Statement of Allison C. Lerner
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before the

Committee on Science, Space, and Technology
Subcommittee on Investigations and Oversight and
Subcommittee on Research and Technology
U.S. House of Representatives

concerning

"Balancing Open Science and Security in the Research Enterprise"

October 5, 2021

Chairman Foster, Chairwoman Stevens, Ranking Member Obernolte, Ranking Member Waltz and distinguished members of the Subcommittees:

I appreciate this opportunity to discuss the National Science Foundation (NSF) Office of Inspector General's (OIG) response to challenges posed to NSF by foreign government talent recruitment programs. My office is committed to safeguarding the Foundation's programs and operations and to providing rigorous, independent oversight of NSF.

Background

NSF is an independent federal agency and the funding source for approximately 27 percent of all federally supported basic research conducted by the nation's colleges and universities. In many areas, such as mathematics and computer science, NSF is the major source of federal funding. The Foundation funds approximately 12,000 new awards each year in furtherance of its mission to promote the progress of science. Proposals for funding are assessed by panels of experts as part of NSF's merit review process.

Awards are made primarily as grants to individuals and small groups of investigators, as well as to research centers and facilities where scientists, engineers, and students undertake research projects. The Foundation also uses cooperative agreements and contracts to fund major research equipment such as telescopes, Antarctic research sites, and high-end computer facilities. In FY 2021, NSF was appropriated approximately $8.5 billion to carry out the Foundation's programs and operations and collectively has an active award portfolio of more than $32 billion annually.

The OIG is independent from NSF and reports directly to Congress and the National Science Board (NSB). Our mission is to conduct independent and objective audits, inspections, reviews and investigations of NSF programs and operations, and to recommend policies and corrective actions to promote effectiveness and efficiency and prevent and detect waste, fraud, and abuse. Consistent with our statutory mandate, the OIG has an oversight role and does not determine

policy or engage in management activities involving the Foundation or program operations. Thus, my office is not responsible for managing any NSF programs, nor do we attempt to assess the scientific merit of research funded by the Foundation.

The OIG has two main components: the Office of Audits and the Office of Investigations. The Office of Audits is responsible for auditing NSF's internal operations, as well as the grants, contracts, and cooperative agreements funded by the Foundation. Among its ongoing responsibilities are the annual audits of NSF's financial statements and the annual reviews of NSF's information system security program.

The Office of Investigations is responsible for investigating allegations of wrongdoing involving NSF programs and operations, agency personnel, and organizations or individuals who submit proposals to, receive awards from, or conduct business with NSF. It also houses a team of investigative scientists responsible for investigating allegations of fabrication, falsification, and plagiarism in NSF-funded research. We focus our investigative resources on the most serious cases, as measured by such factors as the amount of money involved, the seriousness of the alleged criminal, civil, or ethical violations, and the strength of the evidence. When appropriate, the results of these investigations are referred to the Department of Justice for possible criminal prosecution or civil litigation, or to NSF for administrative resolution.

Challenges Posed by Researchers' Membership in Foreign Government Talent Recruitment Plans and OIG's Response

My testimony today will focus on three questions related to this issue:

- Why is it important for NSF to know whether a researcher seeking funding is a member of a foreign government talent recruitment program?
- How is OIG responding to the challenges posed by researchers' undisclosed affiliations with foreign government talent recruitment plans? and
- What opportunities and challenges does OIG see in responding to this threat?

An effective response to this challenge is essential to the integrity of NSF's investments in the research enterprise. My answers to these questions seek to clarify the impact of this challenge and demonstrate the seriousness with which my office is responding to it.

Why is it important for NSF to know whether a researcher seeking funding is a member of a foreign government talent recruitment program?

Safeguarding the U.S. research enterprise from threats of inappropriate foreign influence is of critical importance. Recent reports by the U.S. Government Accountability Office and others have noted challenges faced by the research community to combat undue foreign influence, while maintaining an open research environment that fosters collaboration, transparency, and the free exchange of ideas.

