

Research and Education Collaboration Across the Atlantic

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Office of International Science and
Engineering

The US National Science Foundation



International Collaborations: HOW?



Mechanisms

Formal agreements
Bi-, multi-laterals, joint programs, agreements



Cultivation

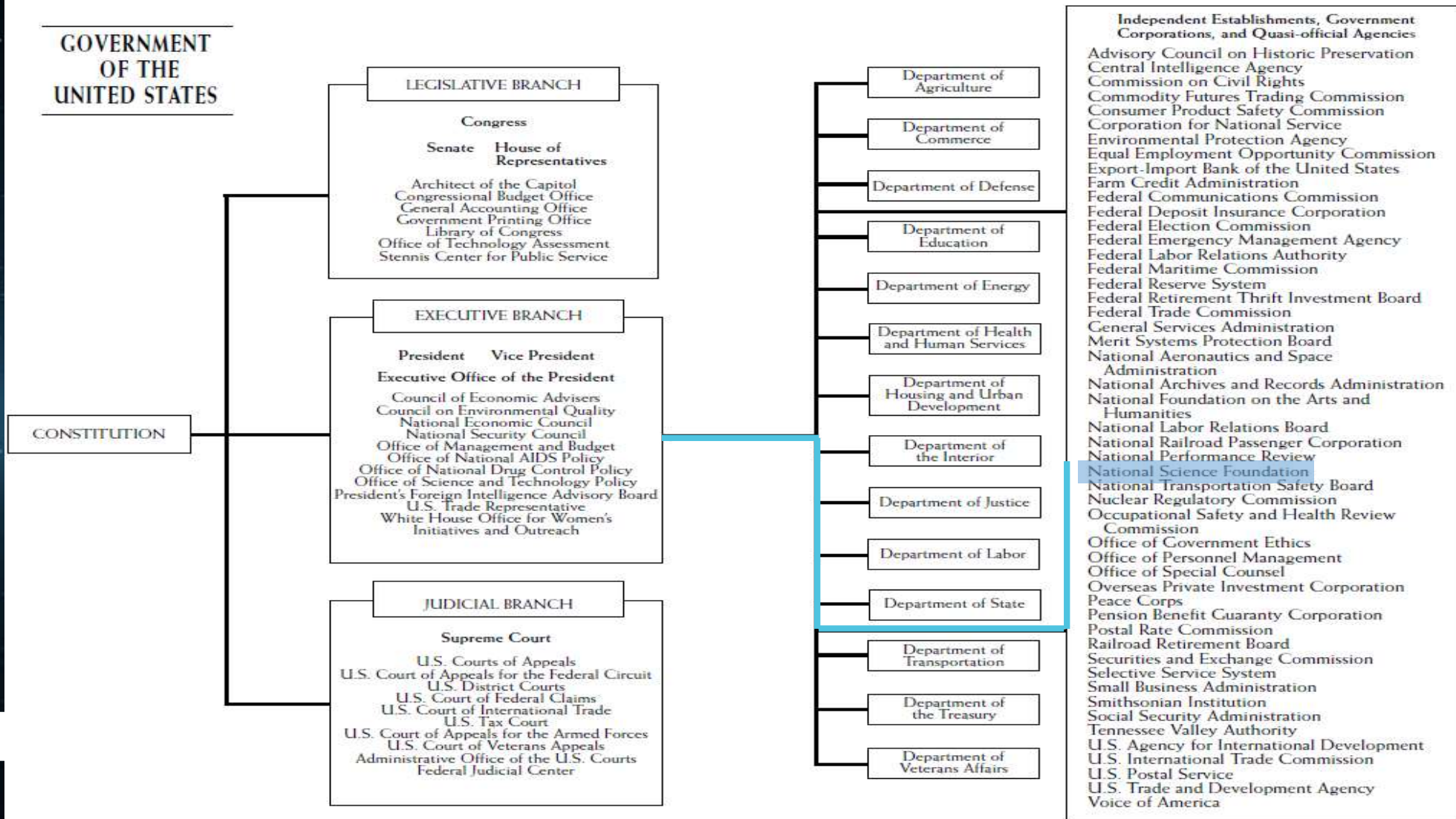
Informal interactions
PI-PI, mobility, workshops, supplements



Shared Values

Security, Openness
Trust, ethics, open sharing of data, samples, field and lab science

NSF in the U.S. Federal Government





Engagement in Global Multilateral Fora





May 6-7, Bologna

RESEARCH 7 +
(R7+)

