



PEER PROGRAM OVERVIEW

History, Purpose, Significance & Future



Dr. Jessica Robin, PEER Program Director, National Science Foundation



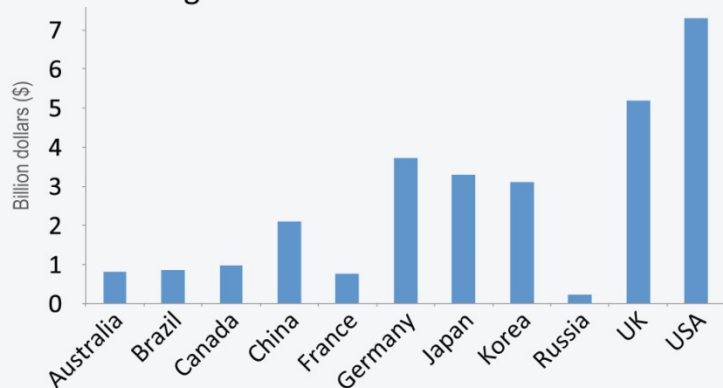


National Science Foundation

NATIONAL MISSION, INTERNATIONAL IMPACT

With an annual budget of over \$7 billion, the National Science Foundation has a mandate to support all fields of basic science and engineering, as well as research into STEM education. Because of this comprehensive commitment to science, NSF has helped keep our nation at the forefront of scientific discoveries for more than six decades, and those discoveries have had worldwide impact.

NSF Compared to Worldwide Funding by Government Agencies*



NSF Beyond Borders



Graduate Research Opportunities Worldwide (GROW) enables Graduate Research Fellows to work with university faculty and researchers across the globe.

Total countries partnered with = 22

Science Across Virtual Institutes (SAVI) facilitates partnerships among NSF-supported U.S. scientists and engineers and their international partners for enhanced research collaboration, data sharing, networking, and technical exchanges.

Total countries partnered with = about 19

Partnerships for Enhanced Engagement in Research (PEER) is a USAID-funded program that provides opportunities for scientists in developing countries to work with NSF-funded scientists at U.S. institutions. 98 projects in 42 countries

Basic Research to Enable Agricultural Development (BREAD) is an NSF partnership with the Bill & Melinda Gates Foundation to support innovative basic research addressing constraints to smallholder agriculture in the developing world.

Total countries partnered with = 17

Nobel Prizes

210



COLLECTIVELY, NSF-FUNDED RESEARCHERS HAVE WON MORE THAN 210 NOBEL PRIZES FOR WORK IN THE FIELDS OF CHEMISTRY, ECONOMICS, PHYSICS AND PHYSIOLOGY AND MEDICINE SINCE 1951.

Merit Review



THE NSF MERIT REVIEW PROCESS IS CONSIDERED THE INTERNATIONAL GOLD STANDARD FOR EVALUATING SCIENCE AND ENGINEERING RESEARCH PROPOSALS

* Source: Approximations based on FY2015, or most recent fiscal year, budget reported by each research agency



National Science Foundation

GOLD STANDARD IN MERIT REVIEW

Research proposals submitted to NSF are subjected to a rigorous merit review system – impartial, competitive, and transparent – ensuring that each proposal meets the highest standards of intellectual merit and broader impact on society. NSF’s merit review process is widely regarded as the gold standard of scientific review and has been emulated in numerous countries around the world.

\$7.3 billion NSF FY 2015 Budget Request

94% Funds research, education and related activities

INPUT



50,000

Proposals evaluated through competitive review process



38,000

Reviewers, including external experts and program staff



233,000

Total number of reviews, each proposal evaluated multiple times

OUTPUT



10,800

Competitive awards funded



1,922

U.S. colleges, universities, and other institutions receiving NSF funding



299,000

Estimated number of researchers, postdoctoral fellows, trainees, teachers and students NSF supports directly

IMPACT



47,800

Students supported by NSF Graduate Research Fellowships since 1952



210+

Number of Nobel Laureates supported by NSF



NSF-Supported Research

has spurred economic activity and improved the quality of life for all Americans



STEM Workforce Development

supports students, teachers and tools to enable the development of a diverse and highly qualified science and technology workforce

Figures other than Budget Request represent FY 2013 actuals



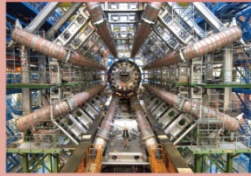
NSF GLOBAL PRESENCE

In a changing world full of opportunity, multidisciplinary research and international cooperation in science are more important than ever. With major scientific collaborations in all corners of the world, NSF continues to oversee global scientific exchanges and lead U.S. participation in international scientific efforts. We can only imagine what new discoveries this innovation and collaboration will spark in the years to come.

OBSERVATORIES



OFFICE & INSTRUMENTS



EDUCATION



INTERNATIONAL PARTNERSHIPS



POLAR



COLLABORATIONS





SYNERGY BETWEEN NSF & USAID

NSF

- Congressional mandate is **scientific research**
- Primary client is the **US science community**
- Funding is allocated to **US institutions**
- **Merit review** for research proposals is fundamental

MOU

USAID

- Congressional mandate is **foreign assistance**
- Primary clients are **developing countries**
- Funding flows to **foreign partner** and/or US institution
- Bureaus, regions, and missions need **buy-in**



NSF & USAID ACTIVITIES BEFORE PEER

- **U.S. scientific community advocated for resources to balance partnerships with their international collaborators**
- **Prior jointly supported activities**
 - **Supporting Infrastructure Reconstruction (Haiti)**
 - **Geospatial Technologies & Biodiversity (Kenya)**
 - **Climate 1-Stop Geoportal (Panama)**
 - **Earthquake Monitoring (Malawi)**
 - **Recession of Tropical Glaciers (Peru)**
 - **Geophysical Hazards Workshop (Costa Rica)**



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*Mathematical &
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*Social,
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 Economic Sci. (6)*

June 2014



HOW PEER BENEFITS U.S. SCIENCE

- **Unique access to facilities and sites**
- **Strengthens collaborations between U.S. and international researchers**
- **Workforce development**



*Abandoned South African Gold Mine
(Photo courtesy of Dr. Tutu)*



Dr. Burton Mwamila makes a presentation at The National Academies in Washington, D.C. (Photo courtesy Dr. Najib)



*U.S. Graduate Student
Meghan Miller in Kenya*



PUSHING THE FRONTIER FORWARD

NSF remains on the leading edge of discovery in areas from astronomy to geology to zoology. As Vannevar Bush forecast at NSF's inception: "The pioneer spirit is still vigorous within this nation. The rewards of such exploration both for the nation and the individual are great. Scientific progress is one essential key to our security as a nation, to our better health, to more jobs, to a higher standard of living, and to our cultural progress."

FIGHTING FUTURE FOREST FIRES



UNLOCKING THE BRAIN'S MYSTERIES



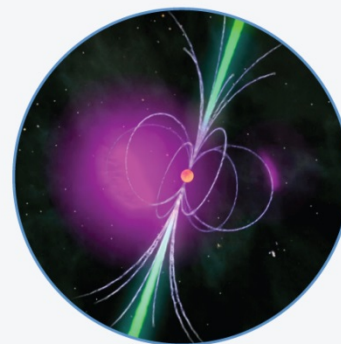
SAVING LIVES ON A RESTLESS PLANET



PROTECTING PASSWORDS WITH ADVANCED ALGORITHMS



DNA FINGERPRINTING



INVOLVING CITIZEN SCIENTISTS IN TOMORROW'S DISCOVERIES



EDUCATING TOMORROW'S HIGH-TECH TEACHERS



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