

Select Committee on the Integrity of Research Institutions

Tuesday, January 21, 2020 5:30 p.m. – 6:30 p.m.

404 HOB

MEETING PACKET

Committee Meeting Notice HOUSE OF REPRESENTATIVES

Select Committee on the Integrity of Research Institutions

Start Date and Time: Tuesday, January 21, 2020 05:30 pm
End Date and Time: Tuesday, January 21, 2020 06:30 pm

Location: Sumner Hall (404 HOB)

Duration: 1.00 hrs

Introduction of Members Review charge to committee Overview of foreign corruption of U.S. research institutions Other business



Select Committee on the Integrity of Research Institutions

Jose R. Oliva Speaker Chris Sprowls Chair

Meeting Agenda Tuesday, January 21, 2020 404 House Office Building (Sumner Hall) 5:30 p.m. – 6:30 p.m.

- Call to Order
- Roll Call
- Welcome and Opening Remarks
- Introduction of Members
- Review charge to committee
- Overview of foreign corruption of U.S. research institutions
- Other business
- Adjournment

COMMITTEE RESEARCH MATERIALS

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National articles on China talent recruitment and Espionage

American Association of Medical Colleges Memo



Jose R. Oliva Speaker

December 30, 2019

The Honorable Jeff Takacs Clerk, Florida House of Representatives Room 513, The Capitol Tallahassee, FL 32399-1300

Dear Clerk:

In accordance with Rules 7.6 and 7.23(b), I hereby create the Select Committee on the Integrity of Research Institutions and direct the select committee to conduct an investigation into research activities and international relationships of research institutions established by state law or supported with state funds.

The Select Committee shall have all the authority and powers of a standing committee, and shall exercise committee powers as authorized by s. 11.143, Florida Statutes. These appointments shall expire November 3, 2020.

The following members of the House are appointed to serve on the select committee:

Representative Chris Sprowls, Chair Representative Tom Leek, Vice Chair Representative Bruce Antone Representative Colleen Burton Representative Brad Drake Representative Fentrice Driskell Representative Joseph Geller Representative Erin Grall Representative Blaise Ingoglia Representative Cary Pigman Representative Sharon Pritchett Representative Will Robinson

Sincerely,

Jose R. Oliva Speaker

CC: Members of the Select Committee on the Integrity of Research Institutions

Don Rubottom, Staff Director House Administration



Office of the Speaker

Jose R. Oliva Speaker

December 30, 2019

Mr. Timothy Adams, Chair, Institute Board of Directors Mr. L. David de la Parte, Esq., Executive Vice President, General Counsel Moffitt Cancer Center and Research Institute 12902 USF Magnolia Drive Tampa, Florida 33612

Re: International Collaboration

Dear Mr. Adams and Mr. de la Parte:

At my direction, the Florida House of Representatives has initiated an investigation into research activities and international relationships of Florida research institutions. A central focus for this investigation will be the interactions involving leadership and other personnel at Moffitt Cancer Center and Research Institute, a corporation created by Florida Statutes, and the People's Republic of China. The Select Committee on the Integrity of Research Institutions, chaired by Speaker-Designate Chris Sprowls, has been appointed effective today to conduct the investigation.

Section 11.143(2), Florida Statutes, establishes the authority for committees of the Legislature to inspect and investigate the records of any public agency, including confidential information. Furthermore, Section 11.0431(2)(a), Florida Statutes, provides that records in the possession of the Legislature are exempt from public disclosure if under state law those records are confidential or exempt from public disclosure while in the possession of any public agency.

To facilitate the investigation, I am requesting you to name a staff member as the primary contact for arrangements regarding the submission of documents and any other investigative activities. The primary staff contact for the House of Representatives is Don Rubottom, who can be reached at 850-717-4881. You may also want to name a board member as a key contact for interactions involving the governing body of Moffitt Cancer Center and Research Institute.

Mr. Timothy Adams and Mr. L. David de la Parte December 30, 2019 Page 2

I appreciate your prompt response to this request, and I look forward to your full cooperation with the House investigation.

Respectfully,

Jose R. Oliva Speaker

cc: The Honorable Chris Sprowls, Chair, Select Committee on the Integrity of Research Institutions

Don Rubottom, Staff Director, Select Committee on the Integrity of Research Institutions



Select Committee on the Integrity of Research Institutions

Jose R. Oliva Chris Sprowls
Speaker Chair

January 3, 2020

Mr. Chip Fletcher, V.P, Dep. Gen. Counsel Moffitt Cancer Center and Research Institute

Re: Initial Records Request

Dear Mr. Fletcher,

As you are aware, House Speaker Oliva has appointed the Select Committee on the Integrity of Research Institutions to investigate research activities and international relationships of certain Florida research institutions, including interactions involving leadership and other personnel at Moffitt Cancer Center and Research Institute and the People's Republic of China. As chair of the select committee, I appreciate your full cooperation with this investigation.

Speaker Oliva's letter of December 30, 2019, which you have acknowledged, described the authority for committees of the Legislature to inspect and investigate the records of any public agency and to maintain their confidential and exempt status where applicable.

Today, I am requesting the unredacted copies of the records in the attached listing by close of business January 17, 2020. Such copies may be emailed to Mr. Don Rubottom at Don.Rubottom@myfloridahouse.gov. To coordinate alternate delivery of the records requested, or if you have any other questions, please contact Mr. Rubottom at 850-717-4881.

Respectfully,

Chris Sprowls, Chair

cc: Speaker Oliva

Rep. Tom Leek, Vice Chair Timothy Adams, Board Chair

Records Requested January 3, 2020

- 1. The full report from which the Investigation Executive Summary ("Summary") was derived for consideration at The Special Institute Executive Committee Meeting on December 18, 2019.
- 2. The "Unified Detailed Findings" mentioned on page 1 of the Summary.
- 3. Every related report of the Moffitt internal compliance effort.
- 4. Transcripts or recordings of interviews conducted of executives, faculty and employees relating to the investigation.
- 5. Copies of all records and exhibits used during interviews of executives, faculty, and employees (listed as "source(s)" in the table of policy violations attached to the Summary), including but not limited to emails, disclosure forms, talent applications, videos, contracts, authorization forms, and bank statements noted in the Summary.
- 6. All documents, notes, summaries and/or reports prepared by the Moffitt Compliance Office concerning the Moffitt Cancer Center's collaboration with Tianjin Medical University Cancer Institute and Hospital.
- 7. All Moffitt Cancer Center policies, guidelines, Code of Ethics, and related materials including but not limited to ADM-C028, ADM-F009, and ADM-1007 cited in the appendix to the Summary or otherwise applicable to the conduct and activities of the Moffitt executives, faculty, and employees removed or resigning consequent to the investigation. (Include all updates or revisions adopted following the August 20, 2018 NIH foreign influence (Dear Colleagues) letter.)
- 8. Employment contracts of all such executives, faculty and employees.
- 9. All conflict of interest/conflict of commitment or other disclosure forms relating to each individual investigated.
- 10. Any records related to any required training for executives, faculty, or employees relating to NIH or other federal or state regulations related to conflict of interest, conflict of commitment, and financial disclosure. Records of participation therein by individuals investigated.
- 11. Any other documents related to the Moffitt internal compliance investigation.
- 12. All requests for information from NIH or the FBI following up the August 20, 2018, NIH letter.
- 13. All documents provided to federal authorities in response to such requests or as part of any ongoing investigation related to the matter of foreign influence.
- 14. Any employment contract or other contract between any foreign institution or government and any Moffitt executive, faculty or employee.
- 15. All contracts between any Moffitt related entity and any China-based or controlled entity.
- 16. Records of all revenues from or expenditures in China.
- 17. Records of correspondence to and from NIH related to disclosure of foreign ties since August 2018.
- 18. Policies adopted under BOG Reg. 10.002 Sponsored Research (if any).
- 19. All records related to reports of whistleblowers received by any employee of Moffitt since July 1, 2017, regarding conflicts of interest related to foreign influence or research activities funded by state or federal funds.



Select Committee on the Integrity of Research Institutions

Jose R. Oliva Chris Sprowls
Speaker Chair

January 10, 2020

Mr. Tim Adams Board Chair Moffitt Cancer Center Via email

Dear Chair Adams.

As you know, Speaker Oliva has formed the Select Committee on the Integrity of Research Institutions, which I chair, to look into the integrity of research activities and international relationships that may compromise such integrity. Committees of the Legislature have the right and power to inspect and investigate all records of any public agency of this state in order to carry out its constitutional duties.

Pursuant to lawful authority, the committee has obtained a copy of the document entitled "Investigation Executive Summary" which purports to summarize the findings of a compliance investigation involving foreign support and foreign influence in professional activities at Moffitt. While I understand that your counsel has asserted the document is confidential under s. 1004.43(8)(b), F.S., the Florida House does not agree with that assertion. Moffitt has indicated a desire to be open and transparent with respect to this investigation. Consequently, we are asking you to waive any claims to confidentiality applicable to this report by the end of business on Wednesday, January 15, 2020.

Moffitt's investigation and publicly announced disciplinary actions are a credit to Moffitt. Along with many other U.S. research institutions, Moffitt appears to have been victimized by foreign entities and has taken appropriate action to protect itself. As Moffitt has implicitly acknowledged, openness and transparency are beneficial to the reputation of Moffitt and its public image. I believe the disclosure of the Executive Summary will enhance that reputation and we urge you to do the right thing and voluntarily waive any claims to confidentiality.

The vast commitments of public funds to Moffitt and other state research institutions is a matter in the very center of the Legislature's constitutional responsibilities. The potential for the misuse of such funds or the corruption of their public purposes demands all Floridians understand the risks we face and the best means of protecting our shared interests from those risks. The committee does not believe it can fulfill its responsibilities without full and frank open deliberations over the issues exemplified in the Executive Summary. Thus, we do not believe Florida is well served by continued sequestration of the Executive Summary.

I thank you for the cooperation Moffitt has already demonstrated as the committee undertakes this investigation. I invite your input and advice. If you desire to discuss any matter of shared concern, I am available to do so.

Respectfully,

Chris Sprowls

Chair

Cc: Speaker Jose Oliva

Chip Fletcher, Esq.

Members of the Select Committee



Select Committee on the Integrity of Research Institutions

Jose R. Oliva

Chris Sprowls

Speaker

Chair

January 20, 2020

SUS Vice Presidents of Research Via Email

Dear Vice President,

In August of 2018, the National Institute of Health sent a letter to grantees, notifying them of threats to the integrity of research arising out of foreign influence. The House Select Committee on the Integrity of Research Institutions has been appointed to investigate research activities and international relationships of Florida research institutions, including interactions involving your faculty and other personnel and foreign countries.

Section 11.143(2), Florida Statutes, establishes the authority for committees of the Legislature to inspect and investigate the records of any public agency, including confidential information. Furthermore, Section 11.0431(2)(a), Florida Statutes, provides that records in the possession of the Legislature are exempt from public disclosure if under state law those records are confidential or exempt from public disclosure while in the possession of any public agency.

Pursuant to s. 11.143(2), the committee is requesting each institution in the State University System to provide, by January 31, unredacted copies of the records listed in the page attached hereto. Such copies may be emailed to Mr. Don Rubottom at Don.Rubottom@myfloridahouse.gov. To coordinate alternate delivery of the records requested, or if you have any other questions, please contact Mr. Rubottom at 850-717-4881.

I am also requesting you to name a staff member as the primary contact for arrangements regarding the submission of documents and any other investigative activities. You may also want to name a board member as a key contact for interactions involving your Board of Trustees.

I appreciate your prompt response to this request, and I look forward to your full cooperation with the House investigation.

Respectfully,

Chris Sprowls, Chair

CC: Syd Kitson, Chair, Board of Governors

Members of the Select Committee

Records requested of Florida State University System institutions

- 1. All correspondence from federal agencies identifying concerns specific to the institution relating to foreign influence on research integrity.
- 2. All internal compliance reports since August 1, 2018, relating to such foreign influence.
- 3. All records of whistleblower complaints and related investigations active on or after August 1, 2018, relating to such foreign influence or any other conflicts of interest related to any scientific research.
- 4. All correspondence, emails or records of other contacts with the F.B.I., NIH, NSF or other federal agencies sponsoring research relating to specific or general risks of such foreign influence.
- 5. All institution policies regulating disclosures of conflicts of interests, disclosures of financial interests, or conflicts of commitment of research scientists, specifically including policies adopted under BOG Reg. 10.002, Sponsored Research.
- 6. All disclosures of research scientists relating to contracts with foreign entities.
- 7. All institution policies governing compliance efforts to enforce disclosure requirements.
- 8. All University initiatives to identify, disclose or regulate influence of foreign governments, foreign institutions or individuals or organizations with significant ties to foreign entities, specifically including any effort to identify employees or contractors who are participants in the Thousand Talents program of the People's Republic of China or similar PRC recruiting or collaboration programs.
- 9. Any records related to any required training for executives, faculty, or employees relating to the NIH or other federal or state regulations related to conflict of interest, conflict of commitment, and financial disclosure. Records of participation therein by the individuals investigated.
- 10. Any records of solicitation by, interest in or participation with a Confucius Institute since January 1, 2015.
- 11. Standard or typical contract form used for employee or independent contractor involved in research.

- 12. Standard disclosure forms used for scientific researchers at your institution.
- 13. Policies governing the review and scrutiny of disclosures of researchers (if not provided above).
- 14. Organizational chart of your institution.
- 15. Organizational chart of each department engaged in sponsored research including research funded by the State of Florida.
- 16. Whistleblower policies.
- 17. Documents describing internal controls of conflicts of interest, security of information, security of research materials and fraud detection.
- 18. Documents describing ethical obligations of the institution and researchers with respect to scientific research.



Select Committee on the Integrity of Research Institutions

Jose R. Oliva

Chris Sprowls

Speaker

Chair

January 21, 2020

Mr. Syd Kitson Chair, Board of Governors Via email to SydKitson@gmail.com

Dear Chairman Kitson,

As you are aware, the Florida House of Representatives has launched a far-reaching probe into whether our taxpayer-supported research institutions may have been compromised or vulnerable to intellectual property theft by foreign governments. The House greatly appreciates the strong support that you and other members of the Board of Governors have shown for our investigation, which will include looking into the activities of the research universities under the constitutional jurisdiction of the Board of Governors.

Attached please find a copy of a letter that the Florida House has sent to all SUS institutions. We are seeking information related to each university's policies and procedures regarding involvement with foreign governments, international organizations, or domestic organizations with potential ties to foreign governments. We are also asking for specific information as it relates to China and the Thousand Talents program. Our requests are intended to give us a well-rounded view about what may be happening at our research institutions. We recognize, and would be gratified to discover, that the problems that have already come to light may be isolated incidents rather than systemic flaws. However, the spirit of our inquiry demands that we ask the hard questions and not prejudge the potential answers.

I know you share my view that the SUS institutions should cooperate fully without any intransigence. Openness and radical candor are necessary if we are going to move forward and maintain both public and legislative confidence in our institutions. To that end, I am writing to ask the Board of Governors to help ensure an expeditious and thorough response from our state universities to the attached requests for information.

Again, we greatly appreciate the BOG's leadership and your own personal commitment to preserving and protecting the integrity of our research universities. We will continue to keep you apprised on the status of our investigation, and I hope that you will continue to personally provide me with your good advice and wise counsel as you have already so generously done.

Respectfully,

Chris Sprowls

Chair

Cc: Marshall Criser, Chancellor

Speaker Jose Oliva

Select Committee Members

Moffitt's China Investigation Abstract and Chronology

MOFFITT'S CHINA INTERNAL INVESTIGATION ABSTRACT

Summary of Foreign Influence Issues

The National Institutes of Health (NIH) of the U.S. Department of Health and Human Services (HHS) supports international collaborative biomedical research to advance science and expand biomedical knowledge. Scientific cooperation between the U.S. and the People's Republic of China ("China") was initiated over 30 years ago and has grown rapidly in recent years. Recognizing that enhanced cooperative biomedical research would be of mutual benefit to the U.S. and China, the NIH Director and the President of the National Natural Science Foundation of China (NSFC) signed a Memorandum of Understanding (MOU) in October 2010 and renewed in October 2015. NIH and NSFC signed an Implementing Arrangement (IA) in December 2010 to develop a new U.S.-China Program for Biomedical Research Cooperation. A Joint Working Group (JWG), made up of members from both NIH and NSFC, developed strategic plans for collaboration, review and clearance of proposed U.S.-China projects. Both the NIH and NSFC allocated funds to support joint activities pursued under this program. I

Over the past few years however, the U.S. government, including the NIH, has become concerned that U.S. universities and academic medical centers have been the targets of foreign governments, particularly that of the China, which have developed research and academic collaborations with a goal of illegally obtaining technology and intellectual property. On February 14, 2018, Federal Bureau of Investigation ("FBI") Director Christopher Wray testified to the Senate Intelligence Committee that universities and other academic institutions have unwittingly enabled foreign powers, in particular China, to exploit U.S. research and development activities.² Alerted to these concerns by law enforcement and Congressional leaders, the National Institutes of Health ("NIH") in early 2018 began a systemic effort to address these risks, insofar as the suspect collaborations and U.S. faculty activities relate to NIH-funded programs and projects. In April 2019, FBI Director Christopher Wray told the Council on Foreign Relations "China has pioneered a societal approach to stealing innovation in any way it can from a wide array of businesses, universities, and organizations," Wray said. "They're doing it through Chinese intelligence services, through state-owned enterprises, through ostensibly private companies, through graduate students and researchers, through a variety of actors all working on behalf of China. At the FBI we have economic espionage investigations that almost invariably lead back to China in nearly all of our fifty-six field offices, and they span just about every industry or sector."

In March 2018, NIH clarified its financial conflict of interest rules for investigators whose work is supported by NIH funding. At that time, NIH highlighted requirements that faculty whose research is supported by NIH funding report to their home institutions all personal income and research support

¹ National Institute of Allergy and Infectious Diseases (NIAID), *Notice of a Change to the Funding Opportunity Announcement, RFA-A1-16-006, U.S.-China Program for Biomedical Collaborative Research (R01),* available: https://grants.nih.gov/grants/guide/notice-files/NOT-AI-16-018.html, (December 22, 2015).

²Associated Press, *FBI chief says Chinese operatives have infiltrated scores of 'naive' U.S. universities*, available: https://www.scmp.com/news/world/united-states-canada/article/2133274/fbi-chief-says-chinese-operatives-have-infiltrated, (February 14, 2018.); E. Redden, *The Chinese Student Threat?*, Inside Higher Ed, https://www.insidehighered.com/news/2018/02/15/fbi-director-testifies-chinese-students-and-intelligence-threats, (February 15, 2018.)

from foreign universities and foreign educational institutions,³ and that those U.S. institutions in turn analyze such foreign income and research support to determine whether they implicate conflict of interest and conflict of commitment concerns. A series of subsequent NIH policy statements have focused on investigator and institutional failure to report and analyze foreign support and affiliations. The NIH has undertaken, during 2018 and 2019, a broad-based communications effort to inform the affected academic community of these concerns and of their various reporting obligations.⁴

In August 2018, NIH Director Francis S. Collins, M.D., Ph.D., sent a letter to 10,000 U.S. institutions to warn that foreign entities were mounting "systematic programs to influence NIH researchers and peer reviewers" leading to "unacceptable breaches of trust." NIH has expanded its administrative investigation activities, sending individual inquiry letters to awardee institutions, raising issues about individual researchers and asking awardees to conduct investigations. Multiple departures and terminations of scientists from U.S. institutions have followed, including apparent terminations of faculty at Emory University and MD Anderson Cancer Center that were widely reported in April and May 2019. As of November 2019, NIH sent letters to more than seventy U.S. academic institutions, naming hundreds of scientists as possible violators of NIH grant terms and conditions, and has referred more than twenty-four cases to the U.S. Department of Health and Human Services Office of Inspector General ("OIG") for possible criminal proceedings and debarment from future receipt of NIH grant support.

NIH Director Collins has said that NIH has identified "utterly unacceptable" and "egregious instances where our funding of grants in this country is being taken advantage of by individuals who are not following the appropriate rules." Of particular concern, according to Collins, are the "Talent Programs" offered and promoted by various portions of the Chinese government, under which U.S. investigators are awarded significant personal incomes and research funds, in return for the U.S. investigators fulfilling specific terms and conditions for academic and research collaborations with Chinese-based institutions. The NIH has indicated that the Chinese Talent Programs are intended to induce U.S. investigators to share sensitive scientific information with Chinese collaborators and to use their established expertise to advance China's scientific and national interests.

China's government has been recruiting experts and academic leaders from around the globe for more than a decade through the "Talents" and other academic engagement programs. These efforts provide financial, professional and personal incentives in exchange for research collaboration, teaching, and

³ National Institutes of Health (NIH), *Financial Conflict of Interest: Investigator Disclosures of Foreign Financial Interests*, *NOT-OD-18-160*, available: https://grants.nih.gov/grants/guide/notice-files/NOT-OD-18-160.html, (March 20, 2018).

⁴ Nat'l Inst. of Health, *Frequently Asked Questions: Other Support and Foreign Components*, https://grants.nih.gov/grants/faq-other-support-foreign-components.htm#5940_(last visited Nov. 7, 2019).

⁵ Jeffrey Mervis, *U.S. Universities reassess collaboration with foreign scientists in wake of NIH letters*, SCIENCE (Apr. 26, 2019), https://www.sciencemag.org/news/2019/04/us-universities-reassess-collaborations-foreign-scientists-wake-nih-letters.

⁶ Mara Hvistendahl, *Major U.S. cancer center ousts 'Asian' researchers after NIH flags their foreign ties*, SCIENCE (Apr. 19, 2019), https://www.sciencemag.org/news/2019/04/exclusive-major-us-cancer-center-ousts-asian-researchers-after-nih-flags-their-foreign; Mihir Zaveri, *Wary of Chinese Espionage, Houston Cancer Center Chose to Fire 3 Scientists*, N.Y. TIMES (Apr. 22, 2019), https://www.nytimes.com/2019/04/22/health/md-anderson-chinese-scientists.html.

⁷ Jeannie Baumann, *Holes Found in NIH Oversight of Conflicts, Foreign Influence*, BLOOMBERG LAW (Sep. 27, 2019), https://news.bloomberglaw.com/pharma-and-life-sciences/holes-found-in-nih-oversight-of-conflicts-foreign-influence; Gina Kolata, *In FBI's Sights: Stolen Research Flowing to China*, N.Y. TIMES, Nov. 4, 2019, at A1.

⁸ Jocelyn Kaiser, *Universities will soon announce action against scientists who broke NIH rules, agency head says*, SCIENCE (Apr. 11, 2019), https://www.sciencemag.org/news/2019/04/universities-will-soon-announce-action-against-scientists-who-broke-nih-rules-agency.

other activities in China, done in conjunction with Chinese universities and medical centers. U.S. investigators were asked to share knowledge and skills to enable China to grow its research capacity, which, in principle, is exactly the kind of scientific exchange the U.S. government has encouraged for decades.

In the U.S. government's view, the problem arises when relationships with China are not disclosed appropriately in research award applications or periodic required reporting to NIH, or when those relationships with China, such as the Talents programs, include terms and conditions that are at odds with the U.S. funding agency and/or U.S. institutional commitments. NIH has emphasized that it wants "transparency and vetting" of all foreign collaborations and arrangements when they relate to NIH funding. Failure to report and vet such collaborations causes NIH to question institutional competence to serve as a responsible steward of federal funding. In a conference call with the cancer center directors from all 71 NCI-designated cancer centers, on December 20, 2019, the NCI Director, Dr. Ned Sharpless, commended the Compliance Office of Moffitt for identifying and reporting the violations by their individuals and the need to continue to work closely with the NCI and NIH.

H. Lee Moffitt Cancer Center and Research Institute ("Moffitt") Collaboration with Tianjin Medical University Cancer Institute and Hospital ("TMUCIH")

In 2008, Moffitt began an affiliation with TMUCIH to provide training and consultation in the delivery of oncology services, education and research. In 2014, as agreed to by Dr. Alan List, Moffitt's former President and CEO, TMUCIH pays Moffitt \$500,000 annually for Moffitt's services, including participation in tumor boards and other activities.

Dr. Sheng Wei, Dr. List's primary scientific collaborator at Moffitt, is a graduate of Tianjin Medical University ("TMU") and a naturalized U.S. citizen. He has been employed at Moffitt since 2008 and has served as a key interface between Moffitt and TMUCIH for many years. Since the launch of the Moffitt affiliation, TMUCIH has grown, for example, with the creation of a personalized medicine center, the International Personalized Cancer Center ("IPCC").

Following various federal efforts highlighting the risks of foreign influence on NIH-funded research in 2018 and early 2019, including specific concerns raised about China and its Talents programs, the Moffitt Compliance Office began an informal investigation of the conduct of individuals associated with Moffitt's relationship with TMUCIH to determine, based on the most recent national guidance by the NIH, if there was evidence of predatory activity by the Chinese. Based on information derived from the informal investigation, the Joint Corporate Compliance Committee of Moffitt's Board of Directors began a formal investigation. The internal Moffitt review identified Talents program participation involving at least six Moffitt faculty members beginning at different time periods over the last decade.

The earliest known participant is Dr. Wei, who joined a Talents program through TMU in either 2010 or 2011, and through TMUCIH has recruited all Moffitt Talents program participants, except for one (Dr. Howard McLeod). The recent compliance review indicated that over several years at Moffitt, Dr. Wei recruited Moffitt faculty into the Talents program. Another faculty member, Dr. Howard McLeod, began Talents program participation through Central South University in Changsha, China before he

⁹ Matthew Bin Han Ong, *Moffitt CEO Alan List, director Thomas Sellers resign over conflicts of interests involving China*, Cancer Letter NIH (Dec. 20, 2019)

joined Moffitt in 2013, and did so without Dr. Wei's involvement. Dr. McLeod maintains an extensive ongoing research program in China.

It did not violate Moffitt policies, for these individuals to have participated in the Talents programs, or to have had other academic positions, consulting positions, or research collaborations with Chinese colleagues or Chinese institutions. However, under Moffitt policies and NIH regulations, such activities must be timely disclosed and approved in advance after they have been analyzed for possible conflicts of interest or other compliance risks. Problems also arise when the participation in Chinese activities specifically conflicts with a Moffitt leader's or faculty member's duties to Moffitt and/or to U.S. government agencies like the NIH, or when a Moffitt official accepts undisclosed personal compensation from an entity (TMUCIH) with which Moffitt does business, which would represent a conflict of interest. Other problems arise if a full-time Moffitt leader or faculty member agrees to spend significant professional time and effort on non-Moffitt activities, without permission, which would represent a conflict of commitment.

With the possible limited exception of Dr. McLeod, as detailed below, none of the Moffitt faculty who were Talents program participants properly or timely disclosed their Talents program involvement to Moffitt, and none disclosed the full extent of their Talents program activities prior to Moffitt's internal investigation. Several Moffitt faculty cited the personal participation of Moffitt leadership in the Talents programs – specifically, the participation of Dr. List – as a reason for their own agreement to participate, and evidence reflects that in Dr. Wei's efforts to recruit other Moffitt faculty into the Talents programs, he cited Dr. List's personal participation as a means of encouraging others to join. All Moffitt faculty participants in the Talents programs acknowledged receiving personal payments that they did not promptly disclose to Moffitt. They also acknowledged having opened or maintained personal bank accounts in China to receive Talents program compensation.

It is not clear how much personal income or research support each involved individual at Moffitt received for his or her participation in the Talents programs. However, Chinese media sources indicate that the national "Recruitment Program for Foreign Experts" (an annual nine-month commitment for three years) award includes a one-time payment of RMB 1 million (~\$142,000 USD) and research subsidies of RMB 3 to RMB 5 million (~\$427,000 to ~\$711,000 USD). Chinese media sources also report that a long-term Tianjin 1000 Talents Program award includes a one-time payment of RMB 1 million (~\$142,000 USD), annual salary of RMB 250,000 to RMB 450,000 (~\$36,000 to ~\$64,000 USD), and research subsidies of RMB 200,000 to RMB 1 million, (~\$28,400 to ~\$142,000 USD), and that a short-term Tianjin 1000 Talents Program award includes a one-time payment of RMB 500,000 (~\$71,000 USD) and a work allowance of RMB 25,000 to RMB 35,000 (~\$3,500 to ~\$5,000 USD) per month, with the awardee required to work at the awarding institution for at least two months annually, for three years. Aside from these possible Talents program compensation and support, Moffitt individuals involved received travel benefits (such as escorted tourist trips in China paid for by TMUCIH), cash honoraria payments for speeches, and cash travel reimbursements while in China; many of these payments were not disclosed to Moffitt, in violation of Moffitt policies. ¹⁰

¹⁰ However, evidence suggests that in many cases travel arranged and paid by Moffitt was reimbursed by TMUCIH via cash payments to Moffitt faculty, and that such cash travel reimbursement amounts were often tendered to Moffitt's finance department.