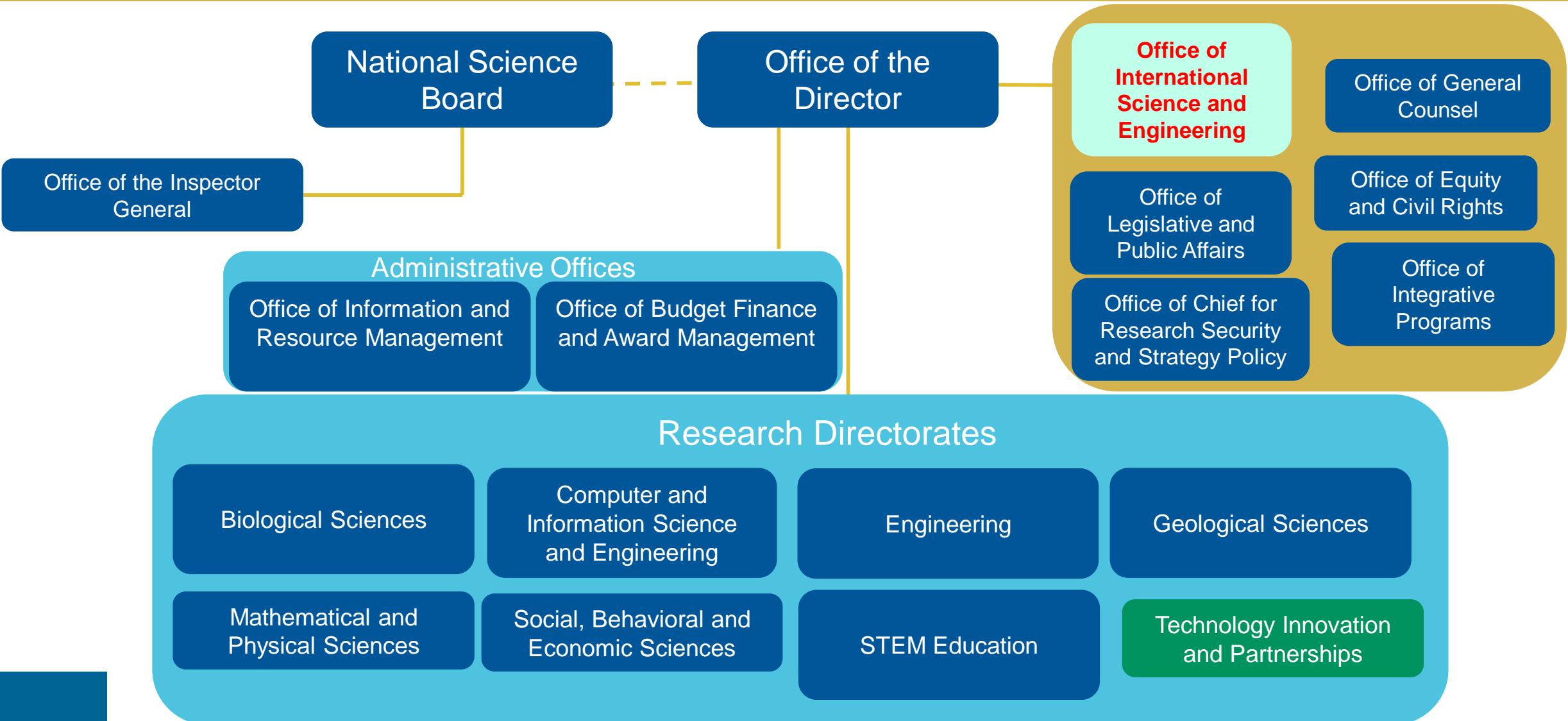
Research Performing Organizations and Funding Agencies:

- **Maria Chiara Carrozza**, President CNR – Consiglio Nazionale delle Ricerche (Italy)
- **Frances Wood**, Director International UKRI – UK Research and Innovation (UK)
- **Alejandro Adem**, President, NSERC – Natural Sciences and Engineering Research Council (Canada)
- **Salla Saastamoinen**, Deputy Director General, JRC – Joint Research Centre (European Union)
- **Antoine Petit**, President CNRS – Centre National de la Recherche Scientifique (France)
- **Holger Hanselka**, President Fraunhofer (Germany)
- **Makiko Naka**, Executive Director RIKEN (Japan)
- **Eloisa Del Pino**, President CSIC - Consejo Superior de Investigaciones Científicas (Spain)
- **Jessica Robin**, Deputy Head of Office of International Science and Engineering, NSF- National Science Foundation (USA)

AI



OISE in NSF





NSF Directorates

“To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense...”