NSF, and other agencies that fund research, continue to face challenges from foreign government talent recruitment programs. According to the Office of Science and Technology Policy, a

foreign government sponsored talent recruitment program is an effort directly or indirectly organized, managed, or funded by a foreign government to recruit science and technology professionals in targeted fields. Although membership in a foreign government talent recruitment program is not illegal, it is important for NSF to know about a researcher's membership in such programs because some foreign government talent recruitment programs elicit unethical and possibly criminal behaviors. Members of these plans are often required to enter into contractual relationships with a foreign government, which strongly favor the foreign government's interests over the researcher's. In exchange for funding and maybe even a lab for the researcher, the foreign government exerts control over the researcher's intellectual property, the types of research she conducts and, in some cases, where she conducts it, and who works in her lab. Some contracts contain significant penalties if the researcher fails to live up to her obligations. Examples of some of the provisions we have seen in such contracts include:

- A requirement that any intellectual property (IP) or data product developed during the life of the contract be transferred to the foreign government or its related entities even if the foreign government/related entities did not fund the effort that resulted in the IP or data product.
- A requirement that the researcher's publications acknowledge the foreign organization first, prior to, or sometimes instead of the U.S. organization with which the researcher is affiliated or their U.S. funding agency.
- A provision that allows the foreign government or related entity to terminate the relationship at any time but precludes the researcher from ending the relationship except in extraordinary circumstances.
- A provision which requires the researcher to commit to publishing a specified number of papers in top journals, which creates pressure on the researcher to focus on the quantity rather than quality of their publications.
- Provisions which require the researcher to recruit other faculty members into the talent program and to use particular graduate students affiliated with the talent program or foreign research institution in his/her projects.

In order for NSF to address possible conflicts of interest, conflicts of commitment, questions about control over the researcher's intellectual property, or other concerns posed by these provisions, it must be aware of the researcher's membership in such a plan. NSF's Proposal and Award Policy and Procedures Guide, or PAPPG, provides very specific guidance on what the Foundation's expectations are for individuals seeking funding. The PAPPG's disclosure requirements related to a researcher's current and pending support, which are required to be completed for all NSF proposals, are quite broad and clearly cover most talent plan affiliations. According to the PAPPG:

> [c]urrent and pending support includes **all resources made available to an individual in support of and/or related to all of his/her research efforts, regardless of whether or not they have monetary value**. Current and pending support also includes **in-kind contributions (such as office/laboratory space, equipment, supplies, employees, and students**. (Emphasis added)

In addition,

> [c]urrent and pending support information must be provided for this project, for ongoing projects, and **for any proposals currently under consideration from whatever source, irrespective of whether such support is provided through the proposing organization or is provided directly to the individual**. (Emphasis added)

Detailed information about a researcher's membership in a foreign government talent recruitment plan allows NSF to assess the impact of that relationship on the research it might fund, including potential overlap between research funded by NSF with research being funded by other institutions and foreign talent plans. NSF can also assess whether applicants who are talent plan members have enough time to commit to the grant they are seeking, an important question as many foreign talent contracts require the member to spend a significant amount of time working on behalf of their foreign employment position, sometimes overseas. If a person seeking NSF funding is required to spend time working in a foreign lab or on research funded by a foreign entity, that should be clear to the agency when that proposal is being considered. NSF can also determine whether IP provisions in the talent plan contract could undermine its investment in the proposed research.

Ultimately, NSF uses information provided through this process to inform its decision to accept or decline grant proposals. With the Foundation's overall funding rate for 2020 at 28 percent, ensuring the accuracy of information provided by applicants (and identifying when information that should have been provided was omitted) is essential to the integrity of the funding process. A researcher's failure to provide all requested information, including information about membership in a foreign talent plan, is not a minor matter—it distorts the competitive process, disadvantages applicants who play by the rules, and undermines the Foundation's ability to make the best decisions about how to deploy its limited resources.

How has OIG responded to the challenge posed by researchers who fail to disclose their membership in foreign talent plans?

