

APPENDIX

NSF Directorates and Management Offices

The Directorate for Biological Sciences (BIO) supports research programs to advance understanding of the underlying principles and mechanisms governing life. Research ranges from the study of the structure and dynamics of biological molecules such as proteins and nucleic acids, through studies of cells, organs, and organisms, to studies of populations and ecosystems. It encompasses processes that are internal to the organism, as well as those that are external, and includes temporal frameworks ranging from measurements in real time, through individual life spans, to the full scope of evolutionary times. Among the research programs BIO supports are fundamental academic research, biodiversity, environmental biology, and plant biology.

The Directorate for Computer and Information Sciences and Engineering (CISE) supports research on the theory and foundations of computing, system software and computer system design, human-computer interaction, as well as prototyping, testing, and developing cutting-edge computing and communications systems to address complex research problems. CISE also provides the advanced computing and networking capabilities needed by academic researchers for cutting-edge research in all science and engineering fields.

The Directorate for Education and Human Resources (EHR) supports a cohesive and comprehensive set of activities that encompass every level of education and every region of the country. EHR promotes public science literacy and plays a major role in the Foundation's long-standing commitment to developing our nation's human resources for the science and

engineering workforce of the future. Focus is given to programs that encourage the participation and achievement of groups underrepresented in science and engineering. NSF-supported education and training programs cover a broad spectrum—from supporting students and teachers, through creating new ways of teaching and learning, to assisting school districts and other systems forge greater gains in learning.

The Directorate for Engineering (ENG) supports research and education activities that spur new technological innovations and create new products and services and more productive enterprises. ENG also makes critical investments in facilities, networks, and people to ensure diversity and quality in the nation's infrastructure for engineering education and research. Funding is included within ENG to meet the mandated level for the Foundation-wide Small Business Innovation Research (SBIR) program. ENG supports research in areas including information technology, nanotechnology, biotechnology, and microelectronics.

The Directorate for Geosciences (GEO) supports research in the atmospheric, earth, and ocean sciences. Basic research in the geosciences advances our scientific knowledge of the Earth and advances our ability to predict natural phenomena of economic and human significance, such as climate change, weather, earthquakes, fish-stock fluctuations, and disruptive events in the solar-terrestrial environment. GEO also supports the operation of national user facilities.



This three-dimensional animation was developed with assistance from the NSF's Small Business Innovation Research program. The virtual signer from the SigningAvatar™ software depicted here can translate English into sign language for display on computer screens.



The Directorate for Mathematical and Physical Sciences (MPS) supports research and education in astronomical sciences, chemistry, materials research, mathematical sciences, and physics. Major equipment and instrumentation such as telescopes and particle accelerators are provided to support the needs of individual investigators. MPS also supports state-of-the-art facilities that enable research at the cutting edge of science and research opportunities in totally new directions.

The Directorate for Social, Behavioral, and Economic Sciences (SBE) supports research to build fundamental scientific knowledge about human behavior and interaction and social and economic systems, organizations, and institutions. SBE also facilitates NSF's international activities by promoting partnerships between U.S. and foreign researchers and enhancing access to critical research conducted outside the United States. To improve understanding of the science and engineering enterprise, SBE supports Science Resource Statistics, the nation's primary source of data on the science and engineering enterprise.

The Office of Polar Programs (OPP), which includes the U.S. Polar Research Programs and the U.S. Antarctic Logistical Support Activities, supports multidisciplinary research in the Arctic and Antarctic regions. The polar regions are geographic frontiers that provide premier natural laboratories and unique research opportunities, ranging from studies of the earth, ice, and oceans to research in atmospheric sciences and astronomy.

The Office of Budget, Finance, and Award Management (BFA) is headed by the Chief Financial Officer, who has responsibility for budget, financial management, grants administration and procurement operations, and related policy. Budget responsibilities include the development of the Foundation's annual budget, long-range planning, and budget operations and control. BFA's financial, grants, and other administrative management systems ensure that the Foundation's resources are well managed and that efficient, streamlined business and management practices are in place. NSF has been an acknowledged leader in the federal research administration community, especially in its pursuit of a paperless environment that provides more timely, efficient awards administration.