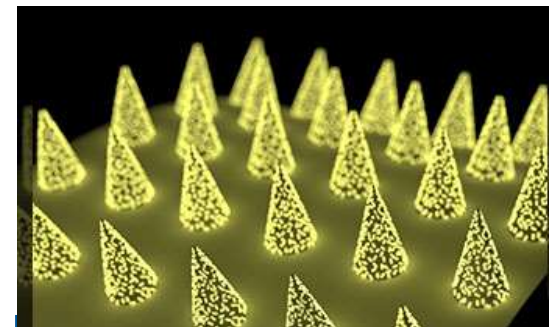
Biological Sciences



**Computer & Information
Science & Engineering**



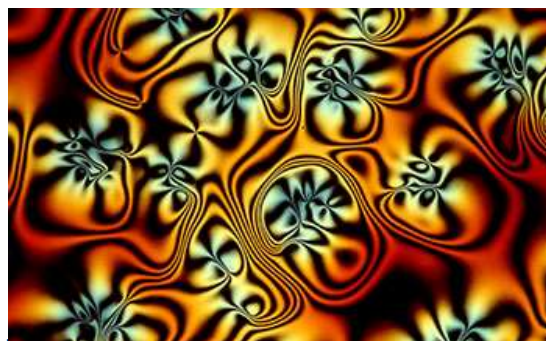
**Education &
Human Resources**



Engineering



**Geosciences (including
Polar)**



**Mathematical & Physical
Sciences**



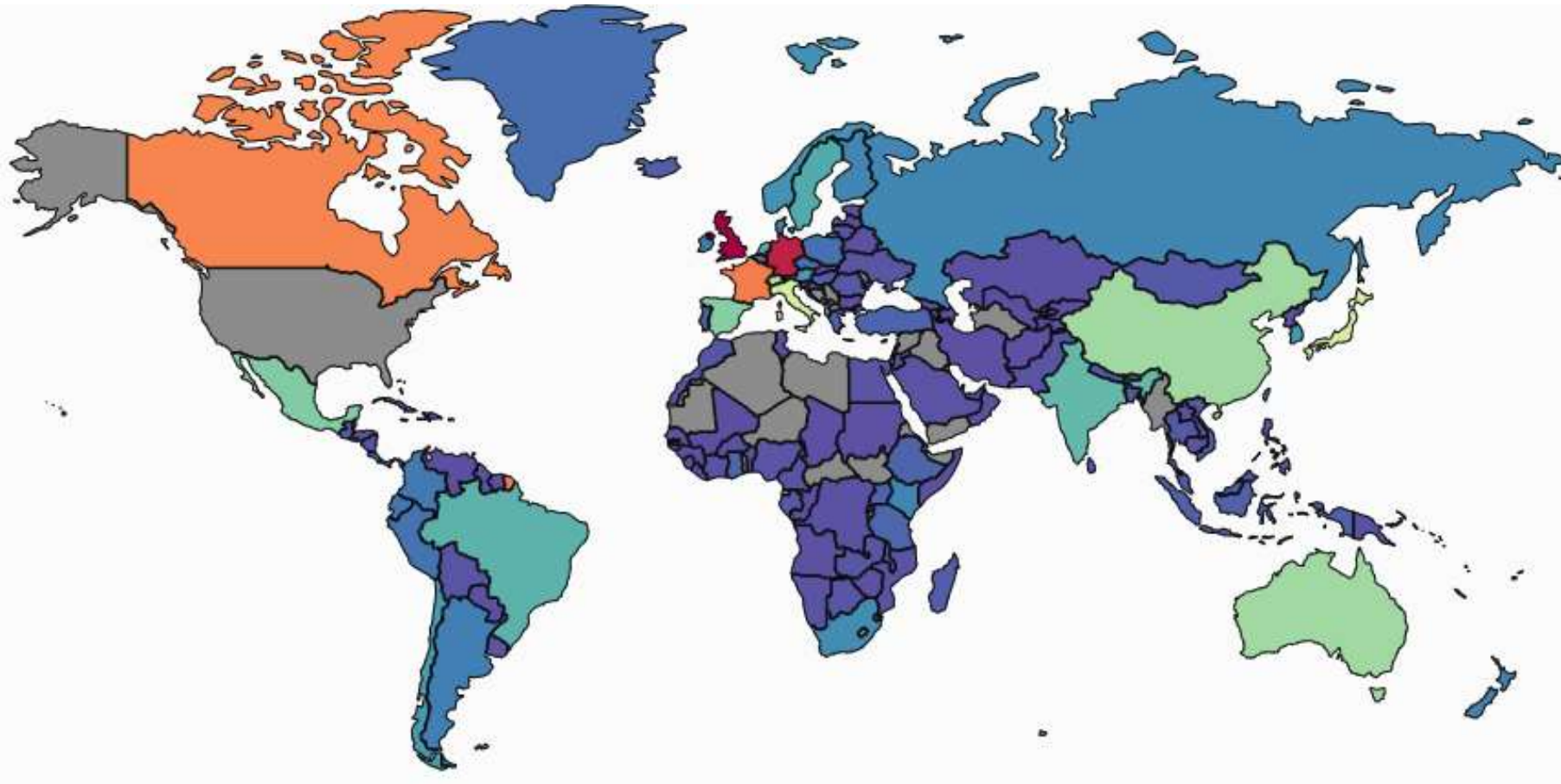
**Social, Behavioral &
Economic Sciences**



**Technology, Innovation,
Partnerships**

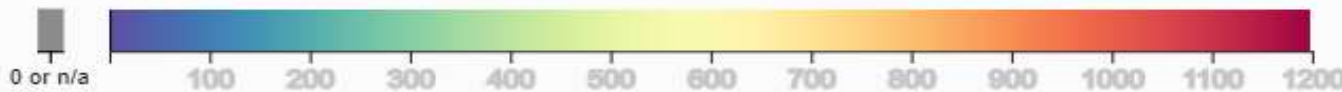


NSF Awards with Collaborative International Activities (FY 2018-2023)



Top 15 Countries

1095	United Kingdom
1039	Germany
858	France
840	Canada
420	Italy
412	Japan
345	Switzerland
345	Israel
317	China
317	Australia
272	Spain
263	Mexico
211	India
197	Brazil
1189	Netherlands
179	Sweden