We have used our in-depth expertise in combating grant fraud to contribute to the government-wide response to this challenge.

<u>OIG's experience fighting grant fraud</u>.

As noted at the beginning of this statement, NSF provides funding, usually in the form of grants, to institutions of higher learning and other entities to enable their employees to conduct basic research in most non-medical scientific disciplines. In FY 2021 it received approximately $8.5 billion, over $7 billion of which went to institutions across the US that are engaged in scientific research. Pursuant to federal law, the Foundation must also devote a small percentage of its external research funding to research conducted by small businesses.

At NSF OIG, our primary investigative focus is on grant fraud involving researchers whose work is funded by NSF and our agents are experts in this field. In situations where individuals have defrauded multiple federal funding agencies, you will often see our agents and investigative attorneys leading the case, even if other agencies lost much more money.

Grant fraud can occur in a host of different circumstances:

- If a recipient claims that he is working more than half of his time on an NSF-funded project, as required, but we find evidence that he is employed full-time elsewhere.
- If a recipient indicates that specific individuals worked on his project and were paid with project funds, but we find that the individuals were not associated with the project and were not paid.
- If a recipient pays her children tens of thousands of dollars to work on a project over the course of an award and we find that the children were in elementary and middle school.
- If a recipient uses grant funds to renovate his house or to pay his son's college tuition.

Each of these examples comes from one of our cases—and, many times, from more than one.

The tools we use to fight grant fraud are almost as varied as the scenarios in which we encounter it. Our criminal cases most commonly involve a combination of violations of 18 USC 1001, False Statements, and 18 USC 1343, Wire Fraud, but we might also charge violations of 18 USC 371, Conspiracy to Defraud the Government, or 18 USC 666, Theft of Program Funds. Our civil cases usually involve violations of 31 USC 3729, the False Claims Act. Some cases settle, while others go to trial. In criminal cases we have undertaken, subjects have been sentenced to jail time and restitution. Civil cases can result in subjects being required to pay treble damages, along with substantial fines and penalties.

We also use administrative remedies in our efforts to protect NSF funds, including during the pendency of criminal and civil investigations. As soon as we have sufficient evidence, we make recommendations to NSF about actions it can take to protect its investment in research. For example, when appropriate, we provide the Foundation with information that supports the suspension or termination of awards involved in our investigations. As our investigation continues and when the evidence we have gathered raises questions about the present responsibility of a researcher, we make recommendations to NSF to suspend the researcher government-wide. And at the end of a case, when appropriate, we provide NSF with evidence sufficient to support debarring a subject researcher for a set period. The latter two actions are extremely serious, as they prevent the researcher from receiving not just NSF funds but funds from any federal government agency during the period of suspension or debarment.

<u>OIG's investigative approach to cases involving foreign talent recruitment plans.</u>

When it came to deciding our investigative response to the risks posed by membership in foreign government talent recruitment plans, we stayed in our lane, the area where our skills are strongest, and brought our in-depth knowledge of grant fraud to the comprehensive, whole of government response to this challenge. As I noted earlier, grant fraud comes wrapped around all sorts of different bad acts but when stripped to its core, it is about false statements and false claims. What we discovered was that many talent plan members failed to disclose their affiliations with such plans when applying for NSF funding, as they were required to do pursuant to the PAPPG. Because the university certifies to the accuracy of those disclosures, the failure to disclose membership on a foreign government talent recruitment plan is a potential false

statement. As I noted earlier, NSF needs to understand the potential conflicts of interest and commitment and the IP problems that can result from membership in such a plan to make informed decisions about which awards to fund. So, the failure to disclose isn't just a paperwork error—it can undermine the integrity of NSF's competitive process, put limited grant funds at risk, and prevent deserving recipients from being funded.

