 1) the changing American workplace, 2) organizing innovation and 3) the international configuration of production. Studies are characterized by emphasis on field-based research, a focus on the firm and its industry, and a practice of combining the views of social scientists, business school specialists, and engineers in the research work. The IPC has involved a large number of MIT and visiting faculty and graduate students. The Center has produced about 20 Ph.D.s. Many books, articles, and reports have been written. Research has contributed to the understanding of how skill-based technical change affects productivity, services, and the wage gap between low and high skilled workers. A comparison of how American and German companies in various industries generate new product ideas is underway jointly with the Fraunhofer Institute in Karlsruhe. Members of the IPC conducted a special study of the rapidly changing Hong Kong economy. With the new funding, work will continue on globalization effects that emerged from the Hong Kong and Fraunhofer studies. A new project on local innovation centers and their effects on the industrial consumers of the new technologies will be undertaken. Funding from other sources makes up the bulk of support for the current work of the IPC. Project Director: Richard K. Lester, Professor of Nuclear Engineering.

University of California, Berkeley
Berkeley, CA 94720

\$300,000

One of the early Sloan industry centers was established at Berkeley to study the semiconductor industry. Named the Competitive Semiconductor Manufacturing Program, it began in 1990 with a focus on manufacturing. This new grant will support a number of projects on product development in the industry. One is a study of how technology and globalization affect job opportunities and career ladders for technicians and engineers. Another will explore the process of semiconductor product definition and development. Part of this effort will be an exploration of how semiconductor firms carry out joint development with their customers, such as computer disk drive and networking equipment manufacturers. Project Director: Clair Brown, Professor of Economics.

INDUSTRY STUDIES, OFFICER GRANTS

Columbia University
New York, NY 10027

\$30,000

To analyze pricing strategies in the electronic and new media industries, and to develop further a theory of competitive markets in privately produced public goods. Project Director: Professor Graciela Chichilnisky, Director, Program on Information and Resources.

Michigan State University
East Lansing, MI 48824

\$30,000

To complete a book-length manuscript about the comeback nature of the American iron ore mines. Project Director: Professor Peter J. Kakela, Department of Resource Development.

HUMAN RESOURCES/JOBS/INCOME, TRUSTEE GRANT

MPC Corporation
Pittsburgh, PA 15213

\$180,400

This grant supports a group of researchers at the University of Pittsburgh and associated with the Sloan steel industry center at Pittsburgh and Carnegie Mellon. They will study the drastic changes that took place in the Pittsburgh steel industry in the seventies and eighties as a result of competition from new technology (minimills) and from abroad (Japanese steel). The resulting decline in steel employment in Pittsburgh was 75% over this period. The study will trace the movements and wages of steelworkers, using available data sources as well as direct contacts with employees, pensioners, and company and community officials. Interviews of faculty and students at a local high school will be conducted in a study of the changes that take place in the lives of younger people when industries shed workers. Project Director: Professor Patricia E. Beeson, Department of Economics, University of Pittsburgh.

HUMAN RESOURCES/JOBS/INCOME, OFFICER GRANT

Cornell University
Ithaca, NY 14853

\$9,805

To speed up the publication of a Sloan-sponsored book on high performance work systems in manufacturing and augment the publicity for it. Project Director: Frances Benson, Editor-in-Chief, Cornell University Press.

GLOBALIZATION, TRUSTEE GRANT

University of California, Irvine
Irvine, CA 92697

\$168,500

Production in the PC industry is spread around the world, with design and marketing emphasis in the U.S., engineering and advanced manufacturing in Taiwan and Singapore, and final assembly and testing in Southeast Asia and China. This grant supports empirical studies and data analysis (at both industry and company levels) aimed at developing a detailed picture of the global PC industry and attempting to understand the effects of recent developments such as build-to-order strategies of manufacturers like Dell and Gateway. The project should produce a picture of the global PC industry, some possible directions for its evolution, and an analysis of the impacts on U.S. companies and workers. Project Director: Jason Dedrick, Senior Research Fellow, Center for Research on Information Technology and Organization.

BUSINESS ORGANIZATIONS, TRUSTEE GRANTS

Georgetown University
Washington, DC 20057

\$2,210,600

This grant supports the establishment of a Center to study the structure and functioning of business organizations. Corporations play an important role not only in the operation of the U.S. economy, but also in the lives of all Americans. A major 1994 grant to the Columbia University School of Law stimulated the production of over 100 scholarly publications and attracted many top legal scholars into the field. Most of this work was focused on the economic problem of agency costs, which means getting managers to act in the shareholders' interests rather than in their own self-interest. Legal rules, contracts, and financial incentives were emphasized. The new Center will focus on a different economic problem that has been articulated during the past five years, that of team production. Here the key question is how firms maximize wealth when the enterprise requires inputs from a large number of individuals, including shareholders, managers, creditors, suppliers, and employees, all of whom have disparate interests and a variety of different motivations. Scholars from disciplines other than economics and law will be involved. For example, sociologists, anthropologists, and psychologists can contribute to understanding the role of such non-economic factors as trust, norms of cooperation, and commitment to others in allowing companies to keep teams of people together and motivated towards the firm's goals. Research leaves, visiting scholars, seminars for students, workshops and conferences would all be supported with grant funds. Project Director: Lynn A. Stout, Professor of Law.

Persephone Productions, Inc.
Arlington, VA 22201

\$135,000

The goal of the Foundation's program on business organizations is to contribute to an understanding of how these organizations affect, motivate, and reward the people who invest financial and human capital in them. The projects supported have tended to be academic and theoretical and not easily communicated to a broader general audience. This grant will enable Bonnie Erbe, producer and host of the PBS public affairs program *To The Contrary*, to create three short pieces (about ten minutes each) featuring Sloan grantees who have contributed to the program and illuminated various aspects of how businesses work: Eileen Appelbaum (Economic Policy Institute), Margaret Blair (Brookings Institution) and Lynn Stout (Georgetown University Law School). The aim is to bring this research to her well-educated audience in a way that is understandable, captures the work's subtlety, and still is engaging television. Project Director: Bonnie G. Erbe, Chief Executive Officer.

Social Science Research Council
New York, NY 10019

\$270,681

This grant supports an effort 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. Most social science research on organizations has focused not on business but on governmental or not-for-profit organizations. No strong research tradition exists (as it does in law, for example) in any of the social science disciplines, except economics, for the study of business organizations. The SSRC will bring together leading economic sociologists in the U.S. to form a network of scholars to shape the research agenda for this new subfield. A series of four workshops and conferences will be organized over three years, for which new research will be produced and published. Approximately ten competitive dissertation awards will be made to predoctoral students for empirical research projects on business institutions. Project Director: Craig A. Calhoun, President.

BUSINESS ORGANIZATIONS, OFFICER GRANTS

Council for Adult and Experiential Learning
Chicago, IL 60603

\$30,000

To study the impact of employer-sponsored education programs on employee retention and commitment in the telecommunications industry. Project Director: Rebecca Klein-Collins, Public Policy Consultant.

Simon Fraser University
Burnaby, BC, Canada V5A 1S6

\$30,000

To conduct a study of the evolution of trust-based relationships between managers of forest companies and leaders of stakeholder groups in British Columbia. Project Director: Ann Svendsen, Adjunct Professor.

Social Science Research Council **\$11,500**
New York, NY 10019

For a workshop to begin planning a multidisciplinary social sciences research program on business organizations. Project Director: Craig A. Calhoun, President.

University of Arizona **\$29,249**
Tucson, AZ 85721

To develop materials for an undergraduate course on the role of business in modern society. Project Director: Barbara A. Gutek, Professor of Management and Policy.

University of Chicago **\$30,000**
Chicago, IL 60637

For empirical work to test new economic theories of firms and firm sizes. Project Director: Raghuram G. Rajan, Professor of Finance, Graduate School of Business.

University of Maryland **\$30,000**
College Park, MD 20742

To support a conference exploring the history of the corporation as a social and political force in American life. Project Director: Professor David B. Secilia, Department of History.

University of Maryland Foundation **\$30,000**
Adelphi, MD 20783

To produce a book containing empirical research studies on how corporations balance the interests of multiple stakeholder groups. Project Director: Lee E. Preston, Professor of Business and Public Policy.

University of Massachusetts Lowell **\$30,000**
Lowell, MA 01854

To produce a history and analysis of the business practices of Malden Mills. Project Director: Professor Laurence F. Gross, Department of Regional Economic and Social Development.

University of Pittsburgh **\$15,000**
Pittsburgh, PA 15260

To establish a theoretical framework for understanding the concept of good corporate citizenship. Project Director: Professor Donna J. Wood, Graduate School of Business.

NONPROFIT SECTORS

UNIVERSITIES, TRUSTEE GRANTS

Education Commission of the States **\$325,000**
Denver, CO 80202

University of Virginia **\$345,000**
Charlottesville, VA 22903

These two grants are designed to deepen understanding of the rapidly changing for-profit component of higher education. The provision of educational services and products by for-profit providers has exploded in recent years. Changes are likely in the markets for higher education, affecting the range of programs available, the activities that can be sustained, and the costs of diverse courses of study. The University of Virginia team will visit with participants in the for-profits, including investors, managers, faculty, students, and employers. This fieldwork will be combined with collection and analysis of national data to form a full picture of the for-profit sector: its context and history, resources, competencies, and market strengths and weaknesses. The effects of this new competition on costs and pricing will be explored. Two major conferences will be held and the results published.

The Education Commission of the States, created in 1965 by an interstate compact of governors, helps state leaders analyze educational issues and trends and to develop policies. The ECS grant will support in-depth case studies of the actual experiences to date of the for-profits in 10 states, including several with the largest and most active markets for for-profit higher education. The project will examine barriers to entry, as well as factors such as demographics and technological trends influencing the shape of markets. The ECS researchers will produce reports and actively disseminate the knowledge it gains to state officials. The ECS and Virginia projects will be coordinated to maximize coverage in fieldwork and data collection, as well as in outreach. Project Directors: Frank Newman, President, ECS and Professor David W. Breneman, Dean, Curry School of Education, University of Virginia.