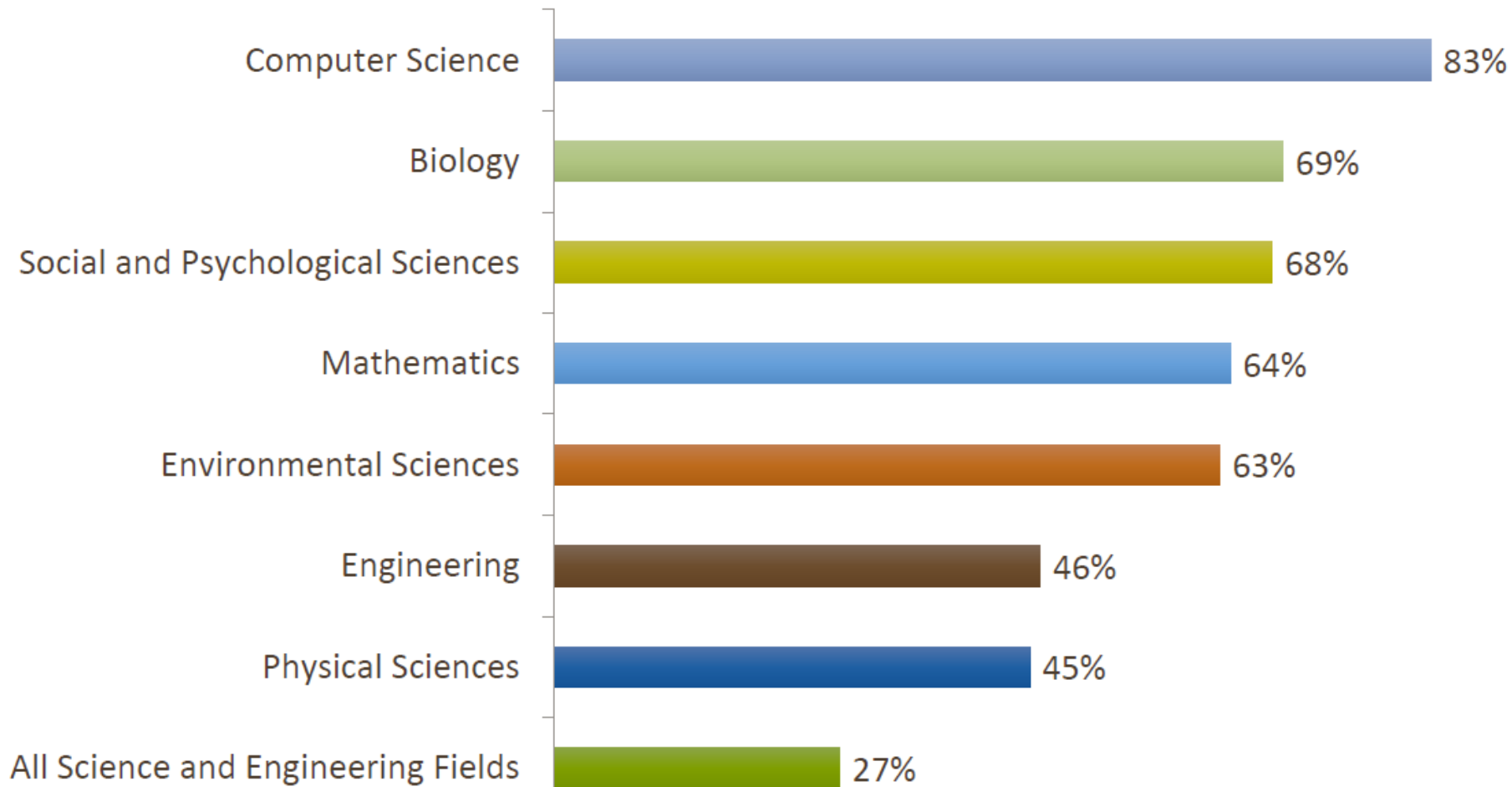




NSF Support of Academic Basic Research

(as a percentage of total Federal support)

NSF funds approximately one-quarter of all Federally supported basic research conducted by U.S. colleges & universities.



Note: Biology includes Biological Science and Environmental Science. Biology and Psychological Sciences exclude National Institutes of Health funding from the total amount of federal support.
Source: NSF/National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development



NSF Proposal and Review Process



Announce
Funding
Opportunities



Review
Proposals:
1. Intellectual
Merit
2. Broader
Impacts



Issue Awards



Office of International Science & Engineering

OISE catalyzes international collaborations that create new, different, and innovative pathways to:



Advance the frontiers of research



Open opportunities for students and researchers



Garner access to research infrastructure and instruments to enable discovery



Encourage learning everywhere

OISE: International Collaboration through Programs and Diplomacy

IRES

International Research Experiences for Students

AccelNet

Cooperation and Coordination Actions

Global Centers

Use-inspired research through annual multilateral arrangements

**Bilaterals
Multilaterals:
LEAD AGENCY
OPPORTUNITY**

Workshops

**Joint
Solicitations**

Supplements



More than 75% of international collaborations are PI-PI without formal arrangements

It is extremely rare for NSF to provide funds for the international component. Collaborators are enlisted as “unfunded,” on the budget submitted to the NSF.