If the researcher's failure to disclose his talent plan affiliation occurs within the relevant statute of limitations, we have the basis for opening an investigation. Once we do that, our goal is to discreetly and objectively follow the evidence wherever it leads and bring the case to a logical, defensible conclusion. In some cases, we identify additional effects of a researcher's failure to disclose. We have encountered situations where researchers are meeting the requirements of their foreign talent contract by using U.S. government funds to bring students of the foreign university they are affiliated with to this country; using federal funds to travel abroad to do work required by their talent plan; or receiving salary from federal awards while concurrently working and being paid a salary by their talent plan. Our investigations have also highlighted duplication of funding issues and time commitment concerns based on a talent recruit's failure to disclose. Situations like these can result in criminal, civil and/or administrative action. We also encounter situations where we determine that researchers have provided accurate disclosures to their university. In some cases, for example, we find that the researcher disclosed the talent plan membership to his or her university through one system, but that disclosure was not reflected in the system used to complete NSF proposals. If our investigation shows that an allegation is unfounded or unsubstantiated, we close the case. By being as discreet as we can when we work an investigation, we hope to protect researchers' reputations in such situations.

One thing that has changed over the four years we've been working these cases is how we identify investigative leads. When we first confronted this challenge in 2018, we proactively identified a small number of leads by comparing lists of known talent recruits to PIs awarded NSF funds to determine if the memberships were disclosed. Over time, these lists stopped being published in open sources. In addition, because of the government's focus on this issue and the media's coverage of it, we began receiving numerous allegations from NSF, from academic institutions, and from other law enforcement entities, including our colleagues in the IG community, that required our review and assessment. The volume of allegations we are receiving has overwhelmed our small investigative staff and left us with no capacity to do proactive assessments.

A key point I want to make: I haven't said anything about the ethnic background of the people we investigate. That's because a subject's race or ethnicity is irrelevant to us. Our cases take us where the people who have created these plans are aiming. Using China as an example—though it's not the only country fostering such plans—that nation's plans are targeting the best and brightest scientists engaged in research in disciplines that are of intense interest to it all across the world. Race isn't the issue for them—knowledge and expertise in key areas such as quantum computing is. And race does not matter to us—in deciding whether we have a basis to open a case we focus on a researcher's *conduct*: was he a member of a talent plan at the time he submitted a proposal for NSF funding? Did she disclose that membership as part of the proposal process? Was the proposal funded? Did he apply for foreign funding as a result of his membership in a talent plan and was that funding disclosed? Did she utilize her federal award to

meet a requirement of her talent plan contract? And did all of this happen within the relevant statute of limitations? A researcher's ethnicity is not relevant to any of these issues and is not something we track or consider when we open or work a case.

This new line of work has had a profound impact on our office's investigative portfolio and dramatically increased the caseloads of our investigative staff. Prior to late 2017, we had no foreign influence-related cases. As of October 4, 2021, such cases make up approximately 63 percent of our caseload, even though we have tightened our standards for opening a case. The volume of referrals we are receiving makes me confident that the number of these cases will continue to increase. We have also experienced a dramatic increase in requests for assistance from the FBI since FY 2018, the vast majority of which relate to foreign influence issues. It now takes more than one full-time employee to process and assess these many requests. This growth means that we can only mount a reactive response to this challenge and are unable to proactively examine NSF's $32 billion award portfolio or its thousands of Principal Investigators.

While I can't comment on the status of any criminal and civil investigations related to this issue, OIG's collaborative, well-established relationship with the Foundation has been an important aspect of our response to threats to NSF-funded research from foreign interference. As I noted earlier, our office doesn't just pursue criminal and civil actions in cases of grant fraud. When we have sufficient evidence, we also make recommendations for administrative action by NSF, as appropriate, over the lifecycle of our investigations, including for cases related to foreign funding. In a recent memorandum to the FBI, NSF's CRSSP stated that based on recommendations by our office NSF has taken a range of actions, including award suspensions and terminations and governmentwide suspensions and debarments, against individuals and entities associated with foreign talent programs or organizations receiving foreign funding. According to the CRSSP, in many cases, actions were taken based on grant fraud or other wrongful conduct (or allegations thereof) before any foreign affiliation was surfaced to NSF. You can see the specific actions taken in the CRSSP's August 2021 memorandum to the FBI, which I have attached as an exhibit to this testimony.