Summary of Specific Attempts at Foreign Influence

Dr. Sheng Wei

Dr. Wei began pursuing 1000 Talents Program funding and an "Honorary Professorship" at TMU in or around 2009, shortly after China initiated the 1000 Talents Program. He sought 1000 Talents Program funding through TMU and another entity, Fudan University. In 2010, he proposed through TMU an extensive research work plan, committing him to seek grants for TMU and work at least six months in China. By April 2011, he entered into a 1000 Talents Program through TMU. The arrangement included RMB 2 million (~\$300,000 USD) in salary and other benefits, e.g., research funds and lab space. Dr. Wei committed to work at least six months per year, for three years, to "conduct personnel exchanges" with Moffitt and cultivate additional researchers, research, and apply for Chinese grants for TMU, and he promised to further develop his research in China. On interview, Dr. Wei reported having received \$80,000 for purchasing a \$200,000 apartment in Tianjin in or around August 2013, although he did not report this to Moffitt prior to the recent investigation. Dr. Wei has asserted that he ceased his 1000 Talents Program participation in or around November 2013, reportedly because he could not fulfill the Program's substantial time commitment. Yet contrary evidence indicates that he continued to obtain Chinese grants for TMU at least into 2014, and for a significant period thereafter. Further, he recruited Drs. List, Sullivan, Sellers, Epling-Burnette into the Talents program. unsuccessfully sought to recruit other Moffitt faculty members. These recruitment efforts came after his stated voluntary termination of his other 1000 Talents Program participation.

As part of his recruitment efforts, Dr. Wei interfaced with China personnel, supplied forms, collected materials and videos, all to enable TMUCIH to gain Talents program participants from Moffitt (and at least a few U.S. scientists from outside Moffitt). Dr. Wei served as intermediary between Moffitt personnel and TMUCIH, often leading trips to TMUCIH translating communications. Over this period of time, Dr. Wei maintained contact regarding Talents program applications with TMUCIH personnel, as well as other apparent Chinese contacts. Determining specifically with whom Dr. Wei communicated over this time period is difficult because communications were often to various web-based email addresses not directly traceable to individuals or entities and were in Mandarin Chinese.

In November 2018, Dr. Wei assisted Drs. List, Sellers, Sullivan and Epling-Burnette to open bank accounts in China to receive their personal Talents program monies. For Dr. List, the personal bank account in China was to receive not only Dr. List's Talents programs income, but also what Dr. List had characterized in communications with Dr. Wei as "other funding" in addition to his personal Talents program payments. Regarding time commitments for the Talents programs, Dr. Wei stated that the substantial (two or three months per year) time commitments he elicited on recorded videos from all Moffitt faculty participants, including Dr. List, were an open "lie" necessary to apply for the Talents programs and to enable the participating Moffitt faculty to receive their Talents programs payments. Prior to the current inquiry, Dr. Wei never reported to Moffitt his participation in any Talents program.

Dr. Howard McLeod

Dr. McLeod operates a research program in China through 1000 Talents Program support and his affiliation with Central South University ("CSU")/Xiangya Hospital, in Changsha, Hunan Province; he joined this Talents program before coming to Moffitt. He also appears to have or had at least one other Talents program award or appointment through a China-based company, and he maintains substantial

Dr. McLeod's participation in Talents program activities is commercial interests in China. independent of Dr. Wei's efforts. On interview, Dr. McLeod reported having received a Chinese "green card" (i.e., Chinese domestic work permit) when he began 1000 Talents Program work and stated that bank accounts in China receive his Talents program funding, which serves to fund his research, travel and other activities in China. Dr. McLeod reported that he oversees students, advises on and participates in clinical and other research in China, and assists CSU to grow its capacity and knowledge base.

Dr. McLeod has a close relationship and supervised Dr. Yijing (Bob) He, who worked as a full-time Moffitt employee from 2014 to June 2019. Unbeknownst to Moffitt, Dr. He resided and worked entirely in China, and yet used a Florida mailing address owned by Dr. McLeod for his Moffitt human resources file. 11 Dr. He appears to have functioned as an agent of Dr. McLeod in China. Dr. He has facilitated a wide variety of opportunities and activities in China, both commercial and academic, for himself and Dr. McLeod. They shared clinical trial oversight and design duties, sought research funds jointly, and engaged in commercial opportunities together.

As a 1000 Talents Program participant, Dr. McLeod reportedly receives an annual salary (which he describes as approximately "10% of previous salary at UNC"), as well as RMB 1,000,000 (~\$142,000 USD) in annual research funding, and ~\$149,000 USD in "start-up" funding for every five-year 1000 Talents Program renewal, which would appear to represent personal income under what we know of the Talents program payment methodology. Dr. McLeod has received Chinese government grants and has co-authored publications in which he has listed CSU/Xiangya as his only employer. At least one patent in his name was filed through CSU/Xiangya in 2017. Every year, he has reported to Moffitt his involvement in a Talents program, but has never disclosed to Moffitt the full extent of his research funding and personal income from the Talents programs.

Dr. Alan List

Dr. List appears to have been involved in at least two separate Talents program activities, opened a personal bank account in China to receive Talents program and other funds, and agreed to receive some additional, non-Talents program payments from TMUCIH while serving as Moffitt's President and CEO. In June 2015, at Dr. Wei's request and Dr. List's direction, Dr. List's secretaries compiled application material for the 1000 Talents Program and sent Dr. List's electronic signature to Dr. Wei for the application. The application included an express pledge in English to work in China for nine months annually for three years and, in Mandarin, referenced his personal compensation as RMB 500,000 (~\$71,000 USD) payment and other benefits. Dr. List, with Dr. Wei holding the camera, recorded a video to support the application, committing to "at least two months of effort" to Talents program activities. In July 2016, Dr. List participated in a 1000 Talents Program award ceremony in Tianjin and he received a Tianjin visiting professorship contract in July 2016, which included an annual one-week commitment for three years in exchange for RMB 10,000 (~\$1,420 USD) per visit. In August 2016, Dr. List signed a form directing that the TMUCIH hematology department receive RMB 600,000 (~\$85,300 USD) from his 1000 Talents Program research funds. In September 2016, Dr. List received the Tianjin Friendship Award of Haihe River, which may have included RMB 50,000 (~\$7,100 USD) payment, although on interview, Dr. List asserted that he could not recall whether he actually received this compensation. In 2017, another Talents program application appears to have

¹¹ On interview, Dr. McLeod stated that Dr. He's salary was paid by funds of the State of Florida that had been made available to Moffitt to support Dr. McLeod's Moffitt research.

been submitted by Dr. Wei for Dr. List. In June 2018, Dr. List emailed with Dr. Wei about opening a personal bank account in China for Talents program funding, stating: "Kim [Dr. List's spouse] is fine with opening a bank account. I guess we can deposit the other funds waiting for us there into the account as well. What are the next steps?" On interview, Dr. List did not recall this email exchange and could not relate or describe the significance of this email between him and Dr. Wei. Subsequently, in November 2018, Dr. List, with Dr. Wei's assistance, opened a personal bank account in Tianjin, at the same time as personal bank accounts were also opened there by Drs. Sellers, Sullivan and Epling-Burnette, which was contemporaneously known to Dr. List. On interview, Dr. List stated that about \$70,000 was deposited into that account but advised that he has not withdrawn any funds from it.

Dr. List admitted signing the 2016 form directing that his 1000 Talents Program funding be directed to TMUCIH, and he acknowledged having opened the personal bank account in Tianjin in November 2018. The precise compensation accompanying his Talent programs activities is not known and he has indicated that he did not know the specifics of his Talents programs-related compensation. Dr. List did not disclose to Moffitt his participation in Chinese Talents programs, any Talents program payments, or his Chinese personal bank account, until specifically asked by Moffitt's Compliance Office in late September 2019.

Dr. List also served on a TMUCIH/IPCC advisory committee, beginning in or around November 2017, for which he was personally paid \$15,000 for 2018 services; his involvement in this advisory committee, but not his exact compensation, was disclosed as part of the Moffitt faculty disclosure but was not disclosed as part of Dr. List's board of directors' disclosure. On interview, Dr. List stated that he thought the amount he received was smaller than \$15,000, but bank information he later produced indicated that he indeed had received \$15,000.

In summary, there were various failures to report Chinese activities and income, and these activities and income represent violations of Moffitt's policies. Dr. List, along with the other three Moffitt faculty, opened personal bank accounts in China in November 2018 to receive Talents programs compensation – at a time well after these foreign influence issues had been brought to their attention by Moffitt and by the NIH through national academic and medical community announcements and public media reports.

Dr. Tom Sellers

Dr. Sellers was the Principal Investigator and Moffitt lead on the Moffitt's NCI Core Grant and was involved in one Talents program. At Dr. Wei's request in June 2017, Dr. Sellers compiled application material for the 1000 Talents Program and sent Dr. Wei his electronic signature for the application (which included an express pledge in English to work in China for two months annually for three years and, in Mandarin, reference to personal compensation of RMB 50,000 (~\$7100 USD) monthly payment and other benefits). Dr. Sellers also acknowledged having recorded, with Dr. Wei's assistance, a video to support his Talents program application, but that video has not been located. In May 2018, Dr. Wei emailed Dr. Sellers about opening a Chinese bank account in connection with the Talents program. In July 2018, Dr. Sellers emailed Dr. Sullivan stating that he had received a "1000 talent recognition."

In November 2018, Dr. Sellers opened a bank account in Tianjin. On interview, Dr. Sellers stated that \$35,000 was deposited into the account, with another \$35,000 to be deposited at a later date. Dr. Sellers also stated that he had not withdrawn any funds from this personal Chinese bank account.

Sellers disclosed his participation in the 1000 Talents Program and his Chinese bank account in August 2019, after having attended a Moffitt Compliance seminar on the topic of foreign influence on U.S. academic activities. On interview, Dr. Sellers initially stated that he had not participated in a Talents program, but then changed his position when confronted with statements in which he had indicated to others that he had applied for and received a Talents program award.

Dr. Dan Sullivan

Dr. Sullivan was involved in Moffitt/Tianjin activities and in one Talents program. At Dr. Wei's request in June 2017, Dr. Sullivan compiled application material for the 1000 Talents Program and sent Dr. Wei his electronic signature for the application (which included an express pledge in English to work in China for two months annually for three years and, in Mandarin, reference to personal compensation of RMB 50,000 (~\$7,100 USD) monthly payment and other benefits). With Dr. Wei's assistance, Dr. Sullivan also recorded a video to support his Talents program application, in which he pledged to work two months annually. In June 2018, Dr. Sullivan was honored at a 1000 Talents Program ceremony in Tianjin. In November 2018, Dr. Sullivan opened a personal bank account in Tianjin. On interview, Dr. Sullivan stated that \$80,000 was deposited into the account. Dr. Sullivan also stated that he has not withdrawn any funds from his personal Chinese bank account. In January 2019, Dr. Sullivan disclosed to Moffitt Compliance his participation in the 1000 Talents Program and the existence of his personal Chinese bank account. In February 2019, Dr. Sullivan disclosed to his financial advisors that he was being paid "500,000 yuan/annually [~\$71,000 USD] into an account at Chinese Merchant Bank" for "research work." When one of Dr. Sullivan's subordinates commented to him in April 2019 about her being "really nervous about going to China" because of "thousand talents" programs, Dr. Sullivan stated that "[It is] Good to live on the edge;" and when she reiterated her concern, he joked, "Lawyers make you anxious? That is their job." Dr. Sullivan also served on an IPCC advisory committee, beginning in or around November 2017, for which he was paid \$15,000 for 2018, and which he reported in the Moffitt 2018 faculty disclosure process.

Dr. Pearlie K. Epling-Burnette

Dr. Epling-Burnette appears to have been involved in at least one Talents program. In 2015, she compiled application materials for the 1000 Talents Program at Dr. Wei's request and recorded, with Dr. Wei's help, a video to support the application, in which she pledged to work three months annually. In 2017, Dr. Epling-Burnette directed that funds from her 2015 1000 Talents Program award be directed to the TMUCIH hematology department (RMB 600,000 (~\$85,300 USD)). In November 2018, Dr. Epling-Burnette opened a personal bank account in Tianjin into which \$35,000 was reportedly deposited by TMUCIH, with another \$35,000 to be deposited later. On interview, Dr. Epling-Burnette stated that she had withdrawn \$7,000 to \$8,000 in \$400 increments from this account through a Tampa Bay credit union. She also stated that she believed the time commitment she made was for activities at Moffitt supervising Tianjin students. She formally disclosed to Moffitt the \$35,000 award only on the evening before being interviewed as part of the Moffitt investigation.

Conclusions

The participation by the Moffitt leaders and faculty in the Talents programs and other Chinese activities violated multiple Moffitt policies and federal grant standards, including:

- Receiving personal payments from an entity (TMUCIH) with which Moffitt itself does business, without disclosing those payments to the Moffitt Board of Directors and without disclosing those payments in the Moffitt faculty financial disclosure process;
- Agreeing to devote substantial personal time (at least two to three months annually) to these personally compensated activities in China, in direct conflict with their full-time commitments to Moffitt;
- Receiving personal payments and other research support from Tianjin and other Chinese sources, without disclosing this support as part of federal grant applications and in the course of financial disclosures for federal grants purposes;
- Receiving personal cash honoraria and personal travel benefits during their visits to China, without reporting these to Moffitt; and
- Opening personal bank accounts in China to receive these unreported funds.

There is no evidence to date that intellectual property has been stolen or that research or patient care has been compromised.



Chronology of Moffitt's China Internal Investigation

Chronology of Events - 2010-2015



December 2010

 NIH and National Natural Science Foundation of China (NSFC) sign implementation arrangement for new U.S.-China Program for Biomedical Research Cooperation.

April 2014

 Moffitt enters into Collaboration Agreement with Tianjin China Taishan Cancer Hospital (IPCC).

October 2015

NIH and NSFC renew Biomedical Research Cooperation arrangement.

Chronology of Events - 2018



March 2018

 NIH issues Guidance on disclosing financial interests in connection w/ foreign institutions.

• August 2018

- NIH Director letter to 10,000 research individuals and entities on PRC risks.
- Compliance provides memo to CCSC (List, Sellers, Sullivan, et al.) about Export Control compliance and international risks.

October 2018

- NIH inquiry letters begin (70+ academic institutions).
- Compliance sends email to all Moffitt faculty, senior leadership and directors (research and clinical) re: COI Disclosure Statements must be current and accurate.

December 2018

 Working Group of NIH Advisory Committee issues report entitled, "Foreign Influences on Research Integrity."

Chronology of Events - 2019



January 2019

- Compliance meets w/ Sullivan and others to learn more about Moffitt/Tianjin relationship.
- Sullivan discloses participation in 1000 Talent Program (but not bank account, compensation).

March 2019

 Compliance briefs CCSC on legal, regulatory, compliance and security concerns related to Moffitt's international relationships and affiliations.

April 2019

- Compliance meets w/ Sullivan and others for further details on Moffitt/Tianjin agreement.
- Compliance learns McLeod has full-time Moffitt employee (Dr. He) working from PRC; Compliance investigation into matter begins.
- National media on MDA faculty 1000 Talents involvement.

May 2019

• Compliance briefs JCCCB on legal, regulatory, compliance and security concerns of Moffitt's International relationships and affiliations.



• June 2019

- Dr. He's employment terminated.
- Working Group of NIH Advisory Committee update on Foreign Influences on Research Integrity.
- OGC engages Ropes & Gray (attorneys for many U.S. institutions in these matters).

July 2019

- NIH issues additional Guidance on importance of disclosing financial interests, other support, and foreign components.
- Educational article published in MRI Signals and WHAM advising of recent NIH guidance and reminding faculty of the need to disclose all financial interests, other support, and foreign components.
- Compliance attends meeting with Sullivan/Wei and others to discuss planned Oct. trip to Tianjin, 1000 Talents Program.



• August 2019

- Foreign influence presentation at MRI Faculty and MMG Quarterly Faculty Meeting.
- Compliance receives media review results on Dr. He. Based on findings requests same review for McLeod.
- Compliance meets with Dr. Sellers re: his participation in a Talents program.
- Compliance, OGC and Cybersecurity receive educational briefing on Talent Recruitment programs from FBI.

September 2019

- Compliance briefs CCSC on Foreign Talents Recruitment programs and Moffitt leaders' participation.
- Compliance performs preliminary email search and finds talent applications for List, Sellers and Sullivan (including commitments to do future research).
- Compliance forms steering committee to oversee informal investigation (OGC, Compliance, Tremonti, de la Parte).



- September 17, 2019
 - OGC briefs Institute Board Chair and Dr. List on informal investigation findings.
- September 23, 2019
 - Steering Committee meets to discuss informal investigation.
 - OGC engages Greenberg Traurig (for criminal law assistance).
- September 25, 2019
 - Compliance email search locates evidence of talent program involvement for other faculty members.
 - OGC briefs H. Lee Moffitt on informal investigation.
- September 30, 2019
 - Compliance and OGC meet with Dr. List to brief him on informal investigation findings, including locating his 1000 Talents application and Wei's role in Talents program recruitments.



- October 3, 2019
 - Compliance and OGC brief JCCCB Chair on informal investigation.
- October 8, 2019
 - Compliance and OGC brief JCCCB on the specifics of the informal investigation in Executive Session.
 - JCCCB approves the formal investigation workplan and requests to meet every 2 weeks to oversee the formal investigation.
 - JCCCB Members: Chair Mark Pizzo, Vice Chair Angela Biever, Robert Perez, John Tomlin, Celia Ferman, Tim Adams (ex-officio).
- October 14, 2019
 - Compliance and OGC brief Dr. List on need to brief law enforcement and cancellation of October trip to Tianjin.
- October 22, 2019
 - Compliance and OGC brief law enforcement.

Chronology of Events - 2019 (cont.)



- November 1, 2019
 - JCCCB meets in executive session.
- November 6-11, 2019
 - Compliance and outside counsel conduct interviews of involved parties and witnesses.
- November 15, 2019
 - JCCCB meets in executive session.
- November 22, 2019
 - JCCCB meets in executive session.

Chronology of Events - 2019 (cont.)



- December 5, 2019
 - JCCCB meets in Executive Session to approve Executive Summary of investigation and related findings.
- December 9, 2019
 - JCCCB approves revised Executive Summary findings of investigation.
- December 10-16, 2019
 - Individual members of Executive Committee briefed on JCCCB investigation.
 - Executive Committee members: Chair Tim Adams, Vice Chair Beth Houghton, Angela Biever, Joseph Caballero, Steven Currall, Edward Droste, Benjamin Hill, Alan Levine, Allan Martin, H. Lee Moffitt.
- December 11, 2019
 - Institute Board Chair and JCCCB Chair meet with Dr. List to share JCCCB investigation findings.

Chronology of Events - 2019 (cont.)



- December 12, 2019
 - Mr. Moffitt, Mr. de la Parte, Ms. Tremonti and outside counsel meet with NIH to disclose JCCCB investigation findings.
- December 13, 2019
 - Institute Board Chair and JCCCB Board Chair meet with Dr. Sellers to share JCCCB investigation findings.
- December 18, 2019
 - Executive Committee of the Board meets to receive JCCCB investigation findings and determine actions.
 - All Boards' meeting held to share Executive Committee actions

UF Investigative Notes, Policies and table of other records

I. Executive Summary

Faculty 1 was a Professor of Chemistry at University of Florida and served as Principal Investigator on one active NIH award, prior to his resignation. In January 2019, NIH notified UF that Faculty 1 might not have disclosed affiliations with foreign institutions, a foreign component on his grant, or foreign sources of funding. The UF Office of Research gathered information and conducted a thorough review. Pursuant to that review, UF can confirm the following:

- Our review shows that Faculty 1 currently serves as a Vice President at a Chinese university. In
 his NIH grant application, Faculty 1 listed that he was an Adjunct Distinguished Professor at a
 Chinese university in the "Positions and Employment" section of his biosketch. Faculty 1 did not
 disclose his Vice President position at the Chinese university to UF or NIH.
- While affiliated with the Chinese university, Faculty 1 participated in recruitment activities for China's talent recruitment programs.
- Faculty 1 also has an affiliation with a second university in China where he has been the Director
 of an Institute since 2017. This affiliation was not disclosed to UF or NIH.
- UF has confirmed that Faculty 1 is the principal investigator or manages the following foreign awards, which were not disclosed to UF or NIH:
 - A National Key Scientific Program of China grant
 - o Two National Science Foundation of China grants
 - o A China National Instrumentation Program grant
- UF has been unable to confirm whether Faculty 1 received the National Science Foundation of China grant that was referenced in the letter from NIH.
- As part of Faculty 1's efforts at the Chinese universities, UF believes that Faculty 1 also had several foreign collaborators assisting his research efforts that may qualify as a foreign component but may not have been appropriately disclosed to NIH.
- Faculty 1 may have had other undisclosed outside activities including a consulting business as well as ownership of the business.

II. Background

Faculty 1 joined UF in 1995. His research focuses on aptamers. Faculty 1 had one grant from NIH at the time of his resignation. Over the course of his career at UF, Faculty 1 secured numerous grants from federal agencies, including the NIH.

In January 2019, the University of Florida received a letter from the National Institutes of Health, Office of Extramural Research. The letter alleged that Faculty 1 may have failed to properly disclose his affiliations with foreign institutions, receipt of foreign awards, and a foreign component on his active NIH grant.

Upon receiving the letter, UF sequestered all available electronic materials, including email. The Office of Research began a review of available resources, including emails and online materials. The review did not include interviews with Faculty 1, his supervisors or any of his associates.

III. Findings

The findings of the review are described below.

a. Faculty 1 has been an employee of a Chinese university since at least 2010 and Vice President of a Chinese university since 2017. While affiliated with the Chinese university, Faculty 1 participated in recruitment activities for China's talent recruitment programs. Faculty 1 did not disclose the activities to UF or NIH.

A review of recent publications shows that Faculty 1 often lists the Chinese university as his primary affiliation, and a review of websites within the public domain shows that Faculty 1 is regularly identified as the Vice President of the Chinese University. In email correspondence, Faculty 1 indicates to a collaborator that he has been a professor at a Chinese university "for the last 7 years" [since 2010]. Additionally, in correspondence from August 2017, Faculty 1 tells non-UF colleagues that he has been appointed as the Vice President of a Chinese university.

The Office of Research review found many emails in which Faculty 1 conducts business on behalf of the Chinese university using his University of Florida email account. In Faculty 1's NIH proposal, he listed an affiliation with the Chinese university on his biosketch and identified himself as an "Adjunct Distinguished Professor" at the Chinese university. However, Faculty 1 did not indicate his administrative position or fully disclose his role.

Furthermore, Faculty 1 appears to have a significant role in the Chinese government-sponsored talent recruitment programs. For example, in an application to the Third World Academy of Sciences (TWAS) Faculty 1 noted that he received the China Outstanding Youth Award in 2000 and that he participated in the China Recruitment Program of Global Experts from 2009-2014. UF believes that these two awards demonstrate Faculty 1's participation in a Chinese talent program. In addition, a review of Faculty 1's email shows that he is a recruiter of U.S. researchers for Chinese talent programs.

After reviewing Faculty 1's NIH proposals and annual reports, and the outside activity disclosures he submitted to UF, UF's preliminary conclusion is that Faculty 1 did not disclose his involvement with the Chinese university or Chinese talent programs to UF or NIH, in violation of their respective policies.

b. Faculty 1 has been an employee of a second Chinese university since at least 2017. He is a listed as a professor and the Dean of an Institute.

A review of recent publications shows that Faculty 1 often lists an affiliation with a second Chinese university, and a press release from 2019 identifies Faculty 1 as a "professor" there. Several emails that the UF Office of Research reviewed also indicated an affiliation with the university. For example, Faculty 1's signature block in email to a colleague identifies him as Dean of the Institute. In 2018, Faculty 1 submitted what appears to be a progress report for his lab's activities in China.

After reviewing Faculty 1's NIH proposals and annual reports, and the outside activity disclosures he submitted to UF, UF's preliminary conclusion is that Faculty 1 did not disclose his involvement with this university to UF or NIH, in violation of their respective policies.

Faculty 1 received and worked on grants from the National Key Scientific Program of China,
 National Science Foundation of China and China National Instrumentation Program.

The email record indicates that Faculty 1 received at least four grants from Chinese government programs. Faculty 1 prepared and submitted a report in January 2019 about the management of his State Key Lab at the second Chinese university referenced in (b) above. This report contains a list of grants on which Faculty 1 was PI, including:

- A National Key Scientific Program of China grant
- Two National Science Foundation of China grants
- A China National Instrumentation Program grant

Faculty 1 submitted similar reports that list the above grants in December 2015 and December 2016. Faculty 1 also cited these grants as supporting the research reported in recent publications.

After reviewing Faculty 1's NIH proposals and annual reports, and the outside activity disclosures he submitted to UF, UF's preliminary conclusion is that Faculty 1 did not disclose his involvement in these foreign grants to UF or NIH, in violation of their respective policies.

d. Faculty 1 may have participated in other undisclosed outside activities.

During its review, the Office of Research also found indications that Faculty 1 had additional undisclosed outside activities. In Fall 2017, Faculty 1 had discussions with colleagues about his new company. Records indicate that Faculty 1 may have also had a consulting business for research services.

If Faculty 1 participated in these activities, he did not disclose them to NIH or UF, in violation of their respective policies.

e. Faculty 1 may have had an undisclosed foreign component on his NIH grant.

In publications that cited NIH funding, Faculty 1 had co-authors with foreign affiliations, which may indicate a foreign component as defined in NIH policy. Based on its review, the Office of Research was unable to confirm that Faculty 1 had a foreign component on the NIH grant, with the caveat that Faculty 1 is a faculty member and administrator at least two universities in China. This might qualify as a foreign component.

IV. Conclusion

Based on the findings, the Office of Research referred the review and supporting documentation to UFHR for a formal investigation. Once Faculty 1 was notified of the UF investigation, he resigned his employment. Federal investigations are ongoing.

FACULTY MEMBER 2 FINDINGS

I. Executive Summary

Faculty 2 was an Associate Professor of Biomedical Engineering at the University of Florida (UF) and served as Principal Investigator on one active NIH award prior to his resignation. In January 2019, NIH notified UF that Faculty 2 might not have disclosed affiliations with foreign institutions or foreign sources of funding. The UF Office of Research gathered information and conducted a thorough review. Pursuant to that review, UF can confirm the following:

- Faculty 2 applied to, and was selected for, the 2017 Chinese Thousand Talents program, which may have included a stipend from the Chinese government. UF believes Faculty 2 may have received a position at a university in China as part of his talents program award. If Faculty 2 accepted the award and/or appointment, he did not disclose that information to UF or NIH.
- In the course of the review, UF discovered that Faculty 2 is the owner of a China-based company, which he did not disclose to UF or NIH.
- UF was unable to find evidence that Faculty 2 received any foreign awards.

II. Background

Faculty 2 joined UF in 2014. Faculty 2's research focuses on biomedical image computing and informatics.

In January 2019, the University of Florida received a letter from the National Institutes of Health, Office of Extramural Research. The letter summarized allegations that Faculty 2 may have failed to properly disclose his affiliations with a foreign institution, receipt of foreign awards, including the 2017 Chinese Thousand Talents program, and a foreign component on his active NIH grant.

Upon receiving the letter, UF sequestered all available electronic materials, including email. The Office of Research began a review of available resources, including emails and online materials. The review did not include interviews with Faculty 2, his supervisors or any of his associates1.

III. Findings

The findings of the review are described below.

a. Faculty 2 is the founder, part owner and CEO of a China-based company. Faculty 2 did not disclose the company, or his affiliation with it, to UF or NIH.

The email record demonstrates that, as early as 2016, Faculty 2 was working in support of a company he founded in China. A website refers to Faculty 2 as the founder and CEO. A press release by a firm that invested in the company in June 2018 outlines Faculty 2's involvement as the co-founder and primary source of scientific expertise.

A variety of emails within Faculty 2's mailbox show his regular involvement with the company. These emails include an application packet for venture capital investments, conversations with colleagues regarding the status of the company, and the coordination of meetings regarding investment in the company. Additionally, Faculty 2 used a company email address in correspondence as recently as January 2019 and had recurring correspondence about company business, including logo design and device manufacturing.

In addition to the above emails, UF discovered a video from December 2018 in which Faculty 2 gave a presentation regarding his company's vision and potential partners.

In January, 2019, the College of Engineering required all faculty to provide updated disclosure of activities with foreign entities. Faculty 2's response does not include any reference to his company in China.

After reviewing Faculty 2's NIH proposals and annual reports, and the outside activity disclosures he submitted to UF, UF's preliminary conclusion is that Faculty 2 did not disclose his involvement with the company to UF or NIH, in violation of their respective policies.

b. Faculty 2 actively pursued an opportunity to participate in a Talent Program and received the award in 2017. If Faculty 2 accepted the award, he did not disclose the award to NIH or UF.

In 2016, Faculty 2 began the process of applying to the Chinese Thousand Talents program. As part of process, Faculty 2 submitted an application for the program, as well as a recommendation letter. He received a summary of the talents program requirements in what appears to be minutes of a meeting he attended. Additionally, Faculty 2 informed a colleague in November 2016 that he, "just arrive[d] at Beijing and will plan for the thousand people defense." Finally, a website identifying Faculty 2 by his date of birth and UF affiliation, announces that Faculty 2 is a recipient of the 2017 award and is affiliated with a university in China.