NSF Funding of Foreign Entities and People

In cases where the proposer considers the foreign organization or individual's involvement to be essential to the project and proposes to provide funding through the NSF budget (through a subaward or consultant arrangement), **the proposer must explain why support from the foreign counterpart's local sources is not feasible and why the foreign organization or foreign individual can carry out the activity more effectively than a U.S. organization or U.S. individual.**

The proposed activity must demonstrate how one or more of the following conditions have been met:

- The foreign organization or foreign individual contributes unique expertise, organizational capability, facilities, data resources, and/or access to a geographic location not generally available to U.S. investigators (or which would require significant effort or time to duplicate); and/or
 - The foreign organization or foreign individual offers significant science and engineering education, training, or research opportunities to the U.S.
-
- **Such information must be included in the project description section of the proposal.**
 - **The box for "Funding of a Foreign Organization or Foreign Individual" must be checked on the Cover Sheet if the proposal includes funding for a foreign organization or foreign individual.**



<https://www.nsf.gov/od/oise/IntlCollaborations/index.jsp>

International Collaboration Opportunities at NSF

Research and education in science and engineering benefit immensely from international cooperation. NSF enables and encourages U.S. scientists, engineers, and their institutions to avail themselves of opportunities to enhance their research and education programs through international cooperation. NSF also provides opportunities for future generations of U.S. scientists and engineers to gain the experience and outlook they will need to function productively in an international research and education environment.

Below are examples of current international collaborations. Please contact the corresponding country Program Director [here](#) for information on other opportunities.

- [Canada](#) Dear Colleague Letter: NSF and NSERC Collaborative Research Opportunities in Artificial Intelligence and Quantum Science ([NSF 22-031](#))
 - [Czech Republic](#)
 - [European Union](#) Dear Colleague Letter: Research Collaboration Opportunity in Europe for NSF Awardees ([NSF 22-056](#))
 - [France](#)
 - [India](#) Dear Colleague Letter: Special Guidelines for Submitting Collaborative Proposals under U.S. National Science Foundation (NSF) and the Department of Biotechnology (DBT) of India Collaborative Research Opportunities ([NSF 24-054](#))
 - [Ireland](#) Dear Colleague Letter: United States-Ireland-Northern Ireland R&D Partnership ([NSF 20-064](#))
 - [Israel](#) Dear Colleague Letter: U.S.-Israel Binational Science Foundation (BSF) Collaboration/NSF-BSF ([NSF 20-094](#))
 - [Italy](#) Dear Colleague Letter: NSF-Italian Ministry of Universities and Research Lead Agency Opportunity on Artificial Intelligence ([NSF 24-055](#))
 - [Nordic Region](#) Dear Colleague Letter: Nordic-U.S. Research Collaboration on Sustainable Development of the Arctic ([NSF 24-070](#))
 - [Romania](#) Dear Colleague Letter: NSF and the Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI) Lead Agency Opportunity in the Mathematical Sciences ([NSF 23-132](#))
 - [Switzerland](#) Dear Colleague Letter: NSF-Swiss NSF Lead Agency Opportunity ([NSF 23-049](#))
 - [Ukraine](#) Dear Colleague Letter: International Multilateral Partnerships for Resilient Education and Science System in Ukraine (IMPRESS-U) ([NSF 23-135](#))
 - [United Kingdom](#) (UK) Dear Colleague Letter: US-UK Research Collaboration under the NSF-UKRI Engineering and Physical Sciences Research Council Lead Agency Opportunity ([NSF 23-128](#))
- Multiple Countries
- Dear Colleague Letter: International Collaboration Supplements in Quantum Information Science and Engineering Research ([NSF 22-108](#))
 - Collaboration with Australia, Canada, Germany, [Japan](#), the Netherlands, South Korea, and the UK are of particular interest.

Other Resources

International Counterparts: [Africa and East](#) | [Americas](#) | [East Asia Pacific](#) | [Europe](#)
[OISE Regional & Country Contacts](#)



NSF 23-135 Dear Colleague Letter: International Multilateral Partnerships for Resilient Education and Science System in Ukraine (IMPRESS-U)

Estonia: Estonian Research Council (ETAG),
Latvia: Latvian Council of Science (LCS),
Lithuania: Research Council of Lithuania (LT),
Poland: National Science Centre (NCN) and Polish National Agency for Academic Exchange (NAWA),
Ukraine: National Research Foundation of Ukraine (NRFU),
USA: National Academy of Sciences (NAS),
USA: Office of Naval Research Global (ONRG) and private donors and foundations.



NSF 24-070 Dear Colleague Letter: Nordic-U.S. Research Collaboration on Sustainable Development of the Arctic

- Research Council of Norway (Norway)
- Research Council of Finland (Finland)
- Swedish Research Council (Sweden)
- Swedish Research Council for Sustainable Development, Formas (Sweden)
- Independent Research Fund Denmark (Denmark)
- Research Council Faroe Islands (Faroe Islands)
- Greenland Research Council (Greenland)
- Icelandic Center for Research, Rannis (Iceland)
- Social Sciences and Humanities Research Council (Canada)

- BIO – debquestions@nsf.gov
- GEO – nsfgeo-nordforsk@nsf.gov
- SBE – nsfsbe-nordforsk@nsf.gov
- EDU – nsfedu-nordforsk@nsf.gov



International Research Experiences for Students

People



NSF 24-506

IRES

Workshops

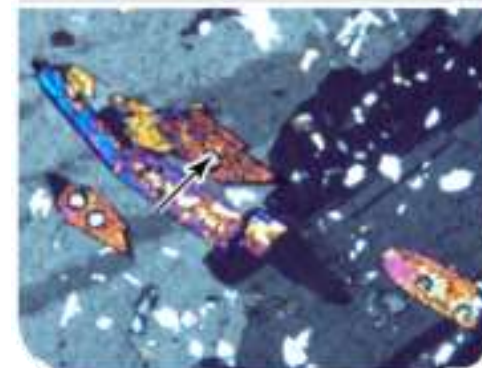


Field Institutes



Example: researchers from Spain, France, and Germany, in addition to Italy, in research work on the West Alps