OIG's efforts to help others respond to this threat.

Once we understood the risk to the Foundation and the research enterprise posed by foreign government talent recruitment plan memberships, we immediately reached out to NSF leadership to ensure that they were aware of this threat. We meet regularly with NSF principals to share issues we have identified in our work, and they have been very receptive to our concerns and recommendations. Most importantly, we have developed a deeply collaborative working relationship with NSF's Chief of Research Security Strategy and Policy (CRSSP)—the executive leading NSF management's response to this threat--which has strengthened both of our office's efforts in this area.

We have also actively collaborated with other federal law enforcement agencies and served as a coordinating focal point within the community to ensure this threat is addressed on a governmentwide basis. Recognizing that this challenge affected not just NSF but all agencies that funded research in science and technology, in early 2018 we briefed all Inspectors General

(IGs) at one of their monthly meetings, and all Assistant IGs for Investigations at one of their meetings. We stood up two substantive working groups, one led by my office and HHS OIG to educate and coordinate outreach to executives within the IG community and then, more importantly, an agent-level working group which today has more than 200 members representing more than 30 investigative agencies. Among the OIGs represented are those from major funding agencies including the Departments of Health and Human Services (which includes the National Institutes of Health), Energy, Defense, and NASA. Other members represent United States Attorney's Offices and the Department of Justice's National Security Division. This group, led by my office and NASA OIG, educates the investigative and grantee communities; identifies and shares best practices with investigative partners; serves as a hub for subject matter experts to navigate the varied proposal documents specific to different funding agencies and help with identifying material issues; and works to deconflict current investigations and leverage resources for existing cases. The latter actions are especially important, as foreign influence cases often involve researchers who are funded by multiple federal agencies.

This working group has been very active. In 2019 it hosted more than 50 representatives from various investigative agencies in an effort to facilitate investigative referrals related for these cases. Experts were available to answer questions about the basis for opening cases and how to find relevant evidence (if it exists). We invited prosecutors to meet with agents and discuss possible cases. In another meeting, to help investigators understand the unique challenges in the research security space, we arranged a presentation by a former talent plan member, after which there was a robust question-and-answer session. This presentation was made possible by a cooperation agreement the former member entered to resolve charges resulting from a research security investigation.

What opportunities and challenges does OIG see in responding to threats posed by foreign government talent recruitment programs?

One opportunity I see is the application of data analytics. NSF's CRSSP has hired a Chief Data Officer and is seeking authority under the Privacy Act to use NSF information and other datasets to provide the CRSSP and NSF leadership with critical information about the magnitude of this threat and the directorates and programs that are most at risk. Some institutions that receive NSF funding are also using data analytics proactively, producing results that enable their leadership to identify the extent of this threat within their universities and systems and respond to it. Strategic use of data analytics will enable all parties responding to this challenge to focus their efforts on cases with the highest risk—a valuable outcome which maximizes the limited resources available to respond to this threat.

Ensuring that NSF has adequate resources to address this issue is a significant challenge. The CRSSP's office is extremely small but must address challenges posed by foreign government talent plans across the whole Foundation, educate the academic community about the nature of this threat, and play a key role at the government-wide level. My office is similarly strained. Our response to this challenge has been robust, and we are doing all we can to help NSF combat this threat and to strengthen the government's response to it. Unfortunately, allegations related to undisclosed foreign affiliations have grown at a tremendous rate since 2018, overwhelming our

small investigative staff. We do not have the resources we need at this time to investigate all the allegations we receive.

