COSSA HOT TOPIC

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Foreign Interference in the U.S. Research Enterprise & Policy Responses

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Summary

In recent years, United States federal research agencies have faced growing concerns of reports of U.S. research and intellectual property being stolen, illegally transferred, or tampered with by foreign governments, notably the Chinese government. These agencies have employed a variety of methods to protect research from foreign interference, including commissioning reports for policy recommendations, requesting information from the research community on potential bad actors, issuing clarifying statements on the federal grant application process, and tightening regulations on various parts of the research infrastructure. However, some of these policies—which affect universities and researchers from all disciplines—have been criticized both for creating a chilling effect on the open and collaborative nature of the research community and for unjustly singling out researchers of Chinese descent.

The following pages detail the latest threats of foreign influence on the U.S. research enterprise as well as actions taken across the federal government to address them. As this is a developing story with agencies continuing to develop policies in response, COSSA will be closely monitoring efforts to harmonize agency policies, address concerns of racial bias against Chinese scientists, and protect the open nature of the U.S. research enterprise.

Background

The security of the U.S. research enterprise has long been a priority for federal science agencies and the national security community. In 1982, at the height of the Cold War, a National Academy of Sciences report raised concerns about Soviet espionage influencing and exploiting the U.S. research enterprise. This triggered a response by then-President Reagan to issue *National Security Decision Directive-189* (NSDD-189), a policy intended to prevent Soviet espionage and affirm that U.S. fundamental research, both basic and applied, should remain unrestricted to the fullest extent possible. This directive has since served as the foundation of U.S. policy in regulating the open nature of research. However, research security has again been thrust into the spotlight in the 21st century in the wake of warnings from the intelligence community, federal agencies, and stakeholders about modern threats to the security of the U.S. research enterprise from foreign actors. In particular, the Chinese government has drawn criticism for its alleged role in research exploitation in order to benefit Chinese businesses and the Chinese military.

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Some of the methods of influence that have raised concerns include:

- Talent recruitment programs that encourage researchers to transfer intellectual property or classified information;
- Undisclosed funding, awards, or positions given to researchers by foreign governments leading to a potential conflict of interest;
- Blatant disregard for the peer-review process by foreign actors; and
- Inappropriate funding relationships between universities and foreign institutions.

It is important to note that the Chinese government is not the only perpetrator but is the most prolific due in part to its unique recruitment programs. The most notable Chinese program under scrutiny from the U.S. intelligence community is the Thousand Talents Plan, a program established in 2008 by the Chinese government intended to recognize and recruit international talent to Chinese institutions. The program initially received some praise for successfully fostering talent in science and entrepreneurship; however, the Thousand Talents program has also been accused of facilitating the illegal transfer of technology and research from U.S. institutions to Chinese institutions by encouraging illicit behavior. Other concerns relate to Confucius Institutes, which are centers for Chinese language and culture affiliated with U.S. colleges and universities and funded in part by the Chinese government. These institutes have garnered similar allegations of encouraging the illegal transfer of intellectual property from their host institutions to the Chinese government.

The U.S. intelligence community was one of the earliest voices sounding the alarms on research security. In December 2017, a White House National Security Strategy document included that the Administration "will consider restrictions on foreign STEM students from designated countries to ensure that intellectual property is not transferred to our competitors, while acknowledging the importance of recruiting the most advanced technical workforce to the United States." The National Intelligence Council later released an analysis in June 2018 that found China's Thousand Talents Plan was part of a concerted effort to transfer U.S. intellectual property to China.

In a February 2018 Senate Intelligence Committee hearing on worldwide national security threats, Director of the Federal Bureau of Investigation (FBI) Christopher Wray made comments that China was "exploiting the very open research and development environment that we have," and that the FBI would "view the China threat as not just a whole-of-government threat but a whole-of-society threat," including the sectors of academia and research—comments that, at the time, sparked controversy in the academic and research communities.

