Promoting and Protecting the U.S. Science and Engineering Enterprise

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NSF Virtual Grant Conference

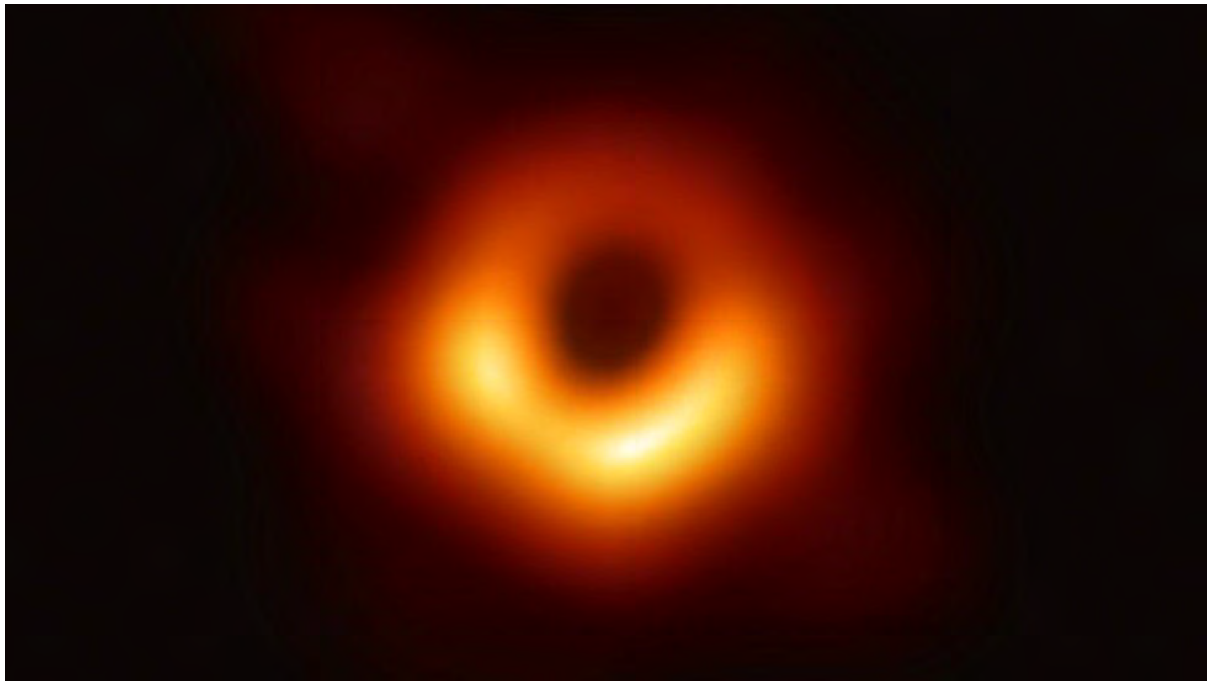
International Collaboration

International Science is Frontier Science

PRINCIPLED INTERNATIONAL COLLABORATION IS CRITICAL TO SUCCESS

White House Office of Science and Technology Policy | JCORE

- Enables cutting-edge research that no nation can achieve alone
- Strengthens scientific & diplomatic relations
- Leverages resources, including funding, expertise, and facilities
- Trains a robust S&T workforce capable of solving global problems
- International students and scholars contribute significantly to the U.S. research enterprise



In April 2019, a global collaboration of scientists at 60 institutions operating in 20 countries and regions captured the first ever image of a black hole.

Photo credit: NSF, The Event Horizon Telescope Collaboration

Reference: Elizabeth E. Lyons, E. William Colglazier, Caroline S. Wagner, Katy Börner, David M. Dooley, C. D. Mote Jr., and Mihail C. Roco, “How Collaborating in International Science Helps America ” Science & Diplomacy, Vol. 5, No. 2 (June 2016).