Northwestern University **\$140,000**
Evanston, IL 60208

Many people now experience the transition from school to work not from high schools or four-year colleges, but from other institutions, in particular community colleges and a variety of for-profit schools. This grant supports a detailed case study of relations between educational institutions and employers in the Chicago area. The two-year project will focus on two community colleges and two for-profits. Drawing on direct observation and interviews, researchers will examine contacts between employers and schools, the extent to which employers influence programs, employers' views of the schools'

responsiveness to labor market needs, benefits and difficulties experienced by students in employment, and services provided by the schools. Community colleges and for-profits will be compared and ways to improve school practices in meeting employers' needs and in helping students get jobs that use their training will be explored. Project Director: James E. Rosenbaum, Professor of Sociology, Education and Social Policy.

Northwest Missouri State University **\$300,000**
Maryville, MO 64468

Northwest Missouri, a comprehensive state university, has been a leader in exploring the applications of modern concepts of quality management in higher education. This grant will enable it to extend its efforts to define quality, measure value added attributable to a university program, and study linkages between quality, value added, and cost. Key quality indicators will be developed for three academic departments and for three administrative units. Processes in the departments and service units used to produce a product or service will be analyzed and the cost of each process estimated. Performance benchmarks will be identified so the entire quality/cost effort can be directed toward further improvements. Project Director: Dean L. Hubbard, President.

University of Pennsylvania **\$250,000**
Philadelphia, PA 19104

The Institute for Research on Higher Education (IRHE) at the University of Pennsylvania has been developing and testing a survey instrument designed to measure the contributions academic institutions have made to their students' academic achievements and employment outcomes, focusing on students six years after receiving a bachelor's degree. The survey is not directed primarily at the relatively few elite schools, but rather to the large number of institutions that enroll the great majority of 4-year college students. This grant will supply partial funding for IRHE to refine and complete the project and make the survey widely available. Project Director: Robert Zemsky, Director, Institute for Research on Higher Education.

UNIVERSITIES, OFFICER GRANTS

Clarkson University **\$30,000**
Potsdam, NY 13699

To study aspects of education within corporations in America. Project Director: Assistant Professor Brenton Faber, Department of Technical Communications.

Northwest Missouri State University **\$30,000**
Maryville, MO 64468

To consider quality, cost, and value added in institutions of higher education that are not highly selective in student admissions. Project Director: Dean Hubbard, President.

Pennsylvania State University **\$30,000**
University Park, PA 16801

Support for a non-technical book for a general readership on U.S. research universities.
Project Director: Richard Geiger, Head, Higher Education Program, College of Education.

University of Alabama **\$30,000**
Tuscaloosa, AL 35487

To help develop performance indicators for universities and colleges that do not emphasize high selectivity in their student bodies. Project Director: John R. Dew, Director, Continuous Quality Improvement.

ASSESSMENT OF GOVERNMENT PERFORMANCE, TRUSTEE GRANTS

Citizens League **\$89,493**
Minneapolis, MN 55415

A 1998 officer grant to the Citizens League produced a preliminary report, based on a study of about 25 actual cases, that provides a summary of different types of citizen participation and government performance assessment programs and their interaction with government planning and operations. The current grant supplies funding to turn this report into a book, a series of articles, and conference presentations aimed at city, county, and state legislators, government officials, citizens active at these levels of government, and others working on performance assessment issues. Project Director: Lyle Wray, Executive Director.

Connecticut Public Expenditure Foundation **\$435,706**
Hartford, CT 06103

The Connecticut Policy and Economic Council (CPEC) will carry out a program of citizen-based performance assessment of municipal governments throughout the state of Connecticut. This grant funds a first phase of this program, in Hartford and Stamford. In Hartford, Computerized Neighborhood Environmental Tracking (ComNET), a method pioneered by the Fund for the City of New York, will be implemented to produce reliable data on environmental conditions. Neighborhood groups will be involved. City agencies will be informed of the collected data about the quality of services in the neighborhoods. In Stamford, CPEC will conduct a survey and focus groups to identify service areas of greatest priority to citizens. It will develop performance measures to address these citizen concerns and get feedback on them from city officials and citizens. CPEC will then work with the city to collect data relevant to the agreed measures, and implement ComNET, as

in Hartford. CPEC, with separate funding, will also be implementing citizen satisfaction surveys in Norwich and New Haven and developing performance measurement involving citizens in four other cities in Connecticut. Project Director: Christa Erml, Senior Research Analyst, Connecticut Policy and Economic Council.

ASSESSMENT OF GOVERNMENT PERFORMANCE, OFFICER GRANTS

Connecticut Public Expenditure Foundation **\$24,000**
Hartford, CT 06103

For a pilot project to advance the efficacy of the performance measurement system in Hartford. Project Director: Christa Erml, Senior Research Analyst, Connecticut Policy and Economic Council.

Georgia State University **\$30,000**
Atlanta, GA 30303

To support a study of performance measurement in conjunction with the Government Accounting Standards Board. Project Director: Assistant Professor Julia Melkers, Department of Public Administration and Urban Studies.

University of Texas at Austin **\$27,600**
Austin, TX 28712

To recognize, at the 2000 Managing for Results Conference, outstanding efforts by state and local governments in citizen involvement in the development and use of performance measures. Project Director: Professor Terrell Blodgett, Lyndon B. Johnson School of Public Affairs.

Worcester Municipal Research Bureau **\$29,750**
Worcester, MA 01609

To fund the planning phase of a government performance project in Worcester, MA. Project Director: Roberta Schaefer, Executive Director.

DUAL-CAREER MIDDLE-CLASS WORKING FAMILIES

CENTERS ON WORKING FAMILIES, TRUSTEE GRANTS

Cornell University
Ithaca, NY 14853

\$3,459,585

The Cornell University Employment and Family Careers Institute was established in 1996 as the first Foundation-sponsored center for the study of middle-class, dual-earner families. Cornell's focus is on working couples across the life course. Through research and teaching, the Institute examines how working couples manage work and family responsibilities at four very different stages in their lives: the anticipatory stage (early marriage); the launching stage (young children, roughly ages 25-39); the establishment stage (older children, roughly ages 35-50); and the shifting gears stage (empty nesters, pre- and post-retirement). The Institute has completed a major data collection effort studying over 800 dual-earner couples selected from six businesses in upstate New York. Over the next three years, the data will be completely analyzed. Two books and a number of articles will be written and a major research conference organized. In addition to scholarship, the Institute also aims to produce a next generation of scholars who understand issues faced by working families. As part of this training function, the Institute has awarded eleven predoctoral fellowships over the past three years. By the end of the 1999-2000 academic year, it is expected that seven fellows will have completed their Ph.D. degrees. Four post-doctoral fellowships have also been awarded during the initial grant period. The current grant renews support for another three years. Project Director: Professor Phyllis Moen, Director, Bronfenbrenner Life Course Center.

Emory University
Atlanta, GA 30322

\$3,565,000

Anthropologists regularly study ritual and myth, but they do not regularly study mainstream American culture. When they do turn their attention to the U.S., they are likely to focus on economically or socially marginal groups. This grant will establish a Center for Rituals and Myths in Working Families at Emory. A core group of anthropologists will undertake studies of rituals in middle-class families in the Southeastern United States. Family rituals, as well as work rituals, are means by which critical events or transitions in work and family lives are marked. In addition to using rituals to help structure their lives, families also develop elaborate family myths or narratives about things that have happened or about their abilities to meet challenges. Just as families have myths, so do firms. In addition to gathering and analyzing data and developing and carrying out a research program on these phenomena, the Center, as other Sloan centers on working families, will have a second major goal. By means of university courses, pre- and post-doctoral fellowships, seminars, workshops, conferences, and publications it will aim to develop a wider group and a next generation of anthropologists who understand issues faced by working families and will be able to

continue the research effort. Project Director: Professor Bradd Shore, Anthropology Department.

ETHNOGRAPHIES OF EVERYDAY LIFE, TRUSTEE GRANTS

Georgetown University
Washington, DC 20057

\$339,963

This grant supports a sociolinguistic study of daily conversations of working parents at home and in their workplaces. Such an ethnographic study of daily conversations at home and work should result in a better understanding of the worlds of working parents. It should also lead to a better sense of how women and men are similar and different in where and how they talk about work and family. Finally, it may result in the creation of a new research direction in linguistics that emphasizes work-family issues. Intensive ethnographic investigations are extremely labor intensive, requiring the shadowing of subjects as they go about their daily lives for many hours each day, tape-recording their conversations, and carefully analyzing these tapes. Four families will be studied in their homes and workplaces for this project. Project Directors: Deborah F. Tannen, University Professor and Shari E. Kendall, Research Associate, Department of Linguistics.

Washington State University
Pullman, WA 99164

\$260,520

Part of the Foundation's program on working families aims for increased understanding of how demands of certain professions affect the professional workers' ability to meet the needs of both their work and their families. Previous Foundation grants have supported two industry-specific studies of dual-earner families: scientists in the biotechnology industry and teachers in public education. This grant will fund an examination of the daily work-family lives of professionals in the financial services industry. The goals are to track how the structure of work affects families in their care-giving responsibilities, in the division of household labor, and in the level of career success achieved. The research will also assess the range of family impacts of recent changes in stock trading practices, including electronic and night trading. Project Directors: Mary Blair-Loy, Assistant Professor of Sociology, WSU, and Professor Jerry Jacobs, Department of Sociology, University of Pennsylvania.

ETHNOGRAPHIES OF EVERYDAY LIFE, OFFICER GRANTS

Brown University
Providence, RI 02912

\$30,000

To support a book on the ethnography of middle class working fathers. Project Director: Assistant Professor Nicholas Townsend, Department of Anthropology.

Emory University **\$30,000**
Atlanta, GA 30322

To conduct preliminary research for a possible Center on Rituals and Myths in Working Families. Project Director: Professor Bradd Shore, Department of Anthropology.