After reviewing Faculty 2's NIH proposals and annual reports, and the outside activity disclosures he submitted to UF, UF's preliminary conclusion is that Faculty 2 did not disclose the receipt of this award to UF or NIH, in violation of their respective policies.

c. Faculty 2 may not have disclosed an affiliation with a university in China.

If Faculty 2 accepted the Thousand Talents award, as announced online, then he also may have accepted an affiliation with a Chinese university.

d. Faculty 2 may or may not have had a foreign component on his NIH grant.

In publications that cited NIH funding, Faculty 2 had co-authors with foreign affiliations. However, based on its review, UF was unable to confirm that Faculty 2's grant had a foreign component.

IV. Conclusion

Based on the findings, the Office of Research referred the review and supporting documentation to UFHR for a formal investigation. Upon being notified that he was under investigation, Faculty 2 resigned from UF. Federal investigations are ongoing.

I. Executive Summary

Faculty 3 was a part-time Research Associate Professor in the College of Medicine at the University of Florida (UF) and served as the Principal Investigator on one active NIH award prior to his termination. He also served as the co-PI on a second NIH award. In the course of its review of faculty participation in undisclosed activities, the UF Office of Research determined that Faculty 3 may have participated in a Chinese government-sponsored talents program that he did not disclose to NIH. The Office of Research gathered information and conducted a thorough review. Pursuant to that review, UF can confirm the following:

- Faculty 3 has held an appointment of a Chinese university since at least 2017. Faculty 3 did not disclose this affiliation to NIH.
- Faculty 3 was the recipient of a Chinese Thousand Talents award, which he did not disclose to NIH.
- Faculty 3 received at least one undisclosed grant from the National Natural Science
 Foundation of China, grant 31700142, which he did not disclose.
- UF believes that Faculty 3's activities at the Chinese university constitute a foreign component on his grants that Faculty 3 did not disclose to NIH.

II. Background

Faculty 3 was appointed as a research faculty in the College of Medicine at UF in 2012; prior to that, he was a postdoctoral associate and student within the same department. Faculty 3's research focuses on adeno-associated virus (AAV) virology, gene therapy and traditional Chinese medicine.

In early 2019, the Office of Research received information that immediately led to a review of Faculty 3's activities at UF. In the course of the review, the UF Office of Research determined the Faculty 3 participated in a China talents program that he did not disclose to NIH. Upon this discovery, UF sequestered all available electronic materials, including email. The Office of Research began a review of available resources, including emails and online materials. The review did not include interviews with Faculty 3, his supervisors, or any of his associates.

III. Findings

The findings of the review are described below.

a. Faculty 3 was an employee of the Chinese university since at least 2017. He did not disclose his affiliation to NIH.

We obtained a copy of the contract Faculty 3 signed in a review of his emails. According to a translation of the contract, his appointment at a Chinese university is as a full time employee.

After reviewing Faculty 3's NIH proposals and annual reports, UF's preliminary conclusion is that Faculty 3 did not disclose his Chinese employment to NIH, in potential violation of its policies.

b. Faculty 3 is the recipient of a Chinese Thousand Talent award, which he did not disclose to NIH.

The contract identified Faculty 3 as a recipient of the Chinese Thousand Talents award and laid out the requirements related to continuing to receive Talent funding.

After reviewing Faculty 3's NIH proposals and annual reports, UF's preliminary conclusion is that Faculty 3 did not disclose the receipt of this award to NIH, in potential violation of its policies.

c. Faculty 3 may have inappropriately allocated NIH grant funds.

In December 2017, Faculty 3 had a discussion with a colleague, who was in the process of leaving UF. The colleague requested that his graduate student, who was also leaving, continue to work on Faculty 3's grant. In response to this request, Faculty 3 replied that, "It is not necessary for [grad student] to conduct the experiments on my R01, which I will ask others in my lab to finish My only concern is that for my future promotion in the [Chinese] university, any publication not as a correspondence/co-correspondence author or any publication with impact factor less than 5 doesn't count. So I will be very much appreciated if he could generate high-quality publications under your guidance."

The graduate student is listed as a lab member of another US university's website. However, UF payroll records for the student indicated the student was paid from Faculty 3's NIH grant continuously since 2017.

Based on these findings, the University believes that the payroll expenses for the referenced graduate student may not be allocable to the grant charged for the period January 2018 to present. In an abundance of caution, UF has proactively removed payroll and fringe expenses associated with this charge.

d. Faculty 3 has received at least one grant from the Chinese government, which he did not disclose to UF or NIH.

In an email exchange with a colleague (Email-031), Faculty 3 discusses a potential publication on which he is a co-author. The email exchange and attached paper indicate Faculty 3 is supported by a grant from the National Natural Science Foundation of China, grant 31700142. Recent publications also cite this grant as funding Faculty 3's research.

After reviewing Faculty 3's NIH proposals and annual reports, and the outside activity disclosures he submitted to UF, UF's preliminary conclusion is that Faculty 3 did not disclose the receipt of this award to UF or NIH, in potential violation of their respective policies.

e. Faculty 3 likely had a foreign component on his NIH grant.

UF believes that Faculty 3's extensive activities at Chinese constitute a foreign component on his NIH grants. For example, in January 2018, Faculty 3 received a request from colleague for plasmids (Email-035) and responded that, "...since the plasmid pX601 is in my laboratory in China and the pAAV6 mutant plasmid is in my laboratory in U.S.A. It may take a month to ship to you together." Additionally, Faculty 3 has several foreign collaborators on his publications. NIH questioned the presence of the collaborators in December 2017, but Faculty 3 responded at the time that some of the papers were included in error and no NIH funds were spent in China (Email-009, 010). NIH took the opportunity to remind Faculty 3 of NIH's definition of a foreign component as well as Faculty 3's obligation to request prior approval for such activities.

UF's review indicated that Faculty 3's grants likely have a foreign component, which has occurred without NIH prior approval and is a violation of NIH policy.

IV. Conclusion

Based on the findings, Faculty 3 was terminated from UF.

Administrative Memo

University of Florida (https://administrativememo.ufl.edu)

UF Faculty, Staff and Student Sign-Up (https://administrativememo.ufl.edu/email-signup/)

Your responsibilities regarding the disclosure of activities involving foreign entities

Published: February 4th, 2019

Category: Memos (https://administrativememo.ufl.edu/category/memos/)

David P. Norton, Vice President for Research

As explained in the January3, 2019 administrativememo (https://administrativememo.ufl.edu/2019/01/federal-agency-disclosure-requirements-for-grantsupported-investigators-disclosing-financial-support-from-foreign-entities/), regarding the disclosure of financial support from foreign entities, U.S.federal agencies have continued to express heightened concern about foreign influence on university research. InAugust 2018, Dr. Francis Collins, Director of the National Institutes of Health(NIH), issued a letter (http://www.sciencemag.org/sites/default/files/NIH%20Foreign%20Influence%20Letter%20to%20Grantees% 2008-20-18.pdf)that expressed serious concerns regarding efforts by foreign entities to exertinappropriate influence on research in the U.S. The National Science Foundation(NSF), the Department of Defense, and other U.S. government agencies have communicated similar concerns.

Given the importance of this issue to our federal sponsors, we are clarifying points from the January 3, 2019 administrative memo and reminding you of your obligations to report your activities involving foreign entities. Please review and adhere to the following requirements.

Disclosing Other Support to Federal Agencies

Disclose all financial supportreceived from any foreign entity that supports ongoing or proposed research projects for which you will provide effort or oversight. This includes financial support you receive from a foreign government, university or other legal entity outside the U.S.

ForNIH awards, you must make this disclosure during the Just-in-Time process onyour Other Support or within the Research Performance Progress Reports submittedannually.

ForNSF awards, you must make this disclosure in the Current & Pending Supportsection of your submitted proposal.

"Financial Support" that must be disclosed includes, but is not limited to, the following:

Sponsored funding provided to the University that supports your University activities;

Gifts, whether financial and non-financial, provided to the University that supportsyour University activities;

Students, post-docs, or scholars working with you here at UF who are paid or supported (e.g., receive salary, a stipend, travel expenses, living expenses, etc.)directly from a foreign entity; and

Funding (e.g., salary, stipend, honorariums, etc.), expense reimbursements, travel orlodging costs provided directly to you as a consultant, visiting scholar, lecturer, collaborator, or other non-UF activity or appointment, regardless of whether you performed the activities in the U.S. or abroad. For faculty on nine-month appointments, this includes support received for activities completed over the summer term.

The disclosure requirements include support you receive through UF awards (contractsor grants) or support provided directly to you.

On NIH applications, you must indicate whether the project includes a "foreign component", and, if yes, provide a foreign justification document. A foreign component is defined as performanceof any significant scientific element or segment of a project outside of the United States, either by the recipient or by a researcher employed by a foreign organization, whether or not grant funds are expended.

Youcan find NSF and NIH specific guidance at:

https://grants.nih.gov/grants/forms/othersupport.htm (https://grants.nih.gov/grants/forms/othersupport.htm)

https://grants.nih.gov/grants/policy/nihgps/HTML5/section_2/2.5.1_just-in-time_procedures.htm?Highlight=other%20support (https://grants.nih.gov/grants/policy/nihgps/HTML5/section_2/2.5.1_just-in-time_procedures.htm?Highlight=other%20support)

NIH Definition of Foreign Component: https://grants.nih.gov/grants/policy/nihgps/html5/section_1/1.2_definition_of_terms.htm (https://grants.nih.gov/grants/policy/nihgps/html5/section_1/1.2_definition_of_terms.htm)

NIH Foreign Component Justification: https://grants.nih.gov/grants/how-to-apply-application-guide/forms-d/general/g.220-r&r-other-projectinformation-form.htm#6 (https://grants.nih.gov/grants/how-to-apply-application-guide/forms-d/general/g.220-r&r-other-project-information-

NSF PAPPG: https://www.nsf.gov/pubs/policydocs/pappg19_1/pappg_2.jsp#IIC2h (https://www.nsf.gov/pubs/policydocs/pappg19_1/pappg_2.jsp#IIC2h)

Disclosing Outside Activities with Foreign Entities to the University

All UF employees must disclose to the university all outside financial relationships and professional activities, whether compensated or uncompensated.

The disclosure must be made via the UF Outside Activities and Financial Interestsform.

This disclosure must include but is not limited to the following:

https://administrativememo.ufl.edu/2019/02/your-responsibilities-regarding-the-disclosure-of-activities-inv... 1/16/2020

Your responsibilities regarding the disclosure of activities involving foreign entities » Administrative Me... Page 2 of 3

Receipt of stipends, honorariums, living expenses, travel reimbursements, or otherpayment from a foreign government or institution; and

This disclosure must include sufficient detail to determine the nature of theactivity and degree of any potential conflict of interest.

Approval for outside activities must occur in advance of the activity.

You can find specific guidance related to UF's outside activities disclosure process at:

http://research.ufl.edu/compliance/conflict-of-interest-and-outside-activities.html (http://research.ufl.edu/compliance/conflict-of-interest-and-outside-activities.html)

http://aa.ufl.edu/media/aaufledu/forms/OAA-GA-L-267-Disclosure-of-Outside-Activities-Out-of-Unit.pdf (http://aa.ufl.edu/media/aaufledu/forms/OAA-GA-L-267-Disclosure-of-Outside-Activities-Out-of-Unit.pdf)

Complying with Export Control Laws

Comply with U.S. export control regulations in all domestic and international activities.

With few exceptions, the University of Florida will not host visitors, enter into contracts or other agreements, do business, or engage in any activity with entities listed on a U.S. government restricted party lists.

You must verify that a foreign individual or entity with which you plan to engage is not listed on a restricted party list. For assistance, contact UF's Divisionof Research Compliance and Global Support at 352-392-9174.

You must obtain Division of Research Compliance and Global Support approval prior hosting visitors, entering into contracts, or engaging in activities with anentity or individual listed on any U.S. government restricted party list.

You can find specific guidance related to export control law and restricted partiesat:

https://www.bis.doc.gov/index.php/policy-guidance/lists-of-parties-of-concern (https://www.bis.doc.gov/index.php/policy-guidance/lists-of-parties-of-concern)

http://research.ufl.edu/compliance/export-controls.html (http://research.ufl.edu/compliance/export-controls.html)

Registering your International Travel

Register your international travel with UF International Center.

For more information: https://internationalcenter.ufl.edu/travel (https://internationalcenter.ufl.edu/travel)and

https://internationalcenter.ufl.edu/travel/online-travel-registration

If you are traveling with UF-owned equipment, you must register your trip with UF Asset Management.

For more information: http://www.fa.ufl.edu/departments/asset-management/annual-inventory-off-site-certifications-foreign-travel-with-equipment-request/ (http://www.fa.ufl.edu/departments/asset-management/annual-inventory-off-site-certifications-foreign-travel-with-equipment-request/)

Review and adhere to UF international travel guidance found within these offices:

http://research.ufl.edu/compliance/export-controls/international-travel.html (http://research.ufl.edu/compliance/export-controls/international-travel.html)

https://security.ufl.edu/learn-information-security/security-tips-when-traveling-abroad/ (https://security.ufl.edu/learn-information-security/security-tips-when-traveling-abroad/)

https://business.it.ufl.edu/travel/travel-guide/ (https://business.it.ufl.edu/travel/travel-guide/)

Other Disclosures and Requirements

Promptly disclose all inventions and intellectual property to UF Innovate.

For more information: http://innovate.research.ufl.edu/tech-licensing/ (http://innovate.research.ufl.edu/tech-licensing/)

Comply with the anti-bribery provisions of the Foreign Corrupt Practices Act.

Formore information: https://www.justice.gov/criminal-fraud/foreign-corrupt-practices-act (https://www.justice.gov/criminal-fraud/foreign-corrupt-practices-act)

The University of Florida supports and encourages international research, collaboration, and scholarship. Thank you for your help inensuring compliance with all UF and federal policies. Failure to comply with these requirements can lead to significant negative consequences for the institution and the individual.

If you have any questions that pertain to sponsored programs policy and procedure, pleasecontact Stephanie Gray, Director of Division of Sponsored Programs (slgray@ufl.edu (mailto:slgray@ufl.edu)).

For questions regarding export control or restricted party lists, please contact Terra DuBois, Director of Research Compliance and Global Support (tdubois@ufl.edu (mailto:tdubois@ufl.edu)). If you have questionsthat are pertinent to the topic, but are confined to non-sponsored academicactivities, please contact Chris Hass, Associate Provost for Academic and Faculty Affairs (cjhass@aa.ufl.edu (mailto:cjhass@aa.ufl.edu)).

Like 0 Share Tweet (http://twitter.com/share)

Spring 2019 Commencement Information (https://administrativememo.ufl.edu/2019/01/spring-2019-commencement-information/)

Service Recognition Program (https://administrativememo.ufl.edu/2019/02/servic recognition-program/)

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Administrative Memo

University of Florida (https://administrativememo.ufl.edu)

UF Faculty, Staff and Student Sign-Up (https://administrativememo.ufl.edu/email-signup/)

Approvals for Faculty Travel

Published: August 16th, 2019

Category: Memos (https://administrativememo.ufl.edu/category/memos/)

Joseph Glover, Provost and Senior Vice President

Please remind faculty in your units of the following university approval process for travel and taking leave.

Faculty who plan to be absent from their assigned campus duties must do so with the knowledge and concurrence of their Chair/Director. "Assigned campus duties" includes assigned classroom instruction, office hours, and other service activities as assigned. Faculty may not cancel assigned campus duties or substitute other faculty members to perform them without the concurrence of the Chair/Director.

10- and 12-month Faculty who plan travel during their appointment must obtain the permission of the Chair/Director even if the faculty member uses annual leave.

Like 0 Share Tweet (http://twitter.com/share)

Call for Nominations, International Educator of the Year awards 2019 (https://administrativememo.ufl.edu/2019/08/callfor-nominations-international-educator-of-theyear-awards-2019/) UF Religious Observances Policy (https://administrativememo.ufl.edu/2019/09/uf-religious-observances-policy-6/)

Comments are currently closed.

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Administrative Memo

University of Florida (https://administrativememo.ufl.edu)

UF Faculty, Staff and Student Sign-Up (https://administrativememo.ufl.edu/email-signup/)

Assistant Vice President for Conflicts of Interest

Published: October 30th, 2019

Category: Memos (https://administrativememo.ufl.edu/category/memos/)

Joseph Glover, Provost and Senior Vice President

I am pleased to announce Gary Wimsett, Jr., JD, has been named Assistant Vice President for Conflicts of Interest for UF. In this role, Gary will oversee the further development and full implementation of UFOLIO, UF's online interest organizer for outside activity and financial interest disclosures. In addition, Gary's new office will become a centralized disclosure review office for the University.

Gary has been with the UF for a total of 15 years, most recently serving as the Director of Compliance and Conflicts of Interest for the UF Compliance Office. Previously, Gary served as the Director of the Conflicts of Interest Program for the College of Medicine, the Interim Director of the Research Administration and Compliance Office, and as an Associate Director in the Health Science Center's Office of Contracts and Related Services. For the past 10 years, Gary has been deeply involved in conflicts of interest process improvements and policy development at UF. One of Gary's latest endeavors consisted of collaborating with UF leadership to redesign the outside activity and financial interest disclosure processes and to implement UFOLIO. On the national level, he is a member of the Steering Committee for the Association of American Medical College's Forum on Conflict of Interest and is a frequent speaker on COI issues. He was recently named to a national Working Group on Uniform Disclosure Criteria and Processes for scientific journals.

Gary earned his Juris Doctor from the University of Florida College of Law in 1997 and his B.A. in English Literature from the University of South Florida in 1993.

Please join me in welcoming him to this new role.

Like 0 Share Tweet (http://twitter.com/share)

International Education Week 2019: "Go Greater, Go Global!" (https://administrativememo.ufl.edu/2019/10/internationaleducation-week-2019-go-greater-go-global/) UF Employee Education Program (https://administrativememo.ufl.edu/2019/11/uf-employee-education-program/)

Comments are currently closed.

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The University of Florida

Policy on Conflicts of Commitment and Interest

1. Policy Statement and Purpose

The University of Florida encourages its Faculty and Staff to engage in activities supporting their professional growth, creating new knowledge and ideas, and furthering the University's mission of excellence in education, research, and service. University employees' primary professional obligation, however, is to act in the best interest of the University and to maintain the highest ethical and professional standards when conducting affairs on its behalf. Personal gain from Outside Activates or Financial Interests, as defined below, must not influence—or create the appearance of influencing—the decisions or actions of the University. Accordingly, this Policy establishes standards and requirements to protect the University's financial wellbeing, reputation, and legal obligations and provides a system for identifying, reporting, and addressing real or apparent conflicts.

2. Audience

All University Faculty and Staff as defined below.

3. **Definitions**

Conflicts of Commitment: occurs when University Faculty or Staff engage in an Outside Activity, either paid or unpaid, that could interfere with their professional obligations to the University.

Conflicts of Interest: occurs when a University Faculty or Staff member's financial, professional, or personal matters affect, or it appears such matters could affect, their professional judgement or fiduciary obligations to the University.

Entity: is any business, company, or other organization, including without limitation any partnership, corporation, limited liability corporation, unincorporated association, or other institution or organization, whether for-profit or not-for-profit.

Faculty: Is, for purposes of this Policy, any person possessing either a full- or part-time academic appointment at the University, including faculty-level research appointees, faculty librarians, health system clinicians, and contributed service faculty¹. SHOULD WE EXCLUDE ADJUNCT FACULTY?

Financial Interest: Is defined in Section _____ of this Policy.

¹ Adjunct and visiting faculty and others meeting the definition of Investigator as defined in the University's Research Integrity Policy are subject to the training, disclosure and other requirements set forth in the Research Integrity Policy.

*Immediate Family Member*²: Is a Faculty or Staff member's spouse, dependent child, domestic or civil union partner, or others as defined in the Faculty or Staff Handbook.

Institutional Responsibilities: Are responsibilities expected of and performed by the Faculty and Staff of the University.

Outside Activity: Is any paid or volunteer activity undertaken by a Staff or Faculty member outside the scope of their University employment. Outside Activities may include consulting, participating in civic or charitable organizations, working as a technical or professional advisor or practitioner, or holding a part-time job with another employer—whether in one's University occupation or another.

Staff: Is, for purposes of this Policy, any regular, non-exempt or exempt staff in research, academic, or administrative positions, including postdoctoral fellows, research associates, coaches, non-faculty physicians, and non-faculty veterinarians. ANYONE ELSE? IFAS COVERED HERE?

4. Guiding Principles

Faculty and Staff of the University of Florida must conduct their affairs with the highest of ethical and professional standards. Good judgment is essential and no set of rules can address adequately the myriad potential conflicts. If Faculty or Staff have questions concerning potential conflicts of commitment or intertest, they must disclose the situation as soon as practicable to the ______ (UF COMPLIANCE OFFICE?). Information the University collects concerning this Policy with be treated as confidential, limited only to those within the University with a need to know, and shared outside the University only as required by law.

A. Conflicts of Commitment

Faculty and Staff have a fiduciary obligation to the University. As such, their primary professional commitments of time and intellectual energy must be towards supporting the University's mission of excellence in education, research and service. A Conflict of Commitment occurs when a Faculty or Staff member's time or energy is devoted to Outside Activities affecting adversely their capacity to satisfy their obligations to the University of Florida.

Conflicts of Commitment usually involve time allocation. For instance, when a faculty member attempts to balance their University responsibilities with Outside Activities such as consulting or volunteering, they may be left with inadequate time to fulfil their University responsibilities adequately. DOES THEIR HANDBOOK OR EMPLOYMENT AGREEMENT SETFORTH THE COMMITMENT EXPECTATIONS AND RESPONSIBILITIES?

² To the extent the definitions of Immediate Family Member in the Faculty or Staff handbooks conflict with this Policy, the definition herein shall control concerning the application of this Policy.

Faculty or Staff wishing to engage in an Outside Activities that may present a Conflict of Commitment—however insignificant it may seem to the Faculty or Staff member (ALTERNATIVELY, we can set minimum thresholds??)—must disclose the Outside Activity as set forth below. When the University determines an Outside Activity will result in a Conflict of Commitment, the University may, in its sole discretion, prohibit the individual from engaging in the activity; require the individual take a leave of absence to participate in the activity; or implement other measures the University deems reasonably necessary to balance the individual's University obligations with their commitment to the Outside Activity.

B. Conflicts of Interest

Faculty and Staff must avoid situations which interfere with—or reasonably appear to interfere with—their fiduciary obligation to the University. Such situations might create an appearance of impropriety and, therefore, must be disclosed as set forth below. No policy can address adequately the myriad situations in which a conflict may arise. What follows, however, are examples of common actual or apparent Conflicts of Interest:

- 1. Seeking undue personal gain utilizing University resources;
- 2. Using excessively or without authorization University time or resources for professional, charitable, or community activities;
- 3. Exploiting students for personal gain;
- 4. Comprising University priorities for personal financial considerations;
- 5. Providing otherwise restricted outside parties with access to University programs, services, information, or technology;
- 6. Selecting an Entity as a University vendor for personal or financial interests including engaging a relative as an independent contractor, subcontractor, or consultant; or
- 7. Accepting a gift or favor from an Entity (or representative of an Entity) conducting (or seeking to conduct) business with the University, when the respective Faculty or Staff member is able (or reasonably appears able) to influence or inform decision-making concerning the Entity's engagement with the University.

When the University determines a Conflict of Interest may exist with a Faculty or Staff member, the University may, in its sole discretion, prohibit the individual from engaging in the activity presenting a potential conflict; take actions to limit the individuals activity; or implement other measures the University deems reasonably necessary to eliminate the potential conflict.

C. Intellectual Property

The University's mission includes fostering the invention and development of new patentable and non-patentable idea, technologies, methodologies and copyrights. The

University attempts to license many of these innovations to commercial entities so the fruits of this innovation may reach the marketplace for the public good and provide resources for further innovation. The University, therefore, must be protected from both real and perceived sharing (NEED BETTER TERM HERE) of innovations to entities in which University inventors have personal or financial interests.

Faculty and Staff who are University inventors must disclose their Financial Interests and personal interests, including those of Immediate Family Members as required by the University's <u>Patent and Invention Policy</u> or <u>Copyright Policy</u>. (CITE CORRECTLY AND INCLUDE LINK)

5. Disclosure Requirements

A. When to Disclose:

Faculty and Staff must disclose Outside Activities and Financial Interest under the following circumstances:

- 1. Upon initial hiring or engagement with the University;
- 2. Within 30 days of acquiring a new Financial Interest;
- 3. Within 30 days engaging in, or committing to engage in, an Outside Activity;
- 4. Within 30 days of accepting a position or role which could reasonably be perceived as creating a Conflict of Interest;
- 5. Within 30 days of entering a relationship, including a familial relationship, which could reasonably be perceived as creating a Conflict of Interest; and
- 6. At least annually, even if attesting to no change from previous disclosures.

The formal annual disclosure process launches once each year and requires disclosure of Financial Interests and Outside Activities existing at that time or existed in the previous calendar year.

B. What to Disclose

- 1. <u>Financial Interests</u>: Financial Interests include any of the following interests of a Faculty or Staff member or their Immediate Family Member:
 - i. Ownership or Equity Interests in a business or investment vehicle;
 - ii. Stock, stock options, and other ownership or equity interests in publicly traded and non-publicly traded entities, regardless of value. This excludes (i.e., do not disclose) ownership or equity interests through personal retirement accounts, mutual funds, or other diversified investment vehicles to the extent the individual does not control investment decisions
- 2. <u>Compensation</u>: Any remuneration for services, such consulting fees, advisory board compensation, honoraria, speaking fees, and paid authorship from for-profit and not-for-profit entities. This excludes (i.e., do not disclose) WHAT SHOULD BE EXCLUDED??? salary or other

- remuneration paid through the University, or remuneration for seminars, lectures, or teaching engagements sponsored by, or from service on advisory committees or review panels for U.S. federal, state, or local government agencies; U.S. institutions of higher education; U.S. academic teaching hospitals; U.S. medical centers; or U.S. research institutes affiliated with U.S. institutions of higher education.
- 3. <u>Gifts</u>: Gifts of any kind are inherently influential to the recipient and create, at the very least, the appearance of a conflict. Accordingly, Faculty and Staff must report any offer of gifts, favors, or hospitality from vendors, third parties, or potential students of the University.
- 4. Executive Officer or Director Role: A role at an outside entity that carries with it a fiduciary duty to the entity or holds with it the responsibility to make business decisions on behalf of the entity. Examples include, without limitation, Chief Executive Officer, Chief Scientific Officer, Chief Operating Officer, Chief Financial Officer, or member of a board of directors. Faculty and Staff must disclose all officer and director roles regardless of whether compensation is received.
- 5. <u>Intellectual Property Rights and Interests (IP)</u>: Faculty and Staff must disclose any income, from whatever source, related to IP rights. Moreover, Faculty and Staff must also report interests in IP rights or licensing, regardless of whether income has been received, concerning their work or research at the University.
- 6. Sponsored or Reimbursed Travel: Investigators working on projects funded by the Public Health Service must disclose any direct reimbursements (if an Entity reimbursed the individual) or coverage of costs (if an Entity paid the costs for the individual) for travel expenses such as transportation, lodging, and per diem concerning Outside Activities. DOES THIS NEED TO BE HERE OR PART OF THE RESEARCH INTGRITY REG?
- 7. <u>Foreign Support</u>: Faculty and Staff must disclose any of the following support not categorized above provided directly from any foreign (non-U.S) government or any organization owned, controlled, or financed in whole or in part by a foreign government, including institutions of higher learning, research, or medicine:
 - i. Grants, awards, or other research funding;
 - ii. Laboratory supplies, equipment, or space;
 - iii. Research support staff;
 - iv. Faculty or board appointment including adjunct appointments; and
 - v. Personal gifts or support such as housing or transportation.

C. How to Disclose

Include overview of UFolio and some general information about how to use it.

6. Resolution

Include overawe of the review and adjudication process and the process to appeal an unfavorable decision.

Include very brief discussion of consequences of violating this policy.

RELATED INFORMATION:

Links to other resources such as the research policies, NIH, etc.

Link to the required disclosure form

Link to Code of Ethics for Pubic Officers and Employees (F.S. 112.311 – 112.326)

Nexus with IP concerns (see mtg notes 12/18/19)

EXAMPLES OF OUTSIDE AND INSIDE ACTIVITIES

Version 1.0 | Created 9 September 2019 for beta testing of UFOLIO

The UFOLIO system is meant to record [1] activities you do outside of work that apply your UF knowledge, skills and expertise (henceforth "UF expertise") and [2] financial interests you have that related to your institutional responsibilities that could create conflicts of interest. Outside activities and financial interests do not necessarily represent conflicts of interest. They are recorded in UFOLIO to allow chairs, deans and appropriate UF officials to review them in the context of your UF employment. Activities and/or interests that represent conflicts of interest will be managed or eliminated.