The Office of Information and Resource Management (OIRM) provides information systems, human resource management, and general administrative and logistic support functions to the NSF community of scientists, engineers, and educators as well as to the general public. OIRM is responsible for supporting staffing and personnel service requirements for staff members including visiting scientists; NSF's physical infrastructure; dissemination of information about NSF programs to the external community; and administration of NSF's sophisticated technological infrastructure, providing the hardware, software, and support systems necessary to manage the Foundation's grant-making process and to maintain advanced financial and accounting systems.

APPENDIX

NSF Executive Staff

Office of the Director

Rita R. Colwell, Director

Joseph Bordogna, Deputy Director

National Science Board

Eamon M. Kelly, Chair

Marta Cehelsky, Executive Officer

Office of Equal Opportunity Programs

Ana A. Ortiz, Program Manager

Office of the General Counsel

Lawrence Rudolph, General Counsel

Office of the Inspector General

Christine C. Boesz, Inspector General

Office of Integrative Activities

Nathaniel G. Pitts, Director

Office of Legislative and Public Affairs

Curtis Suplee, Director

Office of Polar Programs

Karl A. Erb, Director

Directorate for Biological Sciences

Mary E. Clutter, Assistant Director

Directorate for Computer and Information Sciences and Engineering

George Strawn, Acting Assistant Director

Directorate for Education and Human Resources

Judith A. Ramaley, Assistant Director

Directorate for Engineering

Esin Gulari, Acting Assistant Director

Directorate for Geosciences

Margaret S. Leinen, Assistant Director

Directorate for Mathematical and Physical Sciences

Robert A. Eisenstein, Assistant Director

Directorate for Social, Behavioral, and Economic Sciences

Norman M. Bradburn, Assistant Director

Office of Budget, Finance, and Award Management

Thomas N. Cooley, Director

Office of Information and Resource Management

Linda P. Massaro, Director

NSF Officers

Chief Financial Officer

Thomas N. Cooley (Office of Budget, Finance, and Award Management)

Chief Information Officer

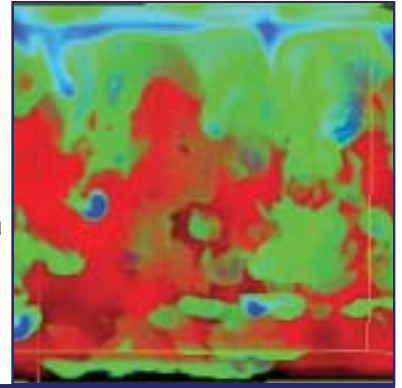
Linda P. Massaro (Office of Information and Resource Management)

NSF Affirmative Action Officer

Ana A. Ortiz (Office of Equal Opportunity Programs)



Robert Stein, a Michigan State University physics professor, used the NSF-funded National Computational Alliance's supercomputer to create massive models of portions of the sun to simulate the processes—such as the entropy fluctuations shown here—behind the sun's smaller-scale features. Using these models, Stein and his colleagues focused on understanding convection and magnetic flux near the solar surface.



National Science Board

Chairman

Eamon M. Kelly
President Emeritus and Professor
Payson Center for International
Development and Technology Transfer
Tulane University

Vice Chair

Anita K. Jones
Quarles Professor of Engineering and
Applied Science
Department of Computer Science
University of Virginia

Members

John A. Armstrong
Vice President for Science and
Technology
IBM (Retired)

Nina V. Fedoroff
Willaman Professor of Life Sciences,
Director, Life Sciences Consortium,
and Director, Biotechnology Institute
The Pennsylvania State University

Pamela A. Ferguson
Professor of Mathematics
Grinnell College

Mary K. Gaillard
Professor of Physics
University of California at Berkeley

M.R.C. Greenwood
Chancellor
University of California at Santa Cruz

Stanley V. Jaskolski
Vice President and Chief Technology
Officer
Eaton Corporation (Retired)