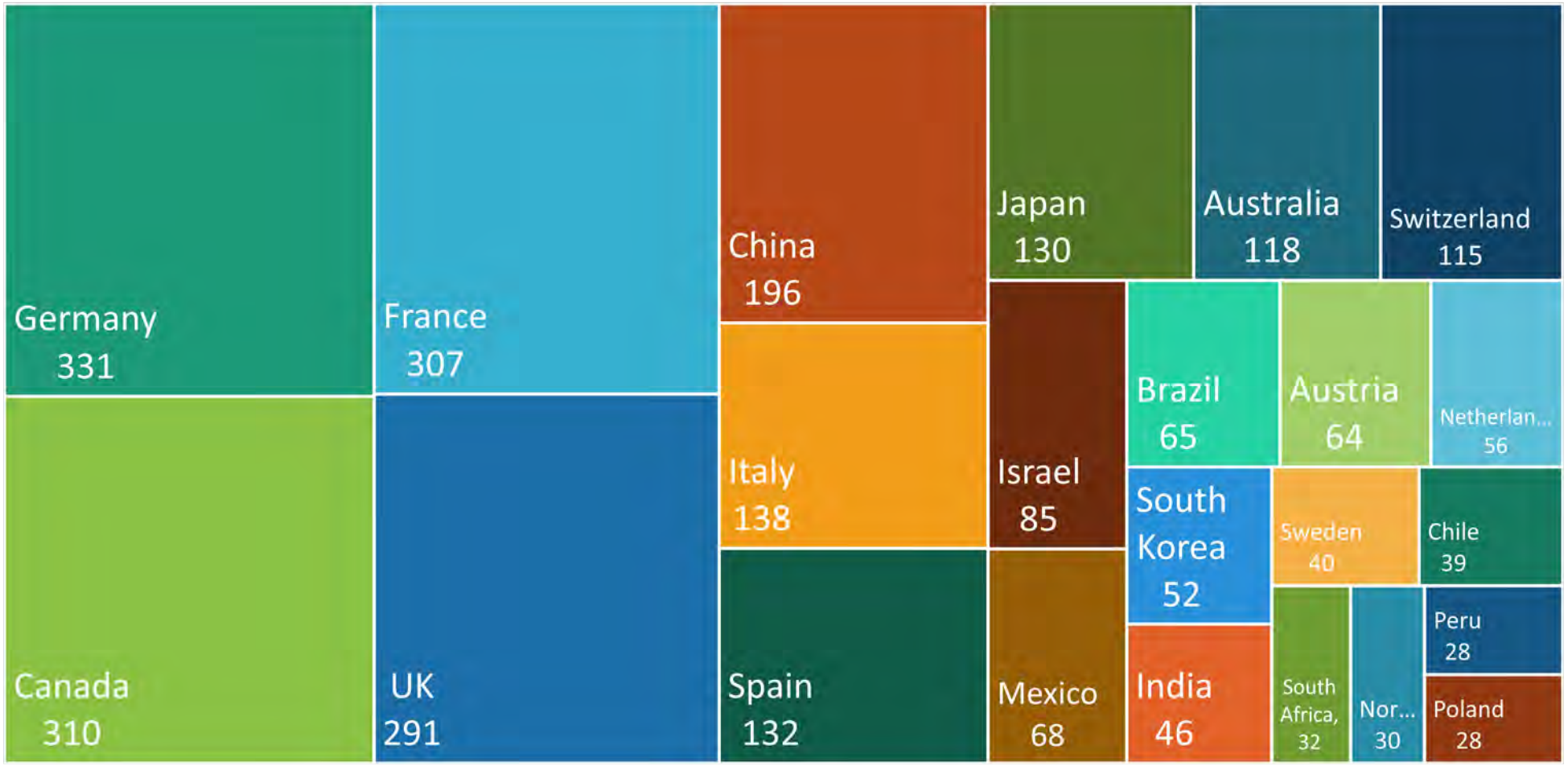
What Does International Collaboration Look Like?

- International scientific research collaborations with transparent and reciprocal exchanges for mutual benefit
- Leveraging of complementary skills, facilities, sites, and resources
- Exchange of personnel when clear intellectual contributions are identified, and organizational affiliations and sources of funding are transparent
- International collaboration benefits the scientific enterprise

Improper foreign government interference ≠ International collaboration

NSF Supports International Collaborations

FY 2019 NSF Awards Involving International Activity
Top 25 Partners Countries with Award Numbers



NSF's Commitment to Integrity in Research

Risks to U.S. Science and Security in a Global Research Ecosystem

Research Integrity:

- Conflicts of interest / commitment
- Confidentiality of merit review process
- Protection of pre-publication data

Science and Security Goals at NSF

- Maintain the vibrant science and engineering community which relies on collaborations both globally and domestically
- Promote the norms, principles, and values of openness, transparency, and reciprocal collaboration
- Balance the open environment with the needs of security
- Better understand the risks, including the scale and scope
- Take action to mitigate risks
- Share knowledge and best practices

NSF Actions

Ensuring the Integrity of Federally-Funded Research

- Coordination with U.S. Government interagency partners
- Creation of new NSF position, Chief of Research Security Strategy and Policy (CRSSP)
- Improved transparency/clarification for disclosure
- Partner with the Office of the Inspector General on incidents
- Risk assessment and analysis
- Communication and awareness with the scientific community

Foreign Talent Recruitment Programs

The Issue

- Open scientific exchange faces challenges from programs sponsored by some foreign governments and affiliates
- Select programs disregard intellectual and other proprietary rights
- Such recruitment programs threaten to compromise the transparency, openness and integrity of scientific research by:
  - Targeting U.S. researchers, scientists and the academic community
  - Reflecting state-sponsored attempts to acquire U.S. funded scientific research
  - Holding researchers to contractual commitments unbeknownst to the U.S. government