Your engagement with UFOLIO begins with 11 yes/no screening questions to help you determine whether you have something to report. The following lists are provided for additional clarity. It is not an exhaustive list. This document also contains a list of examples of activities and interests you do not need to disclose in UFOLIO. It also is illustrative and not exhaustive. Please ask your chair for guidance if you are still unsure about your disclosure responsibilities.

Outside Activities and Financial Interests that must be reported in UFOLIO:

Definition: An activity you do for an outside entity or individual that is <u>not</u> part of your assigned UF duties but is related to your UF expertise or a financial interest in an entity that could create a conflict of interest. Note that "compensation" includes receiving anything of value.

- Compensated outside employment/consulting related to your UF expertise, e.g., a
 physician consulting for a pharmaceutical company. These activities usually, but not
 always, result in the IRS sending you a 1099 tax form at the end of the calendar year
- Compensated or uncompensated service in a business leadership role related to your UF expertise requiring senior-level operational decisions—e.g., an engineer serving on the Board of Directors of the National Society of Professional Engineers—or a fiduciary duty to act in the best interests of the outside entity
- Conducting any R&D or business/research development for another institution in a private capacity
- 4. Conducting an outside activity or having a financial interest in an outside entity that sponsors your work or licenses IP/technology from UF
- Expert witness/legal consulting
- 6. You (your spouse, partner, or dependent children) having a financial interest in an entity that:
 - licenses UF technology
 - o sponsors your UF research
 - enters into contracts/agreements with UF (sales, services, leases, etc.)
 - benefits from your UF affiliation
- 7. Having a teaching, research, or service appointment at another institution

EXAMPLES OF OUTSIDE AND INSIDE ACTIVITIES

- 8. Editing a book or scholarly publication related to your UF expertise if compensated, unless this activity is considered by your chair/dean to be part of your UF assignment, e.g., certain activities conducted in the College of the Arts and/or for M.F.A. programs
- 9. Locum tenens work
- 10. Medical advisory board member for a company
- 11. Medical record reviewer legal
- 12. National board exam proctor for which you receive payment from an outside entity
- 13. National board exam question writer for which you receive payment from an outside entity
- 14. Participating in a focus group related to your UF knowledge, skills, or expertise for a company for which you receive payment
- 15. Receiving intellectual property income and/or royalty payments related to your UF knowledge, skills, expertise from an outside entity
- 16. Requiring students to purchase your educational materials
- 17. Running for public office or holding elected office
- 18. Serving as an advisory board member for an outside entity in a capacity that requires your UF expertise.
- 19. Speaking or lecturing at any non-UF meeting or conference or industry-sponsored event unless covered by a UF travel authorization

Outside Activities and Financial Interests that <u>need NOT be reported</u> in UFOLIO:

Definition: An activity you do outside of work that is unrelated to your UF expertise or a financial interest in an entity that cannot create a conflict of interest. In instances where these activities might represent potential time commitment conflicts or adversely impact your UF responsibilities, you should proactively discuss them with your supervisor but you do not disclose them in UFOLIO.

- 1. Volunteer activities/community services, e.g.,
 - Coaching youth sports programs (note: this is reportable if you are a UF coach, for example, as it would be related to your UF expertise)
 - Providing services at your church
 - Participation in community clubs/service organizations
- 2. Paid outside employment, e.g.,
 - Working part-time for a local company, e.g. teaching physical fitness
 - Selling crafts at a community event
- 3. Retirement and other investing that does not create a financial interest that must be reported
- Managing rental properties or other real estate
- 5. Jury duty
- 6. Military service

EXAMPLES OF OUTSIDE AND INSIDE ACTIVITIES

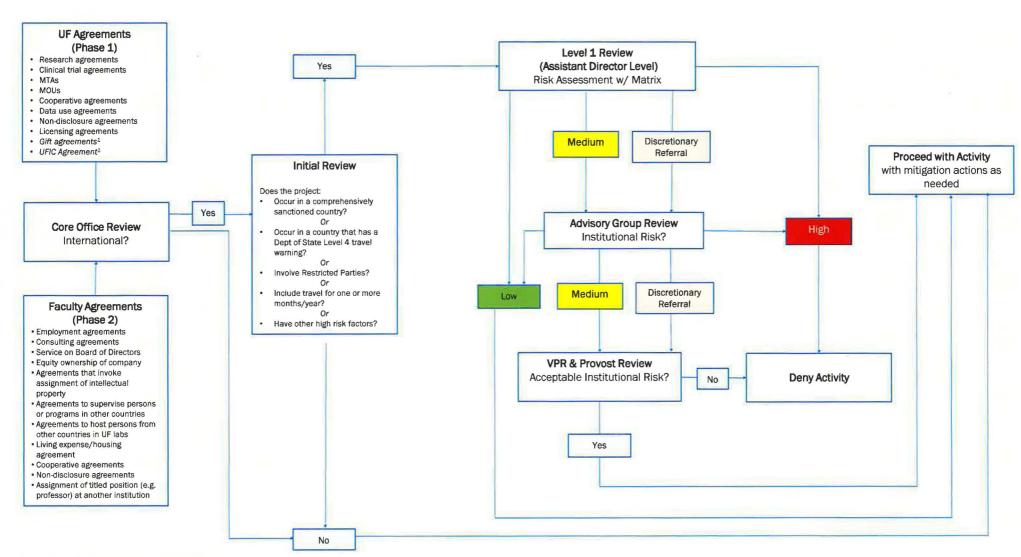
Inside Activities (You do not report in UFOLIO):

Definition: An activity you do as part of your UF job duties. All activities should be documented through your faculty activities report or a travel authorization request. Reporting requirements set by sponsors should also be met.

Note that travel and expense reimbursement and honoraria from an outside entity are permissible for the activities listed below, however it must be fully documented and approved through the travel authorization process.

- Attending a scientific/educational conference, colloquia, symposium, workshop, or seminar representing UF, including serving as an educational speaker/presenter/panelist, giving an invited lecture/talk, or serving as a chair/organizer
- 2. Speaking at a UF-sponsored event
- 3. Academic or professional society membership (however, serving on the Board or carrying a fiduciary role will require you to disclose)
- 4. Organizing a UF-sponsored educational event
- 5. Serving as a research investigator on UF contracts and grants
- 6. Reviewing proposals for a federal or state government sponsor or a domestic non-profit organization
- 7. Reviewing books, journal articles, etc. related to your UF expertise
- 8. Serving on a UF committee or board representing one's UF college/department/division
- 9. Serving on academic committees as part of department, college, and university service
- 10. Teaching UF students or staff in registrar-controlled classes or through UF distance education
- 11. Medical aid trips on behalf of UF
- 12. IFAS Extension services
- 13. Site visits directly related to your UF research
- 14. Evaluation of tenure and promotion applications
- 15. Receiving academic awards and honors from non-profit entities
- 16. Sabbaticals
- 17. Professional development leave
- 18. Serving as a program manager for a federal agency, working on assignment through the Intergovernment Personnel Act or a related program
- 19. Participating in the Fulbright (Scholar) Public Policy Fellowship program

International Risk Assessment Process



¹Currently not reviewed by DRCGS

Process Narrative

- Full Risk Assessments will begin with Level 1 review
- We anticipate approximately 85% of final decisions will be made at this level with some consultation from individual Advisory Group members as needed
- ≤10% of final decisions will be made by Advisory Group
- ≤5% of final decisions will require VP or Provost review
- Consultation may be sought at any point in process from the Advisory Group, VP, or Provost

- Advisory Group will handle cases by email vote as appropriate
- Full standing Advisory Group meetings will be held monthly for complex cases
- VP or Provost will approve or deny faculty appeals on decisions made at Level 1 Review or Advisory Group Review.
- Process applies to all international agreements (Phase 1 & 2)

Initial Review

- Trained staff will review <u>all international agreements</u> to determine if activities:
 - Occur in a comprehensively sanctioned country; Or
 - Occur in a country that has a Department of State Level 4 travel warning; Or
 - Involve Restricted Parties; Or
 - Include travel for one or more months/year; Or
 - Have other high risk factors.
- If yes to any of the above, agreement will be fed into the International Risk Assessment Process.

	Event: Agreeme	ent Title &	Туре			
		Low (1)	Medium (2)	High (3)	Unacceptably High (4)	Comments
	Country		Risk Score	(auto-pop	ulates)	
	Activity					
	IP Value					
Risk Categories	PI (Federal Funding, Research Agenda, etc.)					
	Export Control (TCP)					Mitigating Factors, if applicab
	Field of Expertise					initigating ractors, in approach
	Personnel (UF traveling to; Visitors to UF)					
	Dollar Value (to UF; UF funds)					
	Military Entity or Government Affiliation					
	Restricted Party or Association					
	Risk Totals					
lale data and	Total Risk:		0		Determination:	
isk determines mmendation					Mitigation:	

. . (

Level 1 Review

■ The Level 1 Reviewer (Assistant Director Level) assigns an activity risk score based on ten factors

Country	Activity
IP Value	PI
Export Control	Department/ College
Personnel	Dollar Value
Restricted Party	Military Entity or Affiliation

- Total risk score determines the risk finding/recommendation
 - Low (≤ 19): **Approve**
 - Medium (20-29): Refer to Advisory Group
 - High (30+ or any ranking of 'Unacceptably High'): **Deny**
- Reviewer will consider mitigating actions when assigning each factor score

Metric	Examples of High Risk Activities	Examples of Mitigating Factors
Country	 OFAC comprehensively sanctioned countries Countries with Level 4 travel warnings 	License from OFACChange country
Activity	Talent contractsHighly restricted work	• None
IP Value	 Related invention disclosure High dollar areas (AAV, Artificial Intelligence, CAR T-cell therapy, etc.) 	• None
PI	 Highly controlled research programs Large amounts of U.S. federal funding Other known areas of concern 	Change PIManagement Plan
Export Control	Current TCPsControlled Shipment	TCPGovernment authorization for shipment

Metric	Examples of High Risk Activities	Examples of Mitigating Factors
Department/ College	Controlled areasActive TCPsUse biologically controlled materials	Department/College risk acknowledgementEH&S Protocol
Personnel	 Large personnel exchange with foreign entity Several UF persons traveling to foreign site Student travel and participation in offsite activities 	 Minimize student involvement Limit number of visitors Identify alternate work site
Dollar Value	High dollar-value awardHigh dollar UF expenditures	• None
Military Entity or Affiliation	Known military entities or military affiliation	Identify new collaboratorGovernment approval for EC work
Restricted Party	Restricted EntityAffiliation (e.g. employer) is restricted party	 Identify new collaborator

Advisory Group Referral

- During Level 1 Review, reviewers may consult individual Advisory Group members to:
 - Assist with review
 - Determine appropriate mitigating actions
 - Determine appropriate risk level
- Standard Referral will only occur if—even with mitigating actions—the activity total risk score is 20+
- Discretionary Referral to the Advisory Group may occur if, in the opinion of the reviewer:
 - The total risk score is below 20, but benefits <u>may not</u> warrant participation in the agreement
 - The total risk score is above 30, but benefits <u>may</u> warrant participation in the agreement

Advisory Group Members

Standing Members	Consulting Members
 Director, Division of Research Compliance and Global Support Director, Compliance and COI, UF Compliance Office Assistant Vice President, Division of Sponsored Programs Representative, Office of the General Counsel Representative, Provost Office Representative, UF International Center 	 Assistant Vice President, Contracts and Grants Accounting Representative, Office of the Controller Representative, UF Innovated Representative, UF Foundation Representative, Faculty Representative, UF Human Resources

- Advisory Group members will be appointed by the Vice President for Research and Provost
- Any standing or consulting member may be asked to consult during a Level 1 Review
- Consulting Members will be asked to participate in an Advisory Group review when the agreement and risk areas fall within the consulting member's area of expertise

BACKUP

Current Agreement/Award Review Process

Faculty confirms Division of Research Compliance and Global Support (DRCGS) questions in UFIRST when AGR/AWD is received



UFIRST Routing

Faculty answers "yes" to a DRCGS question

Division of Sponsored Programs rep identifies red flag



DRCGS review implemented

Global Review

Export Control Review & Visual Compliance Check



Risk Assessment

Approve

Ad hoc Sr. Level Involvement

Deny

- Outside Activity Disclosure process currently in revision status
- Current reviews conducted by Asst. Dean for Research and Chair
- Ad hoc reviews periodically sent to DRCGS for comment

Going forward the Risk Assessment will entail International Review Process

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- 2. Faculty Member 1 Findings
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- 5. International Risk Assessment PowerPoint
- 6. International Risk Assessment Process PowerPoint
- 7. Leading a New Ear of Higher Education Conflict of Interest Management PowerPoint
- 8. UFOLIO Introduction PowerPoint
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List of additional U.F. documents received on Jan. 16, 2019 available in Select Committee offices

Rob Portman, Chairman Tom Carper, Ranking Member

Threats to the U.S. Research Enterprise: China's Talent Recruitment Plans

STAFF REPORT

PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

UNITED STATES SENATE



Threats to the U.S. Research Enterprise: China's Talent Recruitment Plans

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I. EXECUTIVE SUMMARY

American taxpayers contribute over \$150 billion each year to scientific research in the United States. Through entities like the National Science Foundation, the National Institutes of Health and the Department of Energy's National Labs, taxpayers fund innovations that contribute to our national security and profoundly change the way we live. America built this successful research enterprise on certain values: reciprocity, integrity, merit-based competition, and transparency. These values foster a free exchange of ideas, encourage the most rigorous research results to flourish, and ensure that researchers receive the benefit of their intellectual capital. The open nature of research in America is manifest; we encourage our researchers and scientists to "stand on the shoulders of giants." In turn, America attracts the best and brightest. Foreign researchers and scholars travel to the United States just to participate in the advancement of science and technology.

Some countries, however, seek to exploit America's openness to advance their own national interests. The most aggressive of them has been China. China primarily does this through its more than 200 talent recruitment plans—the most prominent of which is the Thousand Talents Plan. Launched in 2008, the Thousand Talents Plan incentivizes individuals engaged in research and development in the United States to transmit the knowledge and research they gain here to China in exchange for salaries, research funding, lab space, and other incentives. China unfairly uses the American research and expertise it obtains for its own economic and military gain. In recent years, federal agencies have discovered talent recruitment plan members who downloaded sensitive electronic research files before leaving to return to China, submitted false information when applying for grant funds, and willfully failed to disclose receiving money from the Chinese government on U.S. grant applications.

This report exposes how American taxpayer funded research has contributed to China's global rise over the last 20 years. During that time, China openly recruited U.S.-based researchers, scientists, and experts in the public and private sector to provide China with knowledge and intellectual capital in exchange for monetary gain and other benefits. At the same time, the federal government's grant-making agencies did little to prevent this from happening, nor did the FBI and other federal agencies develop a coordinated response to mitigate the threat. These failures continue to undermine the integrity of the American research enterprise and endanger our national security.

* * * *

China aims to be the world's leader in science and technology ("S&T") by 2050. To achieve its S&T goals, China has implemented a whole-of-government campaign to recruit talent and foreign experts from around the world. China's campaign is well financed. According to an analysis by the FBI, China has pledged

to spend 15 percent of its gross domestic product on improving human resources from 2008 to 2020. That amounts to an investment of more than \$2 trillion. For the Chinese government, international scientific collaboration is not about advancing science, it is to advance China's national security interests.

China's Talent Recruitment Plans. Foreign trained scientists and experts provide China access to know-how, expertise, and foreign technology—all necessary for China's economic development and military modernization. While China has created and manages more than 200 talent recruitment plans, this report focuses on the Thousand Talents Plan. China designed the Thousand Talents Plan to recruit 2,000 high-quality overseas talents, including scientists, engineers, entrepreneurs, and finance experts. The plan provides salaries, research funding, lab space, and other incentives to lure experts into researching for China. According to one report, by 2017, China dramatically exceeded its recruitment goal, having recruited more than 7,000 "high-end professionals," including several Nobel laureates.

The Chinese Communist Party (the "Party") plays a lead role in administering the Thousand Talents Plan. The Party recognized the need to control overseas talent recruitment efforts to ensure the program served its priorities. The Party created a "complex system of administration and oversight to coordinate its recruitment efforts." The Party is able to "exert exceptional" levels of control over the Thousand Talents Plan and other talent recruitment plans. To ensure control, Thousand Talents Plan members sign legally binding contracts.

Contracting with the Chinese Government. Thousand Talent Plan members sign legally binding contracts with Chinese institutions, like universities and research institutions. The contracts can incentivize members to lie on grant applications to U.S. grant-making agencies, set up "shadow labs" in China working on research identical to their U.S. research, and, in some cases, transfer U.S. scientists' hard-earned intellectual capital. Some of the contracts also contain nondisclosure provisions and require the Chinese government's permission to terminate the agreement, giving the Chinese government significant leverage over talent recruitment plan members. These provisions are in stark contrast to the U.S. research community's basic norms, values, and principles. Annexed to this report are Chinese talent recruitment plan contracts that illustrate exactly what talent recruitment plan members agree to when they become members.

Case Examples. This report includes selected examples from U.S. grant-making agencies involving Chinese talent recruitment plan members. For example, talent recruitment plan members removed 30,000 electronic files before leaving for China, submitted false information when applying for grant funds, filed a patent based on U.S. government-funded research, and hired other Chinese talent recruitment plan members to work on U.S. national security topics. One Chinese talent recruitment plan member stole proprietary defense information related to U.S. military jet engines, and others have contractually agreed to give Chinese institutions intellectual property rights that overlapped with research conducted at

U.S. institutions. Annexed to this report are case examples provided by several federal agencies.

Talent Plans Go Underground. Following public testimony and U.S. government scrutiny, the Chinese government started deleting online references to the Thousand Talents Plan in October 2018. For example, China deleted news articles featuring Thousand Talents Plan members, Chinese universities stopped promoting the program on their websites, and the official Thousand Talent Plan site deleted the names of scientists participating in the program. The Chinese government has also instructed talent recruitment organizations that "the phrase 'Thousand Talents Plan' should not appear in written circulars/notices." Despite this censorship, China's talent recruitment plans continue.

* * * *

The Subcommittee reviewed seven federal agencies' efforts to mitigate the threat that Chinese talent recruitment plans pose to the U.S. research enterprise, including U.S.-funded research. While China has a strategic plan to acquire knowledge and intellectual property from researchers, scientists, and the U.S. private sector, the U.S. government does not have a comprehensive strategy to combat this threat.

The National Science Foundation ("NSF") funds approximately 27 percent of all federally funded basic research at U.S. colleges and universities, leading to 12,000 annual awards to more than 40,000 recipients. In light of Chinese talent recruitment plan members' misappropriation of NSF funding, NSF has taken several steps—albeit insufficient ones—to mitigate this risk. As of July 2019, NSF policy prohibits federal employees from participating in foreign talent recruitment plans, but the policy does not apply to NSF-funded researchers. These NSF-funded researchers are the individuals mostly likely to be members of foreign talent recruitment plans. The NSF also does not vet grantees before awarding them funding. Instead, NSF relies on sponsoring institutions to vet and conduct due diligence on potential grantees. NSF has no dedicated staff to ensure compliance with NSF grant terms.

The National Institutes of Health ("NIH") invests over \$31 billion annually in medical research through 50,000 competitive grants to more than 300,000 researchers. NIH has recently found instances of talent recruitment plan members committing grant fraud and transferring intellectual capital and property. It also found possible malign foreign influence in its peer review process. NIH has attempted to address these issues, but significant gaps in NIH's grant integrity process remain. Much like the NSF, NIH relies on institutions to solicit and review disclosures of financial conflicts by its employees participating in NIH-funded research. Unlike the NSF, the NIH has a Division of Grants Compliance and Oversight that conducts site visits at institutions to advance compliance and provide oversight. The number of oversight visits to institutions has fallen from 28

in 2012 to only three last year. NIH officials remain concerned that China's talent recruitment plans are more pervasive than what they have uncovered to date.

The Department of Energy ("Energy") is the largest federal sponsor of basic research in the physical sciences. Energy awards \$6.6 billion in grants and contracts annually that support over 25,000 researchers at over 300 institutions and National Labs. Energy's research funding and prominent role in advanced research and development make it particularly attractive to the Chinese government. Energy has recently identified Thousand Talent Plan members working on sensitive research at National Labs and Thousand Talent Plan members with security clearances. Energy has been slow to address vulnerabilities surrounding the openness of its National Labs and its scientific collaboration with the 35,000 foreign nationals who conduct research at the National Labs each year. For example, in December 2018, Energy began requiring all foreign nationals' curricula vitae be included in Foreign Visits and Assignments requests to Energy facilities as well as in the Foreign Access Central Tracking System database. Despite 30-year old federal regulations prohibiting U.S. government employees from receiving foreign compensation, Energy clarified only this year that employees and contractors are prohibited from participating in foreign talent recruitment plans.

The State Department ("State") issues nonimmigrant visas ("NIV") to foreign nationals seeking to visit the United States to study, work, or conduct research. It is on the front line in the U.S. government efforts to protect against intellectual property theft and illicit technology transfers. While State has a process to review NIV applicants attempting to violate export control laws, State's authority to deny visas is limited. State's review process leads to less than five percent of reviewed applicants being denied a visa. Nor does State systematically track visa applicants linked to China's talent recruitment plans, even though some applicants linked to Chinese talent recruitment plans have engaged in intellectual property theft.

The Department of Commerce's ("Commerce") Bureau of Industry and Security conducts assessments of defense-related technologies and "administers export controls of dual-use items which have both military and commercial applications." Commerce is also responsible for issuing deemed export licenses to firms that employ or host foreign nationals seeking to work on controlled technology projects. The Subcommittee found that Commerce rarely denies an application for a deemed export license. Commerce's denial rate in 2018 for deemed export licenses was only 1.1 percent. Commerce officials told the Subcommittee that it has not revoked a deemed export license in the past five years, despite the recent listing of new entities on Commerce's Entity List that require additional scrutiny. Commerce issued deemed export licenses to Chinese nationals who participated in talent recruitment plans, had ties to Huawei, and were affiliated with other concerning entities.

The Federal Bureau of Investigation ("FBI") protects the United States from foreign intelligence operations and espionage. The FBI, however, has recognized that it was "was slow to recognize the threat of the Chinese Talent Plans." It was not until mid-2018, however, that FBI headquarters in Washington, D.C. took control of the FBI's response to the threat. Moreover, after collecting information on suspected talent plan participants, the FBI waited nearly two years to coordinate and provide those details to federal grant-making agencies. This delay likely prevented the federal government from identifying talent recruitment plan members who engaged in illegal or unethical grant practices or the unauthorized transfer of technology. The FBI has yet to develop an effective, nationwide strategy to warn universities, government laboratories, and the broader public of the risks of foreign talent recruitment plans.

The White House Office of Science and Technology Policy ("OSTP") has formal authority to convene all research funding agencies on matters of policy through the National Science and Technology Council. OSTP formally established a joint committee in May 2019 to begin a policy review to coordinate efforts to adopt best practices across the federal government to mitigate foreign exploitation of the U.S. open innovation system. This review is intended to develop a longer-term strategy for balancing engagement and risk without stifling innovation. The U.S. government's vast and varied array of grant-making agencies complicates this policy review.

* * * *

As American policy makers navigate an increasingly complicated relationship with China, it is not in our national security interest to fund China's economic and military development with taxpayer dollars. China's talent recruitment plans, including the Thousand Talents Plan, undermine the integrity of our research enterprise and harm our economic and national security interests.

U.S. universities and U.S.-based researchers must take responsibility in addressing this threat. If U.S. universities can vet employees for scientific rigor or allegations of plagiarism, they also can vet for financial conflicts of interests and foreign sources of funding. If U.S. researchers can assess potential collaborators' research aptitude and their past publications, they should know their collaborators' affiliations and their research intentions.

The U.S. academic community is in the crosshairs of not only foreign competitors contending for the best and brightest, but also of foreign nation states that seek to transfer valuable intellectual capital and steal intellectual property. As the academic community looks to the federal government for guidance and direction on mitigating threats, the U.S. government must provide effective, useful, timely, and specific threat information and tools to counter the threats.

Based on this investigation, the Subcommittee finds that the federal government has failed to stop China from acquiring knowledge and intellectual

property from U.S. taxpayer funded researchers and scientists. Nor do federal agencies have a comprehensive strategy to combat this threat.

The Subcommittee's Investigations

This investigation continues the Subcommittee's examination of national security issues involving China. During the 115th Congress, the Subcommittee highlighted China's leading role in the opioid crisis by investigating how illicit opioids like fentanyl are shipped from China to the United States through international mail. The Subcommittee held an initial oversight hearing on May 25, 2017, titled Stopping the Shipment of Synthetic Opioids: Oversight of U.S. Strategy to Combat Illicit Drugs. On January 25, 2018, the Subcommittee held a second hearing and issued a bipartisan report titled Combatting the Opioid Crisis: Exploiting Vulnerabilities in International Mail. On October 24, 2018, the President signed into law the Synthetic Trafficking & Overdose Prevention Act ("STOP Act"), legislation designed to assist law enforcement in identifying and stopping fentanyl being shipped into the United States.

In the current 116th Congress, on February 28, 2019, the Subcommittee held a hearing and issued a bipartisan report titled *China's Impact on the U.S. Education System*. The Subcommittee examined China's propaganda efforts at U.S. colleges and universities through Confucius Institutes. The Chinese government funds Confucius Institutes and hires Chinese teachers to teach language and culture classes to students and non-student community members. Confucius Institute funding comes with strings that can compromise academic freedom. The Chinese government approves all teachers, events, and speakers. Some U.S. schools contractually agree that both Chinese and U.S. laws will apply. The Chinese teachers sign contracts with the Chinese government pledging they will not damage Chinese national interests. The Subcommittee found that these limitations export China's censorship of political debate to the United States and prevent the academic community from discussing topics that the Chinese government believes are politically sensitive.

Next, the Subcommittee turned to China's talent recruitment plans. The Subcommittee focused specifically on China's most prominent plan, the Thousand Talents Plan. The Subcommittee reviewed documents, received briefings, or interviewed individuals from the following agencies: Office of Director of National Intelligence; Central Intelligence Agency; Department of State; Department of Commerce; Department of Energy; Federal Bureau of Investigation; Department of Health and Human Services; National Science Foundation; and the White House Office of Science and Technology Policy. The Subcommittee also met with members of the academic community, including the American Public and Land Grant Universities, Association of American Universities, the American Council on Education, a Chinese American advocacy group, and the JASON independent scientific advisory group.

II. FINDINGS OF FACT AND RECOMMENDATIONS

Findings of Fact

- 1) China seeks to become a science and technology ("S&T") world leader by 2050. The Chinese government elevated the importance of S&T as a key national strategic goal in 2006. China seeks to become an "innovative country" by 2020 and an S&T world leader by 2050. To accomplish its goals, China systematically targets critical technologies and advanced S&T capabilities as a way to enhance national strength and achieve Chairman Xi Jinping's goal of "national rejuvenation."
- China prioritizes military-civilian fusion as a national goal. In 2016, Chairman Xi designated a policy known as Military-Civilian Fusion ("MCF") as a national strategy. MCF seeks to pool talent and financial resources to jointly develop technologies, conduct research, and attract talent that mutually reinforces both the military and civilian sectors. MCF blurs the lines between China's defense and civilian sectors, enabling China to continue international scientific collaboration while obfuscating that this collaboration also assists in modernizing China's military.
- 3) China aggressively recruits overseas researchers and scientists. China has a coordinated global campaign to recruit overseas S&T experts as part of its S&T strategy. These experts provide access to know-how, expertise, and foreign technology—all necessary for China's economic development and military modernization. Chinese recruitment efforts also have begun to reverse China's brain drain, as more Chinese students than before are returning to China after studying abroad.
- The Thousand Talents Plan ("TTP") is China's most prominent talent recruitment plan. Launched in 2008 and controlled by the Chinese Communist Party, the TTP recruits thousands of high-quality overseas talents. As of 2017, China reportedly has recruited 7,000 researchers and scientists. The TTP targets U.S.-based researchers and scientists, regardless of ethnicity or citizenship, who focus on or have access to cutting-edge research and technology. The TTP is just one of over 200 Chinese talent recruitment plans over which the Chinese Communist Party is able to "exert exceptional" levels of control. In response to U.S. government scrutiny, China has attempted to delete online references to its talent recruitment plans and reportedly instructed Chinese institutions on how to avoid additional U.S. scrutiny.