Finally, the greatest challenge I see is the evolving nature of the threat we are facing. In response to the Unites States' efforts to address the risks posed by researchers' membership in foreign talent programs, governments sponsoring such programs are implementing changes to avoid detection of the true nature of their relationships with researchers. Talent plan members, prospective members, and recruiters have been advised to avoid email and use encrypted apps and facsimiles for communication. Some foreign governments are issuing "comfort letters," assuring that the individual is no longer part of the talent program, when in fact the arrangement continues. Given the investigative focus on the terms of talent plan contracts, some governments are switching to consulting agreements in an effort to avoid detection. We have also seen foreign governments or research organizations establish positions into which American researchers are directly hired. The objectives and expectations of these positions resemble those found in talent program contracts. Because of these changes, our response to this challenge must be agile and creative. My office is committed to this effort and will use the depth and breadth of its experience to respond to this evolving threat and to assist federal funding agencies, program staff, the law enforcement community and academia in their response.

Conclusion

Scientific research and discovery are the building blocks of the technological advances that are essential for our nation's economy to grow and to meet the challenges of the future, and NSF has an essential role to play in promoting scientific discovery. For the agency to achieve its mission, it must spend its research funds in the most effective and efficient manner while maintaining the highest level of accountability over taxpayer dollars. Its efforts to do so are seriously undermined if the researchers it funds have hidden obligations to foreign government talent recruitment programs that undermine its investments in the research enterprise.

My office will continue to use the full range of our investigative resources to respond to the challenge posed by foreign government talent recruitment programs and to safeguard the integrity of the Foundation's operations and investments in science. We look forward to working with NSF management, the National Science Board, and Congress to achieve this goal.

This concludes my statement. I would be happy to answer any questions.

Exhibit 1

National Science Foundation

MEMORANDUM

DATE: August 18, 2021

TO: Federal Bureau of Investigation

FROM: Rebecca L. Keiser, Chief of Research Security Strategy and Policy (CRSSP)

SUBJECT: Foreign Interference in National Science Foundation Funding and Grant Making Processes: A summary of findings from 2019 to 2021

For decades, open and collaborative fundamental research has served as a scientific and economic boon to the U.S. and the world. The science and engineering enterprise, however, is put at risk when other governments endeavor to benefit from it without upholding the values of openness, transparency and reciprocal collaboration. Some governments are actively sponsoring activities that pose risks to this system, such as foreign-government-sponsored talent recruitment programs that incentivize behavior that is inconsistent with these values.

The National Science Foundation (NSF) recognizes this threat and has taken action to mitigate threats while also reinforcing that collaboration, including international collaboration, is integral to our continued scientific advancement. In 2019 NSF commissioned the JASON advisory group, outside experts who specialize in both science and security, to conduct a study and recommend ways for NSF to protect research integrity and maintain balance between openness and security of scientific research. The report, Fundamental Research Security, was published in December 2019 and serves as the underpinning for NSF's actions to mitigate these risks in concert with other agencies and stakeholders.

Disclosure and Transparency

The main issues encountered related to foreign interference in NSF-funded research are often associated with instances of lack of disclosure of appointments, affiliations and current and pending support from external funding sources. Transparency and disclosure are needed to properly assess risk, which is essential for NSF to make sound funding decisions. When information is deliberately omitted or concealed, the grant-making process is compromised.

Disclosures are made in the Biographical Sketch(es) and Current and Pending Support sections of the grant proposal. The integrity of this information is essential to assessing qualifications of the Principal Investigator (PI) and is used in selecting the merit review panel.

1. The Biographical Sketch is used to assess how well qualified the individual, team, or organization is to conduct the proposed activities.
2. The Current and Pending Support Information is used to assess the capacity of the individual to carry out the research as proposed, as well as to help assess any potential overlap/duplication with the project being proposed.
3. Collaborators and other affiliations are listed in a separate, single copy document included as part of the proposal submission packet.

Conflicts of Interest and Conflicts of Commitment

The other main category of foreign interference is with conflicts of interest and conflicts of commitment. NSF defines a "conflict of interest" as a situation in which an individual who is responsible for the design, conduct, or reporting of research or educational activities funded or proposed for funding by NSF (or the individual's spouse or dependent children) has a significant financial interest or financial relationship that would reasonably appear to be affected by the proposed research or educational activity.