Example Talent Plan Contract Terms:
Publication, Outside Funding, Patent, and Recruitment Requirements

- "The **first author and primary affiliation of these papers will be [xxx Chinese university]**."
- "Party B (researcher) should lead the team to **obtain overall research funding that equals or exceeds 10 million RMB ($1.4M US) from outside** of [xx Chinese university]"
- "Party B (researcher) will develop at least one lead compound that shows promise as a pre-clinical candidate and **achieve a number of patents**."
- "Party B [researcher] will…hire at least one professor who has won **recognition in the 'National Outstanding Young Scientist Fund' program** or two professors that have or will **receive 'One Thousand Talent Program for Youth' funding**."
- "Total number and the quality of papers in these two research areas shall rank in the top 5 among the same disciplines in the country [China]."

Note: This NSF-funded researcher is a full-time tenured professor at a prominent US university.

Key Proposal and Award Policies and Procedures

NSF Commitment

to Information Disclosure in Grant Proposals

- Clarifications added to current and pending support coverage as well as other changes throughout the document, such as biographical sketch
- Appointments section in biographical sketch must include any titled position *whether or not* payment is received
- Senior personnel must identify all **current** domestic or foreign "professional appointments" outside of the individual's proposing organization
- Information must be provided for all current and pending support

Policy Implementation
Biographical Sketch

- Appointments section must include any titled academic, professional, or institutional position whether or not remuneration is received
- Synergistic Activities must be specific and may not include multiple examples to describe a single activity

Policy Implementation
Current & Pending Support

- NSF uses the information to assess the capacity of the individual to carry out the research as proposed as well as to help assess any potential overlap/duplication
- Information must be provided for all current and pending support irrespective of whether such support is provided through the proposing organization or directly to the individual
- Project or in-kind contributions without a time commitment are not required to be reported in Current and Pending Support

Post-Award Information Disclosure

- As of **October 5**, awardees have an obligation to inform NSF within 30 days of becoming aware of the failure to disclose
- If an organization discovers that a PI or co-PI on an active NSF award **failed to disclose** current support or in-kind contribution information as part of the proposal submission process, **the AOR must submit this information**
- Organizations have **30 calendar days** to submit undisclosed current support or in-kind contribution
- NSF may consult with the AOR, or designee, if necessary, and determine the **impact of the new information on the NSF-funded grant**, and, where necessary, take appropriate action.

International Collaboration on Large Facilities

Term and Condition

1. **Consideration of New Collaborations with Non-US Organizations** - Awardee must provide the NSF PO and GAO with advanced written notification of any potential collaboration with non-US organizations or governments in connection with its NSF-funded award scope. The awardee must then await further guidance from NSF.
2. **Existing Collaborations with Non-US Organizations** – Awardee must provide a written list of all existing foreign collaborations in connection with its NSF-funded award scope, detailing the scope of the agreement, participants, duration, location, and the value or level of effort provided by the awardee.
3. **Description of Collaborations that Should Be Reported** - A collaboration involves a thing of value to, or from, the NSF facility or awardee, which includes all resources made available to, or from, the awardee in support of and/or related to the NSF award, regardless of whether or not they have monetary value.

The White House and Intergovernmental Activities

Joint Committee on the Research Environment (JCORE)

In May 2019, the National Science and Technology Council (NSTC) established JCORE to address issues related to research environment safety, integrity, and productivity.

JCORE examines:

- Rigor and integrity in research
- Safe, inclusive, and equitable research settings
- Open research environments balanced with security
- Administrative burdens on federally-funded research

Source: SUMMARY OFTHE2019WHITE HOUSESUMMIT OFTHEJOINT COMMITTEE ONTHE RESEARCH ENVIRONMENT(JCORE), Nov. 2019

JCORE Subcommittee on Research Security

- Forum for substantive interface and coordination among White House, Departments, and Agencies with different roles in research security
- Subcommittee Actions:
  - Developing guidance for Federal departments and agencies
  - Developing best practices for universities and other research institutions
  - Letter from OSTP Director to the United States Research Community
  - Developing education and outreach materials that highlight examples of risks to research

Harmonizing Efforts Among Agencies

- Standardizing processes – e.g., Current and Pending Support fillable form template – developed by NSF and shared among other agencies
- Analytical tools – Information exchanges on use of analytics and most effective tools for better understanding what datasets and analytics methods can help in addressing emerging security challenges
- Synthesizing information – e.g., Defining "research integrity" as related to science and security in the academic community to clarify misconceptions of term between different segments of the research and security space