Temple University **\$30,000**
Philadelphia, PA 19122

To write a book on the ethnography of everyday lives of children in working families. Project Director: Associate Professor Annette P. Lareau, Department of Sociology.

University of Connecticut **\$30,000**
Storrs, CT 06269

To conduct research on family relocation and effects on women's careers. Project Director: Assistant Professor Thomas J. Cooke, Department of Geography.

University of Kentucky Research Foundation **\$29,825**
Lexington, KY 40506

To conduct a study of "Parenting in the Workplace." Project Director: Assistant Professor Mary Secret, College of Social Work.

ALTERNATE WORKPLACE STRUCTURES, TRUSTEE GRANT

Cornell University **\$365,279**
Ithaca, NY 14853

Past Foundation-supported research on part-time careers in specific professions has led to the realization that for a large number of older Americans working part-time is a preferred alternative to full-time work or full retirement. Yet the number of older workers who are working part-time is quite low. There appears to be little knowledge of employer attitudes, practices, and policies regarding the hiring of older part-time workers. This Cornell grant supports a survey of between 800 and 1000 statistically representative U.S. firms in order to assess employer practices and policies regarding three types of part-time work for older Americans: phased retirement, where a current full-time employee reduces work hours; retire-rehire, where the worker officially retires and then is rehired by the same employer, often as a self-employed independent contractor; and new part-time hires, where an older worker who has never worked for the firm is hired on a part-time basis. Project Director: Professor Robert Hutchens, Department of Labor Economics.

ALTERNATE WORKPLACE STRUCTURES, OFFICER GRANTS

Boston University **\$30,000**
Boston, MA 02215

To support research on the impacts of part-time careers in medicine from the perspective of full-time physicians. Project Director: Lena Lundgren, Assistant Professor of Welfare Policy, School of Social Work.

University of Pennsylvania **\$30,000**
Philadelphia, PA 19104

To produce and disseminate case study materials on corporate experiences with work-life practices. Project Director: Stewart Friedman, Director, Wharton Life Interests Project.

FAMILY-CENTERED PUBLIC POLICY, TRUSTEE GRANTS

Economic Policy Institute **\$546,941**
Washington, DC 20036

American corporations are evaluating new policies intended to balance the demands of work and the requirements of family life. These typically include flexible scheduling, paid parental leave, job sharing, sabbaticals, elder-care arrangements, on-site day care, backup child care for sick children or baby sitting emergencies, and flexible spending accounts to enable employees to pay with pretax dollars for care of children or elderly relatives. Such new work-family benefits are not widely available to employees of most U.S. firms. Their costs can be significant for companies. The Economic Policy Institute will undertake an 18-month study of the types of work-family arrangements available in firms, the factors behind the implementation of family-friendly practices, their costs, and assessments by both employees and employers of the impact of such company policies on the way work is performed. Project Director: Eileen Appelbaum, Research Director.

Massachusetts Institute of Technology **\$288,696**
Cambridge, MA 02139

Many federal and state laws constrain rather than facilitate choices available to working families. For example, if one member of a dual-earner family would like to work on a self-employed basis, he or she is provided virtually no protections by current federal and state employment law. Whereas employees have the cushion of workers' compensation, unemployment insurance, and safety protections under OSHA, self-employed persons have no protective cushions to catch them if they fall, literally or figuratively. Although families and their needs have changed dramatically over the last several decades, federal and state labor and employment laws still mainly relate to the full-time, full-year male employees of the past. This grant supports the building of a network of scholars to examine the implications of research on working families for social and labor market policies at the federal and state levels. The Network will identify and draw together

leading researchers. Through the commissioning of papers, the holding of workshops and congressional briefings, and the publication of reports, the Network will bring to light critical ways that laws can be reformulated to be more in line with the realities of workers, their families, and their employers in the 21st century. Project Director: Professor Thomas Kochan, Sloan School of Management.

Princeton University
Princeton, NJ 08544

\$106,362

The Foundation program on working families seeks to examine how current employment law affects dual-earner families and how these laws might change to provide better opportunities for families in their efforts to manage both work and family responsibilities. This grant supports a study of one aspect of employment law, civil rights legislation, and the consequences of this legislation on corporate work-family practices. An available rich data set of nearly 10,000 business organizations will be used. At least 50 in-person interviews with key personnel in a select sample of these organizations will be conducted. President Clinton's proposed modification of civil rights legislation would make working parents a protected class, in addition to the currently protected classes based on race, age, and gender. Just as affirmative action changed corporate hiring practices, protecting working parents would likely have profound consequences for business practices. What those consequences might be will be a major focus of this research. Project Director: Professor Frank Dobbin, Department of Sociology.

FAMILY-CENTERED PUBLIC POLICY, OFFICER GRANTS

University of Arizona
Tucson, AZ 85721

\$29,318

Support for a study of how daily work experiences affect men and their families at home. Project Director: Assistant Professor David Almeida, Division of Family Studies.

University of Texas at Austin
Austin, TX 78712

\$26,122

Support to produce an analytic piece on the implications of the changing timing of work on labor market practices and policies. Project Director: Daniel S. Hamermesh, Professor of Economics.

PUBLIC UNDERSTANDING OF WORKING FAMILIES, OFFICER GRANTS

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

\$30,000

To complete a study on the nation's standard of living. Project Director: Jeffrey Madrick, Adjunct Professor of Social Science.

Economic Policy Institute
Washington, DC 20036

\$30,000

For a one-day symposium on issues faced by working families. Project Director: Eileen Appelbaum, Research Director.

University of California, Berkeley
Berkeley, CA 94720

\$30,000

To co-sponsor a conference on working families, with the Berkeley Center on Working Families and the Business and Professional Women's Foundation. Project Director: Barrie Thorne, Professor of Sociology and Women's Studies.

GENERAL, TRUSTEE GRANT

Council on Competitiveness
Washington, DC 20005

\$75,000

The Council will initiate a program of briefings to Congress on science, technology, and competitiveness issues. Congressional decision-makers have very limited opportunities to stay abreast of developments in such areas as information technology, life sciences, and materials science that are changing the context within which legislation is enacted. The Congressional Forum on Technology and Innovation will provide direct access to a cross-section of the nation's leading thinkers and practitioners in science, technology, and innovation. It will be nonpartisan, open to the media, and will present a range of views on each issue addressed. A central aim is to build an audience of educated legislative staff across committee jurisdictions. The Forum has the support of Senators Bill Frist (R-Tennessee) and John D. Rockefeller (D-West Virginia). As co-chairs of the Forum, they will invite the entire Senate and House membership and relevant staff to participate. They, together with the Council on Competitiveness, will develop the agenda for each of the approximately monthly Forum meetings. This grant supports the Council's role in undertaking the Forum. Project Director: John Yochelson, President.

EDUCATION AND CAREERS IN SCIENCE AND TECHNOLOGY

SCIENTIFIC AND TECHNICAL CAREERS

INFORMATION ABOUT CAREERS, TRUSTEE GRANT

American Institute of Mining, Metallurgical, and Petroleum Engineers **\$50,199**
New York, NY 10016

In past years the Foundation has made grants to nine professional societies representing various science and engineering fields, for the preparation of videotapes, CD-ROMS, Web pages, and print materials on career information. The aim has been to create a coordinated set of materials about the nature of work and the daily work life in mathematics, the physical sciences, and engineering. The set has become known as the Sloan Career Cornerstone Series. This grant, made from a 1998 appropriation approved by the Sloan Trustees, supports a variety of efforts to enhance public and institutional awareness of the Series. Project Director: Nellie E. Guernsey, Executive Director.

INFORMATION ABOUT CAREERS, OFFICER GRANTS

Association for Women in Science **\$6,100**
Washington, DC 20005

Travel and registration expenses for speakers in a workshop on young scientist career development at the AAAS annual meetings in Washington. Project Director: Ms. Jonghui Lee, Graduate Student, Kustu Lab, University of California, Berkeley.

Center for Science and the Media **\$8,528**
Stamford, CT 08906

For a second edition of *To Boldly Go: A Practical Career Guide for Scientists*. Project Director: Peter S. Fiske, Experimental Physicist, Lawrence Livermore National Laboratory.

National Academy of Sciences **\$25,751**
Washington, DC 20418

For development and publication of a guide entitled *The Postdoctoral Experience*. Project Director: Deborah Stine, Associate Director, Committee on Science, Engineering, and Public Policy.

RETENTION, OFFICER GRANTS

Arizona State University East **\$26,400**
Mesa, AZ 85206

To fund a study of factors that determine the retention and departure of women from undergraduate aviation programs. Project Director: Associate Professor Mary Ann Turney, Department of Aeronautical Management Technology.

Carnegie Mellon University **\$30,000**
Pittsburgh, PA 15213

To produce a popular book on recruitment and retention of women in computer science. Project Director: Allan L. Fisher, Associate Dean.

PROFESSIONAL MASTER'S DEGREES, TRUSTEE GRANT

University of Arizona **\$97,750**
Tucson, AZ 85721

This grant is part of the Foundation's exploration of a new type of master's degree in the sciences that equips people for work outside academia. Such new degree programs at five universities, including the University of Arizona, have received Sloan startup funds. The current grant supports a national effort to publicize the new degrees among faculty and other constituencies, such as undergraduate career guidance counselors, students, and employers. Sheila Tobias will interact with a range of relevant national organizations as well as disciplinary groups. The principal investigators at all five Sloan-supported universities have committed to help in this diffusion effort. A conference planned for the fall of 2000 will bring together representatives of these five projects and others to assess progress, needs, and opportunities. Project Director: Eugene H. Levy, Dean, College of Science.

PROFESSIONAL MASTER'S DEGREES, OFFICER GRANTS

American Institute of Physics **\$23,000**
College Park, MD 20740

To collect information and create a website on professional master's degrees in physics. Project Director: Dr. Philip Hammer, Acting Manager of Education.