Organizations define a "conflict of commitment" as a situation in which an individual accepts or incurs conflicting obligations between or among multiple employers or other entities. Many organizations have policies that view conflicts of commitment as conflicting commitments of time and effort, including obligations to dedicate time in excess of organizational or funding agency policies or commitments. Other types of conflicting obligations, including obligations to improperly share information with, or withhold information from, an organization/employer, can also threaten research security and integrity, and are an element of a broader concept of conflicts of commitment. Note, NSF treats the withholding of information as noncompliance with its disclosure requirements.

NSF's Concerted Efforts with the Office of Inspector General

The agency collaborates with the Office of Inspector General (OIG) to:

- Refer concerns of waste, fraud, and abuse to OIG,
- Take administrative action when recommended by OIG, and
- Work with organizational awardees on PI reassignments and other actions, if needed.

NSF's collaborative, well-established relationship with the OIG has been an important aspect of our response to threats to NSF-funded research from foreign interference. The OIG has made recommendations for administrative action by NSF, as appropriate, throughout the lifecycle of

its investigations, particularly for cases related to foreign funding. That is, a given case may result in award suspensions, award terminations, government-wide suspensions of PIs and entities, and/or government-wide debarments, based on OIG recommendations. The scope of the administrative actions are appropriately tailored to the risk to NSF, based on the information developed by the OIG's investigation at the time of the action is taken.

Administrative Actions

NSF has taken a range of actions against individuals and entities associated with foreign talent programs or organizations receiving foreign funding, based on recommendations by the OIG. In many cases, actions were taken based on grant fraud or other wrongful conduct (or allegations thereof) before any foreign affiliation was surfaced to NSF. To date:

- **Award Suspension**: NSF has suspended approximately 24 awards.
    - *Note: Suspensions were lifted for a small subset of these awards based on OIG recommendations or responsive actions taken by the organization (e.g., removal of PI under OIG investigation).*
- **Award Termination**: NSF has terminated approximately 16 awards.
- **Final Payment Cancelled**: NSF has cancelled final payment to 1 organization on 1 award.
- **Government-wide Suspensions**: NSF has imposed government-wide suspensions on 9 researchers and 4 entities.
- **Debarment**: NSF has debarred 4 researchers and 2 entities.
- **Voluntary Exclusions**: Following notices of proposed debarments by NSF, 5 researchers and 1 entity agreed to voluntary exclusions.
- **Bar on Serving as a Reviewer, Panelist, or Consultant**: NSF has barred 5 researchers from serving as reviewers.

<u>Collectively, collaborations with the OIG to date, have resulted in:</u>

- Grant Funds Recovered by NSF: $7.9M
- Number of Actions Taken: ~30
    - *Note: These are approximate numbers due to pending cases.*
- Number of Organizations of Higher Education/Small Businesses Involved: ~21
- Number of Researchers Involved: ~23

CASE STUDY 1: Failure to Respond to an OIG Subpoena related to Foreign Funding and Affiliations

- An NSF-funded PI is employed by a U.S. organization.
- NSF OIG receives information, including at least open-source information, that the researcher participates in a foreign talent plan and serves as faculty member at a foreign organization.
- While required under NSF's Proposal and Award Policies and Procedures Guide ("PAPPG"), the PI does not disclose any information about foreign funding/affiliations in NSF proposals.
- NSF OIG issues a subpoena; the researcher produces some documents, including a partial application to a foreign talent program, but, according to the OIG, the production is insufficient.
- On the OIG's recommendation, NSF suspends the PI's awards to the U.S. organization.
- The researcher, although represented by counsel, resigns from the U.S. organization, and leaves the United States, but fails to fully respond to the subpoena.
- On the OIG's recommendation, NSF imposes a government-wide debarment on the researcher (including a bar on serving as a reviewer, advisor, or consultant) for a fixed term in view of the researcher's failure to respond to the OIG's subpoena (e.g., through court action contesting the subpoena or full production of documents) and in view of information indicating that the researcher failed to fully disclose current and pending support in proposals to NSF. At the end of the debarment period, NSF will consider the decision to determine if an extension is necessary to protect the public interest.
- As the PI is no longer involved in the NSF-funded research, NSF lifts the suspension of the awards.