Overview of Policy Changes and Proposals

The U.S. intelligence community, federal research agencies, the White House, Congress, and academic institutions have taken a variety of approaches, some coordinated and some not, to respond to potential security breaches in the U.S. research enterprise and prevent further foreign interference. The following policies and proposals are in response to developments in research security concerns over the last few years:

- The **U.S. State Department** reduced its visa durations for Chinese graduate students studying certain fields of STEM in the U.S. from five years to one year. There has also been a rise in visa denials for Chinese students by State Department officials.
- The **National Science Foundation** (NSF) released a Dear Colleague Letter summarizing a list of policy changes to NSF's reporting requirements for grant applicants concerning foreign awards or appointments.
- NSF also commissioned **JASON**, an independent panel of scientists, to produce a report on the current state of research security and offer policy recommendations. This report recommends reaffirming NSDD-189 and the open nature of U.S. research.
- The **National Institutes of Health** (NIH) issued a notice clarifying the reporting requirements for foreign awards and appointments. NIH also circulated letters to several U.S. research universities asking for information about faculty under suspicion of foreign influence.
- The **White House Office of Science and Technology Policy** (OSTP) released a letter summarizing the

Administration's priorities as it relates to protecting the U.S. research enterprise. OSTP also established the **Joint Committee on the Research Environment** (JCORE) to coordinate federal policy on several issues such as research security.

- The **Department of Energy** (DOE) issued a directive prohibiting agency employees and contractors from participating in talent recruitment programs from countries designated as a "country of risk."
- **Congress** has been very active, holding several oversight hearings, sending letters to federal agencies, and incorporating a research security bill into the *National Defense Authorization Act for FY 2020* (Sec. 1746).
- The Senate **Permanent Subcommittee on Investigations** (PSI) released a staff report on China's involvement in exploiting the U.S. research enterprise which includes a series of policy recommendations. This report differs from the JASON report by taking a firmer stance on research security and recommends an update to NSDD-189's policy of an open research environment.

The above is not an exhaustive list of policy responses to concerns of research security; it is instead a list of the policy responses that are most relevant to the research community at large. Many of these policies will be discussed in further detail below.

Racial Profiling Concerns

Many of the policy responses employed by U.S. agencies in the name of securing research have been criticized as leading to discriminatory treatment of students and scholars of Chinese descent. Some of these criticisms stem from the NIH letter circulated to several major U.S. research universities requesting information regarding individual faculty members alleged to have links to foreign governments, which was interpreted by some as suspicion towards Chinese faculty members. Another major point of criticism is grounded in the U.S. State Department's 2018 changes in visa policies reducing the visa duration to one year from five years for Chinese graduate students in some fields of STEM, a policy frequently decried as racially profiling scholars of Chinese descent and as "weaponizing" the visa process. The JASON report produced in collaboration with NSF condemns the visa restriction policy by stating that "retaliatory responses such as restricting the number of foreign students in the United States would likely do more harm to the United States than good."

Fears of racial profiling are not unfounded, as there are several recorded cases of Chinese scientists being wrongfully implicated by the U.S. government for colluding with the Chinese government for the purpose of research espionage. One prominent example is that of Xiaoxing Xi, a former chair of the Physics Department at Temple University. In 2015, Xi was arrested and accused of illegally sending research findings to China, although these charges were eventually dropped when Xi was cleared of any wrongdoing. Despite the dropped charges, Xi still lost his department chairmanship and most of his federal grants. Xi is currently suing the U.S. government on claims that his arrest and subsequent treatment was motivated by racial bias due to his Chinese ancestry.

Coalitions representing Chinese researchers have been vocal about their displeasure with the U.S. government's handling of these issues. A March 2019 letter written on behalf of several groups representing Chinese and Chinese-American scientists was published in *Science* Magazine expressing concern with "recent political rhetoric and policies that single out students and scholars of Chinese descent working in the United States," further claiming that these actions "amount to racial profiling." Additionally, the Committee of 100, a group of Chinese-American leaders in academia, business, government and the arts, released a statement in April 2019 protesting the targeting of Chinese-Americans as "traitors, spies, and agents of foreign influence."

Some universities have also expressed concern over policies perceived as targeting international students and researchers of Chinese ancestry. In February 2019, the chancellor, provost, and vice chancellor for research of the University of California-Berkeley wrote a public letter stating, "as California's own dark history teaches us, an automatic suspicion of people based on their national origin can lead to terrible injustices." In June 2019, the president of the Massachusetts Institute of Technology (MIT) released a public letter stating "we must take great care not to create a toxic atmosphere of unfounded suspicion and fear."

Some federal agency leaders have acknowledged the oft knotty process of balancing research security with

ensuring the inclusion of international scientists. In an April 2019 Senate hearing, NIH Director Francis Collins stated his concern "that we not carry this to the point where anybody who is a foreign-national begins to feel like they are under suspicion," further stating that "we need to be careful that we don't step into something that almost seems a little like racial profiling." Additionally, Chris Fall, Director of the DOE Office of Science, stated at the 2019 annual meeting of the Association of Public and Land-grant Universities (APLU) that research security "must be weighed together with the openness and transparency and collaboration that has always characterized American science."