Southeastern Louisiana University
Hammond, LA 70402

\$28,950

To help initiate a master's degree in Science and Technology. Project Director: James W. Howatt, Head, Department of Computer Science.

University of Arizona
Tucson, AZ 85721

\$29,110

To prepare a report and conduct a planning meeting on professional master's degrees in science. Project Director: Eugene H. Levy, Dean, College of Science.

LEARNING OUTSIDE THE CLASSROOM, TRUSTEE GRANTS

City University of New York
New York, NY 10019

\$300,000

This grant supports the start of a system-wide ALN program for CUNY, designed to serve a large population within the university's service area not now served by campus-based education. The project office will be located in the system-wide Office of Information Technology and will handle all computer server and conferencing software together with all advertising and inquiries. This central office will also fund campus efforts that meet certain quality standards. Eight campuses (Baruch, Brooklyn, Hunter, John Jay, Lehman, Queens, College of Staten Island, and CUNY Graduate School) will be involved in this initial project. The grant will mainly be used to support faculty time for course development. The plan is to have a total of 30 courses on-line within one year. Project Director: Colette Wagner, Assistant Dean, Office of Computing and Information Services.

Georgia Tech Foundation
Atlanta, GA 30332

\$150,000

Georgia Institute of Technology will develop and deliver for remote learners the complete set of courses for the graduate M.S. degree in mechanical engineering. Lectures of high production quality will be videotaped in a special studio and geared specifically to an Internet audience. Each "Lecture on Demand" can be accessed by a learner using a computer equipped with a commonly available and relatively inexpensive modem. A commercial computer conferencing product (Web CT) will support instructor-student and student-student interactions. The bulk of support for this development is being provided by the university and the state. Project Director: Joseph S. DiGregorio, Vice Provost for Distance Learning, Continuing Education, and Outreach.

New School University
New York, NY 10011

\$100,000

Almost all universities enroll students in groups who start a class on a particular day and progress together to the end of the term. This cohort system allows, indeed encourages, student-student interaction. This approach, it has been argued, is too structured for the typical adult learner who would be better served by an on-demand system permitting a wide choice of starting times even though opportunities for enrolled students to interact may be curtailed. Many correspondence and independent study programs follow the on-demand approach with great success. The New School's ALN program (DIAL = Distance Instruction for Adult Learning), involving 300 courses, 2 degrees and about 2000 students, is now cohort-based. It is planned in the fall of 1999 to initiate a pilot project in which on-demand courses will gradually be introduced. The entire DIAL program may be changed over time, depending on what is learned in the pilot program. Project Director: Stephen Anspacher, Director, Distance Learning

Northwest Technical College
Perham, MN 56573

\$150,000

A 1998 Foundation officer grant assisted the College, a two-year public, five-campus institution located in northwest Minnesota and serving a very geographically scattered population, in the development via ALN of a two-year degree in Licensed Practical Nursing. For this degree, core nursing courses are delivered on-line, with clinical sites for internships set up near student work locations. The program has enabled those aspiring to be nurses to get specialized training and the L.P.N. degree without leaving their rural communities to go to a college campus. The current grant funds the similar development of a new A.A.S. degree in Information Technology. A first cohort of 30 learners is expected by fall 2000. They will acquire skills needed to assist computer users in a business environment, and to install and administer local and area networks. Special arrangements for laboratory work will be made with local businesses. Project Director: Linda Thompson, Director of Distance Education.

Pennsylvania State University
University Park, PA 16802

\$1,000,000

One aspect of the Foundation's ALN program has been to encourage a few state universities to develop large-scale projects that can evolve into real on-line universities, with multiple degree and certificate offerings, hundreds of courses, and thousands of students, all supported by adequate services. Penn State's World Campus was launched with a 1997 major Foundation grant. It now offers over 30 courses and its 520 students can enroll in 11 certificate or degree programs. An on-line registration catalog, library services, and a help-desk are in place. The current grant, matched four to one by university funds, will accelerate course conversion to ALN format, faculty development,

and marketing. The goal for the World Campus is to enroll over 10,000 students, make available 500 courses, and have 20 degree or certificate programs in place by the school year 2001-02. Project Director: Gary Miller, Assistant Vice President, Distance Education.

Research Foundation of State University of New York **\$1,300,000**
Albany, NY 12201

The SUNY system includes 64 campus sites and enrolls over 400,000 students. Past Foundation grants have supported the creation and growth of a major distance education project, the SUNY Learning Network (SLN). It has become one of the largest virtual universities in the country, with planned expansion for the academic year 2001-2002 to 10,000 enrollments, 900 courses, and 8 full degree programs. SLN's administration is a part of the central operation of the SUNY chancellor's office. A campus electing to join SLN – membership is entirely voluntary – must conform to certain software standards and agreement must be reached between the campus and SLN on courses and programs to be offered. The campus receives some funding for course conversion to ALN format, assistance for faculty in instructional design, purchase of such computer equipment as course servers, and for development of other essential services. The current grant continues support for the growth of SLN as SUNY develops a business model that will enable the entire system-wide distance learning project to become self-sustaining. Project Director: Eric E. Fredericksen, Associate Provost for Advanced Learning Technology.

Saint Leo University **\$100,000**
Saint Leo, FL 33574

This Benedictine institution near Tampa enrolls about 9,000 students and offers 40 majors in traditional liberal arts and sciences, the professions, and pre-professions. This grant supports the development and offering of three complete baccalaureate degrees (in Accounting, Business Administration, and Computer Information Systems) in an ALN format. St. Leo's adult education is now basically classroom-based, taking place in classes at military bases, community colleges, and in corporate parks in five states. Faculty members are sent to these remote sites. This grant will enable St. Leo to develop ALN options for this educational outreach. Project Director: Michael B. Rogich, Principal Investigator, Academic Affairs.

University of Hawaii **\$405,000**
Honolulu, HI 96822

This grant will support the development and offering of 32 ALN courses for three degree programs: B.A. and M.S. in Information and Computer Sciences; and B.A. in Information Resource Management. Related certificate programs will also be developed in Software Development, Hypermedia and Computer Graphics, and Database Management. The program will emphasize collaborative efforts among students and close asynchronous interaction with faculty. The M.S. degree will allow students to pursue thesis or course-only options. The University's Department of Computer Science has been cooperating

with the Outreach College and will continue to offer assistance as the project develops. Representatives from outlying community colleges and branch campuses have been involved in planning to make this a system-wide effort. The programs should have special appeal for interested learners throughout the geographically separated Hawaiian islands and in other Pacific locations such as Guam, American Samoa, and Micronesia. Project Director: Victor Kobayashi, Interim Dean of Outreach College.

University of Illinois
Urbana, IL 61801

\$70,000

Much experience in delivery of ALN education has been accumulated in Foundation-supported projects since the 1993 start of the Sloan program in Learning Outside the Classroom. This grant supports two workshops devoted to exploring what has been learned from this experience about learning effectiveness and faculty attitudes. What is known about how well students learn in ALN programs and what best practices are emerging? What has been learned about the enthusiasm of faculty, both “early adopters” and more conservative faculty, for teaching in ALN programs? These key questions will be addressed by selecting seven specific projects, ranging over disciplines and pedagogical styles, for presentation to about 30 attendees at each workshop. Consideration will be given to making the papers on these case studies and the ensuing discussions widely available to those interested in distance education. Project Director: Burks Oakley, Associate Vice President for Academic Affairs and Director, UI-OnLine.

University of Maryland Foundation
Adelphi, MD 20783

\$150,000

In addition to grants for projects developing ALN courses and degree programs, the Foundation has supported activities intended to strengthen the community of those who provide ALN instruction. The website, www.aln.org, is one such activity regularly accessed by ALN practitioners and becoming well-known as a valuable repository of useful ALN information. Funding of an annual ALN conference is another effort to bring together ALN course developers and others interested in the ALN approach to distance learning. This grant, made from an appropriation approved by Foundation Trustees in 1998, supports the 5th ALN Annual Conference to be held in Adelphi, Maryland. The conference will attract hundreds of attendees to a full program of sessions, as well as exhibits, pre-conference workshops, a keynote address, and a variety of special events. Project Director: Donald Z. Spicer, Associate Vice Chancellor for Information Technology.

Vanderbilt University
Nashville, TN 37235

\$700,000

With past Foundation support, a group at Vanderbilt has set up a menu of activities for the ALN community. The goal has been to facilitate information sharing and thereby to accelerate progress in the field. The *Journal of Asynchronous Learning Networks*, an electronic journal dedicated to reporting new results, is available on the Vanderbilt

website, www.aln.org. Issues of the *ALN Magazine*, with news of current ALN practice, are also made available on the site. *ALN Talk*, an on-line moderated discussion forum on ALN topics, has been organized by the group. The website contains a directory of educational degree or certificate programs associated with ALNs, and announcements and other support (publicity, registration, abstract submission) for the annual ALN conference. A number of revenue producing workshops organized by Vanderbilt, including their popular “How to Develop ALN Courses,” are conducted on-line. Members of the group have served as speakers and consultants for persons and organizations interested in ALN activities. This grant continues support of these outreach projects. It also allows the group to add new workshops, improve analysis of what visitors to the site are seeking, and to develop a strategy to increase revenue-producing activities that can bring the program closer to self-sufficiency. Project Director: John Bourne, Professor of Electrical and Computer Engineering.

LEARNING OUTSIDE THE CLASSROOM, OFFICER GRANTS

Hunter College **\$7,500**
 New York, NY 10021

Partial support of a book on distance education. Project Director: Professor Anthony Picciano, Department of Curriculum and Teaching.

League for Innovation in the Community College **\$26,300**
 Mission Viejo, CA 92691

Support for the second ALN Symposium at the League’s Fall meeting. Project Director: Cindy Miles, Vice President and Chief Operating Officer.

Marylhurst University **\$30,000**
 Marylhurst, OR 97036

Support to develop and deliver General Education requirements for the B.A. by means of an ALN. Project Director: Kathleen Paul, Director of Instructional Technology and Distance Learning.