Outcome: While there were no formal proceedings instituted against the researcher in Federal court, NSF took three types of actions, award suspension, debarment, and lifting of award suspension, at different stages of the OIG's investigation. The actions were appropriately tailored to the risk to NSF in view of the information available at the time the action was taken.

CASE STUDY 2: Failure to Report Extended Absences and to Respond to an OIG Subpoena

- The OIG receives information that an abstract cites an NSF award for support but lists only authors from foreign organizations. One of the co-authors is the PI for the cited award, which was made to a U.S. organization at which the PI is a faculty member.

- Publicly available information indicates that, in succession over a brief period of time, the PI's proposal is funded, the PI is selected as a foreign talent plan participant, and the PI begins extended leave to visit family in a foreign country. The term of the extended leave corresponds to the time the PI is listed as having a foreign appointment.
- During this same time, the PI also returns to the United States to serve as an NSF panelist.
- The PI does not disclose foreign support or appointments to NSF or their organization.
- The OIG subpoenas the PI for information about employment outside of the U.S. organization. The PI declines, citing restrictions by the PI's foreign employer.
- Based on an OIG recommendation, NSF suspends the award. The organization agrees to terminate, while also returning the funds received after the PI went on leave.
- On the OIG's recommendation, NSF also imposes a bar on the PI serving as an NSF reviewer, advisor, or consultant.

Outcome: During the lifecycle of the OIG' s investigation, NSF and the organization took different actions to mitigate risk to NSF, including award suspension and termination, repayment of funds, and imposition of a reviewer bar.

CASE STUDY 3: Grant Fraud involving Foreign Talent Plan Participant

- A professor at a U.S. organization founds a company that relies exclusively on federal grants to fund research, including NSF SBIR/STTR funding.
- The professor/founder also begins working as a paid researcher at a foreign organization.
- NSF OIG receives information that the company does not maintain required records in order to effectively administer the awards and that the awardee provided false information to NSF about its records systems.
- Additional information developed by the DOJ/NSF OIG indicates that the funded research had already been completed at the professor/founder's foreign organization.
- As the investigation develops, NSF, on the OIG's recommendations, suspends awards, terminates awards, and withholds final payment and reduces an award amount.
- DOJ files a criminal complaint against the professor/founder.
- Based on the OIG's recommendation, NSF imposes a government-wide suspension on the professor/founder and related companies.

- Evidence is presented at trial indicating that grant funds obtained would be used for research the professor/founder knew had already been done in overseas. The professor/founder intended to use the grant funds for other company projects rather than for the projects for which the funds were requested. To obstruct the investigation, the professor/founder submitted falsified timesheets to government investigators.
- Information becomes available at trial that the professor/founder is a foreign talent plan participant, including the talent plan contract.
- DOJ prosecution results in criminal conviction of the professor/founder of one count of conspiracy to defraud the United States, three counts of making false statements, and one count of obstruction by falsification.
- Based on a recommendation by the OIG after the professor/founder's conviction, NSF imposes government-wide debarment and reviewer bar on the professor/founder and related company for a fixed period.

Outcome: During a multi-year investigation, NSF took several administrative actions, well before filings in Federal court, based on recommendations by the OIG, encompassing award suspensions, terminations, withholding final payment/reduction of an award amount, and government-wide suspensions. These actions were appropriately tailored to mitigate risk to NSF. The investigation resulted in a criminal conviction. Thereafter, on the OIG's recommendation, NSF imposed a government-wide debarment in view of the risk to NSF and the professor/founder's lack of present responsibility.

Conclusion

NSF's research security initiatives seek to:

- Coordinate with U.S. government interagency partners
- Communicate and build awareness with the scientific community
- Share knowledge and best practices
- Improve transparency and clarification for disclosure
- Mitigate risk through assessment and analysis to better understand the scale and scope