Impact on Federally Funded Social and Behavioral Science

As federal agencies harmonize and expand their required reporting documentation for grant applications, social and behavioral scientists will ultimately be affected regardless of whether they have conflicts of interest or commitments to report. **All federal grant applicants, irrespective of field or agency, will need to comply with new reporting requirements as they materialize.**

While the JASON and Senate PSI reports (discussed in more detail in a later section) offer a number of similar recommendations to address concerns of foreign influence in research, they differ on the merits of NSDD-189—the directive that discourages classification of certain kinds of science as "controlled unclassified information (CUI)." The JASON report does not recommend changing current research classifications under NSDD-189 while the PSI report recommends exploring an update to the directive:

> *"The administration should consider updating NSDD-189 and implement additional, limited restrictions on U.S. government funded fundamental research. NSDD-189 was issued in 1985 and established the national policy that products of fundamental research are to remain unrestricted to the maximum extent possible. Federal agencies must not only combat illegal transfers of controlled or classified research, but assess whether openly sharing some types of fundamental research is in the nation's interest."*

The CUI designation originates from a 2010 Executive Order titled ***Controlled Unclassified Information*** (EO 13556), which allows federal agencies to restrict and safeguard certain categories of information. The Executive Order was intended to streamline the oversight process of research yet could potentially cause a chilling effect on open research practices. The PSI report does not specify what its recommended restrictions would entail. However, having CUI limitations placed on certain categories of U.S. federally funded fundamental research should certainly be cause for concern for the research community, including social and behavioral science researchers. **While there isn't currently a significant push for CUI classification from any federal body, the issue should be closely monitored for possible future changes in policy.**

Federal Agency Responses

National Science Foundation

U.S. federal research agencies have taken a variety of approaches in responding to the issue of research security. In July 2019, NSF Director France Córdova released a Dear Colleague Letter summarizing recent efforts at the agency to address security risks to the U.S. science and engineering enterprise. The letter explained that while international collaboration is still a priority of NSF, it would institute policies to ensure NSF research is protected from foreign interference and other security threats. These policies include:

- Changes to the Proposal and Award Policies and Procedures Guide to include clarifications of reporting requirements for support from NSF, both current and pending, as well as professional appointments (the draft of which has previously been open for stakeholder comment in the Federal Register);
- A new policy clarifying that NSF personnel working at the agency through the Intergovernmental Personnel Act (or IPAs)—also known as "rotators"—cannot participate in foreign government talent recruitment programs; and
- The commissioning of the independent scientific advisory board JASON to assess risks and recommend best practices for research security at NSF. JASON's report and recommendations were made public in December 2019 (the report is discussed in detail below).

One other notable policy discussed in the letter is the reiteration of an April 2018 requirement that rotators working onsite at NSF must be U.S. citizens or be applying for U.S. citizenship.

JASON Advisory Panel

As previously mentioned, NSF commissioned JASON to produce a report, ***Fundamental Research Security,*** on the current state of research security in the United States. The report details several of the methods used by foreign governments to compromise U.S. research security and makes recommendations for NSF and other research agencies to counter them. In particular, the report reaffirms the value of foreign talent in the U.S. research enterprise, notes the significant negative impacts of restricting access to research, reiterates the need to include disclosure of commitments and conflicts of interest for the sake of research integrity, and urges academia and federal agencies to harmonize their efforts to protect the U.S. research enterprise.

The major recommendations in the report include:

- Expanding the scope of "research integrity" to include the full disclosure of potential conflicts of interests or commitments and ensure consequences for the failure to disclose these conflicts are congruent with the current consequences for scientific misconduct;
- NSF taking the lead in working with universities, professional societies, publishers, and other stakeholders to make sure research security is properly understood and that efforts with other federal agencies are harmonized;
- NSF distributing assessment tools to evaluate research security risks;
- Updating science ethics curricula at universities and research institutions to include disclosure of conflicts of interest;
- Reaffirming NSDD-189 and the notion that fundamental research should remain unrestricted to the fullest extent possible, and refrain from defining certain fields of research as "controlled unclassified information (CUI)";
- Engaging the U.S. intelligence community with academic leadership and with other federal agencies;
- Engaging with foreign researchers in the U.S. to foster transparency and help retain foreign talent; and
- Developing a strategic plan with other U.S. agencies to maintain scientific competitiveness.