- TTP employment contracts violate U.S. research values. TTP members sign legally binding contracts with Chinese institutions that contain provisions that violate U.S. research values, including non-disclosure provisions related to their research and employment with Chinese institutions. The contracts require TTP members to undermine fundamental U.S. scientific norms of transparency, reciprocity, merit-based competition, and integrity. Fundamentally, these contracts incentivize TTP members to put China's interests ahead of U.S. institutions.
- 6) Chinese talent plans target unrestricted, basic research. China seeks access to non-public fundamental research to accelerate its technological capabilities at the U.S. taxpayer's expense. The U.S. government may restrict some research for proprietary or national security reasons but as fundamental research is generally designed to be openly shared, federal law enforcement agencies have limited means to thwart China's extralegal activities.
- 7) TTP members have willfully failed to disclose their TTP membership. Some TTP members willfully failed to disclose their affiliation with China's talent recruitment plans to U.S. institutions and U.S. grantmaking agencies. In some cases, TTP members received both U.S. grants and Chinese grants for similar research, established "shadow labs" in China to conduct parallel research, and stole intellectual capital and property. U.S. government agencies also discovered that some TTP members used their access to research information to provide their Chinese employer with important information on early stage research.
- 8) Federal agencies are not prepared to prevent China from transferring taxpayer funded research and stealing intellectual property. The U.S. government was slow to address the threat of China's talent recruitment plans, leading to U.S. government grant dollars and private sector technologies being repurposed to support China's economic and military goals. Though some federal agencies have begun to take action, the federal government lacks an effective interagency strategy and continues to have shortfalls in its processes to mitigate the threat that Chinese talent recruitment plans pose.
- 9) Federal grant-making agencies lack standards and coordination.
 U.S. grant-making agencies, such as the National Science Foundation
 ("NSF") and the National Institutes of Health ("NIH"), each require grant
 applicants to use different forms and processes to apply for federally funded
 research grants. This increases administrative burdens on researchers
 applying for grants from multiple federal agencies. It also complicates

- effective grant oversight of the more than \$150 billion in U.S. funding awarded annually for research and development.
- 10) U.S. grant-making agencies' policies on foreign talent recruitment plans differ. For example, the Department of Energy's new policy effectively bans both employee and contractor participation in foreign talent recruitment plans. The NSF's new policy, however, only applies to NSF employees, but not researchers. These differences can complicate the research community's understanding of the scope and scale of the problem.
- 11) The NSF does not have a compliance office to perform grant oversight functions. Instead, the NSF relies on the institutions submitting grant applications and the NSF Inspector General to conduct due diligence, vetting, and oversight. The NSF's policy on participation in foreign talent recruitment plans does not extend to the more than 40,000 researchers and scientists that receive U.S. funding for research and development.
- 12) The NIH awards over \$31 billion annually in medical research in 50,000 competitive grants to more than 300,000 researchers. The NIH has not issued new policies addressing talent recruitment programs. Instead, it relies on existing policies regarding conflict of interest, conflict of commitment, and disclosure of outside support. The NIH is conducting additional oversight of potential links between federal funding and foreign talent recruitment plans. As part of that process, it identified at least 75 individuals potentially linked to foreign talent recruitment plans that also served as peer reviewers.
- 13) The Department of Energy ("Energy") is the largest federal sponsor of basic research in the physical sciences, funding \$6.6 billion in grants and contracts that support over 25,000 researchers at over 300 institutions and National Labs. Energy's research funding and prominent role in advanced research and development make it particularly attractive to the Chinese government. Despite 30-year old federal regulations prohibiting U.S. government employees from receiving foreign compensation that conflicts with their official duties, Energy clarified only this year that employees and contractors are prohibited from participating in foreign talent plans.
- 14) The Commerce Department ("Commerce") granted deemed export licenses to Chinese nationals associated with talent recruitment plans, Chinese military affiliated universities, and other entities on Commerce's entity list. The entity list includes individuals and entities "who have engaged in activities that could result in an increased risk of the diversion of exported, re-exported, and transferred items to weapons of mass

destruction programs." The list also includes "activities contrary to U.S. national security and/or foreign policy interests." Commerce is responsible for issuing deemed export licenses to U.S. firms that employ or host foreign nationals seeking to work on controlled technology projects. Commerce rarely denies deemed export license applications, denying only 1.3 percent in 2018.

- 15) The FBI recognized that it and other federal agencies were "slow to recognize the threat of the Chinese talent [recruitment] plans" until recently. Despite the Chinese government publicly announcing in 2008 its intent to recruit overseas researchers with access to advanced research and technology, FBI's headquarters in Washington D.C. did take control of the response to the threat until mid-2018. The FBI took nearly two years to coordinate the dissemination of information identifying potential talent recruitment plan participants to federal grant-making agencies. The FBI has yet to develop an effective, nationwide strategy to warn universities, government laboratories, and the broader public of the risks of foreign talent recruitment plans.
- 16) The State Department is on the frontline in the U.S. government effort to protect against intellectual property theft and illicit technology transfers. While State has a process to screen for non-immigrant visa applicants attempting to steal sensitive technologies or intellectual property, State's authority to deny visas is limited. This results in a denial rate of less than five percent of all visa applicants reviewed. State also does not make available visa applicant files and supporting documentation to U.S. law enforcement in easily accessible formats to assist national security investigations.
- 17) The White House's OSTP launched an effort in May 2019 to coordinate interagency work related to improving the safety, integrity, and productivity of research settings. Currently, federal grant-making agencies' policies and processes are not standardized or uniform. These differences complicate the grant process for applicants, stifle U.S. law enforcement's ability to investigate grant-related crimes, and frustrate the federal government's ability to comprehensively understand grant spending.

Recommendations

- 1) Federal agencies must develop a comprehensive strategy to combat both illegal and extralegal transfers of U.S. intellectual capital.

 China uses illegal and extralegal mechanisms to acquire U.S. intellectual property, research, and sensitive technologies. Federal agencies should work with the U.S. research community to balance the need for international collaboration while securing U.S.-government funded research.
- 2) Federal agencies should declassify and disseminate more information on foreign talent recruitment plans. Additional information from the U.S. intelligence community, federal law enforcement, and federal grant-making agencies will help define the scope and scale of the problem so that U.S. research institutions can effectively mitigate risks associated with foreign talent recruitment plans.
- 3) While taking steps to better protect research and intellectual property, Congress and the Executive Branch should reaffirm the critical importance of foreign students and researchers in the United States and the importance of international research collaboration. Congress should provide stable and sustained funding for scientific research sponsored by federal agencies and support programs aimed at keeping scientists and their work in the United States.
- 4) Federal law enforcement agencies and members of the intelligence community must better tailor engagement with the U.S. research community to ensure that threat information is accessible and actionable. The FBI should develop a cohesive strategy to ensure outreach by its headquarters and 56 field offices is effective, consistent, and timely.
- 5) U.S. grant-making agencies should harmonize the grant proposal process and standardize reporting requirements for disclosing all foreign conflicts of interest, conflicts of commitment, and all outside and foreign support. Standardization and harmonization will reduce the administrative burden on research institutions applying for federal research funding and promote data sharing across the U.S. research enterprise. A government-wide standard should require documents be machine readable to encourage automation to assist with identifying grant fraud.
- 6) The U.S. research community should establish a "Know Your Collaborator" culture. U.S. research institutions should establish best practices in monitoring scientific and research collaboration with foreign nationals and determining whether such collaboration adheres to U.S. scientific research values, especially in the area of research integrity. U.S.

- research institutions also should investigate and adjudicate allegations of failures to disclose conflicts of interest, commitment, or other outside support.
- 7) U.S. grant-making agencies should implement a compliance and auditing program to ensure grantees accurately report conflicts of interest and conflicts of commitment. Congress should provide adequate resources to support agency compliance programs and inspectors general.
- 8) U.S. grant-making agencies conducting or funding U.S. government research should share information regarding grant recipients with access to U.S. government funding and research facilities. This information should be made available as appropriate to foster scientific collaboration and used by funding agencies to assess the qualifications of researchers.
- 9) The Commerce Department should ensure its interagency process for identifying emerging and foundational technologies that are essential to the national security of the United States includes a review of fundamental research. As appropriate and necessary, the Commerce Department should add foundational technologies and areas of fundamental research to its export control lists.
- 10) The State Department should identify any additional authorities needed to deny non-immigrant visas for individuals suspected of engaging in illegal or extralegal transfers of technology, intellectual property, and fundamental research. State also should include additional security related questions designed to detect foreign government sponsorship of research conducted in the United States and whether the visa applicant intends to legally or illegally transfer research and technology back to their home country on visa applications. State should automate security reviews of visa applicants for illicit transfers of technology, intellectual property, and fundamental research.
- 11) 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.

- 12) Federal law enforcement and other relevant agencies should identify U.S.-based entities that serve as recruitment networks, platforms, or foreign government proxies that facilitate or broker in state-sponsored talent recruitment. Additional investigations and publications are needed to fully understand the impact of foreign talent recruitment efforts in the United States. Federal law enforcement and other relevant agencies should examine the extent of foreign talent recruitment activity in the private sector for foreign talent recruitment-related programs, including venture capital contests and entrepreneurial programs.
- 13) U.S. grant-making agencies should work with research institutions to ensure they have the necessary cybersecurity practices in place to reduce the risk of research data misappropriation. Universities, research institutions, and other recipients of federal research funding should periodically demonstrate that they are adhering to cybersecurity best practices.
- 14) Grant-making agencies should not award U.S. funding to participants of foreign talent recruitment programs absent full disclosure of the terms and conditions of membership in any talent recruitment program.

III. BACKGROUND

This section discusses China's goal to be the leader in science and technology ("S&T") by 2050. To achieve that goal, China is executing a coordinated global campaign to recruit S&T experts and foreign talent. These experts provide access to know-how, expertise, and foreign technology—all necessary for China's economic development and military modernization. While the Chinese government manages more than 200 talent recruitment plans, this section discusses the most prominent plan—the Thousand Talents Plan—and details the plan's centrally managed structure and contracts. Finally, this section highlights recent congressional testimony by U.S. intelligence and law enforcement officials concerning the threats posed by foreign talent recruitment plans.

A. China's Goal to be the Science and Technology Leader by 2050

In 2006, the Chinese government's State Council released the National Medium and Long-Term Program for Science and Technology Development ("MLP"), elevating the importance of S&T development as a key Chinese strategic goal. First commissioned by the 16th National Congress of the Communist Party of China ("CPC") in 2002, Chinese leadership fully endorsed the MLP during the 17th Party Congress in October 2007. Former Chinese Chairman Hu Jintao remarked in his 17th Party Congress address that China would implement the MLP to make China an innovative country and enhance national strength. China aimed to become an "innovation-oriented country" by 2020 and an S&T world leader by 2050.

At that time, China's goals under the MLP were ambitious. China was known more as the workshop of the world than as a source of innovative research and technology. In 2007, for example, China filed only a little over 245,000 patents—roughly half the number of patents filed in the United States.⁵ China also had a weak domestic base for conducting innovative research and developing cutting-edge technologies. Only 14 Chinese universities were among the top 500

¹ China's Program for Sci. and Tech. Modernization: Implications for American Competitiveness, U.S.-China Econ. and Security Rev. Commission, 17 (Jan. 2011), https://www.uscc.gov/sites/default/files/Research/USCC_REPORT_China%27s_Program_forScience_and_Technology_Moderniz ation.pdf [hereinafter Security Commission Report (Jan. 2011)].

² Promoting Sound and Rapid Development of the National Economy, CHINA DAILY (Oct. 24, 2007), http://www.chinadaily.com.cn/china/2007-10/24/content_6204564_6.htm.
³ Id.

⁴ James McGregor, U.S. Chamber of Commerce, China's Drive for 'Indigenous Innovation': A Web of Indus. Policies, 6 (2010), https://www.uschamber.com/sites/default/files/documents/files/100728chinareport_0_0.pdf.

⁵ WIPO IP Statistics Data Center, WORLD INTELLECTUAL PROPERTY ORG., https://www3.wipo.int/ipstats.

universities in the world.⁶ And China's highest ranked university, Tsinghua University, failed to crack the top 150.⁷ Compounding these problems, some of China's best talent and experts were overseas. More than 1.2 million Chinese nationals left the country to study and conduct research between 1978 and 2007, but only a quarter had ever returned to China.⁸

1. From Brain Drain to Brain Gain

Though the Chinese government had initiated several plans designed to recruit and retain S&T talent in the 1990s, it mainly issued awards to individuals in China with limited foreign experience.⁹ As such, those plans failed to attract the caliber of talent the Chinese government sought in fields deemed critical to strengthening China.¹⁰ For a short period, the Chinese government also attempted to retain talent by imposing a "service period" on students pursuing overseas studies.¹¹ Deng Xiaoping, the former paramount leader of China, however, ended this policy after 1992, recognizing that China would be better served even if it succeeded in convincing only half of overseas Chinese students to return.¹²

By the early 2000s, China's strategy to recruit S&T talent underwent a paradigm shift. As former CPC General Secretary Zhao Ziyang suggested years earlier, China was not losing brainpower, but rather it was storing its talent overseas to tap later.¹³ Chinese leaders, therefore, determined that it could be more

⁶ Academic Ranking of World Universities 2007, ACADEMIC RANKING OF WORLD U., http://www.shanghairanking.com/World-University-Rankings-2007/China.html. ⁷ Id.

⁸ In 2007, for example, 80,000 Chinese nationals were studying in the United States. Approximately 66 percent of them were pursuing graduate studies, and approximately another 10 percent were putting their U.S. acquired skills and knowledge to use under the Optional Practical Training. See Academic Level and Place of Origin: Previous Years, INSTITUTE OF INT'L EDUC., https://www.iie.org/Research-and-Insights/Open-Doors/Data/International-Students/Places-of-Origin/Academic-Level-and-Place-of-Origin/2007-08; Cong Cao, China's Brain Drain at the High End: Why Government Policies Have Failed to Attract First-Rate Academics to Return, 4 ASIAN POPULATION STUD. 331 (2008) (https://www.researchgate.net/publication/240534512).

Biomedical Researchers, 6 (2018), http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_184821.pdf.

¹⁰ *Id*. at 8.

¹¹ See Cong Cao, China's Brain Drain at the High End: Why Government Policies Have Failed to Attract First-Rate Academics to Return, 4 ASIAN POPULATION STUD. 331, 333 (2008), https://www.researchgate.net/publication/240534512. (Undergraduate students and graduate students were required to work in China for 5 years and 2 years respectively before pursuing overseas studies).

 $^{^{12}}$ *Id*.

¹³ Id.; David Zweig & Stanley Rosen, How China Trained a New Generation Abroad, SCIDEVNET (May 22, 2003), https://www.scidev.net/global/migration/feature/how-china-trained-a-new-generation-abroad.html.

efficient to allow its nationals to learn how to conduct research and develop cuttingedge technologies overseas and later find ways for these nationals to assist China.¹⁴

The CPC soon changed its approach towards overseas Chinese nationals, emphasizing their role in China's development.¹⁵ Chinese officials even reportedly changed a political slogan referring to overseas Chinese nationals from "returning and serving the country" (回国服务) to simply "serve the country" (为国服务).¹⁶ Chinese officials began actively encouraging overseas Chinese nationals to "serve the country overseas" (海外人才为国服务) through investment, giving lectures, starting businesses, and transferring technology back to China.¹⁷

The MLP reflected this dramatic shift, noting the Chinese government must "attract high caliber talents from overseas" with a priority on areas where China is particularly weak. The MLP called for the government to formulate plans to attract overseas talents to return to China to "serve the country," establish talent recruitment organizations taking into account the "characteristics" of overseas talents, increase financial incentives for overseas talents to return to China, and "establish policy mechanisms for overseas talents to serve the country." According to the MLP, such "policy mechanisms" would focus on getting overseas talents and their teams to return to China to work. 20

 $^{^{14}}$ *Id*.

¹⁵ THE STATE COUNCIL THE PEOPLE'S REPUBLIC OF CHINA, *CPC Central Committee and the State Council Decision on Further Strengthening Talent Work* (Dec. 26, 20103), http://www.gov.cn/test/2005-07/01/content_11547.htm.

¹⁶ Cong Cao, China's Brain Drain at the High End: Why Government Policies Have Failed to Attract First-Rate Academics to Return, 4 ASIAN POPULATION STUD. 331 (2008), https://www.researchgate.net/publication/240534512.

¹⁷ Overseas Talents for the Country's Service Plan, CHINAQW, http://www.chinaqw.com/node2/node2796/node2880/node2920/node2989/userobject6ai241511.html. See also David Zweig & Stanley Rosen, How China Trained a New Generation Abroad, SCIDEVNET (May 22, 2003), https://www.scidev.net/global/migration/feature/how-china-trained-a-new-generation-abroad.html; He Finland, "Overseas Talents for the Country's Service Plan" Will Start Next Year, MOFCOM (Sept. 8, 2019), http://www.mofcom.gov.cn/article/bi/200409/20040900276042.shtml.

¹⁸ The State Council The People's Republic of China, *The National Medium-and Long-Term Program for Science and Technology Development (2006-2020): An Outline*, https://www.itu.int/en/ITUD/Cybersecurity/Documents/National_Strategies_Repository/China_2006.pdf [hereinafter MLP S&T Strategy]. *See also* James McGregor, *China's Drive for 'Indigenous Innovation': A Web of Industrial Policies* U.S. Chamber of Commerce (2010), https://www.uschamber.com/sites/default/files/documents/files/100728chinareport_0_0.pdf. *See also* Cong Cao, U. of Nottingham, Ningbo. China's *Approaches to Attract and Nurture Young Biomedical Researchers* (2018), http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_184821.pdf.

¹⁹ Xinhua News Agency, Ten, The Construction of Talent Team, CHINESE GOVERNMENT PORTAL (Feb.

 $^{9,\,2006),\,}http://www.gov.cn/jrzg/2006-02/09/content_183787_10.htm.\,See\,\,MLP\,S\&T\,STRATEGY.$

²⁰ See MLP S&T STRATEGY.

2. China's Systematic Targeting of Critical Technologies

For the Chinese government, the main purpose of international scientific collaboration is to advance China's national security interests, not solely to advance science. According to China's Ministry of Science and Technology²¹ ("MOST"), China's participation in international S&T cooperation projects strives for a "winwin and mutually beneficial outcome," but prioritizes Chinese interests under the premise of safeguarding national security.²² MOST formulates and facilitates the "implementation of strategies and policies for innovation-driven development, and plans and policies for S&T development and the attraction of foreign talent."23 MOST also "coordinates the development of the national innovation system and the reform of the national S&T management system, and works with relevant government departments to improve incentive mechanisms for technological innovation."24

MOST is responsible for identifying and supporting international S&T cooperation projects in selected target areas.²⁵ These target areas are publicly well documented. MOST outlined more than a dozen major S&T projects in the MLP.²⁶ These "National Major S&T Projects" identify China's top priorities and focus on strategic technologies and engineering projects with the goal of achieving significant technological advances.²⁷

- 1. Core Electronic Devices, High-End Chips, and Basic Software Parts
- 2. Large-Scale Integrated Circuit Manufacturing
- Next Generation Broadband Wireless Mobile Communications
- 4. High-End Machine Tools and Manufacturing Equipment
- 5. Large-Scale Oil and Gas Fields Development
- Large-Scale Advanced Pressurized Water Reactor 6.
- 7. Water Pollution and Control
- Genetically Modified Organisms 8.
- Major New Drug Development 9.
- 10. Major Infectious Disease Prevention and Cure

²¹ SECURITY COMMISSION REPORT, 22 (Jan. 2011) (MOST "plays a leading role in developing national science policy and in designing and implementing many of the national funding programs.").

²² Key International S&T Cooperation Projects, MINISTRY OF SCI. AND TECH., http://www.most.gov.cn/ eng/cooperation/200610/t20061008 36195.htm.

²³ Missions of the Ministry of Science and Technology, MINISTRY OF SCI. AND TECH., http://www.most.gov.cn/eng/organization.

 $^{^{24}}$ *Id*.

²⁵ Key International S&T Cooperation Projects, MINISTRY OF SCI. AND TECH., http://www.most.gov.cn/ eng/cooperation/200610/t20061008 36195.htm. 26 *Id*.

²⁷ James McGregor, U.S. Chamber of Commerce, China's Drive for 'Indigenous Innovation': A WEB OF INDUS. POLICIES, 40-42 (2010), https://www.uschamber.com/sites/default/files/documents/ files/100728chinareport_0_0.pdf.

- 11. Large-Scale Airplanes
- 12. High Resolution Earth Observation Technology
- 13. Manned Spaceflight

China has additional blueprints aimed at transforming the country into a global S&T leader, including the "Made in China 2025 ("MIC 2025") plan.²⁸ According to a U.S. Chamber of Commerce report on MIC 2025's goals, the program targets ten strategic industries—including next-generation information technology, aviation, rail, new energy vehicles, and agricultural machinery—that are critical to China's economic competitiveness and high-tech growth.²⁹ MIC 2025 "appears to provide preferential access to capital to domestic companies in order to promote their indigenous research and development capabilities, support their ability to acquire technology from abroad, and enhance their overall competitiveness."³⁰ The U.S. Chamber also found that in concert with China's state-led development plans, including the MLP, MIC 2025 constitutes a "broader strategy to use state resources to alter and create comparative advantage[s] in these sectors on a global scale."³¹

3. China's Military-Civilian Fusion Strategy

China's efforts to improve its S&T base and leapfrog ahead of the United States have significant implications for U.S. national security beyond economic and scientific competition. Since 2013, Chairman Xi Jinping has emphasized Military-Civilian Fusion" ("MCF") (军民融合) as critical to the nation's economic development and national security.³² In 2016, he elevated the importance of MCF as one of the pillars of China's military modernization and made it a national strategy.³³

Unlike prior Chinese military-industrial policies such as Civilian-Military Integration (军民结合), MCF seeks to move beyond integrating civilian technologies and management expertise into China's military industrial complex.³⁴ Now, MCF

³⁰ *Id*. at 6.

²⁸ See U.S. CHAMBER OF COMMERCE, MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS (2017), https://www.uschamber.com/sites/default/files/final_made_in_china_ 2025 report full.pdf.

 $^{^{29}}$ *Id*.

 $^{^{31}}$ *Id*.

³² Brian Lafferty, *Civil-Military Integration and PLA Reforms*, in CHAIRMAN XI REMAKES THE PLA: ASSESSING CHINESE MILITARY REFORMS (Phillip C. Saunders et al eds., 2019), https://ndupress.ndu.edu/Portals/68/Documents/Books/Chairman-Xi/Chairman-Xi_Chapter-16.pdf?ver=2019-02-08-112005-803.

 $^{^{33}}$ Xi Jinping Talks about the Integration of Military and Civilian: About National Security and Development, QIUSHI JOURNAL (October 16, 2018), http://www.qstheory.cn/zhuanqu/rdjj/2018-10/16/c_1123565364.htm.

³⁴ Elsa B. Kania, *In Military-Civil Fusion, China is Learning Lessons from the United States and Starting to Innovate*, REAL CLEAR DEFENSE (August 27, 2019), https://www.realcleardefense.com/articles/2019/08/27/in_military-civil_fusion_china_is_learning_lessons_from_the_united_states_and_starting_to_innovate_114699.html.

calls for the seamless "fusing" of the military and civilian sectors with resources, technologies, information, and people.³⁵ This allows China to pool its talent and resources from the two sectors to jointly develop technologies, conduct research, and attract talent that mutually reinforces both the military and civilian sector. MCF significantly blurs the lines between China's defense and civilian sectors, enabling China to continue international collaboration with scientists while not disclosing that such collaboration may be for modernizing China's military.³⁶

In 2017, the State Council published a MCF policy document detailing how China planned to promote defense-related science and technology fusion.³⁷ In its document, the State Council calls for the Chinese military to declassify National Defense Patents for the civilian sector's use, the sharing of military and civilian research centers, including facilities at the China Academy of Sciences and universities, and the coordination of research efforts.³⁸ The document also calls for China's military and its defense industry to rely on higher education institutions to establish defense research and civilian research institutions as well as a talent recruitment plan to recruit personnel to work in the defense sector.³⁹ Another key provision calls for establishing an information sharing platform between civilian and military research institutions to collect information on frontier and advanced technologies.⁴⁰

Chairman Xi's elevation of MCF as a national strategy encourages China's military industrial complex to implement its own "going out" strategy (走出去) to acquire overseas companies, establish research and development centers, and attract overseas talent.⁴¹ For example, in 2013 China's Aviation Industry Corporation ("AVIC"), a Chinese aerospace and defense conglomerate, purchased the German aircraft engine manufacturer Thielert Aircraft—which makes engines

 $^{^{35}}$ *Id*.

 $^{^{36}}$ Id.

³⁷ See Office of the State Council, Guo Ban Fa No. 91, The General Office of the State Council promotes the Nat'l Defense Sci. and tech. indus. (Dec. 4, 2017), http://www.gov.cn/zhengce/content/2017-12/04/content_5244373.htm.

 $^{^{38}}$ *Id*.

 $^{^{39}}$ *Id*.

⁴⁰ *Id*.

⁴¹ Chinese Military Innovation in Artificial Intelligence: Hearing On Tech., Trade, And Military-Civil Fusion—China's Pursuit Of Artificial Intelligence, New Materials, And New Energy Before the U.S.-China Econ. and Security Review Commission, 116th Cong. (2019) (statement of Elsa B. Kania, Adjunct Senior Fellow, Tech. and Nat'l Security Program, Center for a New American Security Research Fellow, Center for Security and Emerging Tech., Georgetown U.); GREG LEVESQUE & MARK STOKES, POINTE BELLO, BLURRED LINES: MILITARY-CIVIL FUSION AND THE "GOING OUT" OF CHINA'S DEFENSE STRATEGY, 6–7 (December 2016), https://static1.squarespace.com/static/569925bfe0327c837e2e9a94/t/593dad0320099e64e1ca92a5/1497214574912/062017_Pointe+Bello_Military+Civil+Fusion+Report.pdf.

for large unmanned aerial vehicles.⁴² AVIC also established the AVIC Centre for Structural Design and Manufacture at the Imperial College of London to research aircraft design and manufacturing technologies.⁴³ Through such research collaborations, China's military industrial complex is able to "exploit the openness of the scientific community" and western academic norms that encourage research collaborations.⁴⁴

4. China's Strategic Plan for Talent Recruitment

Over the past decade, the Chinese government has refined its centrally organized foreign talent recruitment plans into a strategy to "use talent to strengthen the country" by targeting the specific technology sectors previously discussed. These plans help facilitate technology transfer and typically include people-to-people exchanges, international S&T cooperation projects, and the recruitment and repatriation of S&T experts on a temporary or permanent basis. China's most prominent national talent recruitment plan is the "Recruitment Program of Global Experts," more commonly known as the Thousand Talents Plan ("TTP"). The past decade in the strategy to "use talent to strength to "Topical" and "Topical" and

Launched in 2008, a year after the adoption of the MLP, China designed the TTP to recruit 2,000 high-quality overseas talents within five to ten years. By 2017, according to one report, China recruited more than 7,000 "high-end professionals" under the TTP. 49

 $^{^{42}}$ Greg Levesque & Mark Stokes, Pointe Bello, Blurred Lines: Military-Civil Fusion and the "Going Out" of China's Defense Strategy, 36 (December 2016) (https://static1.squarespace.com/static/569925bfe0327c837e2e9a94/t/593dad0320099e64e1ca92a5/1497214574912/062017_Pointe+Bello_Military+Civil+Fusion+Report.pdf).

⁴³ AVIC Centre for Structural Design and Manufacture, IMPERIAL LONDON COLLEGE, http://www.imperial.ac.uk/avic-design/.

⁴⁴ Elsa B. Kania, *In Military-Civil Fusion, China is Learning Lessons from the United States and Starting to Innovate*, REAL CLEAR DEFENSE (August 27, 2019), https://www.realcleardefense.com/articles/2019/08/27/in_military-civil_fusion_china_is_learning_lessons_from_the_united_states_and_starting_to_innovate_114699.html.

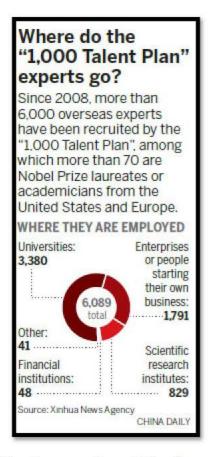
⁴⁵ Implementing the Talent Strategy to Strengthen the Country, The Central People's Government of the People's Republic of China (Mar. 20, 2007), http://www.gov.cn/ztzl/2007zfgzbgjd/content_555796.htm.

⁴⁶ WHITE HOUSE, How China's Economic Aggression Threatens the Technologies and Intellectual Property of the United States and the World, 14, (June 18, 2018), https://www.whitehouse.gov/wp-content/uploads/2018/06/FINAL-China-Technology-Report-6.18.18-PDF.pdf.

⁴⁷ U.S. FED. BUREAU OF INVESTIGATION, Counter Intelligence, Strategic Partnership Intelligence Note (SPIN), *Chinese Talent Programs*, SPIN: 15-007 (Sept. 2015), https://info.publicintelligence.net/FBI-ChineseTalentPrograms.pdf.

 $^{^{48}}$ The Recruitment Program of Global Experts, Thousand People Plan, http://www.1000plan.org/qrjh/section/2?m=rcrd.

 $^{^{49}}$ Su Zhou, $Returnees\ finding\ big\ opportunities,$ CHINA DAILY (Feb. 26, 2017), http://www.chinadaily.com.cn/china/2017-02/25/content_28345785.htm.



The TTP is just one of China's more than 200 talent recruitment plans.⁵⁰ For example, another popular Chinese talent recruitment plan is the Changjiang Scholars program. Started in 1998, the Changjiang Scholars program is run by the Ministry of Education and recruits individuals both in China and abroad to work in Chinese universities and research institutions.⁵¹ According to one public report, as of June 2014, a total of 2,251 Changjiang Scholars had been appointed, including 1,546 distinguished professors and 705 visiting professors.⁵² China's talent recruitment plans do not only target U.S. universities or researchers; there are

⁵⁰ Timothy Puko and Kate O'Keefe, Energy Department to Ban Foreign Talent- Recruitment Programs, WALL STREET J. (Feb. 1, 2019), https://www.wsj.com/articles/energy-department-to-ban-foreign-talent-recruitment-programs-11549052674.