Publications





NSF 23-619

- International research networks that *cooperatively identify and coordinate efforts* to address knowledge gaps, research needs
- Design Track: \$300K for 1-2 years
- Implementation Phase 1, \$1.5M for 3-4 years
- Implementation Phase 2, \$350K for 1-2 years
- Deadlines
 - September 16, 2024
 - Third Monday in September, Annually Thereafter





Global Centers

NSF 24-556

- Use-Inspired Research Addressing Global Challenges through the Bioeconomy
- Supports collaborative international teams to conduct research in partnership with funding agencies in Canada, Japan, Republic of Korea, Finland and the United Kingdom.
- Deadline: June 11, 2024
- 2023 was: Use-Inspired Research Addressing Global Challenges in Climate Change and Clean Energy





Partnerships for International Research & Education



2022 final year of PIRE as OISE evolves to a new model for larger-scale, global engagement on global challenges.

- Advance Climate Change/Clean Energy (CC/CE) Research
- Build CC/CE Workforce
- Facilitate U.S. leadership on CC/CE
- Prime the community for anticipated future NSF opportunities in CC/CE



MoUs: Focused, Umbrella
Supplements

Administrative Arrangements
Workshops

Lead Agency Opportunities

Thank you!

stekinay@nsf.gov

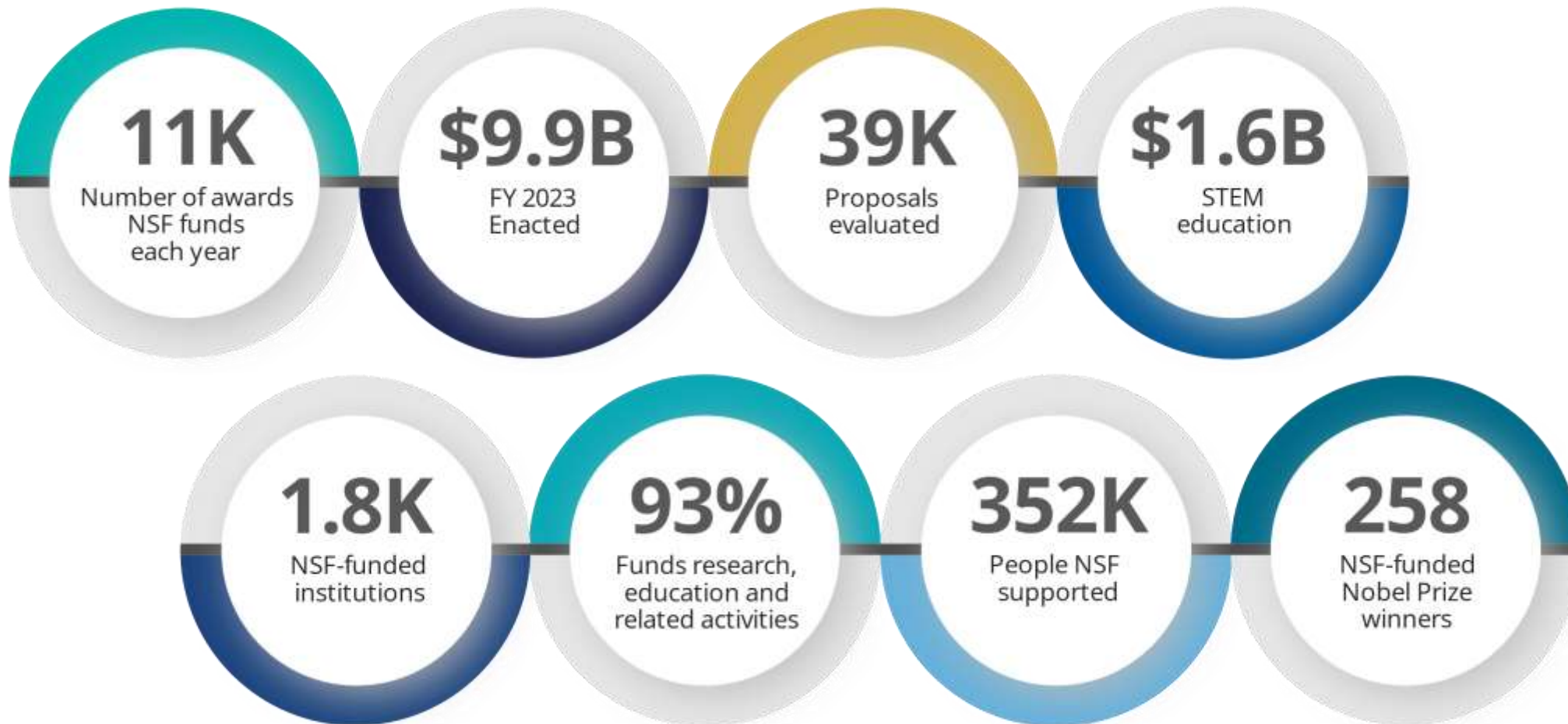




BACKUP INFORMATION



NSF by the Numbers





NSF Vision

A nation that leads the world in science and engineering research and innovation, to the benefit of all, without barriers to participation.