New School University **\$30,000**
 New York, NY 10011

Support to develop business plans for alternative ALN organizations. Project Director: Stephen J. Anspacher, Director, Distance Learning.

Pace University **\$29,000**
 New York, NY 10038

Support toward planning for a sustainable, large scale ALN. Project Director: David Sachs, Assistant Dean and Professor of Office Information Systems.

Portland State University Foundation **\$30,000**
Portland, OR 97207

Support for the start of a M.S. and Certifications in Software Engineering. Project Director: Richard H. Lytle, Director, Oregon Master of Software Engineering Program.

TASK Foundation, Inc. **\$30,000**
New York, NY 10022

Support for a distance education seminar series. Project Director: Arlene Krebs, Senior Consultant.

University of Maryland University College **\$30,000**
College Park, MD 20742

Support for an on-line workshop (Intellectual Property Issues). Project Director: Claudine Schweber, Associate Vice President, Distance Education and Lifelong Learning.

University of Tennessee **\$30,000**
Knoxville, TN 37996

Support for an ALN Systems Analyst Certification program. Project Director: Nissa Dahlin-Brown, Assistant Director, UT Community Programs.

Vanderbilt University **\$30,000**
Nashville, TN 37240

To develop an on-line progress reporting system for ALN grantees. Project Director: Olin Campbell, Research Associate Professor.

Vanderbilt University **\$30,000**
Nashville, TN 37240

Support to develop the initial phase of an ALN directory. Project Director: John Bourne, Professor of Electrical and Computer Engineering.

Westmoreland County Community College **\$30,000**
Youngwood, PA 15697

Support for planning activities leading to a Pennsylvania Virtual Community College. Project Director: Mary J. Stubbs, Director, Learning Resources/Special Projects.

HUMAN RESOURCES, TRUSTEE GRANT

University of Washington
Seattle, WA 98195

\$49,272

A 1998 officer grant supported a pilot study focused on the quality of those intending to pursue graduate degrees in science and engineering fields. This work examined scores on the Graduate Record Examination. It indicated that with the exception of the biological sciences, trends have been sharply negative in the numbers of U.S. citizens with high GRE scores who intend to pursue science and engineering graduate studies. The biological sciences and health professions have over the same period shown substantial gains in the numbers of high-scoring U.S. students. The new grant will support a more careful analysis of the GRE data, development of new data on the first-year enrollment experiences of the leading departments in the various disciplines, study of actual enrollment trends at 25-30 science and engineering departments at select research universities, and assessment of trends in enrollment intentions of seniors at highly selective private institutions. The results are expected to be widely disseminated to government agencies, professional societies, and others. Project Director: William M. Zumeta, Associate Professor of Public Affairs.

HUMAN RESOURCES, OFFICER GRANTS

American Society for Cell Biology
Bethesda, MD 20814

\$30,000

For analysis of the training structure in the biomedical sciences. Project Directors: Elizabeth Marincola, Executive Director, and Frank Solomon, Professor of Biology, Massachusetts Institute of Technology.

National Association of Graduate-Professional Students
Washington, DC 20003

\$29,500

For implementation of a web-based survey of graduate students on the quality of their graduate programs. Project Director: Dr. Malaina Brown, Employment Concerns Coordinator.

EDUCATION FOR MINORITIES AND WOMEN

MINORITIES, TRUSTEE GRANTS

Michigan State University
East Lansing, MI 48824

\$108,000

A main emphasis of the Foundation's program in education for minorities is to increase the number of underrepresented minority Ph.D.s in mathematics, science, and engineering. With a 1997 grant, Professor Percy Pierre succeeded in recruiting to his signal processing group a significantly increased number of minority graduate students. The current grant will enable him to expand this minority recruitment and retention program to other engineering departments. Grant funds will be used for salaries and administrative costs associated with recruitment and retention, but not for student scholarships. Project Director: Percy Pierre, Professor of Electrical Engineering.

Southern Regional Education Board
Atlanta, GA 30318

\$117,500

The annual Institute on Teaching and Mentoring of the Compact for Faculty Diversity aims to engender or strengthen the resolve of minority Ph.D. students to pursue academic careers and to provide them with knowledge, skills, and contacts to help them in that pursuit. A 1998 Foundation officer grant funded the attendance at the Institute of 22 students and 5 faculty participating in the Sloan minority Ph.D. program. The current grant renews support for the attendance at the Institute by Sloan Scholars for three additional years. Project Director: Dr. Ansley Abraham, Director, Doctoral Scholars Program.

Under an appropriation approved by the Sloan Board of Trustees for funding the Minority Ph.D. Program, grants of \$2,000 for each enrolled student were made to the following institutions for recruitment of minority doctoral students (Sloan Scholars) in the indicated departments:

Massachusetts Institute of Technology

Department of Aeronautics and Astronautics
Department of Civil and Environmental Engineering.

Purdue University

Department of Biological Sciences.

University of Georgia

Department of Pharmaceutical and Biomedical Science.

University of Rhode Island

Department of Computer Science.

The following students were designated in 1999 as **Sloan Scholars** in the departments and graduate institutions named below and grants have been awarded in the amounts specified:

Desma Alexander, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, **\$25,500**.

Marcos Eric Cerreno, Department of Aeronautics and Astronautics, Massachusetts Institute of Technology, **\$15,000**.

Alfonso Fernandez, Department of Biological Sciences, Purdue University, **\$22,500**.

Jose O. Negron-Garcia, Department of Biological Sciences, Purdue University, **\$22,500**.

Lael Stefan Herbert, Department of Aeronautics and Astronautics, Massachusetts Institute of Technology, **\$15,000**.

Kimberley Temeca Hill, Department of Pharmaceutical and Biomedical Science, University of Georgia, **\$30,000**.

Jay Christopher Houston, Department of Pharmaceutical and Biomedical Science, University of Georgia, **\$30,000**.

Sheldon Lyn, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, **\$25,500**.

Garardo L. Nieves, Department of Computer Science, University of Rhode Island, **\$27,000**.

Babatunde Adetola Olubajo, Department of Pharmaceutical and Biomedical Science, University of Georgia, **\$30,000**.

Darlene Nicde Simmons, Department of Biological Sciences, Purdue University, **\$22,500**.

Karla R. Smith, Department of Cell Biology, Purdue University, **\$22,500**.

WOMEN'S PROGRAMS, TRUSTEE GRANTS

The following four grants are made from a 1997 appropriation approved by the Sloan Board of Trustees for a pilot phase of the Sloan Pre-Tenure Leave Fellowship Program. Each grant provides for a fellowship of the specified amount to the indicated faculty member, the amount to be matched equally by the faculty member's home institution. In each case, a supplement of \$5,000 is added for the fellowship holder's department, to be used to focus attention on and address work-family issues for other faculty, postdoctoral fellows, or graduate students.

North Carolina State University **\$23,376**
Raleigh, NC 27695

Fellowship to Dr. Sharon R. Lubkin, \$18,376. Project Director: Professor Thomas M. Gerig, Head, Department of Statistics.

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

Fellowship to Dr. Diann Brei, \$20,000. Project Director: Professor A. Galip Ulsoy, Chairman, Department of Mechanical Engineering and Applied Mechanics.

University of Pittsburgh **\$23,952**
Pittsburgh, PA 15260

Fellowship to Dr. Ivan P. Yotov, \$18,952. Project Director: Professor John M. Chadam, Chairman, Department of Mathematics.

Virginia Commonwealth University Foundation **\$12,911**
Richmond, VA 23284

Fellowship to Dr. Suzanne Miller Dorney, \$7,911. Project Director: Professor James E. Ames, Chairman, Department of Mathematical Sciences.

PUBLIC UNDERSTANDING OF SCIENCE AND TECHNOLOGY

BOOKS, TRUSTEE GRANT

National Video Resources, Inc. **\$289,753**
New York, NY 10012

This grant supports a six-week library program of scholar-led lectures, documentary film screenings, and discussions centered on the impact of technology in the twentieth century. Initially, 50 pilot libraries across the country will screen and discuss one film daily during each week. The films will focus on such technologies as the automobile, radio, movies, television, computers, and the Internet. Many of the persons attending each session are expected to check out books for further reading on the subject. National Video Resources, in conjunction with its partner, the American Library Association, will market the material to at least 100 more participating libraries. A complete set of volumes in the Sloan Technology Book Series, accompanied by a four-color brochure describing the scope and content of the series, will be provided free of charge to each participating library. Project Director: Timothy Gunn, Executive Director.

BOOKS, OFFICER GRANTS

Council for the Advancement of Science Writing **\$30,000**
Greenlawn, NY 11740

To produce a book of profiles based on the *New York Times* "Scientists at Work" series. Project Director: Ben Patrusky, Executive Director.

Rockefeller University **\$10,000**
New York, NY 10021

To write a short biography of J. Robert Oppenheimer. Project Director: Abraham Pais, Professor of Physics.

Jared M. Diamond **\$30,000**
Los Angeles, CA 90095

For research and writing of a book on the collapse of societies.

Jeff Hecht **\$30,000**
Auburndale, MA 02466

To research and write a book about the race to build the first laser.

James Shreeve
Takoma Park, MD 20912

\$30,000

To research and write an account of the race for the human genome.

Julie H. Wosk
New York, NY 10023

\$15,000

For enhanced illustrations for a book on women and technology.

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.

The first fifteen books in the series are as follows:

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 Buderer, *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 Provocative
Readings* (Simon and Schuster, 1999)

Books on other technology-based topics are in preparation for the Series.