George M. Langford
Professor, Department of Biological
Science
Dartmouth College

Jane Lubchenco
Wayne and Gladys Valley Professor of
Marine Biology and Distinguished
Professor of Zoology
Oregon State University

Joseph A. Miller, Jr.
Senior Vice President for Research and
Development and Chief Technology
Officer
E.I. du Pont de Nemours and Company

Diana S. Natalicio
President
The University of Texas at El Paso

Robert C. Richardson
Vice Provost for Research and
Professor, Department of Physics
Cornell University

Michael G. Rossmann
Hanley Distinguished Professor of
Biological Sciences
Department of Biological Sciences
Purdue University

Vera C. Rubin
Staff Member, Department of Terrestrial
Magnetism
Carnegie Institution of Washington

Maxine Savitz
General Manager
Honeywell and Technology Partnerships

Luis Sequeira
J.C. Walker Professor Emeritus
Department of Bacteriology and Plant
Pathology
University of Wisconsin at Madison

Daniel Simberloff
Nancy Gore Hunger Professor of
Environmental Science
Department of Ecology and
Evolutionary Biology
University of Tennessee

Bob H. Suzuki
President
California State Polytechnic University

Richard Tapia
Professor, Department of Computational
and Applied Mathematics
Rice University

Chang-Lin Tien
University Professor and NEC
Distinguished Professor of
Engineering
Department of Mechanical Engineering
University of California at Berkeley

Warren M. Washington
Senior Scientist and Head,
Climate Change Research Section
National Center for Atmospheric
Research

John White, Jr.
Chancellor
University of Arkansas at Fayetteville

Mark S. Wrighton
Chancellor
Washington University at Saint Louis

Rita R. Colwell, *Member Ex Officio* and
Chair, Executive Committee
Director, National Science Foundation

Marta Cehelsky
Executive Officer
National Science Board

NSF-funded researchers Lincoln Pratson and William Haxby are studying the geological forces at work on the continental margins. This computer-generated image of the Oregon coast depicts the coming together of two of the Earth's crustal plates. Pratson and Haxby's analysis of geological forces is providing new tools that will assist companies considering oil or gas exploration and those laying transcontinental cables.

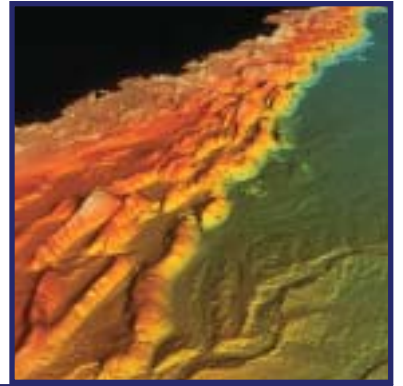


PHOTO CREDITS

- On the cover | Pictor
- Page 3 | Sam Kittner
- Page 5 | Photo courtesy of CERN
- Page 7 | Photo by W. Farrington from Abolhassan Astaneh-Asl's report to the National Science Foundation
- Page 11 | From the work of the Nanopore Research Group, Harvard University, © Dana Sigall, 2001
- Page 12 | Photo courtesy of the High Performance Wireless Research and Education Network (<http://hpwren.ucsd.edu>)
- Page 17 | NSF Collection
- Page 18 | University of Washington/Woods Hole Oceanographic Institution
- Page 19 | Peter Howard
- Page 20 | Martin Yanofsky, University of California, San Diego
- Page 21 | Peter West, National Science Foundation
- Page 23 | Sam Kittner
- Page 24 | Photo courtesy of Gemini Observatory
- Page 29 | vCom3D, Orlando, Florida
- Page 31 | Robert Stein, Michigan State University and Aake Nordland Observatory, Copenhagen University, Denmark. Calculations performed at the National Center for Supercomputing Applications, Michigan State University, and the University of Denmark.
- Page 32 | Lincoln Pratson and William Haxby/Lamont-Doherty Earth Observatory