The full JASON report can be found on the NSF website.

National Institutes of Health

Like NSF, NIH issued a July 2019 notice, ***Reminders of NIH Policies on Other Support and on Policies related to Financial Conflicts of Interest and Foreign Components*** (NOT-OD-19-114), to the research community about the need to report foreign activities through agency documentation to prevent conflicts of interest. NIH noted that it "does not consider these clarifications to be changes in policy," as "NIH has long required full transparency for all research activities both domestic and foreign."

The notice came nearly a year after NIH Director Francis Collins issued a statement in August 2018 acknowledging the threats to research security and stating NIH's intent to take action against those undermining the U.S. biomedical research enterprise. It also expanded upon a March 2018 notice titled *Financial Conflict of Interest: Investigator Disclosures of Foreign Financial Interests* (NOT-OD-18-160) clarifying the requirements about reporting financial interests from foreign entities. The notice details NIH's existing conflict of interest reporting requirements for grant applications and clarifies the definitions of "foreign components" that must be reported. Foreign components in ongoing NIH grants require prior approval as outlined in the Prior Approval Requirements of the NIH Grants Policy Statement. More information can be found on NIH's Grants & Funding FAQ page.

As previously mentioned, NIH has also sent letters to several major U.S. research universities requesting information regarding individual faculty members alleged to have links to foreign governments. This unprecedented query raised tensions between NIH and some university administrators due to fears that it indicates a more adversarial relationship between the agency and academic institutions and that NIH's request would hurt universities' ability to foster academic partnerships abroad.

White House Office of Science and Technology Policy

OSTP released a September 2019 letter to the U.S. research community detailing the Administration's priorities for protecting the security of the U.S. research enterprise. The letter expressed concern over recent efforts by some foreign powers to "exploit, influence, and undermine our research activities and environments," and concluded that "United States policies and practices must evolve thoughtfully and appropriately" to guard against such attacks.

The letter detailed the breaches of research ethics it would be working to discourage, including: "failure to disclose required information such as foreign funding, unapproved parallel foreign laboratories (so-called "shadow labs"), affiliations and appointments, and conflicting financial interests," as well as "conducting undisclosed research for foreign governments or companies on United States agency time or with United States agency funding, diversion of intellectual property or other legal rights, and breaches of contract and confidentiality in or surreptitious gaming of the peer-review process."

The primary body leading OSTP's work related to research security is the Joint Committee on the Research Environment (JCORE), a committee of the White House National Science and Technology Council (NSTC). JCORE was established in May 2019 and is reviewing policies and practices governing a variety of topics related to the "research environment." With regard to its research security work, JCORE is focused in four areas:

(1) Coordinating outreach and engagement with federal agencies and other stakeholders to increase awareness of foreign interference in research;
(2) Establishing and coordinating disclosure requirements for participation in the federally funded research enterprise (such as requirements previously mentioned in notices circulated by NSF and NIH);
(3) Developing best practices for academic research institutions; and
(4) Developing methods for identification, assessment, and management of risk in the research enterprise.

OSTP hosted a JCORE Summit in November 2019 bringing together leaders in industry, academia, and government to discuss several pertinent issues to the research community including the issue of research security. Notable updates from the Summit include:

- OSTP released a Request for Information (RFI) in November 2019 for input from the research community on the JCORE's areas of focus;
- JCORE will prioritize the development of guidance to federal agencies on financial conflict of interest disclosure requirements; and
- JCORE plans to hold several meetings with universities around the country over the next several months.

Congressional Actions

Members of Congress have also taken action to respond to pressing concerns about research security by introducing legislation intended to secure the U.S. research enterprise and convening public hearings of various Congressional committees to discuss the issue of research security.

Earlier in 2019, Representative Mikie Sherrill (D-NJ) introduced the *Securing American Science and Technology Act of 2019* (H.R. 3038) in the House and Senator John Cornyn (R-TX) introduced the *Secure American Research Act of 2019* (S. 2133) in the Senate. These related bills, which garnered bipartisan support, would establish an interagency working group to coordinate the protection of federally funded research from foreign interference, cyberattacks, espionage, and other threats. The working group would develop best practices for federal science agencies to protect research while accounting for the importance of the open exchange of ideas required for scientific progress. Legislation establishing this working group was incorporated into Sec. 1746 of the *National Defense Authorization Act for FY 2020* (S.1790), which was signed into law by the President in December 2019.