PUBLIC TELEVISION, TRUSTEE GRANTS

Educational Broadcasting Corporation

\$1,270,978

New York, NY 10001

Thirteen/WNET New York, in partnership with Granada Television, U.K., will produce a documentary miniseries called War Ship. Made up of four one-hour programs, War Ship will explore the technological developments that have shaped navies and naval strategies over the past 200 years and given us our modern fleet. Each episode will be based on a key innovation in naval history: steamships, submarines, battleships, and aircraft carriers. The series will also examine the rapidly changing naval environment of today and show how advances in miniaturization, fiber optics, lasers, and satellites are transforming modern marine warfare. Each episode will feature scientists, technologists, scholars, and military tacticians who will highlight the lessons learned, the development of early technologies into modern weapons and warships, current concepts of naval warfare strategy, and what technological advances portend for future weapons development. PBS Central, which will provide the remaining funds, expects that this series will attract an audience of 4.5 million persons per episode. Project Director: Bethe Hoppe, Director, Science Programs, Thirteen/WNET New York.

Fred Friendly Seminars, Inc.

\$550,000

New York, NY 10027

This renowned public television forum for thoughtful discussion will produce a three-part PBS special called "Our Genes, Our Choices," an in-depth conversation about genetics and genomics, including the clinical, legal, medical, and social implications of this new knowledge. Using its trademark narrative hypotheticals with moderator and panelists,

each of the three programs will explore difficult questions raised by advances in genetics. Episode One will consider the issue of privacy in an age of genetic information. Episode Two will consider how our new knowledge of disease may reshape our notion of our children and ourselves. Episode Three will explore how genetic information may affect our concept of free will and how society, public policy, and the criminal justice system might deal with knowledge of genetic links to particular character traits. PBS has committed to airing this series in prime time and anticipates an audience as large as 3.5 million people for each episode. Project Director: Richard Kilberg, President and Executive Producer.

WGBH Educational Foundation **\$1,950,000**
 Boston, MA 02134

The American Experience, WGBH’s award-winning history series, will produce three one-hour PBS documentaries underlining the critical role played by science and technology, and by scientists and engineers, in the nation’s history. The programs, to be aired nationwide in prime time and rebroadcast at least twice, are: “Eads,” about the great civil engineer, James Buchanan Eads, whose career was absorbed with harnessing the Mississippi River; “Rocket Boys,” about a group of boys in a small mining town spurred by Sputnik to experiment with rocketry and pursue careers in science; and “George Eastman,” a biography of the mechanical inventor who revolutionized the photographic industry. The average one-time audience for these programs is expected to be between three and five million people. Interactive web sites featuring the latest on-line technology will be developed for each program. Project Director: Margaret Drain, Executive Producer.

PUBLIC TELEVISION, OFFICER GRANTS

Center for Science and the Media **\$30,000**
 Washington, DC 20016

Bridge funding for Phase II of the Science News Service. Project Directors: Eliene Augenbraun, President, and Ira Flatow, Vice President and News Director.

ETV Endowment of South Carolina **\$29,738**
 Spartanburg, SC 29302

To conduct exploratory research in five areas in preparation for future broadcasts. Project Director: Polly S. Kosko, Director, National Programming, South Carolina Educational Television.

David Kennard **\$30,000**

To research and write a treatment for a two-hour PBS special based on HAL, the computer in the film *2001: A Space Odyssey*.

Jon Palfreman **\$29,277**
Lexington, MA 02420

To research and write a full treatment for a one-hour PBS documentary on fiber optics.

COMMERCIAL TELEVISION AND FILMS, TRUSTEE GRANTS

American Film Institute **\$255,000**
Los Angeles, CA 90027

New York University **\$262,200**
New York, NY 10003

University of California, Los Angeles **\$213,300**
Los Angeles, CA 90095

University of Southern California **\$282,600**
Los Angeles, CA 90089

These four grants renew support for the encouragement of top students at leading film schools to write and produce new film and television shows about science and technology. The schools will continue both their annual Sloan Film Prizes for film production and screenwriting and their annual film colloquia on science and technology. They will now formally link a science advisor with each project in order that a student have access to a relevant expert on his or her science or engineering topic who can serve as a resource and also vouch for the accuracy and plausibility of a final script. The film school program and the competitive prizes, launched in 1996, have led to the production of quality screenplays and films. A new generation of filmmakers has been influenced to create more realistic and compelling stories about science and technology and to challenge existing stereotypes of scientists and engineers in the visual media. These grants form part of the Foundation's long-term effort to establish real science and technology as legitimate and entertaining subject matter in the mass media. The best students at the best film schools, especially those winning well-publicized Sloan Film Prizes, having been exposed to science and technology – and to scientists and engineers – at a formative point in their careers, are then positioned to play leading roles in the film and television industry. Project Directors: James Hindman, Co-Director and Chief Operating Officer, AFI; Mary Schmidt Campbell, Dean, Tisch School of the Arts, NYU; Robert Rosen, Chair, School of Theater, Film and Television, UCLA; Alan Baker, Assistant Dean, School of Cinema-Television, USC.

American Film Institute **\$75,000**
Los Angeles, CA 90027

This grant renews funding for AFI's well-known Television Writer's Workshop, which immerses a dozen aspiring screenwriters from across the country in an intensive three-

week program focused on writing one-hour dramas with science and technology themes. Project Director: James Hindman, Co-Director and Chief Operating Officer.

New York University **\$258,750**
New York, NY 10003

NYU's Tisch School of the Arts has a superb record with independent films, having repeatedly won top honors at the Sundance and Cannes film festivals. One of their graduates won an Academy Award last year for her first film. The School will establish an annual award of \$100,000 to help a graduate make a first feature film on science and technology. Such an award, to be tested over a two-year period, will serve as a strong incentive for the Sloan Program at NYU since making and attracting funding for a first feature after film school is a huge challenge. Having some start-up funds should be a significant advantage for such an independent film project. Project Director: Mary Schmidt Campbell, Dean, Tisch School of the Arts.

THEATER, OFFICER GRANTS

Mathematical Sciences Research Institute **\$12,000**
Berkeley, CA 94720

To hold and tape a theatrical event on Galileo. Project Director: David Hoffman, Associate Director for External Relations.

Mathematical Sciences Research Institute **\$20,000**
Berkeley, CA 94720

To host and disseminate a discussion with Tom Stoppard of the mathematics in his award-winning play, *Arcadia*. Project Director: David Eisenbud, Director.

PUBLIC POLICY, TRUSTEE GRANT

Massachusetts Institute of Technology **\$165,000**
Cambridge, MA 02139

A 1993 grant enabled MIT to hold five three-day seminars and a sixth shorter event during the past five years. These annual seminars concentrate on science and technology policy issues for senior Congressional staff. The current grant renews support for three more years. The intensive seminars include visits to graduate labs on the MIT campus and offer participants an opportunity to interact with fellow staffers from other committees and parties who have similar interests in science and technology issues. Past seminars have dealt with information technology, biology and biotechnology, new manufacturing technologies, climate change, and the Internet. Subjects for future seminars are selected after consultation with Congressional staff. The seminars provide useful, in-depth information in a neutral setting, supplying a background that is

increasingly important as public policy issues arising from the interaction of science, technology, and public affairs have grown more complex. Project Director: Professor Eugene Skolnikoff, Department of Political Science.

PUBLIC POLICY, OFFICER GRANT

Whitehead Institute for Biomedical Research
Cambridge, MA 02142

\$30,000

Partial support for a May 2000 public symposium, "Genetics and Society: Impact of New Technologies on Law, Medicine, and Policy." Project Director: David C. Page, M.D., Chairman, Task Force on Genetics and Public Policy.

SELECTED NATIONAL ISSUES AND THE CIVIC PROGRAM

SELECTED NATIONAL ISSUES, TRUSTEE GRANTS

International AIDS Vaccine Initiative
New York, NY 10019

\$2,000,000

A \$3 million 1996 Foundation grant was made to the then-new IAVI in its efforts to increase attention and research on the development of an AIDS vaccine. IAVI's work has been an important factor in raising awareness around the world of the urgent need for an accelerated, global AIDS vaccine development campaign. To accelerate the actual fielding of an AIDS vaccine is now an acknowledged goal of the United Nations, the G-8, and several governments. The World Bank has been a key supporter and has established a Bank-wide Task Force on Promoting R&D for the HIV/AIDS Vaccine. European and U.S. companies are working on developing candidate vaccines and planning field trials. IAVI has launched partnerships, each consisting of a vaccine development group, a pilot lot production facility, and a clinical testing site, in a number of developing countries and more such partnerships are planned. With an initial investment of \$9 million, IAVI placed on a fast-track to human testing two of the most promising vaccine approaches. Funding commitments to IAVI have been rising annually and the total now stands at over \$70 million. The current grant is the Foundation's contribution to the important work of IAVI. Project Director: Dr. Seth Berkley, President.

The BOLD Initiative, Inc.
New York, NY 10010

\$297,643

Given the rapidly growing diversity of the U.S. workforce, a 1997 Foundation officer grant supported an extensive literature review on research to determine the impacts of employee diversity on businesses. Both positive and negative effects on organizational performance were identified. The key research question that remains unanswered is, "What are the management practices and organizational factors required to achieve high levels of performance with a diverse workforce, and what are those that lead to negative performance outcomes?" The BOLD Initiative, a consortium of 16 academic researchers, along with human resource executives from 19 major U.S. companies, will conduct an exploratory study seeking to answer this question. Four companies, two each in banking and information technology, will provide research sites. Comparable business units in each company will supply demographic data on their employees and quantitative business performance data. Surveys and interviews will be used to collect data on group processes such as communication patterns, group conflict, and cohesiveness, as well as on human resource management, leadership roles, and other organizational practices. For each firm, survey and interview information and the demographic and performance data will be analyzed as a means of seeking answers to the key question. Project Director: Professor Thomas A. Kochan, Sloan School of Management, Massachusetts Institute of Technology.

The Urban Institute
Washington, DC 20037

\$314,604

This grant supports a project to explore using new techniques for linking administrative and survey datasets to measure the human as well as the physical capital of firms. Discussions at a symposium funded with a 1998 Foundation officer grant led to the development of a proposal, now funded by the Census Bureau and the National Science Foundation, to create databases linking survey data on employers with administrative and other data on employees. Researchers will now use State Unemployment Insurance age records (which combine data on both employees and their employers) to allow, for the first time, data on individual employees to be linked with separate Federal economic data on the firms that employ them. The research plan is first to develop, at the level of the firm, human capital measures such as experience, education, and productivity, and also standard physical capital measures such as equipment, structures, and computers. The project would then consider whether such linked data allow alternative characterization of firms, based on their workforce compositions and worker inflow and outflow, and also on such conventionally-measured attributes as their physical and financial resources. Firms in two key industries, steel and financial services, will serve as case studies. Project Director: Julia Lane, Principal Research Associate.