**ADVANCING THE
FRONTIERS OF
SCIENCE**



**ENSURING
ACCESSIBILITY
AND INCLUSION**

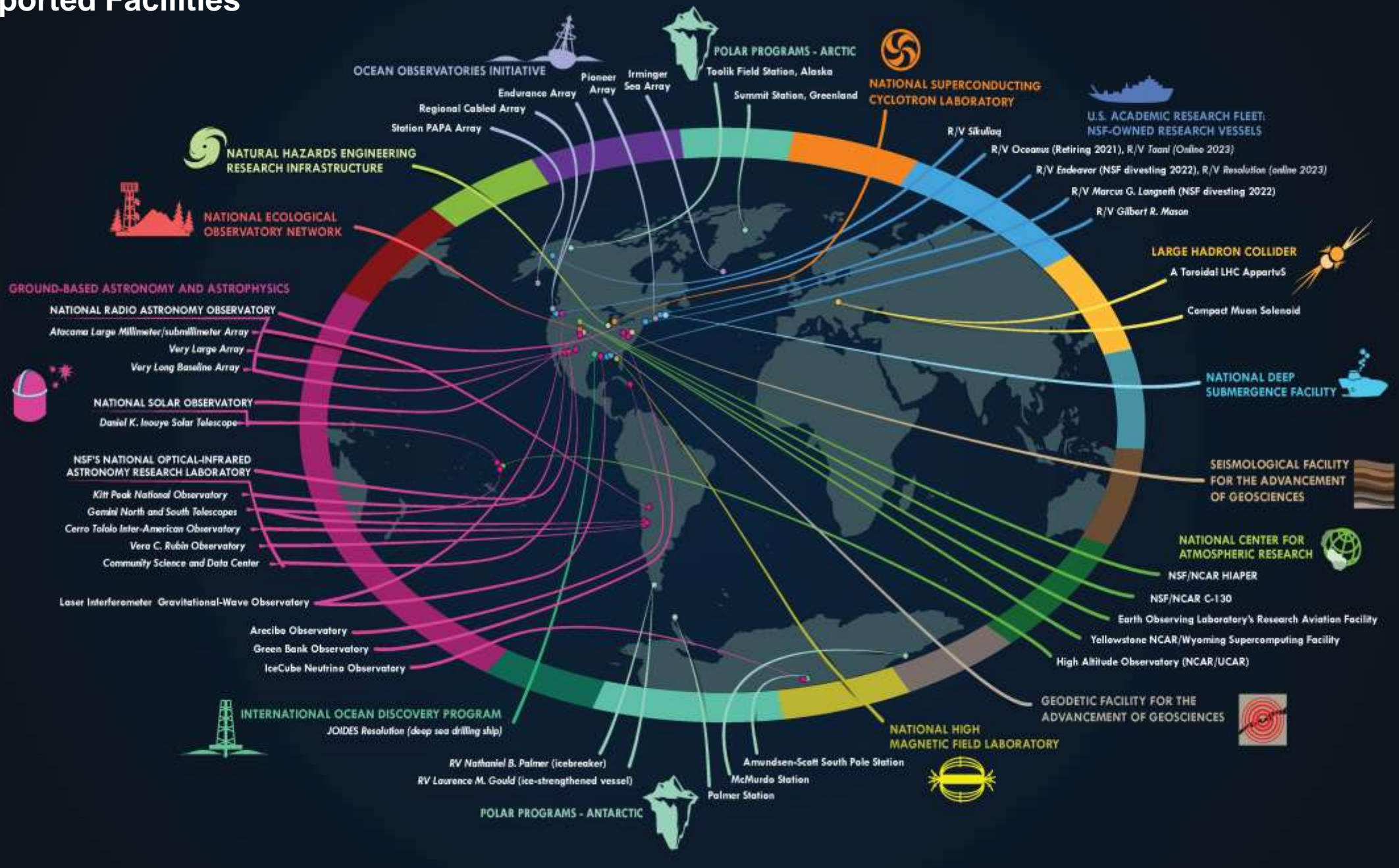


**SECURING U.S.
GLOBAL
LEADERSHIP**

INNOVATION

PARTNERSHIPS

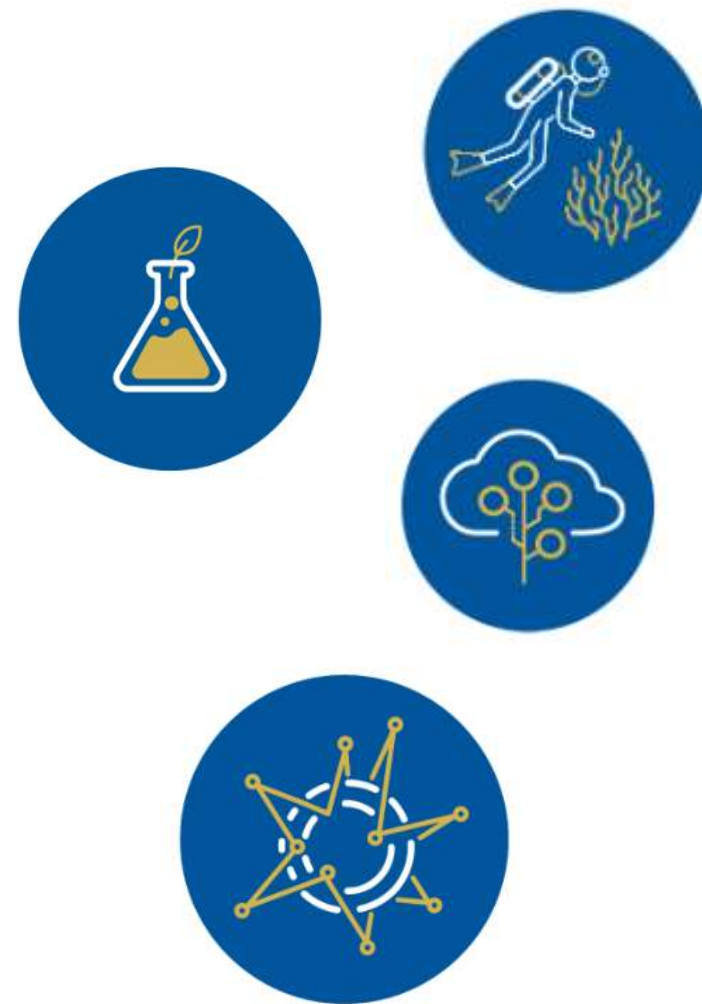
NSF supported Facilities





Core Values for International Engagement

- International collaboration enhances research & education
- Intellectual partnerships with reciprocal benefit
- Networks that link expertise and leverage resources
- Opportunities for U.S. students, early career researchers to engage in international research
- Commitment to openness, data sharing





Challenges to International Collaboration



Differing agency processes, criteria, policies, guidelines, constraints



Non-synchronous program cycles



Differing national priorities



What NSF Looks for in International Engagement

Promoting the development of a globally engaged science and engineering workforce

Facilitating and supporting beneficial international research partnership

Providing opportunities for U.S. leadership to shape the global science and engineering agenda



Lead Agency Opportunity

WHAT

U.S. and foreign researchers collaborate on a single proposal that undergoes a single review process at a single (lead) agency.

WHY

Promote international collaboration by reducing some barriers and uncertainty researchers may encounter.

HOW

Lead agency makes funding recommendation. Non-lead agency honors recommendation. Researchers supported by their country's agency.

Existing Lead Agency Opportunities		
Country	Topics	Directorates/Offices
Australia	AI; Convergence Accelerator	CISE
Canada	AI, Quantum	CISE, ENG
Czech Republic	AI, Cybersecurity, Nanotechnology, Plasma Science	CISE, ENG, MPS, SBE
Finland	AI; Digital Precision Cancer Medicine; Wireless Communication Technologies	CISE
France	Chemistry; Physics-Molecular & Cellular Biosciences Interface; CISE Core Programs (small); Quantum	BIO, CISE, MPS
Germany	Advanced Manufacturing; Cybersecurity; Geosciences; Measurements of Interfacial Systems; Molecular and Cellular Biology; Physics	BIO, CISE, ENG, GEO, MPS
India	Semiconductors, Advanced Wireless Technology, Quantum, Cybersecurity, Intelligent Transportation, Biotech	CISE, ENG, GEO, TIP
Ireland/Northern Ireland	Nanoscale Science & Engineering; Sensors & Sensor Networks; Telecommunications; Energy & Sustainability; Cybersecurity; C2C	BIO, CISE, EDU, ENG, GEO, MPS, SBE