⁵¹ The People's Daily, The Ministry of Education Implemented the Yangtze River Scholars Program for 16 Years, NATIONAL DEGREE AND GRADUATE EDUCATION DATA CENTER (June 9, 2014), http://web.archive.org/web/20140613205523/http://www.chinadegrees.cn/xwyyjsjyxx/sy/syzhxw/278915.shtml (Internet Archive Wayback Machine reproduction).

⁵² Hepeng Jia, *How to find a job in China*, NATURE (Jan. 17, 2018), https://www.nature.com/articles/d41586-018-00537-0.

venture capital recruitment plans and talent recruitment competitions that engage entrepreneurs and the private sector directly.⁵³

The Chinese government is investing significant resources in its talent recruitment plans. According to one 2015 FBI analysis, China pledged to spend 15 percent of the country's gross domestic product on human resources during the period covered by the plan, potentially more than \$2 trillion.⁵⁴

i. Administration

In contrast to other previous talent recruitment plans, the Party, specifically through the Central Committee's Organization Department, plays a lead role in implementing the TTP.⁵⁵ The Organization Department is one of the most powerful CPC departments, controlling more than 90 million Party officials' assignments at all levels of the Chinese government.⁵⁶ The CPC recognized the need to control overseas talent recruitment efforts "to ensure they were in line with Party priorities, so it created a complex system of administration and oversight to coordinate its recruitment efforts."⁵⁷ This coordination allows the CPC to "exert exceptional" levels of control over the TTP and other talent recruitment plans.⁵⁸

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⁵³ North American leg of the 7th 1000 Talents Plan Startup Contest Concludes, Venture Capital Community, Association of Thousand Talents Program (Aug. 15, 2018), http://1000.sandlake.com/ English/News/2018-08-15/314.html. Rolfe Winkler, Chinese Cash That Powered Silicon Valley Is Suddenly Toxic, Wall Street J. (June, 11, 2019), https://www.wsj.com/articles/chinese-cash-is-suddenly-toxic-in-silicon-valley-following-u-s-pressure-campaign-11560263302. Press Release, U.S. DEP'T OF JUSTICE, One American and One Chinese National Indicted in Tennessee for Conspiracy to Commit Theft of Trade Secrets and Wire Fraud (Feb. 14, 2019), https://www.justice.gov/opa/pr/one-american-and-one-chinese-national-indicted-tennessee-conspiracy-commit-theft-trade.

⁵⁴ U.S. FED. BUREAU OF INVESTIGATION, Counter Intelligence, Strategic Partnership Intelligence Note

⁵⁴ U.S. FED. BUREAU OF INVESTIGATION, Counter Intelligence, Strategic Partnership Intelligence Note (SPIN), *Chinese Talent Programs*, SPIN: 15-007 (Sept. 2015), https://info.publicintelligence.net/FBI-ChineseTalentPrograms.pdf.

⁵⁵ Fed. Bureau of Investigation production, 10 (Oct. 12, 2018).

⁵⁶ Eleanor Albert and Beina Xu, *The Chinese Communist Party*, COUNCIL ON FOREIGN REL. (Sept. 27, 2019), https://www.cfr.org/backgrounder/chinese-communist-party.

⁵⁷ Fed. Bureau of Investigation production, 10 (Oct. 12, 2018).

 $^{^{58}}$ *Id*.



The Organization Department oversees the Talent Work Coordination Small Group ("TWCSG"), the Overseas High-Level Talent Recruitment Working Small Group, and the Overseas High-Level Talent Recruitment Work Special Office ("Special Office"). The Organization Department's director and deputy director chair the TWCSG, which is comprised of 18 government agencies, CPC affiliated entities including the Organization Department, and academic entities. 60

In 2008, the Chinese government issued two policy documents detailing the administration and implementation of the TTP. On December 23, 2008 the "General Office of the CPC Central Committee" published the "Central Committee Talent Work Coordination Small Group's Advice for Implementing the [TTP]."⁶¹ This document provides initial guidance and organizing infrastructure, including by creating leadership positions, defining roles and responsibilities, and creating smaller working groups charged with more discrete tasks.⁶²

The policy document also created the "Overseas High-Level Talent Introduction Small Group." This group published an "Interim Measures" guidance

gjkjrejh/201811/t20181129_2370185.html.

⁵⁹ Interim Measures for the Introduction of High-Level Overseas Talent, Organization Department Document No. 28, MINISTRY OF NAT. RESOURCES (2008), http://www.mnr.gov.cn/zt/kj/kjfz/kjrc/

 ⁶⁰ Id.
 ⁶¹ Li Fang Quanjuan, Notice of the General Office of the Central Committee of the Communist Party of China on Forwarding the Opinions of the Central Talent Work Coordination Group on Implementing the Overseas High-Level Talents Introduction Program, CHINA COMMUNIST PARTY NEWS NETWORK

⁽June 20, 2012), http://cpc.people.com.cn/GB/244800/244856/18246001.html.

62 Id. (The "General Office of the CPC Central Committee" published the "Central Committee Talent Work Coordination Small Group's Advice for Implementing the [TTP]").

document designed to implement the overseas high-level talent recruitment plans, including the TTP.⁶³ The Interim Measures stated TTP's goals were as follows:

[The TTP] focuses on the national development strategy. Starting from 2008, it will take 5-10 years to focus on national key innovation projects, key disciplines and key laboratories, central enterprises and state-owned commercial financial institutions, and high-tech industries. Various types of parks, mainly in the development zone, have introduced and focused on supporting 2,000 overseas high-level talents to return to China for innovation and entrepreneurship.⁶⁴

The TWCSG also develops strategic plans, conducts policy research, and coordinates 18 participating government agencies, CPC affiliated entities, and academic entities. These 18 entities and agencies include:⁶⁵

- CPC Central Committee Organization Department
- Chinese Academy of Sciences ("CAS")
- Chinese Academy of Engineering ("CAE")
- National Natural Science Foundation ("NSFC")
- China Association for Science and Technology ("CAST")
- Ministry of Education ("MOE")
- Ministry of Science and Technology ("MOST")
- Foreign Experts Bureau⁶⁶
- Ministry of Industry and Information Technology ("MIIT")
- National Development and Reform Commission
- Ministry of Human Resources and Social Security ("MHRSS")
- State-owned Assets Supervision and Administration Commission ("SASAC")
- People's Bank of China
- Ministry of Finance
- United Work Front Department
- Communist Youth League of China ("CYLC")
- Ministry of Foreign Affairs

⁶³ Central Organization Department: Interim Measures for Introducing Overseas High-level Talents, SCHOOL OF OPTICAL AND ELECTRONIC INFO. HUST (Mar. 14, 2014), https://web.archive.org/web/20140323045245/http://oei.hust.edu.cn/Discipline/1/2012-11-09/183257640.html (Internet Archive Wayback Machine reproduction).

⁶⁵ Interim Measures for the Introduction of High-Level Overseas Talent, Organization Department Document No. 28, MINISTRY OF NAT. RESOURCES (2008), http://www.mnr.gov.cn/zt/kj/kjfz/kjrc/gjkjrcjh/201811/t20181129_2370185.html.

⁶⁶ The Foreign Experts Bureau is now part of MOST. See Kristin Huang & Alice Yan, New Immigration Bureau Set Up to Handle Growing Number of Foreigners in China, SOUTH CHINA MORNING POST (Mar. 13, 2018), https://www.scmp.com/news/china/policiespolitics/article/2137058/new-immigration-bureau-set-handle-growing-number.

• Ministry of Public Security

The participating agencies and entities each fulfill an important role in the process for targeting, recruiting, financing, and absorption of TTP members' scientific research and technology as well as identifying China's scientific, technological, and industrial needs.⁶⁷ The Special Office collects information from these agencies, decides China's priority technical areas, and approves the TTP finalists.⁶⁸

ii. Application Process

Applicants work through a three-phase application process to be admitted into the TTP.⁶⁹ First, the applicant's future Chinese employer submits an application to one of the platforms discussed below.⁷⁰ At this stage, the applicant must provide documents detailing his or her credentials and scientific achievements.⁷¹ In some cases, U.S.-based applicants have submitted significant amounts of sensitive information from their institutions to bolster their credentials.⁷² Second, the lead organization for the platform evaluates the application and makes a recommendation.⁷³ Third, the Thousand Talent's Special Office, in conjunction with the Overseas High-Level Talent Introduction Small Group, makes an application decision.⁷⁴ All TTP applications for the national-level plans, however, "are ultimately reviewed by the Communist Party's Organization Department, which decides whether or not to officially recruit the foreign expert."⁷⁵

⁶⁷ Interim Measures for the introduction of high-level overseas talent, Organization Department Document No. 28, MINISTRY OF NAT. RESOURCES (2008), http://www.mnr.gov.cn/zt/kj/kjfz/kjrc/gjkjrcjh/201811/t20181129_2370185.html.
⁶⁸ Id.

⁶⁹ The Recruitment Program of Global Experts, THOUSAND PEOPLE PLAN, (Jan. 19, 2012), https://web.archive.org/web/20141208104715/http://www.1000plan.org/qrjh/article/18582 (Internet Archive Wayback Machine reproduction).

⁷⁰ General Procedure for Reporting Thousands of People, THOUSAND PEOPLE PLAN, http://www.1000plan.org.cn/qrjh/section/2?m=rcrd.
⁷¹ Id.

⁷² See Transcript of Detention Hearing at 18, United States of America v. You, et al (E.D. Tenn. April 24, 2019) (No. 2:19-CR-00014); Fed. Bureau of Investigation production, 10 (Oct. 12, 2018) (Dr. Long Yu, a Chinese citizen stole "materials included design information for the F-22 and JSF-35 military jet engines. Dr. Long later admitted he had taken this information to China in support of his Chinese Talent Plan position at a Chinese government laboratory.").

 $^{^{73}}$ General Procedure for Reporting Thousands of People, Thousand People Plan, http://www.1000plan.org.cn/qrjh/section/2?m=rcrd. 74 Id.

⁷⁵ Fed. Bureau of Investigation production, 10 (Oct. 12, 2018).

iii. Implementation

The Chinese government relies on four major platforms for implementing the TTP.⁷⁶ These four platforms provide the systematic guidance and structure to recruit overseas experts for Chinese universities, research labs, business development parks, and other state-owned enterprises, all with the aim of modernizing China's indigenous innovation capabilities.⁷⁷

- 1) National Key Innovation Projects Platform. The National Key Innovation Projects Platform recruits overseas high-level S&T talent as defined and required under the MLP.⁷⁸
- 2) *Key Disciplines and Key Laboratories Platform*. The Key Disciplines and Key Laboratories Platform recruits overseas high-level talent for China's domestic education system, including universities. The Chinese government intended this platform to increase its research capabilities, serve as an "important base for training innovative talents and developing scientific research," and occupy the "backbone and leading position within the higher education disciplines system." 80
- 3) Central Enterprises and State-Owned Commercial and Financial Organizations Platform. The Central Enterprises and State-Owned Commercial and Financial Organizations Platform aims to attract overseas high-level talent for state-owned financial institutions.⁸¹
- 4) Parks or Zones Based at High-Tech Industrial Development Zones Platform. The Parks or Zones Based at High-Tech Industrial Development Zones platform aims to attract overseas high-level talents to return and create or operate businesses in China's business development parks.⁸²

⁷⁶ The Recruitment Program of Global Experts, THOUSAND PEOPLE PLAN, (Jan. 19, 2012), https://web.archive.org/web/20141208104715/http://www.1000plan.org/qrjh/article/18582 (Internet Archive Wayback Machine reproduction).

 $^{^{77}}$ *Id* .

⁷⁸ Four Platforms and Specific Requirements, THOUSAND PEOPLE PLAN, http://www.1000plan.org.cn/qrjh/section/2?m=rcrd.

⁷⁹ The Recruitment Program of Global Experts, THOUSAND PEOPLE PLAN, http://www.1000plan.org/qrjh/section/2?m=rcrd.

⁸⁰ Four Platforms and Specific Requirements, THOUSAND PEOPLE PLAN, http://www.1000plan.org.cn/qrjh/section/2?m=rcrd; China Academic Degrees and Graduate Information, Introduction to National Key Disciplines Project, THOUSAND PEOPLE PLAN (2008),

http://www.chinadegrees.cn/xwyyjsjyxx/zlpj/zdxkps/257697.shtml.

 $^{^{81}\} Four\ Platforms\ and\ Specific\ Requirements,$ Thousand People Plan, http://www.1000plan.org.cn/qrjh/section/2?m=rcrd.

 $^{^{82}}$ *Id*.

These four programs assist China in accomplishing its national S&T goals by strengthening research in fundamental and cutting-edge technologies and drastically improving the quality of Chinese universities and research laboratories.

iv. Chinese Talent Recruitment Contracts Violate U.S. Standards on Research Integrity

After selection, TTP members sign contracts or "letter of intent to work" agreements with Chinese institutions.⁸³ The Subcommittee obtained several of these contracts and one of the Chinese government's template contracts. The contracts include provisions that violate U.S. standards of research integrity, place TTP members in compromising legal and ethical positions, and undermine fundamental U.S. scientific norms of transparency, reciprocity, and integrity. The FBI has concluded that TTP members are "usually contractually obligated to essentially use the knowledge they have obtained from their foreign employers to successfully fulfill the terms of their contract." U.S. institutions and U.S. grantmaking agencies must be fully aware of such contractual obligations as they could limit the ability to protect and retain intellectual capital here in the United States.

China's State Administration of Foreign Experts Affairs ("SAFEA") created a template contract on which TTP contracts reviewed by the Subcommittee are based.⁸⁵ In addition to basic information such as salary and benefits, the template includes intellectual property ownership provisions and non-disclosure clauses related to research and intellectual property developed in China, underscoring the Chinese government's focus on technology acquisition.⁸⁶ The template also encourages entities in China that employ TTP members to incorporate additional non-disclosure requirements and intellectual property agreements.⁸⁷

Provisions in some TTP contracts control ownership of intellectual property created during the performance of the contract, including intellectual property created in the United States, at U.S. institutions, and with U.S. funds. Though provisions among the reviewed contracts varied, every contract contained clauses that gave Chinese institutions at least some rights in any intellectual property created by the TTP member in the United States. For example, one contract states, "The intellectual property rights obtained by [the TTP member] during the work of [the Chinese institution], including copyright, patent rights, trademark rights, etc., are owned by the [Chinese institution]."88 The contract permits some sharing of the intellectual property, but only with the TTP member: "According to the definition of

⁸³ Fed. Bureau of Investigation production, 11 (Oct. 12, 2018).

 $^{^{84}}$ Id.

 $^{^{85}}$ Contract of Employment/Letter of Intent, STATE ADMIN. OF FOREIGN EXPERTS AFF., https://wenku.baidu.com/view/b6ed88102a160b4e767f5acfa1c7aa00b42a9d5e.html?rec_flag=default. 86 Id.

 $^{^{87}}$ Id.

⁸⁸ Documents on file with the Subcommittee (Sept. 10, 2019).

intellectual property rights between the two parties, [the talent recruitment plan member] has certain sharing rights within the defined scope."⁸⁹ The contract did not mention the rights of the U.S. institution. This contract also requires that the TTP member will "apply for more than 2 invention patents" during the course of the grant and also included non-disclosure and confidentiality provisions.⁹⁰

Another contract references the possibility that the U.S. institution where the TTP member works could retain some ownership of any intellectual property created during the grant, yet that ownership would be "joint" with the Chinese institution. The U.S. institutions, however, are not parties to the TTP contracts. This particular contract provides:

Should Chinese scientists contribute to your discoveries in China, as we anticipate, [the U.S. institution] and our institutions will jointly own, protect, and manage the commercialization of these jointly-made discoveries.⁹¹

That same contract also states that, "In any publication describing research that was primarily conducted in China, you will list our institution as your primary, and [the U.S. institution] as your secondary, site of academic appointment."92

The scope of work described in TTP contracts also raises concerns. In many cases, the contracts detail specific expectations regarding research the TTP member will perform or the business he or she will develop in China. This research could resemble or replicate the work the TTP applicant performs or has performed for his or her U.S.-based employer. For example, one contract stated, "We recognize that your research in China will relate closely to your ongoing work at the [U.S. institution], and that it may be difficult to avoid comingling the results of your work." In other cases, the Chinese institution has asked the TTP member to continue operating labs in China characterized as "shadow labs." Another letter agreement between a TTP member and Chinese institution stated, "We anticipate that you will make several trips to China each year during the term of your engagement, but will perform much of your work remotely. [] When you are not in China, your laboratory here will be overseen by [REDACTED]."

Some contracts explicitly require TTP members to train or recruit additional students to work for them in the United States. This recruitment model enables

90 *Id*.

 $^{^{89}}$ Id.

⁹¹ PorCTP-0000652.

⁹² Id.

⁹³ Fed. Bureau of Investigation production, 11 (Oct. 12, 2018).

⁹⁴ PorCTP-0000627; PorCTP-0000651.

⁹⁵ PorCTP-0000627; PorCTP-0001128. See also Kelvin K. Droegemeier, Director, Letter to the United States Research Community, Off. Science and Tech. Policy (Sept. 16, 2019).

⁹⁶ PorCTP-0000627; PorCTP-0000615.

Chinese officials to place additional talent recruitment plan members under the supervision of current members already in the United States. As the recruits develop expertise and access, they are more desirable as TTP members and this encourages rapid program growth. For example, one contract's recruitment clause required the talent recruitment plan member to build and train a team of 8 to 10 post-doctoral students. Another contract provides more detail, stating the Chinese institution will provide the TTP member with a list of doctoral and graduate students from which the TTP member should recruit 1 to 2 post-doctoral students each year. 8

One federal agency provided the Subcommittee with a case study detailing how TTP recruitment can also serve as a way to circumvent export controls. A professor at a U.S. university specialized in a critical, dual-use science, technology, engineering, and mathematics ("STEM") field. He received numerous U.S. government research grants and was also a member of several Chinese talent recruitment plans. He professor also directed a China-based laboratory performing applied military research and development. Instead of traveling to China for this work, the professor sponsored visiting students from the Chinese laboratory to study under him in the United States. This technique, commonly seen throughout the United States with talent recruitment plan selectees, allowed the professor to pass dual-use research, and potentially export-controlled research, to China via the visiting students and scholars without having to physically leave the United States. In this case, many of the visiting students were "directly affiliated with research and development organizations involved in China's military modernization efforts."

The contracts also place TTP members in compromising legal and ethical positions. Some contract provisions reflect an intent to keep the TTP members' work in China secret. For example, one contract said "Party A and B shall keep the contents of the contract confidential. Neither party may disclose it to unrelated parties without consent from the other party." Several contracts noted that the TTP member could not cancel their contracts unless their Chinese employer consented, providing Chinese officials with significant leverage over the TTP

⁹⁷ Documents on file with the Subcommittee (Sept. 10, 2019).

⁹⁸ PorCTP-0000247.

⁹⁹ Documents on file with the Subcommittee (Oct. 25, 2019).

 $^{^{100}}$ *Id*.

 $^{^{101}}$ *Id*.

 $^{^{102}}$ *Id*.

 $^{^{103}}$ *Id*.

 $^{^{104}}$ Id.

 $^{^{105}}$ Id.

¹⁰⁶ Documents on file with the Subcommittee (Sept. 10, 2019).

member.¹⁰⁷ Given these obligations, U.S. institutions should be aware that TTP members may not voluntarily disclose their other affiliations or external funding during routine requests for disclosures.

Though TTP members were known to be working for U.S. institutions, some contracts state that the member cannot "take on any substantive part-time work in other organizations or institutions" or "conduct any part-time job assigned by any other party." Yet another contract explicitly recognizes the TTP member's employment outside China, but requires he or she to work nine months of the year for their Chinese employer, raising potential conflicts of commitment. The same contract also requires the member to resign from his or her U.S. position within four years of the start of the TTP contract.

B. Congressional Testimony on Chinese Talent Recruitment Plans

Recent hearings in the Senate and the House have highlighted Chinese efforts to use the TTP and other talent recruitment plans to leverage U.S. research spending for their own goals. In July 2019, FBI Director Christopher Wray expressed concern over the "abuse" of Chinese talent recruitment plans such as the TTP at a Senate Judiciary Committee hearing. Director Wray stated:

The Chinese government and the Chinese Communist Party have a number of so-called talent plans so you hear about the thousand talent plans and there is nothing inherently unlawful about the talent plans themselves. However we have seen through lots of investigations of abuse of those talent plans and essentially we have situations where it has created a pipeline in some cases at major universities especially at the graduate level more so than at the undergraduate level of key intellectual properties sometimes that has dual use potential flowing back to China for the advancement of its various strategic plans and the irony is that the U.S. is essentially funding that economic resurgence through various money that it provides through grants, etc.¹¹²

He also warned of the potential implications that may arise through the TTP:

¹⁰⁷ PorCTP-00001114; PorCTP-00001140. Other TTP contracts permitted TTP members to terminate the agreement with 30 days written notice. This shows that "mutual consent" to terminate a contract is not necessarily a requirement under Chinese labor law. *See* PorCTP-00001127.

¹⁰⁸ PorCTP-00001108. PorCTP-00001140.

¹⁰⁹ HHS PorCTP-00001138.

¹¹⁰ HHS PorCTP-00001140.

 $^{^{111}}$ Oversight of the Fed. Bureau of Investigation: Hearing Before the S. Comm. on Judiciary, 116th Cong. (July 23, 2019) (testimony of Christopher Wray, Dir., Fed. Bureau of Investigation). 112 Id.

So I think we do have to be a little bit careful that we don't find ourselves in a situation where essentially U.S. taxpayer money has been misappropriated for the advancement of China's achievements of economic dominance over us. There are a lot of cases where those plans become violations of U.S. law or at the very least violate non-competes and things like that that might exist and I think universities need to be more and more aware of who it is they are inviting over and what safeguards they can put in place. 113

At a December 2018 Senate Judiciary Committee hearing, Bill Priestap, the former Assistant Director of the FBI's Counterintelligence Division, stated that China's talent recruitment plans are effectively "brain gain programs" that "encourage theft of intellectual property from U.S. institutions." Priestap continued, "For example, China's talent recruitment plans, such as the Thousand Talents Program, offer competitive salaries, state-of-the-art research facilities, and honorific titles, luring both Chinese overseas talent and foreign experts alike to bring their knowledge and experience to China, even if that means stealing proprietary information or violating export controls to do so." 115

In April 2018, the House Science, Space, and Technology Committee's Subcommittee on Research and Technology and Subcommittee on Oversight held a joint hearing titled "Foreign Plots Targeting Research and Development." Michael Wessel, Commissioner of the U.S.-China Economic and Security Review Commission, emphasized key threats posed by talent recruitment plans such as the TTP. Commissioner Wessel referenced a 2011 FBI report that stated:

Chinese talent programs pose a serious threat to U.S. businesses and universities through economic espionage and theft of intellectual property. The different programs focus on specific fields deemed critical to China, to boost China's national capability in [science and technology] fields. These subject matter experts often are not required to sign non-disclosure agreements with U.S. entities, which could result in loss of unprotected information. ... One of the greatest threats toward these experts is transferring or transporting proprietary, classified, or export

 $^{^{113}}$ *Id*.

¹¹⁴ China's Non-Traditional Espionage Against the United States: Hearing on The Threat and Potential Policy Responses Before the S. Comm. on the Judiciary, 115th Cong. (Dec. 12, 2018) (testimony of E.W. "Bill" Priestap, Assistant Director, Counterintelligence Division, Fed. Bureau of Investigation).

¹¹⁵ Id.

controlled information, or intellectual property, which can lead to criminal charges.¹¹⁶

In a July 2018 House Permanent Select Committee on Intelligence hearing titled, "China's Threat to U.S. Research/Innovation Leadership," Michael Brown, a Presidential Innovation Fellow who focuses on Chinese S&T policy issues, explained how the Chinese government engages in technology transfers through talent recruitment plans. According to Brown, China has been able to conduct technology transfers by "sponsoring professional organizations to target talent and using Chinese students by placing them in sensitive areas of U.S. research." ¹¹⁷

C. China Deletes References to the Thousand Talents Plan

Following public testimony and other U.S. government scrutiny, some Chinese government websites deleted online references to the Thousand Talents Plan, according to several U.S. and foreign media reports even though the talent recruitment plans continue. Some Chinese universities also stopped promoting the program, and the official TTP site removed a post containing a list of the names of participating scientists. According to one U.S.-based news outlet, China's self-censorship followed the August 2018 high-profile arrest of a TTP member who worked for General Electric and was alleged to have stolen technology secrets from the company. 119

One Chinese language news outlet reported that Chinese authorities had ordered media outlets to suspend reporting on the TTP.¹²⁰ That report continued:

An official document, with signatures of the Thousand Talents Plan's Youth Program Review Team and the seal of the Representative of the National Natural Science Foundation of China, has been circulated online recently. The document shows the team has listed precautionary measures, asking that for the sake of ensuring the safety of overseas

¹¹⁶ Foreign Plots Targeting Research and Development: Hearing Before the H. Subcomm. on Research and Technology and H. Subcomm. on Oversight of the H. Comm. on Science, Space and Technology, 115th Cong. (Apr. 11, 2018) (testimony of Michael Wessel, Comm'r of the U.S. China Econ and Sec Review Commission).

 $^{^{117}}$ China's Threat to U.S. Research/Innovation Leadership: Hearing Before the H. Perm. Select Comm on Intelligence, 115th Cong. (July 19, 2018) (testimony of Michael A. Brown, Presidential Innovation Fellow).

¹¹⁸ Meng Jeng, China Mutes Volume on Thousand Talents Plan as US Spy Concerns Rise But Scientists Still Covet Funding, SOUTH CHINA MORNING POST (Dec. 8, 2018), https://www.scmp.com/tech/science-research/article/2176897/china-mutes-volume-thousand-talents-plan-us-spy-concerns-rise.

¹¹⁹ Spy Fears Prompt China to Censor Its Own Recruitment Drive, BLOOMBERG (Sept. 19, 2018), https://www.bloomberg.com/news/articles/2018-09-19/china-censors-mentions-of-thousand-talents-asspy-fears-grow.

¹²⁰ Id.

talents, all work units should use phones or fax instead of emails when sending interview notifications, and that notices should be sent as invitations to attend academic conferences or forums in China.¹²¹

In the most specific decree from the Chinese government on limiting references to the TTP, "[t]he official document clearly requests that the phrase 'Thousand Talents Plan' should not appear in written circulars/notices." And, finally, according to one news outlet, one TTP member "was asked to delete anything related to the Thousand Talents Plan from [his or her] homepage." 123

The Subcommittee examined Chinese websites that previously provided information on talent recruitment plans that were no longer available. For example, Northwestern Polytechnical University, a prominent Chinese university focusing on STEM, scrubbed references to talent recruitment plans from its English-version online job application. ¹²⁴ In mid-2018, the website highlighted two different talent recruitment plans, as shown below. ¹²⁵

 121 *Id*.

¹²² *Id*.

¹²³ Kristin Huang & Kinling Ho, *Why Chinese Scientists Would Rather Not Talk about Their Talent Awards*, ASIAONE (Jan. 7, 2019), https://www.asiaone.com/china/why-chinese-scientists-would-rather-not-talk-about-their-talent-awards.

¹²⁴ As of this report, Northwestern Polytechnical is now on Commerce's Entity List. *Lists of Parties of Concern*, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY (2019), https://www.bis.doc.gov/index.php/policy-guidance/lists-of-parties-of-concern.

¹²⁵ Overview, NORTHWESTERN POLYTECHNICAL UNIVERSITY (Sept. 28, 2018), https://web.archive.org/web/20180828021039/https://en.nwpu.edu.cn/EnglishNew/Jobs/Overview.htm (Internet Archive Wayback Machine reproduction of the Northwestern Polytechnical University "Overview" page which mentioned "scholars in Thousand Talents Program" through Sept. 2018).