Senator Chuck Grassley (R-IA), Chair of the Senate Finance Committee, has been active in requesting federal agencies' explanations of their strategies to prevent illegal foreign influence in taxpayer-funded research. As of December 2019, Grassley has sent letters to NSF, NIH, and the Department of Defense (DOD). He has stated these letters are intended to

trigger a speedier, more thorough investigation from each of the agencies to make data on foreign influence and conflicts of interest available to the public.

Numerous Congressional committees have held hearings over the past two years addressing various aspects of foreign interference in the U.S. research enterprise. Links to the hearings can be found below:

- November 26, 2019 – Senate Homeland Security & Governmental Affairs Permanent Subcommittee on Investigations: Securing the U.S. Research Enterprise from China's Talent Recruitment Plans
- July 24, 2019 – House Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies: Budget and Oversight Hearing: White House Office of Science and Technology Policy
- June 5, 2019 – Senate Committee on Finance: Foreign Threats to Taxpayer-Funded Research: Oversight Opportunities and Policy Solutions
- April 11, 2019 – Senate Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies: Review of the FY 2020 Budget Request for NIH
- February 28, 2019 – Senate Homeland Security & Governmental Affairs Permanent Subcommittee on Investigations: China's Impact on the U.S. Education System
- June 6, 2018 – Senate Judiciary Subcommittee on Border Security and Immigration: Student Visa Integrity: Protecting Educational Opportunity and National Security
- April 11, 2018 – House Science, Space, & Technology Subcommittee on Oversight & Subcommittee on Research and Technology: Scholars or Spies: Foreign Plots Targeting America's Research and Development

In November 2019, the **Permanent Subcommittee on Investigations** (PSI) of the Senate Homeland Security and Governmental Affairs Committee (HSGAC) released a staff report, ***Threats to the U.S. Research Enterprise: China's Talent Recruitment Plans***, summarizing existing infrastructure in the federal government to prevent Chinese influence through talent recruitment programs. The report also provides a series of recommendations to several federal agencies on how to improve the existing research security infrastructure, although the report views issues of research security mainly through an oversight and national security perspective. Some of the main recommendations in the PSI report include:

- Encouraging federal agencies to create a comprehensive strategy against foreign influence in research, collaboration with the research community, and dissemination of more information on foreign talent recruitment programs;
- Reaffirming the importance of foreign students and researchers so as to keep scientists and their work in the United States;
- Harmonizing conflict of interest reporting requirements and establishing a compliance and auditing program at U.S. research agencies; and
- Considering an update to NSDD-189 in order to implement limited restrictions on certain federally funded research.

It should be clarified that Committee reports such as the PSI report are non-binding and do not have any force of law. However, they are noteworthy in that they can inform future policy and provide context to policymakers on complex issues. The full PSI report can be found on the HSGAC website.

Next Steps

COSSA will continue to monitor the issue of research security and inform the community with any updates to these policies. There are a few updates that we anticipate coming in 2020. Firstly, COSSA will be checking progress on the implementation of Sec. 1746 the *National Defense Authorization Act for FY 2020* establishing a working group for research security. Secondly, COSSA will be awaiting NSF's reaction to the recommendations in the JASON report. Finally, JCORE, which is expected to be the body coordinating the harmonization of new or updated research security policies across agencies, has not yet proposed standards for federal research agencies to follow as of the end of 2019. COSSA will be paying close attention to any JCORE actions and recommendations in 2020 and beyond.

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Previous COSSA Coverage

November 26, 2019: Senate Subcommittee Releases Report, Holds Hearing on Securing U.S. Research from Foreign Talent Recruitment Plans
November 12, 2019: White House Hosts Summit of the Joint Committee on the Research Environment
October 1, 2019: NIH Evaluates Strategy on Countering Foreign Influence in Research
September 17, 2019: OSTP Outlines Research Security Priorities
August 6, 2019: House Subcommittee Holds OSTP Oversight Hearing; Senate Confirms Nominee for Chief Technology Officer
July 23, 2019: NSF Releases Dear Colleague Letter on Research Protection
June 11, 2019: Senate Finance Committee Holds Hearing on Foreign Threats to Taxpayer-Funded Research
April 16, 2019: Congress Holds Hearings on FY 2020 NIH Budget