Israel	Multiple	BIO, CISE, ENG, GEO, MPS, SBE
Romania	Mathematical Sciences	MPS
Switzerland	Multiple	BIO, GEO, MPS, SBE
Taiwan	Earth Sciences; Advanced Chip Engineering Design and Fabrication	GEO, ENG
UK	Multiple	BIO, ENG, GEO, MPS, SBE



Finding Funding

The screenshot shows the NSF website header with the logo and tagline "National Science Foundation WHERE DISCOVERIES BEGIN". In the top right, there is an "Operating Status" indicator showing "ALERT" with a warning triangle, and links for "Contact" and "Help". A search bar is also present. Below the header is a navigation menu with items: "Research Areas", "Funding", "Awards", "Document Library", "News", and "About NSF". A yellow arrow points to the "Funding" menu item. Below the navigation is a green "ALERT" banner with a close button. The alert text reads: "Read the latest information from NSF on coronavirus (COVID-19)" and "Read statement on deadline extensions and flexibilities." Below the alert is a featured content area with two main sections. The left section is titled "STEM LEARNING HAPPENS HERE" and features an image of a museum exhibit with the text "Museum of the Earth, Ithaca, NY" and the hashtag "#NSFStories". The right section is titled "SCIENCE MATTERS" and "Unsung insect heroes" with a "FULL STORY" button. Navigation arrows are visible on the left and right sides of the featured content area.



OISE Country Points of Contact



Contact | Help

Search



- NSF
- Research Areas
- Funding
- Awards
- Document Library
- News
- About NSF

Office of International Science and Engineering (OISE)

Office of International Science and Engineering (OISE) Home

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Building research infrastructure to advance science and engineering research and education across the nation

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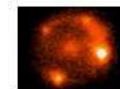


US signs agreement on enhancing international Arctic scientific cooperation

MAY 12, 2017

International Research Experiences for Students (IRES) Solicitation Modification

MAY 9, 2017



Gravitational lensing of a "standard candle" supernova imaged for the first time

APRIL 20, 2017

[See All >](#)

OISE Staff by Country

International at NSF