Join Us	High-level Talents: scholars in Thousand Talents Program, Distinguished Professors an Chair Professors of Changjiang Scholars Program and etc.
Overview	1. Qualifications:
	a. The talents will be appointed as professors, doctoral supervisors, and NPU provides full payment for 1 or 2 pos
Current	doctoral research assistants.
Employment Opportunities	2. Compensation and Support:
	a. Besides the bonus provided by National Government and Shaanxi Government, NPU provides 600,000 - 1,000,0
High-level	RMB (pre-tax) annual basic salaries for talents. Short-term scholars will be paid according to attendance time.
Talents	b. NPU provides 148 m2 apartment in Youyi Campus or 230 m2 apartment in Chang'an Campus and no less the 300,000 RMB resettlement allowances for full-time employed scholar. NPU provides apartments for short-ten
Post-doctoral	employed scholars.
Researchers	c. NPU provides public laboratory platforms, scientific research and work facilities and scientific research start-
New Staff	funds.
Registration	Young Scholars in Thousand Talents Program
Process	1. Qualifications:

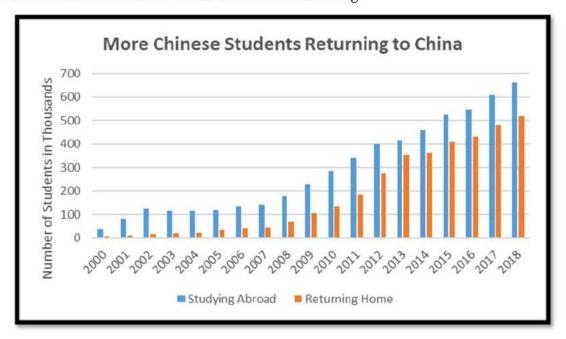
In 2019, the university then changed the website and deleted both references to its talent recruitment plans, as shown here 126

Join Us	High-level Talents: Distinguished Professors and Chair Professors of Changjiang Scholars Program and etc.
Overview	1. Qualifications:
Current Employment Opportunities	a. The talents will be appointed as professors, doctoral supervisors, and NPU provides full payment for 1 or 2 post-doctoral research assistants.
High-level Talents	2. Compensation and Support:
Post-doctoral Researchers	a. Besides the bonus provided by National Government and Shaanxi Government, NPU provides 600,000 - 1,000,000 RMB (pre-tax) annual basic salaries for talents. Short-term
New Staff Registration Process	scholars will be paid according to attendance time. b. NPU provides 148 m2 apartment in Youyi Campus or 230 m2 apartment in Chang'an
	Campus and no less than 300,000 RMB resettlement allowances for full-time employed scholar. NPU provides apartments for short-term employed scholars.
	c. NPU provides public laboratory platforms, scientific research and work facilities and scientific research start-up funds.

 $^{^{126}\} Overview, NORTHWESTERN\ POLYTECHNICAL\ UNIVERSITY,\ https://en.nwpu.edu.cn/EnglishNew/Jobs/Overview.htm.$

D. After Implementation of Talent Recruitment Plans, More Chinese Students, Researchers, and Scientists are Returning to China

China's talent recruitment plans designed to repatriate Chinese students and professionals abroad are succeeding as more Chinese students are returning to China. Chinese government reports and data show the number of Chinese students returning from working or studying abroad has increased significantly over the past decade. ¹²⁷ In 2018, 662,100 students went abroad and 480,900 returned—a 78 percent return rate that China boasted on its government website. ¹²⁸ This was a marked increase from the 30.6 percent return rate recorded in 2007 and the approximate 5 percent return rate in 1987. ¹²⁹ China's Ministry of Education ("MOE") data, as shown below, highlights the growth of Chinese students studying abroad and the increase in these students returning. ¹³⁰



¹²⁷ Xinhua, More Chinese Study Abroad in 2018, MINISTRY OF EDUC. (Mar. 28, 2019), http://en.moe.gov.cn/news/media_highlights/201904/t20190401_376249.html. ¹²⁸ Id.

David Zweig & Zoe Ge, How Chinese Students Who Return Home after Studying abroad Succeed – and Why they Don't, SOUTH CHINA MORNING POST (July 27, 2018), https://www.scmp.com/comment/insight-opinion/asia/article/2157081/how-chinese-students-who-return-home-after-studying.
 Xinhua, More Chinese Study Abroad in 2018, MINISTRY OF EDUC. (Mar. 28, 2019), http://en.moe.gov.cn/news/media_highlights/201904/t20190401_376249.html; MINISTRY OF EDUCATION, BRIEF REPORT ON CHINESE OVERSEAS STUDENTS AND INT'L STUDENTS IN CHINA (Mar. 31, 2018), http://en.moe.gov.cn/documents/reports/201901/t20190115_367019.html; Youyou Zhou, Chinese Students Increasingly Return Home after Study Abroad, QUARTZ (July 29, 2018), https://qz.com/1342525/chinese-students-increasingly-return-home-after-studying-abroad/.

The MOE has publicly touted China's success in increasing the return rate of Chinese students. On April 4, 2018, the MOE issued an English language press release stating, "The momentum in the number of Chinese students studying abroad and returning from overseas studies continued last year." It continued, "An overview of statistics on Chinese students studying abroad between 1978 and 2017 reveals that the number of students returning from overseas studies, especially high-caliber graduates, has been growing steadily." A year later, the MOE relayed on March 28, 2019 to Chinese media that:

Nearly 5.86 million Chinese studied overseas from 1978 to the end of 2018. ... Among them, over 1.53 million are still in the process of studying and conducting research overseas, over 4.32 million have already completed their studies, and more than 3.65 million chose to pursue a job in China after completing their studies overseas. 133

 131 2017 Sees Increase in Number of Chinese Students Studying Abroad and Returning after Overseas Studies, MINISTRY OF EDUC. (Apr. 3, 2018), http://en.moe.gov.cn/News/Top_News/201804/t20180404 332354.html.

 $^{^{132}}$ Id.

 $^{^{133}}$ Xinhua, $More\ Chinese\ study\ abroad\ in\ 2018,$ MINISTRY OF EDUC. (Mar. 28, 2019), http://en.moe.gov.cn/news/media_highlights/201904/t20190401_376249.html.

IV. EFFORTS TO SECURE U.S. RESEARCH

Openness, transparency, reciprocity, integrity, and merit-based competition define U.S. success in S&T development.¹³⁴ The collaborative openness of the U.S. research enterprise attracts investment, researchers, and students, promotes a free exchange of ideas, and ensures the distribution of timely and relevant research.¹³⁵ International collaboration is also a hallmark of the U.S. research enterprise.¹³⁶ Foreign researchers collaborate with U.S.-based researchers, conduct research at U.S. universities and government facilities, and receive U.S. government funding.¹³⁷ The U.S. S&T base has benefited greatly from such international collaboration.

Scientific research and development falls into two categories: "fundamental," or "basic" research, and applied research. Fundamental research is "systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind." Fundamental research lends itself to international collaboration and relies on the broad sharing of research results with the scientific community so as to confirm research findings and create intellectual capital. Applied research, on the other hand, uses this intellectual capital to

¹³⁴ See Nat'l Acad. of Sci. et al, Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Econ. Future, 70 (2007); Nat'l Res. Council, Sci. and Security in a Post 9/11 World: A Rep. Based on Regional Discussions Between the Sci. and Security Communities, 2 (2007).

¹³⁵ See Nat'l Res. Council, Science and Security in a Post 9/11 World: A Rep. Based on Regional Discussions Between the Sci. and Security Communities, 27 (2007). See also L. Rafael Reif, How to Maintain America's Edge, Foreign Policy (May/June 2017),

https://www.foreignaffairs.com/articles/united-states/2017-03-23/how-maintain-america-s-edge ("U.S. universities have long been a magnet for the world's most brilliant people, as both students and faculty.")

¹³⁶ See NAT'L RES. COUNCIL, SCI. AND SECURITY IN A POST 9/11 WORLD: A REP. BASED ON REGIONAL DISCUSSIONS BETWEEN THE SCI. AND SECURITY COMMUNITIES (2007). See also About the Office of International Science & Engineering (OISE), NAT'L SCI. FOUND., https://www.nsf.gov/od/oise/about.jsp (the US "collaborates internationally to advance the U.S. economy, enhance our nation's security; give the U.S. the competitive edge to remain a global leader; and advance knowledge and global understanding").

¹³⁷ See NAT'L RES. COUNCIL, SCI. AND SECURITY IN A POST 9/11 WORLD: A REP. BASED ON REGIONAL DISCUSSIONS BETWEEN THE SCI. AND SECURITY COMMUNITIES (2007). See also Désirée Schauz, What is Basic Research? Insights from Historical Semantics, 52 MINERVA 273, 318-19 (2014) (detailing the development of "basic research" as a concept so federal funding could be secured for research that does not produce immediate commercial benefit).

¹³⁸ NAT'L RES. COUNCIL, ASSESSMENT OF DEP'T OF DEFENSE BASIC RES. APP. D, at 49 (2005), https://www.nap.edu/read/11177/chapter/8#49.

¹³⁹ See VANNEVAR BUSH, Sci.: The Endless Frontier, 21 (1945) (explaining that the "international exchange of scientific information is of growing importance ... the Government should take an active role in promoting the international flow if scientific information") (emphasis in original).

solve specific problems or to develop a particular scientific application. As its purpose is clear, it is easier to judge the commercial value or national security implications of technology that comes out of applied research than from basic research. The federal government's regulatory framework reflects a compromise of balancing national security and the openness of research. This compromise has allowed basic science to flourish, largely uninhibited, while placing additional scrutiny on applied research for national security reasons. As

This section provides an overview of the NSF, NIH, and DOE and the roles these agencies play with respect to oversight of scientific research and development. The Subcommittee found that Chinese talent recruitment plan members misappropriated U.S. government funding, provided early basic research ideas to their Chinese employers, stole intellectual capital from U.S. basic research before it was published, and engaged in intellectual property theft. Next, this section details the FBI's failure to effectively warn the U.S. academic community of the threat of Chinese talent recruitment plans, Commerce's issuance of export licenses of sensitive technologies to Chinese talent recruitment plan members and other concerning Chinese entities, and the State Department's limitations on denying visas to applicants who may be part of China's efforts to acquire intellectual capital and property.

 $^{^{140}}$ NAT'L RES. COUNCIL, ASSESSMENT OF DEP'T OF DEFENSE BASIC RES. APP. D, at 49 (2005), https://www.nap.edu/read/11177/chapter/8#49.

¹⁴¹ See generally id.

¹⁴² NAT'L RES. COUNCIL, SCI. AND SECURITY IN A POST 9/11 WORLD: A REP. BASED ON REGIONAL DISCUSSIONS BETWEEN THE SCI. AND SECURITY COMMUNITIES, 80 (2007) ("the cost of one potential leak ... must be balanced against the national competitiveness and economic benefits gained from encouraging foreign students and scholars to come to American universities and perform fundamental research with minimal restrictions").

A. THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation ("NSF") is an independent federal agency established by Congress in 1950.¹⁴³ The NSF's mission is "to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense."¹⁴⁴ The NSF funds basic research that forms a foundational knowledge base that helps drive the U.S. economy, advances national security, and sustains global leadership.¹⁴⁵ While the NSF's funding of fundamental research is nearly always unclassified, the research can have unforeseen future applications in sensitive areas such as artificial intelligence or chemical and nuclear weapons development.

The NSF annually provides about 27 percent of all federal funds devoted to basic scientific research at U.S. research institutions. This money funds about 12,000 new awards each year, mostly in the form of limited-term grants with an average duration of three years. A small portion of funding goes to equipment and facilities that would be too expensive for any one researcher or organization to fund, such as U.S. Antarctic research sites. Most awards, however, go to individuals and small groups of principal investigators through institutions for specific research proposals judged using "a rigorous and objective merit review system." 149

Though the NSF requires disclosures from grant applicants, the agency does not have effective policies and procedures in place to prevent foreign talent recruitment plan members from misappropriating U.S.-funded research. Recently, the NSF implemented a new policy in July 2019 prohibiting employees from participating in foreign talent recruitment plans. The policy, however, does not apply to NSF-funded researchers despite the fact that they are most likely to be members of foreign talent recruitment plans. The NSF also does not vet grantees before awarding them funding. The NSF has no dedicated staff to ensure compliance with NSF grant terms. Instead, the NSF relies on sponsoring institutions to vet and conduct due diligence on potential grantees. It relies on the NSF inspector general to also conduct grant oversight.

¹⁴³ At a Glance, NAT'L SCI. FOUND., https://www.nsf.gov/about/glance.jsp.

¹⁴⁴ NSF Statutory Mission, NAT'L SCI. FOUND., https://www.nsf.gov/pubs/2014/nsf14002/pdf/02_mission_vision.pdf. See generally National Science Foundation Act of 1950, Pub. L. No. 81-507, 64 Stat. 154 (codified as amended at 42 U.S.C. § 1861, et seq).

¹⁴⁵ At a Glance, NAT'L SCI. FOUND., https://www.nsf.gov/about/glance.jsp.

 $^{^{146}}$ *Id*.

 $^{^{147}}$ *Id*.

 $^{^{148}}$ *Id*.

¹⁴⁹ *Id*.

1. Fundamental Research

Fundamental research is comprised of basic science and engineering results that are "published and shared broadly within the scientific community." ¹⁵⁰ Fundamental research is often considered the bedrock of scientific success and innovation and requires a research environment that is conducive to creativity and the free exchange of ideas. ¹⁵¹ Though the participation of international researchers in this type of research is crucial, America's "leadership position in science and technology is an essential element in our economic and physical security." ¹⁵² Accordingly, the U.S. government may restrict some research for "proprietary or national security reasons." ¹⁵³

Concerns about the balance of national security risks and collaborative university environments began in the early 1980s. ¹⁵⁴ In 1981, five presidents from prominent American research universities sent a letter to the Secretaries of State, Defense, and Commerce raising concerns about a Defense Department policy that sought to restrict participation by foreign students in, and dissemination of information on, a sensitive research program. ¹⁵⁵ In response, the National Academy of Sciences ("NAS")—a private, nonprofit, self-governing membership corporation for the furtherance of science and technology for the general welfare ¹⁵⁶—convened a panel to "examine the various aspects of the application of controls to scientific communication and to suggest how to balance competing national objectives so as to best serve the general welfare." ¹⁵⁷ The resulting study sought to preclude—as a matter of policy—the imposition of special restrictions on the bulk of university research. ¹⁵⁸

 $^{^{150}}$ Exec. Office Of The President, NSDD-189, National Policy On The Transfer Of Sci., Tech. And Engineering Info, 1 (1985).

 $^{^{151}}$ *Id*.

 $^{^{152}}$ *Id*.

 $^{^{153}}$ *Id*.

¹⁵⁴ See Neal Lane, Tighter Controls to Prevent Espionage at U.S. Research Laboratories Are Harmful, in ESPIONAGE AND INTELLIGENCE GATHERING, 106-07 (Louise I. Gerdes ed., 2004).

¹⁵⁵ David A. Wilson, *National Security Control of Technological Information*, 25 JURIMETRICS J. 109, 119–20 (1985).

¹⁵⁶ NAT'L ACAD. OF SCI., SCI. COMM. AND NAT'L SECURITY, *ii* (1982). Additionally, the NAS "shall, whenever called upon by any department of the Government, investigate, examine, experiment, and report upon any subject of science or art..." An Act to Incorporate the National Academy of Sciences, Ch. 111, 12 Stat. 806 § 3 (1863).

¹⁵⁷ NAT'L ACAD. OF SCI., SCI. COMM. AND NAT'L SECURITY, 24-25 (1982) (describing the usual means and importance of scientific communication). The study, prepared with support from the Defense Department, was the first major study of the conflict between national security goals and open academic and research communication. *See also* NAT'L SCI. BOARD, REP. OF THE COMMITTEE ON OPENNESS OF SCI. COMM. (1988) (describing the need and requirements for open communications in science).

¹⁵⁸ See NAT'L ACAD. OF SCI., SCI. COMM. AND NAT'L SECURITY, 1–8 (1982).

As a result of the NAS study, President Reagan issued National Security Decision Directive 189 ("NSDD-189") in 1985, which to this day ensures the openness of fundamental research by exempting unclassified information from control or access limitations. NSDD-189 defines fundamental research and the desire to keep fundamental research unrestricted. In reaffirming NSDD-189's foundations, the NSF emphasized that "the United States' commitment to freedom of inquiry, innovation, and the marketplace of ideas has helped the U.S. grow, attract, and retain our world-class science and engineering workforce." 161

NSDD-189 includes some limitations on the use and transfer of even unclassified foundational research. For example, NSDD-189 specified "where the national security requires control, the mechanism for control of information generated during federally funded fundamental research in science, technology and engineering at colleges, universities and laboratories is classification." Finally, NSDD-189 suggests that the U.S. government should periodically review "all research grants, contracts, or cooperative agreements for potential classification." ¹⁶³

2. The NSF Grant Process

The Proposal and Award Policies and Procedures Guide ("PAPPG") outlines the merit review system and provides guidance on the preparation and submission of grant proposals to the NSF.¹⁶⁴ The merit review system contains three phases: (1) proposal preparations and submission; (2) proposal review and processing; and (3) award processing—each containing additional discrete tasks.¹⁶⁵

Phase I: Proposal Preparation and Submission. The NSF publishes information about funding opportunities through various sources including: Find Funding, a tool on the NSF website; National Science Foundation Update, an email newsletter; and grants.gov. 166 Next, the individual or organization seeking funding

¹⁶¹ Statement of the National Science Board on Security and Science, NAT'L Sci. Found. (Oct. 24, 2018), https://www.nsf.gov/news/news_summ.jsp?cntn_id=297039.

 $^{^{159}}$ See Exec. Office Of The President, NSDD-189, National Policy On The Transfer Of Scientific, Technical And Engineering Information (1985).

 $^{^{160}}$ *Id.* at 1.

 $^{^{162}}$ Exec. Office Of The President, NSDD-189, National Policy On The Transfer Of Sci., Tech. And Engineering Info., 2 (1985).

 $^{^{163}}$ *Id*.

¹⁶⁴ See generally The Nat'l Sci. Found., NSF 19-1, Proposal and Award Policies and Proc. Guide (2019), https://www.nsf.gov/pubs/policydocs/pappg19_1/nsf19_1.pdf.

¹⁶⁵ Merit Review, NAT'L Sci. Found., https://www.nsf.gov/bfa/dias/policy/merit_review.

¹⁶⁶ Phase I: Proposal Preparation and Submission, NAT'L SCI. FOUND., https://www.nsf.gov/bfa/dias/policy/merit_review/phase1.jsp#funding.

must develop and submit a grant proposal. Once the proposal is submitted to the NSF, it is routed to the appropriate NSF Program Officer for review. 168

Phase II: Proposal Review and Processing. NSF program officers then conduct a preliminary review of the proposal to ensure conformance with the PAPPG guidelines. ¹⁶⁹ If the proposal conforms to PAPPG guidelines, the NSF program officer will "identify at least three external experts to review the proposal." The external peer reviewers evaluate the proposal on two criteria: Intellectual Merit and Broader Impacts. ¹⁷¹ NSF program officers are responsible for ensuring that no disqualifying conflicts of interest exist among the reviewers. ¹⁷² The NSF program officer considers several additional factors "in developing a portfolio of funded projects." After the review is completed, the NSF program officer makes a funding recommendation decision to the division director. ¹⁷⁴ Final approval for the proposal occurs at the division level. ¹⁷⁵

Phase III: Award Processing. An NSF grants and agreements officer reviews the recommendation made by the program officer and division director for business, financial, and policy implications, and then processes and issues a grant agreement. The grants and agreements officer then transmits the acceptance notification and grant agreement to the applicant. 177

3. Foreign Support and Affiliation Disclosure

Since 1978, the PAPPG requires applicants to make two disclosures that relate to foreign support and affiliations.¹⁷⁸ First, PAPPG guidelines require the disclosure of "all current and pending support for ongoing projects and proposals," including the proposed project.¹⁷⁹ Current project support that must be disclosed includes that from "[f]ederal, state, local, foreign, public or private foundations,

 $^{^{167}}$ Id.

¹⁶⁸ *Id*

¹⁶⁹ Phase II: Proposal Review and Processing, NAT'L SCI. FOUND., https://www.nsf.gov/bfa/dias/policy/merit_review/phase2.jsp.

 $^{^{170}}$ *Id.* NSF may elect to have review conducted by *ad hoc* reviewers, a panel of experts, or a combination of both.

 $^{^{171}}$ *Id*.

¹⁷² Id. See infra §2.

¹⁷³ Phase II: Proposal Review and Processing, NAT'L SCI. FOUND., https://www.nsf.gov/bfa/dias/policy/merit_review/phase2.jsp.

 $^{^{174}}$ *Id*.

 $^{^{175}}$ *Id*.

¹⁷⁶ Phase III: Award Processing, NAT'L SCI. FOUND., https://www.nsf.gov/bfa/dias/policy/merit_review/phase3.jsp.

 $^{^{177}}$ *Id*.

 $^{^{178}\,\}mathrm{THE}$ Nat'l Sci. Found., NSF 19-1, Proposal And Award Policies And Proc. Guide, II-6, II-24 (2019).

¹⁷⁹ *Id.* at II-24.

industrial or other commercial organizations, or internal funds allocated toward specific projects." ¹⁸⁰

Second, all senior personnel involved in the project must disclose Collaborators and Other Affiliations ("COA").¹⁸¹ Senior personnel includes any principal investigator or project director who is "designated by the proposer, and approved by NSF, who will be responsible for the scientific or technical direction of the project."¹⁸² Senior personnel also includes any individual participating in the project considered to be a faculty member by the performing institution or who holds an appointment as a faculty member at another institution.¹⁸³ The NSF's definition of senior personnel does not include postdoctoral positions, graduate or undergraduate students working on the project.¹⁸⁴ As such, NSF's COA process does not cover a large number of individuals who may be involved with foreign talent recruitment plans.

The COA submission template contains five tables that each cover a particular area of disclosure. Table One requires the applicant to disclose all organizational affiliations within the last 12 months. The NSF makes clear that "foreign" individuals, "regardless of whether an individual is located outside the [United States]," must complete the COA template to declare their affiliations. The NSF, however, does not define organizational affiliations.

The four remaining tables request information meant to assist NSF program officers in screening peer reviewers for conflicts. Applicants must disclose personal, family, and business relationships; names and organizational affiliations for the applicant's Ph.D. advisor and any Ph.D. advisees; names and affiliations of any co-authors or co-collaborators in the last 48 months; and any editorial boards, editors-in-chief, or co-editors the individual interacted with over the last 24 months. 190

 $^{^{180}}$ *Id*.

¹⁸¹ *Id.* at II-6.

 $^{^{182}}$ *Id*.

 $^{^{183}}$ *Id*.

¹⁸⁴ *Id*.

 $^{{}^{185}\} COA\ Template,\ NAT'L\ SCI.\ FOUND.,\ https://www.nsf.gov/bfa/dias/policy/coa/coa_template.xlsx.$

¹⁸⁷ Frequently Asked Questions (FAQs) On Collaborators and Other Affiliations (COA) Info. Template, NAT'L SCI. FOUND. (2018), https://www.nsf.gov/bfa/dias/policy/coa/faqs_coatemplatemay18.pdf. ¹⁸⁸ COA Template, NAT'L SCI. FOUND., https://www.nsf.gov/bfa/dias/policy/coa/coa_template.xlsx; NSF 19-1, THE NAT'L SCI. FOUND., NSF 19-1, PROPOSAL AND AWARD POLICIES AND PROC. GUIDE (2019).

¹⁸⁹ Frequently Asked Questions (FAQs) On Collaborators and Other Affiliations (COA) Info. Template, NAT'L SCI. FOUND. (2018), https://www.nsf.gov/bfa/dias/policy/coa/faqs_coatemplatemay18.pdf. ¹⁹⁰ Id.

4. The NSF is Unprepared to Stop Foreign Talent Recruitment Plan Members From Misappropriating U.S.-Funded Research

Though the NSF requires a wide array of disclosures from grant applicants, the agency does not have effective policies and procedures in place to prevent foreign talent recruitment plan members from misappropriating U.S. funds and U.S.-funded research. While the NSF recently implemented a new policy prohibiting NSF employees from participating in foreign talent recruitment plans, that policy does not extend to the principal investigators or researchers actually performing NSF-funded grant work.

Furthermore, an overall lack of vetting, internal controls, compliance infrastructure, and fraud detection abilities puts NSF's grant programs and funding at risk of being exploited or misappropriated by foreign talent recruitment plan members. The NSF relies on institutions and sponsors to conduct their own vetting and due diligence as it does not have a compliance office. NSF also lacks a uniform grant application despite receiving more than 50,000 grant applications annually in an unsearchable PDF format. This effectively precludes a systematic review of potential foreign conflicts of interest and commitment, complicating NSF's ability to provide oversight and ensure compliance with grant terms and federal regulations. Though NSF plans to standardize the form and make future grant applications searchable in 2021, NSF officials admitted that they would still primarily rely on institutions to conduct vetting and due diligence. 192

The NSF's Policy on Foreign Talent Recruitment Plans Does Not Apply to Researchers or Principal Investigators

The NSF released a policy in July 2019 regarding "Foreign Government Talent Recruitment Programs," which applies only to NSF employees. The policy does not apply to the more than 40,000 principal or co-principal investigators, senior researchers, scientists, mathematicians, engineers, and educators who work on NSF-funded projects. The policy states that NSF personnel "are not permitted to participate in foreign government talent recruitment programs. The policy further states that "[p]ublic service is a public trust, requiring NSF personnel and [Intergovernmental Personnel Act assignees] to place loyalty to the Constitution, the laws, and ethical principles above private gain. NSF personnel and IPAs shall

¹⁹¹ Interview with Rebecca Keiser, Nat'l Sci. Found., Office of International Science and Engineering (Aug. 19, 2019) (On file with the Subcommittee). [hereinafter KEISER INTERVIEW (Aug. 19, 2019)].

¹⁹² KEISER INTERVIEW (Aug. 19, 2019).

 $^{^{193}}$ Nat'l Sci. Found., FY 2020 NSF Budget Request to Congress: Number of People Involved in NSF Activities, at Summary Tables 5 (2019), https://www.nsf.gov/about/budget/fy2020/pdf/05_fy2020.pdf.

 $^{^{194}}$ Personnel Pol'y on Foreign Gov't Talent Recruitment Programs, NAT'L SCI. FOUND. (July 11, 2019), https://www.nsf.gov/bfa/dias/policy/researchprotection/PersonnelPolicyForeignGovTalentRecruitmen t%20Programs07_11_2019.pdf.

not hold financial interests that conflict with the conscientious performance of duty." 195

The policy does not apply to a large part of the scientific community, including researchers or principal investigators conducting working at universities and other research institutions around the country. Rebecca Keiser, NSF's Director of the Office of International Science and Engineering, told the Subcommittee that the NSF did not believe it had the capacity to apply the policy to individuals who are not NSF employees. Additionally, she stated that she believed there would be "significant backlash from the community" if the policy was applied more broadly as, at this time, "it's hard to be clear enough about what the threat actually is." Keiser stated that the NSF planned to revisit the policy after more communication with law enforcement and after the NSF's outside study of this threat was completed by the end of 2019.

The NSF also issued a "Dear Colleague Letter" on "Research Protection" in conjunction with the new policy. NSF Director France Córdova provided additional commentary on the policy change:

[W]e are issuing a policy making it clear that NSF personnel and IPAs detailed to NSF cannot participate in foreign government talent recruitment programs. There is a risk that participation in foreign government talent recruitment programs by NSF personnel and IPAs will compromise the ethical principles that bind us. Moreover, such participation poses significant risks of inappropriate foreign influence on NSF policies, programs, and priorities, including the integrity of NSF's merit review process—risks we simply cannot accept.²⁰⁰

Córdova's letter also detailed other NSF efforts meant to confront the challenge.²⁰¹ The NSF is proposing an electronic format for filing grant proposals, including the grant applicant's background materials and has hired an independent scientific advisory group to further study grant security.²⁰²

 $^{^{195}}$ *Id*.

¹⁹⁶ Keiser Interview (Aug. 19, 2019).

 $^{^{197}}$ *Id*.

 $^{^{198}}$ Id.

 $^{^{199}} Id.$

 $^{^{200}}$ Dear Colleague Letter, NSF 19-200, Research Protection, NAT'L SCI. FOUND., (July 11, 2019), https://www.nsf.gov/pubs/2019/nsf19200/research_protection.jsp.

 $^{^{201}}$ *Id*.