SELECTED NATIONAL ISSUES, OFFICER GRANTS

Initiative for a Competitive Inner City
Boston, MA 02111

\$30,000

To disseminate the results of the inner-city retailing study to business school audiences. Project Director: Jessie Bourneuf, Senior Vice President, National Business School Network.

Manpower Demonstration Research Corporation
New York, NY 10016

\$30,000

For an exploratory study of the use of interrupted time-series analysis for measuring the effects of group-based programs. Project Director: Howard S. Bloom, Chief Social Scientist.

CIVIC PROGRAM, TRUSTEE GRANTS

Accion New York
Brooklyn, NY 11211

\$518,200

Accion New York's mission is to work with self-employed individuals without access to traditional forms of business credit. It provides loans and other support services to microentrepreneurs, thereby seeking to increase business and family incomes, create jobs, and revitalize the economically disenfranchised neighborhoods of New York City.

Its Board of Directors is comprised of local community, business and banking leaders. Clients typically have low incomes from businesses with very low asset values. The vast majority are Hispanic and over 50% work in the service sector. Since its inception in 1991, ACCION New York has loaned about \$7 million in over 2,000 loans to some 1,000 microbusiness owners. These owners have seen substantial increases in business profits and take-home income. The business model that ACCION New York intends to implement calls for adding eight new loan officers and two support staff, further centralizing loan processing functions, and increasing somewhat the average loan size. If they succeed, they could be economically self-sufficient by the end of 2001. This is not an easy goal, but were it to be achieved the entire outlook of the now philanthropy-oriented microlending industry could be transformed, with widespread results and significant economic benefit to microbusinesses, their owners, and their communities. This grant aims to help the organization grow to a critical size and become financially self-sufficient. Project Director: Terri Ludwig, President and CEO.

Greenpoint Manufacturing and Design Center
Brooklyn, NY 11222

\$1,000,000

A 1998 officer grant helped finance the preliminary work needed to evaluate the feasibility of redeveloping the Greenpoint Terminal Market, a multi-building complex on the East River in Brooklyn. The plan proposed by GMDC for the many abandoned buildings includes space for clean manufacturing, commercial businesses, affordable and market-rate residences, artist lofts, and community recreational facilities. As many as 1,400 permanent jobs as well as a newly landscaped waterfront would be created. The predevelopment work has shown that nothing structural or environmental prevents the project from proceeding. A phased plan has been created to lead, over a five-year period, to the completion of a \$106 million project that has the potential to provide significant benefits to the City. It could also serve as a model that will stimulate other mixed-use projects along the miles of underutilized and derelict waterfront in Brooklyn and Queens. The current grant aims to help GMDC launch this ambitious project. Project Director: David Sweeny, CEO.

Municipal Art Society
New York, NY 10022

\$193,652

New York City is considering comprehensive zoning reform. Among the most controversial issues will be how to treat the large areas of the City that are zoned for manufacturing but are not fully utilized for that purpose. The Municipal Art Society,

aided by the Pratt Institute Center for Community and Environmental Development, will undertake a twelve-month Manufacturing Land Use and Zoning Initiative. The goal is to produce a comprehensive analysis of manufacturing areas of New York City, prepare a report that proposes approaches to zoning reform in areas now zoned for manufacturing or mixed use, and to have this report influence the process of rezoning that will take place over coming years. The MAS will convene a task force of individuals with a wide range of interests and points of view on these issues to serve as the governing board of the effort. Various methods will be used to obtain community and other input. Criteria will be developed for determining which areas are suitable for rezoning to residential, commercial, mixed-use, or for preserving as manufacturing areas. City officials will be invited to participate. A report will be produced and disseminated to public officials, interested organizations, and the general public. Project Director: Jennifer Keller, Manager, Planning Center.

New York City Technical College Fund, Inc.
Brooklyn, NY 11201

\$600,000

A 1998 Foundation grant to the Stage Technology Program at the New York City Technical College helped launch upper level courses in sound technology. The New York entertainment industry's need for technically trained people in sound, lighting, video, and motion control far exceeds the supply. The current grant is part of funding that aims to produce not only a larger teaching program, but also the best program of its kind in the country. Facilities renovation is underway and plans to provide additional space for the program are being implemented. New appointments have been made so the program will have five full-time faculty members. Enrollment rose to 72 in the fall of 1998 and is projected at 120 by 2004. (This does not include part-time learners in special programs being developed with the help of the industry and the New York local of the International Alliance of Theatrical Stage Employees.) Relations with the industry are excellent and an industry advisory committee provides guidance to the Program and help with the development of internships and employment opportunities for students and graduates. Sloan funds, together with those from the College's modest equipment budget and from anticipated industry contributions, will be used to install the most up-to-date high-tech sound, stationary and movable lighting, scenery control, and video equipment needed to ensure the highest possible quality for practical laboratory work. The Program holds great promise for the New York City entertainment industry and for young people who aspire to technical careers within it. Project Director: David Smith, Professor of Sound Technology.

New York New Media Association
New York, NY 10004

\$100,000

NYNMA, the trade association for the growing new media industry in New York City, has plans to significantly enlarge its internship program, which places high school and college students in summer jobs at member companies. Many of these jobs lead to subsequent hiring of the students by the host firms. By growing the program to 200

students annually and receiving fees from participating member companies and annual contributions from corporate partners, NYNMA expects that its costs for operating the program can be covered. This Foundation grant provides two years of support to help NYNMA grow to the point of self-sustainability. Since the number of available jobs in the industry far exceed the supply of summer interns, NYNMA will organize special programs for high school guidance counselors, college placement officers, and others to introduce them to the industry and the kinds of people new media firms are seeking to hire. It will work with high schools to help introduce new media into classroom instruction and prepare students for entry level jobs in the industry, and will reach out to the growing number of college programs training students in aspects of new media technologies. Project Director: Alice O'Rourke, Executive Director.

CIVIC PROGRAM, OFFICER GRANTS

Municipal Art Society of New York **\$30,000**
New York, NY 10022

To fund the creation of a business plan for Design Central, NY. Project Director: Jennifer Keller, Manager of Planning Center.

New School University **\$29,510**
New York, NY 10011

To help finance the revision of the Program in Health Services Management and Policy to address the education and training implications of the changing health care economy of New York City. Project Director: Associate Professor Marianne Fahs, Director, Health Policy Research Center.

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

To support preparation for the launching of a New York Technology Council. Project Director: Dr. Allison de Cerreño, Director of Policy Programs.

Textile/Clothing Technology Corporation **\$30,000**
Cary, NC 27511

To initiate the introduction of short-cycle manufacturing to the New York City garment industry. Project Director: Michael Fralix, Corporate Vice President and Director of Manufacturing and Educational Services.

ADDITIONAL GRANTS

TRUSTEE GRANTS

Council on Foundations Washington, DC 20036	\$45,000
Independent Sector Washington, DC 20036	\$10,500
New York Regional Association of Grantmakers New York, NY 10018	\$10,500
The Foundation Center New York, NY 10003	\$195,000

The Council on Foundations (COF) is the foundation community's national organization, whose mission is to promote responsible and effective philanthropy. It provides publications and research reports, conducts workshops, seminars, and an annual conference, and maintains an active government relations staff. Independent Sector (IS) is mainly concerned with government relations, research on the not-for-profit sector, and leadership and management for not-for-profit organizations. The New York Regional Association of Grantmakers (NYRAG) is one of 29 regional associations of foundations affiliated with the COF. It supplies programs and information focusing on foundation activities in the Greater New York area. The Foundation Center (FC) disseminates information about foundation programs and priorities to grant seekers and the general public. It operates five libraries located in Atlanta, Cleveland, New York, San Francisco, and Washington, and coordinates 200 cooperating collections. It distributes publications, including *The Foundation Directory* and *Foundation Giving* and maintains a computer database on foundation grants. A grantmaker service program provides telephone references, research, and custom computer searches for foundations. The Center's website provides access to information posted on the internet by foundations. The first three of the above grants are for annual membership dues; the fourth is a three-year renewal of support. Project Directors: Dorothy S. Ridings, President, COF; Sara E. Melendez, President, IS; Barbara Bryan, President, NYRAG; Sara L. Englehardt, President, FC.

1999 FINANCIAL REPORT



FINANCIAL REVIEW

The financial statements and schedules of the Foundation for 1999 and 1998, 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 1999 was \$43,176,074, an increase of \$4,866,936 from \$38,309,138 in 1998. After the deduction of investment expenses and provision for federal excise tax, net investment income was \$32,608,389 in 1999 as compared with \$29,115,524 for the prior year. Investment expenses during 1999 totaled \$7,592,685 of which \$6,397,293 represented investment management fees. The provision for Federal excise tax amounted to \$2,975,000. The total of these deductions from investment income in 1999 was \$10,567,685 versus \$9,193,614 in 1998.

Grants authorized (net of grant refunds) and management expenses during 1999 was \$59,564,178, which was \$26,955,789 greater than 1999 net investment income. Of this total, grants authorized (net of refunds) amounted to \$55,076,046 while management expenses were \$4,488,132. Since the Foundation's inception in 1934, the cumulative excess of grants and expenses over the Foundation's net investment income has amounted to \$139.3 million.

Grant payments in 1999 were \$45,995,266 compared with \$40,524,308 for the prior year. Together with management expenses, investment expenses, federal excise taxes paid and other charges, the total of cash expenditures net of grant refunds in 1999 was \$60,717,946 while in 1998 the amount was \$53,539,301.

Grants authorized and payments made during the year ended December 31, 1999 are summarized in the following table:

Grants unpaid at December 31, 1998	\$ 47,063,464
Authorized during 1999	<u>55,341,183</u>
	102,404,647
Payments during 1999	<u>45,995,266</u>
Grants unpaid at December 31, 1999	<u>\$ 56,409,381</u>

The fair value of the Foundation's total assets was \$1,373,911,437 at December 31, 1999 including investments valued at \$1,373,199,238 as compared with total assets of \$1,169,512,005 at December 31, 1998.

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, 1999 and 1998, 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 generally accepted auditing standards. 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, 1999 and 1998, and the changes in its net assets and its cash flows for the years then ended in conformity with generally accepted accounting principles.

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, 1999 and 1998 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the audits of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

KPMG LLP

March 10, 2000

BALANCE SHEETS
DECEMBER 31, 1999 AND 1998

	<u>1999</u>	<u>1998</u>
Assets		
Cash	\$ 712,199	\$ 173,150
Investments:		
Equities	856,758,345	719,976,975
Fixed income	228,890,770	266,200,734
Limited marketability	287,550,123	182,928,750
Total investments	<u>1,373,199,238</u>	<u>1,169,106,459</u>
Other	-	232,396
Total	<u><u>\$1,373,911,437</u></u>	<u><u>\$1,169,512,005</u></u>
Liabilities and Net Assets		
Grants payable	\$ 56,409,381	\$ 47,063,464
Deferred federal excise tax	3,278,344	808,457
Other	193,043	-
	<u>59,880,768</u>	<u>47,871,921</u>
Net assets - unrestricted	<u>1,314,030,669</u>	<u>1,121,640,084</u>
Total	<u><u>\$1,373,911,437</u></u>	<u><u>\$1,169,512,005</u></u>

See accompanying notes to financial statements.

STATEMENTS OF ACTIVITIES
YEARS ENDED DECEMBER 31, 1999 AND 1998

	<u>1999</u>	<u>1998</u>
Investment Income:		
Interest	\$ 26,289,555	\$ 19,477,040
Dividends	16,886,519	18,832,098
	<u>43,176,074</u>	<u>38,309,138</u>
Less:		
Investment expenses	7,592,685	5,672,614
Provision for Federal excise tax	2,975,000	3,521,000
	<u>10,567,685</u>	<u>9,193,614</u>
Net investment income	<u>32,608,389</u>	<u>29,115,524</u>
Expenses:		
Grants authorized (net of refunds of \$265,137 in 1999 and \$363,103 in 1998)	55,076,046	38,072,516
Management expenses	4,488,132	4,130,419
	<u>59,564,178</u>	<u>42,202,935</u>
Excess of expenses over net investment income	<u>(26,955,789)</u>	<u>(13,087,411)</u>
Net gain on disposal of investments	98,321,948	142,012,321
Increase (decrease) in unrealized appreciation of investments, net of deferred federal excise tax	121,024,426	(57,732,221)
	<u>219,346,374</u>	<u>84,280,100</u>
Increase in net assets	192,390,585	71,192,689
Net assets at beginning of year	<u>1,121,640,084</u>	<u>1,050,447,395</u>
Net assets at end of year	<u>\$1,314,030,669</u>	<u>\$1,121,640,084</u>

See accompanying notes to financial statements.

STATEMENTS OF CASH FLOWS
YEARS ENDED DECEMBER 31, 1999 AND 1998

	<u>1999</u>	<u>1998</u>
Cash flows from operating activities:		
Increase in net assets	\$ 192,390,585	\$ 71,192,689
Adjustments to reconcile increase in net assets to net cash used in operating activities:		
Net gain on disposal of investments	(98,321,948)	(142,012,321)
(Increase) decrease in unrealized appreciation of investments	(123,494,313)	58,910,430
Increase (decrease) in deferred federal excise tax	2,469,887	(1,178,209)
Decrease in other assets	232,396	309,040
Increase in other liabilities	193,043	-
Increase (decrease) in grants payable	9,345,917	(2,088,689)
Net cash used in operating activities	<u>(17,184,433)</u>	<u>(14,867,060)</u>
Cash flows from investing activities:		
Proceeds from sales of investments	2,084,696,537	1,380,604,927
Purchases of investments	(2,066,973,055)	(1,365,912,594)
Net cash from investing activities	<u>17,723,482</u>	<u>14,692,333</u>
Net increase (decrease) in cash	539,049	(174,727)
Cash at beginning of year	<u>173,150</u>	<u>347,877</u>
Cash at end of year	<u>\$ 712,199</u>	<u>\$ 173,150</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.

Gains or losses on disposal of investments are determined on the first-in, first-out basis. Fair value for traded securities is based on quoted market prices. Investments of limited marketability are reported at estimated fair values as provided by the managers of the various interests.

2. Investments

Investments at December 31, 1999 and 1998, are summarized as follows:

	1999		1998	
	<u>Cost</u>	<u>Fair Value</u>	<u>Cost</u>	<u>Fair Value</u>
<i>Equities</i>				
Large Capitalization	\$ 397,213,892	\$ 441,905,432	\$ 446,279,317	\$ 485,874,579
Small Capitalization	118,572,377	177,533,075	65,333,084	73,529,527
Non U.S.	177,697,953	236,324,484	172,189,252	160,572,869
Pending equity transactions, net	995,354	995,354	-	-
<i>Fixed Income</i>	146,288,992	141,042,747	260,915,899	266,200,734
Pending fixed income transactions, net	87,848,023	87,848,023	-	-
<i>Limited Marketability</i>				
Real Estate	8,660,118	7,990,591	10,081,880	11,325,308
Private Equity	90,961,266	89,035,795	55,920,959	56,562,007
Hedge Funds	76,500,000	76,500,000	-	-
Other	103,782,438	113,365,227	117,963,200	115,041,435
Pending limited marketability transactions, net	658,510	658,510	-	-
<i>Total</i>	<u>\$1,209,178,923</u>	<u>\$1,373,199,238</u>	<u>\$1,128,683,591</u>	<u>\$1,169,106,459</u>

NOTES TO FINANCIAL STATEMENTS

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, loaned securities and securities sold, not yet purchased.

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, 1999 and 1998.

	December 31, 1999		December 31, 1998	
	Number of <u>Contracts</u>	Value <u>(Millions)</u>	Number of <u>Contracts</u>	Value <u>(Millions)</u>
<i>Index Futures Contract</i>				
<i>S & P 500</i>				
Long	206	\$76.5	5	\$1.6
<i>U.S. Treasury Futures</i>				
Long	159	15.6	1,041	130.4
Short	(338)	(32.4)	(58)	(7.2)
<i>Non-U.S. Index Futures</i>				
Long	-	-	88	5.8
Short	-	-	(180)	(4.2)

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 \$7.5 million at December 31, 1999 and \$8.3 million at December 31, 1998.

In addition, the Foundation's investment advisor engages from time to time in options (puts and calls), swaps, futures and forwards, for the purpose of hedging, risk management and return enhancement or to implement investment strategies in a more efficient manner. The value of these transactions at December 31, 1999 is approximately \$12.1 million and \$20.1 million at December 31, 1998. 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 is held by a third party.

NOTES TO FINANCIAL STATEMENTS

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

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, 1999 were valued at approximately \$25.6 million and \$26.0 million, respectively, and, as of December 31, 1998, at approximately \$21.2 million and \$21.0 million, respectively. Such contracts involve, to varying degrees, risk of loss arising from the possible inability of counterparties to meet the terms of the contract.

Through a securities lending program managed by a custodian firm, the Foundation loans certain stocks and bonds included in its investment portfolio. The custodian firm has indemnified the program. The Foundation's gross securities loaned to certain borrowers at December 31, 1999 and 1998 amounted to \$46 million and \$22 million, respectively.

Securities sold, not yet purchased (\$65.9 million and \$104.3 million at December 31, 1999 and December 31, 1998, respectively) are recorded net in the Foundation's investment accounts. These securities have market risk to the extent that the Foundation, in satisfying its obligations, may have to purchase securities at a higher value than recorded. Required collateral is held by a third party.

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. Federal Excise Tax

The Foundation is liable for federal excise taxes of 2 percent of its net investment income, which includes realized capital gains, for the year. However, this tax is reduced to 1 percent if certain conditions are met. The Foundation did not meet the requirements for the reduced tax for the years ended December 31, 1999 and December 31, 1998. Therefore, current taxes are estimated at 2 percent of the net investment income for 1999 and for 1998. Deferred taxes represent 2 percent of unrealized appreciation of investments at December 31, 1999 and 1998, as qualification for the 1 percent tax is not determinable until the fiscal year in which gains are realized.

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 \$381,726 and \$365,796 in 1999 and 1998 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 \$97,470 and \$94,091 in 1999 and 1998, respectively, on a pay-as-you-go basis.

6. Lease

The Foundation's lease for its office space expired December 31, 1998. 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 other operating expenses. Annual rental expense will be approximately \$632,920; however, as a result of certain rent abatement clauses effective in the initial years of the lease, rent expense for 1999 was \$392,698. In 1998, rent expense amounted to \$391,412.

**SCHEDULES OF MANAGEMENT AND INVESTMENT EXPENSES
YEARS ENDED DECEMBER 31, 1999 AND 1998**

	1999	1998
Management expenses		
Salaries and employees' benefits:		
Salaries	\$2,916,837	\$2,609,297
Employees' retirement plan and other benefits	1,074,543	968,117
Total	3,991,380	3,577,414
Rent	392,698	391,412
Program expenses	598,530	474,593
Office expenses	476,645	541,342
Publications and Website	78,047	55,382
Professional fees	146,224	175,008
Total management expenses	5,683,524	5,215,151
Less management expenses allocated to investments	1,195,392	1,084,732
Management expenses	\$4,488,132	\$4,130,419
Investment expenses		
Investment management fees and expenses	\$6,397,293	\$4,587,882
Management expenses allocated to investments	1,195,392	1,084,732
Investment expenses	\$7,592,685	\$5,672,614