²⁰² *Id*.

ii. Existing Conflict of Interest and Commitment Reporting to the NSF Does Not Adequately Capture All Researcher Activities

Existing conflict of interest and conflict of commitment reporting requirements do not adequately capture all principal investigator or researcher activities. ²⁰³ As a result, the NSF has proposed clarifying disclosure provisions concerning "Current and Pending Support" to include in-kind support and activities outside a principal investigator's institutional appointment, such as consulting work during the summer months. ²⁰⁴ One research advocacy group asserts that the research community's common understanding, however, of existing "Current and Pending Support" reporting requirements is limited to reporting details that relate to principal investigators' involvement in projects within the scope of their institutional appointment in the United States. ²⁰⁵

Many researchers and principal investigators working at U.S. universities are on nine-month contracts, with three months free in the summer months. Prior to the new PAPPG proposal, it was unlikely that U.S. institutions disclosed information on what its principal investigators did during the summer months. The disclosure requirement, therefore, may not have been effectively capturing potential conflicts related to activities outside a principal investigator's institutional appointment.²⁰⁶

²⁰³ A conflict of interest may exist: (i) if "significant financial interests of the investigator (including those of the investigator's spouse and dependent children) [would] reasonably appear to be affected by the research or educational activities funded or proposed for funding by NSF; or (ii) if [the investigator has significant financial interest in entities whose financial interests would reasonably appear to be affected by such activities." THE NAT'L SCI. FOUND., NSF 19-1, PROPOSAL AND AWARD POLICIES AND PROC. GUIDE, Ch. IX: Grantee Standards (A)(2) IX-1 (2019), https://www.nsf.gov /pubs/policydocs/pappg19 1/nsf19 1.pdf. While there is no standard federally recognized definition of a conflict of commitment, the University of Illinois indicates a conflict of commitment arises "when the external activities of a [staff member] are so demanding of time or attention that they interfere with the individual's responsibilities to the [institution]" Id.. The term "significant financial interest" means anything of monetary value, including, but not limited to, salary or other payments for services (e.g., consulting fees or honoraria); equity interest (e.g., stocks, stock options or other ownership interests); and intellectual property rights (e.g., patents, copyrights and royalties from such rights). Policy on Conflicts of Commitment and Interest, U. OF ILLINOIS, https://www.vpaa.uillinois.edu/UserFiles/Servers/Server_420372/File/RNUA/COCI_Policy_2018.pdf. ²⁰⁴ NAT'L SCI. FOUND., NSF-20-1, PROPOSED CHANGES TO THE PROPOSAL AND AWARD POLICIES AND PROC. GUIDE, II-23 (May 29, 2019), https://www.nsf.gov/bfa/dias/policy/papp/pappg20_1/ FedReg/draftpappg may2019.pdf. Letter from Wendy D. Streitz, President, Council on Governmental Relations, to Suzanne Plimpton, Reports Clearance Officer, NAT'L SCI. FOUND. (July 29, 2019), https://www.cogr.edu/sites/default/files/NSF%20PAPPG%20final.pdf. ²⁰⁵ Letter from Wendy D. Streitz, President, Council on Governmental Relations, to Suzanne Plimpton, Reports Clearance Officer, NAT'L SCI. FOUND. (July 29, 2019), https://www.cogr.edu/sites/ default/files/NSF%20PAPPG%20final.pdf. ²⁰⁶ KEISER INTERVIEW (Aug. 19, 2019).

Keiser told the Subcommittee that the NSF views these PAPPG proposals as a clarification to help the community understand the disclosure obligations. The research community, however, views these as significant changes to current reporting requirements that will add to institutional and investigator burdens. The Council of Government Relations, responding to the NSF's proposed changes, wrote, "[W]e urge NSF to consider the consequential impact to institutions this change in practice will create and work with the community to minimize the additional burden." 209

iii. The NSF Does Not have a Compliance Staff and Relies on Applicants or Sponsoring Institutions to Conduct Due Diligence

According to interviews with NSF staff, the NSF relies on applicants and sponsoring institutions to conduct the vetting and due diligence for potential grant recipients. The NSF does not have employees dedicated to vetting grant applicants or to ensure compliance with the terms of the grant. Instead, Keiser told the Subcommittee that the NSF relies on the sponsoring entity, typically a university or hospital, to conduct the due diligence of the principal investigator as that investigator is nearly always an employee of that institution. The institutions themselves also have an interest in ensuring that the principal investigator is complying with the terms of the grant as the NSF could potentially disbar an institution from receiving NSF funding because of violations.

iv. The NSF Relies on its Inspector General to Identify Grant Fraud

Since the NSF does not have a compliance staff, the agency relies on its Inspector General ("NSF IG") to identify instances of potential grant fraud, conflicts of commitment, and conflicts of interest. The NSF IG told the Subcommittee that investigating foreign talent recruitment plans, including the TTP, resulted in a 20 percent increase in the office's per-agent caseload. TTP investigations alone now amount to approximately 25 percent of the NSF IG's Office of Investigations' overall workload. The NSF IG indicated that as "universities become more familiar with

 $^{^{207}}$ Id.

²⁰⁸ Letter from Wendy D. Streitz, President, Council on Governmental Relations, to Suzanne Plimpton, Reports Clearance Officer, NAT'L SCI. FOUND. (July 29, 2019), https://www.cogr.edu/sites/default/files/NSF%20PAPPG%20final.pdf.

 $^{^{209}}$ *Id*.

²¹⁰ KEISER INTERVIEW (Aug. 19, 2019).

 $^{^{211}}$ *Id*.

 $^{^{212}}$ *Id*.

²¹³ **I**d

 $^{^{214}}$ Interview with the Office of Inspector Gen., Nat'l Sci. Found. (Sept. 19, 2019). $^{215}\ Id.$

the challenges posed by faculty affiliations with [the TTP], that percentage could increase."216

The NSF IG told the Subcommittee that that there are some unique challenges it faces when investigating cases involving talent recruitment plans. These investigations require significant expenditures in addition to those incurred with other civil, criminal, and administrative investigations. ²¹⁷ As another department's inspector general's office noted to the Subcommittee, relying on the inspector general is not an adequate substitute for maintaining an effective internal compliance program. ²¹⁸

5. Talent Recruitment Plan Members Misappropriated NSF Research

According to public and non-public information obtained by the Subcommittee, TTP members have misappropriated NSF research grants. The Subcommittee identified public cases that resulted in prosecutions of talent recruitment plan members involved in NSF grants or with NSF grantees. These cases involved the TTP and other related talent recruitment plans.

Public Case Examples. First, Percival Zhang, a biological systems engineering professor at Virginia Polytechnical Institutes and State University ("Virginia Tech"), founded Cell-Free Bioinnovations, Inc. ("CFB"), a private research firm located in Blacksburg, Virginia.²¹⁹ CFB relied exclusively on federal grants, including funds from the NSF, "for funding its research activities."²²⁰ Zhang had begun working as a paid researcher for the Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences by, at least, 2014.²²¹ In 2015, Zhang submitted fraudulent grant proposals to the NSF.²²² "Evidence presented at trial indicated grant funds obtained would be used for research Zhang knew had already been done in China."²²³ "Zhang intended to use the grant funds for other CFB projects rather than for the projects for which the funds were requested."²²⁴ In an

²¹⁶ Email from the Office of Inspector Gen., Nat'l Sci. Found. to the Subcommittee (Sept. 19, 2019) (on file with Subcommittee).

 $^{^{217}}$ *Id*.

²¹⁸ Briefing with the Subcommittee (Oct. 2, 2019).

²¹⁹ Press Release, U.S. Dept. of Justice, Former Virginia Tech Professor Found Guilty of Grant Fraud, False Statements, Obstruction (Feb. 25, 2019) (https://www.justice.gov/usao-wdva/pr/former-virginia-tech-professor-found-guilty-grant-fraud-false-statements-obstruction). See also U.S. v. Yiheng Percival Zhang., 2019 WL 2263835 (W.D.Va. May 3, 2019).

 $^{^{220}}$ *Id*.

 $^{^{221}}$ *Id*.

 $^{^{222}}$ *Id*.

 $^{^{223}}$ *Id*.

²²⁴ *Id*.

effort to obstruct the investigation into his activities, Zhang submitted falsified timesheets to government investigators. ²²⁵

In the second case, Feng "Franklin" Tao "signed a five-year contract with Fuzhou University in China that designated him as a Changjiang Scholar Distinguished Professor."²²⁶ The contract required him to be a full time employee of the Chinese university.²²⁷ "While Tao was under contract with Fuzhou University, he was conducting research at Kansas University funded through two Energy contracts and four NSF contracts."²²⁸ Tao is alleged to have "defrauded the US government by unlawfully receiving federal grant money at the same time that he was employed and paid by a Chinese research university—a fact that he hid from his university and federal agencies."²²⁹

Third, "beginning in 2010, and while employed at NOAA, Chunzai Wang entered into contractual agreements to work under China's Changjiang Scholars Program, the TTP, and was also involved in China's 973 Program which mobilizes scientific talents to strengthen basic research in line with national strategic targets of the People's Republic of China."²³⁰ "Wang knowingly and willfully received a salary for his services as an employee of NOAA/AOML, from the People's Republic of China."²³¹ Wang was also listed as an investigator on at least one NSF-funded project.²³²

 $^{^{225}}$ *Id*.

²²⁶ Press Release, U.S. Dept. of Justice, University of Kansas Researcher Indicted for Fraud for Failing to Disclose Conflict of Interest with Chinese University (Aug. 21, 2019), https://www.justice.gov/usao-ks/pr/university-kansas-researcher-indicted-fraud-failing-disclose-conflict-interest-chinese.

 $^{^{227}}$ *Id*.

 $^{^{228}}$ *Id*.

²²⁹ Id.

²³⁰ Press Release, U.S. Dept. of Justice, Former Research Oceanographer Sentenced for Accepting a Salary from the People's Republic of China (Feb. 22, 2018) (https://www.justice.gov/usao-sdfl/pr/former-research-oceanographer-sentenced-accepting-salary-people-s-republic-china). See also U.S. v. Chunzai Wang, 2018 WL 1391892 (S.D.Fla. Feb. 20, 2018).

²³² Award Abstract #1041145; Collaborative Research: The Southern Subtropical Anticyclones, NAT'L SCI. FOUND., https://www.nsf.gov/awardsearch/showAward?AWD_ID=1041145&HistoricalAwards=false.

B. THE NATIONAL INSTITUTES OF HEALTH

The National Institutes of Health ("NIH"), part of the U.S. Department of Health and Human Services ("HHS"), is the world's largest biomedical research agency. NIH's mission "is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability." NIH invests over \$39 billion annually in medical research and distributes 80 percent of this money through about 50,000 grants to more than 300,000 grantees or principal investigators at universities, medical schools, and research institutions in every U.S. state and around the world. 235

NIH has attempted to address the threats presented by foreign talent recruitment plans like the TTP, but significant gaps in grant integrity efforts remain unaddressed. These gaps have made it difficult for NIH to engage in proactive efforts to prevent foreign exploitation of U.S.-funded research. Instead, NIH is now conducting investigations based on a review of behavior that has already occurred, identifying the loss of intellectual property and intellectual capital to China. NIH acknowledged that at least 75 individuals potentially linked to foreign talent recruitment plans also served as peer reviewers within the last two years. Path yields against any law enforcement database. Instead, NIH officials rely on "reviewing the first page of results from a Google search." Instead, NIH officials rely on "reviewing the difficulty in fully preventing foreign governments from coopting U.S.-funded research. NIH's Director of Extramural Research publicly stated that NIH does not

²³³ About NIH, NAT'L INST. OF HEALTH, https://www.nih.gov/about-nih.

²³⁴ Mission and Goals, NAT'L INST. OF HEALTH, https://www.nih.gov/about-nih/what-we-do/mission-goals.

²³⁵ Budget, NAT'L INST. OF HEALTH, https://www.nih.gov/about-nih/what-we-do/budget. Principal Investigator "is defined as the individual(s) judged by the applicant organization to have the appropriate level of authority and responsibility to direct the project or program supported by the grant … Each principal investigator is responsible and accountable to the applicant organization, or, as appropriate, to a collaborating organization, for the proper conduct of the project or program including the submission of all required reports." Frequently Asked Questions: Multiple Principal Investigators, NAT'L INST. OF HEALTH, https://grants.nih.gov/grants/. Budget, NAT'L INST. OF HEALTH, https://www.nih.gov/about-nih/what-we-do/budget/multi_pi/faq.htm.

²³⁶ OFFICE OF THE INSPECTOR GEN., DEP'T OF HEALTH AND HUMAN SERV., OEI-01-19-00160, VETTING PEER REVIEWERS AT NIH'S CENTER FOR SCI. REV.: STRENGTHS AND LIMITATIONS, 12 (Sept. 2019) [hereinafter HHS IG REPORT: PEER REVIEW (Sept. 2019)]. OFFICE OF THE INSPECTOR GEN., DEP'T OF HEALTH AND HUMAN SERV., A-03-19-03003, THE NAT'L INST. OF HEALTH HAS LIMITED POLICIES, PROC., AND CONTROLS IN PLACE FOR HELPING TO ENSURE THAT INST. REPORT ALL SOURCES OF RES. SUPPORT, FIN. INT., AND AFFILIATIONS, 2 (Sept. 2019) [hereinafter HHS IG REPORT: REPORTING (Sept. 2019)].

²³⁷ HHS IG REPORT: PEER REVIEW at 13 (Sept. 2019).

"know the scale of the problem" and that it is "concerned that the scale is much worse than what [it is] seeing." ²³⁹

1. NIH Grant Process

NIH's General Instructions outlines the grant application process.²⁴⁰ NIH advertises opportunities for grant funding through funding opportunity announcements ("FOAs") on both the NIH Guide for Grants and Contracts and Grants.gov.²⁴¹ All grant applications must be submitted in response to a FOA.²⁴² The FOAs provide specific instructions that are used in conjunction with the general instructions.²⁴³ NIH has seven different groups of grant funding and each include a variety of individual grant programs identified by a specific activity code.²⁴⁴

Generally, NIH's application process follows three steps: (1) application for grant funding; (2) application referral and review; and (3) pre-award and award process.²⁴⁵ The application phase begins after a researcher has identified an appropriate FOA.²⁴⁶ The FOA and the general instructions provide direction on the appropriate forms to complete for the chosen grant.²⁴⁷ The forms that need to be completed are specific to each type of grant and will be communicated in the FOA.²⁴⁸ They also contain links for unstructured responses to fields such as a cover page, a biographical sketch, current and pending support, and a project narrative.²⁴⁹

The Center for Scientific Review ("CSR") reviews the application for completeness before assigning the application to a specific NIH Institute or Center

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²³⁹ David Bonazzi & Salzman Art, *NIH Reveals Its Formula for Tracking Foreign Influences*, NEWSFLASH (Sept. 27, 2019), https://newsflash.one/2019/09/27/nih-reveals-its-formula-for-tracking-foreign-influences/.

²⁴⁰ NAT'L INST. OF HEALTH, SF424 ("R&R") APPLICATION PACKAGES: GEN. INSTRUCTIONS FOR NIH AND OTHER PHS AGENCIES (2018) (https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general-forms-e.pdf).

²⁴¹ Understand Funding Opportunities, NAT'L INST. OF HEALTH, https://grants.nih.gov/grants/how-to-apply-application-guide/prepare-to-apply-and-register/understand-funding-opportunities.htm.

²⁴² Plan Your Application, NAT'L INST. OF HEALTH, https://grants.nih.gov/grants/planning application.htm.

²⁴³ Understanding Funding Opportunities, NAT'L INST. OF HEALTH, https://grants.nih.gov/grants/how-to-apply-application-guide/prepare-to-apply-and-register/understand-funding-opportunities.htm.
²⁴⁴ Types of Grant Programs, NAT'L INST. OF HEALTH, https://grants.nih.gov/grants/funding/funding_program.htm.

 $^{^{245}\} Grants\ Process\ Overview,\ NAT'L\ INST.$ OF HEALTH, https://grants.nih.gov/grants/grants-process-overview.pdf.

²⁴⁶ *Plan Your Application*, NAT'L INST. OF HEALTH, https://grants.nih.gov/grants/planning_application.htm.

²⁴⁷ How to Apply – Application Guide, NAT'L INST. OF HEALTH, https://grants.nih.gov/grants/how-to-apply-application-guide.html.

²⁴⁸ Id.

²⁴⁹ *Id*.

for possible funding. 250 The CSR also assigns the application to a review committee with the expertise to evaluate the scientific merit of the application. 251

The grant application then undergoes two levels of peer review. ²⁵² The first level of review is conducted primarily by "non-federal scientists who have expertise in relevant scientific disciplines and current research areas. ²⁵³ The peer review process is intended "to ensure that applications for funding submitted to NIH are evaluated on the basis of a process that is fair equitable, timely, and conducted in a manner that strives to eliminate bias. ²⁵⁴ The second level of review is performed by Institute and Center Advisory Councils or Boards composed of "both scientific and public representatives chosen for their expertise, interest, or activity in matters related to health and disease. ²⁵⁵ Only applications recommended for approval at both stages of review may be considered for funding. ²⁵⁶ Following the funding recommendation, NIH decides whether to grant an award and what level of funding to provide. ²⁵⁷ The Notice of Award is the legal document used to notify the applicant that an award has been made. ²⁵⁸ The notice includes all applicable terms of the grant and "contact information for the assigned program officer and grants management specialist." ²⁵⁹

2. Disclosure of Foreign Support and Affiliations

Current law does not require NIH to "proactively ensure that investigators disclose all sources of research support, financial interests, and affiliations." ²⁶⁰ The compliance relationship between NIH and its grant recipients is predicated on trust—institutions are therefore responsible for soliciting and reviewing disclosures of significant financial interests from each investigator who is planning to participate in or is participating in NIH-funded research. ²⁶¹ Institutions are also responsible for reporting to NIH any significant financial interests that may constitute a financial conflict of interest ("FCOI"). ²⁶² An FCOI exists when an institution reasonably determines that an "investigator's significant financial

 $^{{}^{250}\,}Receipt\ and\ Referral,\ NAT'L\ INST.\ OF\ HEALTH,\ https://grants.nih.gov/grants/receipt-referral.htm.$

 $^{^{251}}$ *Id*.

²⁵² Peer Review, NAT'L INST. OF HEALTH, https://grants.nih.gov/grants/peer-review.htm.

 $^{^{253}}$ *Id*.

²⁵⁴ NAT'L INST. OF HEALTH, NIH GRANTS POLICY STATEMENT I-67–68 (Oct. 2018), https://grants.nih.gov/grants/policy/nihgps/nihgps.pdf.

 $^{{}^{255}\,}Peer\,Review,\, {\rm NAT'L\,INST.\,OF\,HEALTH},\, https://grants.nih.gov/grants/peer-review.htm.$

 $^{^{256}}$ Id.

 $^{^{257}}$ Id.

 $^{^{258}}$ Id.

 $^{^{259}}$ Pre-Award and Award Process, NAT'L INST. OF HEALTH, https://grants.nih.gov/grants/pre-award-process.htm.

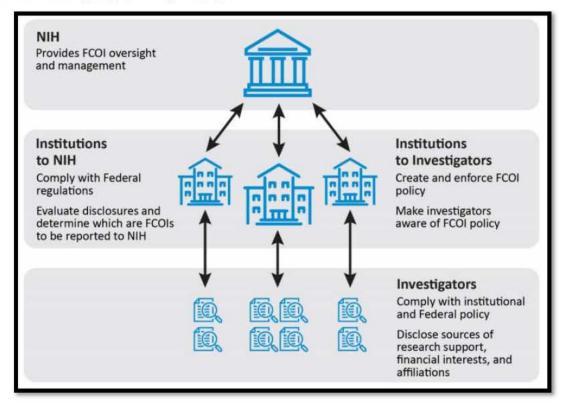
²⁶⁰ HHS IG REPORT: REPORTING at 4 (Sept. 2019).

²⁶¹ See 42 C.F.R. § 50.604(d).

²⁶² See 42 C.F.R. § 50.605(b).

interest ... could directly and significantly affect the design, conduct, or reporting" of the research.²⁶³

Investigators are required to disclose any significant financial interests to the official at their institution who is responsible for such disclosures. The institution then determines whether the investigator's conflict is related to his or her institutional responsibilities and if so, whether the significant financial interest constitutes an FCOI. Because an investigator's research support, financial interests, and affiliations may constitute a significant financial interest, they must be disclosed to both the institution and NIH. The HHS IG produced the following graphic illustrating the responsibilities of the investigators, the institutions, and NIH for identifying and reporting FCOIs. E67



3. NIH's Division of Grants Compliance and Oversight

NIH's Division of Grants Compliance and Oversight ("DGCO") serves as the "focal point to advance external compliance with policy and legislative mandates

²⁶³ See 42 C.F.R. § 50.604(f).

²⁶⁴ See 42 C.F.R. § 50.604(e)(1).

²⁶⁵ HHS IG REPORT: REPORTING at 5 (Sept. 2019).

²⁶⁶ Id.

²⁶⁷ Id. at 6.

and enhance compliance oversight by recipient institutions."²⁶⁸ By accepting NIH-funding, recipients indicate acceptance of the associated terms and conditions, including compliance with applicable federal statutes, regulations, and policies.²⁶⁹ Though NIH expects grant recipients to properly administer sponsored activities and comply with relevant regulations and policies, DCGO conducts two types of routine site visits at recipient institutions to advance compliance and provide oversight:

- *Proactive Compliance Site Visits*. These site visits assess institutional understanding of federal policies and regulations, seek to minimize or eliminate areas of non-compliance, and nurture partnerships between NIH and its recipient institutions. These visits are not designed to address specific problems and are not considered audits or investigations.²⁷⁰
- *Targeted Site Review*. These site reviews are an NIH initiative focusing specifically on compliance with FCOI regulations.²⁷¹ The reviews are meant to determine if "(1) recipient institutions are fully and correctly implementing the FCOI regulation, and (2) reporting requirements are being met."²⁷²

4. The HHS IG Identified Weaknesses in Tracking and Reporting Foreign Financial Conflicts of Interest

In September 2019, the HHS IG released three reports focused on identifying and reporting financial conflicts of interest and foreign talent recruitment plans—including the TTP. The HHS IG identified vulnerabilities in all three reports. First, the HHS IG evaluated NIH's reliance on the peer review process for evaluating grant applications.²⁷³ The HHS IG noted that because peer reviewers conduct "the initial review of research grants submitted to NIH, they have a unique opportunity to access confidential information in grant applications."²⁷⁴ While NIH has taken some steps to address the threat from potential conflicts of interest with peer reviewers, significant problems remain with NIH's overall visibility into potential conflicts. For example, HHS IG found that "NIH focuses on preventing undue influence generally, but does not specifically focus on undue foreign influence" like foreign talent recruitment plans.²⁷⁵

 $^{^{268}\} Grants\ Compliance\ and\ Oversight,\ NAT'L\ INST.$ OF HEALTH, https://grants.nih.gov/policy/compliance.htm#activities.

 $^{^{269}}$ Id.

 $^{^{270}}$ Id.

²⁷¹ See 42 C.F.R. pt. 50, Subpart F.

 $^{^{272}\} Grants\ Compliance\ and\ Oversight,\ NAT'L\ INST.$ OF HEALTH, https://grants.nih.gov/policy/compliance.htm#activities.

²⁷³ See HHS IG REPORT: PEER REVIEW (Sept. 2019).

²⁷⁴ *Id*. at 2.

 $^{^{275}}$ *Id.* at 11.

NIH also has identified 250 scientists as "individuals of possible concern," of which roughly 30 percent served as a peer reviewer over the past two years.²⁷⁶ Additionally, NIH's guidelines for the vetting of peer reviewers "do not advise vetting nominees against any type of law enforcement database. Instead, [the guidelines] suggest generally reviewing the first page of results from a Google search."²⁷⁷ As a result, NIH "has efforts underway to address" identifying potential sources of undue foreign influence with its peer reviewers.²⁷⁸

In an attempt to raise awareness of the importance of confidentiality in the peer review process, NIH has launched ongoing communications with its staff, the research community, and grantee institutions—some of which have proactively raised concerns with NIH. Specifically, NIH issued a notice titled "Reminders of NIH Policies on Other Support and on Policies Related to Financial Conflicts of Interest and Foreign Components" on July 10, 2019.²⁷⁹ This notice served as a reminder to the research "community about the need to report foreign activities through documentation of other support, foreign components, and financial conflict of interest to prevent scientific, budgetary, or commitment overlap."280 NIH issued this notice more than three years after the FBI notified NIH of an extensive peer review violation in June 2016.²⁸¹ NIH also "convened a working group of the Advisory Committee to the NIH Director to explore additional steps to protect the integrity of [NIH]'s peer review."282 In addition to the working group, on June 4, 2019, HHS's Office of National Security issued a policy proposal to create an Insider Threat program.²⁸³ On October 2, 2019, HHS started the first program of this kind to focus on identifying possible risk, mitigation measures, and technical outreach assistance to U.S. institutions receiving NIH funding.²⁸⁴

According to NIH, it will be difficult to find a viable solution to address concerns about talent recruitment plan members and the peer review process.²⁸⁵

 $^{^{276}}$ *Id.* at 12.

²⁷⁷ Id.

²⁷⁸ *Id.* at 12.

²⁷⁹ Reminders of NIH Policies on Other Support and on Policies related to Financial Conflicts of Interest and Foreign Components, NAT'L INST. OF HEALTH (July 10, 2019), https://grants.nih.gov/grants/guide/notice-files/NOT-OD-19-114.html.

 $^{^{280}} Id$.

²⁸¹ Briefing with Nat'l Inst. of Health (Oct. 17, 2019). *See also*, Andrea Widener, *Amid Tensions with China, US Emphasizes Rules Around Research Security*, C&EN (Sept. 25, 2019), https://cen.acs.org/policy/research-funding/Amid-tensions-China-US-emphasizes/97/i38. ("The NIH first learned about concerns regarding China in June 2016, when the FBI approached the agency about 'significant breaches in peer review confidentiality,' says Michael Lauer, deputy director for extramural research at the NIH.").

²⁸² HHS IG REPORT: PEER REVIEW at 2 (Sept. 2019).

 $^{^{283}}$ NIH CI/Insider Threat Proposal – Decision, NAT'L INST. OF HEALTH (June 4, 2019) (document on file with the Subcommittee).

 $^{^{284}}$ Id.

²⁸⁵ Briefing with Nat'l Inst. of Health (Oct. 17, 2019).

NIH officials said it would take "at least 6 months to a year" to come up with a "risk-based approach for identifying peer reviewer nominees who warrant extra security."²⁸⁶ That effort would also require an additional 100 fulltime employees.²⁸⁷

Second, the HHS IG completed a broader review of NIH's efforts to uncover FCOIs with researchers and principal investigators.²⁸⁸ Since a 2008 HHS IG report that identified "serious gaps in NIH's oversight of extramural investigators,"²⁸⁹ the HHS IG found that NIH "has made progress in overseeing FCOIS that extramural grantee institutions report for their research investigators."²⁹⁰ Nevertheless, the NIH could do more to protect taxpayer dollars and national security.²⁹¹ The HHS IG noted that NIH does not perform any quality assurance to "ensure the adequacy or consistency of program officials' reviews" of potential FCOIs.²⁹² Most alarming, however, is that NIH could not provide "the number of FCOIs reported in FY 2018 that involved a significant financial interest in a foreign entity (e.g., the investigator with the FCOI was conducting research in the United States but had a significant financial interest in a foreign entity)."²⁹³ This is because NIH does not have a mechanism within the FCOI reporting software to identify foreign entities.²⁹⁴

Third, the HHS IG evaluated the policies, procedures, and controls NIH has in place to help institutions report all sources of outside research support, financial interests, and affiliations.²⁹⁵ The HHS IG noted that, as shown below, "[t]he number of reviews conducted under the FCOI compliance program significantly decreased from 28 reviews in FY 2013 to only 3 reviews in FY 2018."²⁹⁶ NIH officials told the Subcommittee that the decrease in compliance reviews was due to staffing shortages.²⁹⁷

²⁸⁶ David Bonazzi & Salzman Art, *NIH Reveals Its Formula for Tracking Foreign Influences*, NEWSFLASH (Sept. 27, 2019), https://newsflash.one/2019/09/27/nih-reveals-its-formula-for-tracking-foreign-influences/.

 $^{^{287}}$ *Id*.

²⁸⁸ OFFICE OF THE INSPECTOR GEN., DEP'T OF HEALTH AND HUMAN SERV., OEI-03-19-00150, NIH HAS MADE STRIDES IN REVIEWING FIN. CONFLICTS OF INTEREST IN EXTRAMURAL RES., BUT COULD DO MORE (Sept. 2019) [hereinafter HHS IG REPORT: FCOIs (Sept. 2019)].

²⁸⁹ *Id*. at 2.

²⁹⁰ *Id.* at Report in Brief.

 $^{^{291}}$ *Id*.

²⁹² *Id.* at 13.

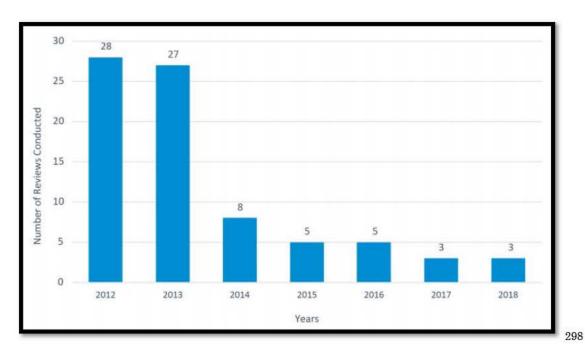
²⁹³ *Id*. at 15.

 $^{^{294}}$ Id.

²⁹⁵ HHS IG REPORT: REPORTING (Sept. 2019).

 $^{^{296}}$ Id. at 7

²⁹⁷ Briefing with Nat'l Inst. of Health (Oct. 3, 2019).



Additionally, the report found "[n]ot all NIH-funded investigators may be aware that they are required to disclose significant financial interests with regard to research support, financial interests, and affiliations." Moreover, "[o]f the 1,875 institutions that received NIH funding in FY 2018 and were required to have FCOI policies, 1,013 did not have FCOI policies posted on their websites."

5. Weaknesses in NIH's Internal Controls for Monitoring and Permitting Foreign Access to Sensitive Data

The HHS IG also found weaknesses in NIH's ability to properly control foreign investigator access to sensitive information. In February 2019, the HHS IG released a report assessing whether NIH had adequate internal controls in place when permitting and monitoring foreign principal investigators access to NIH genomic data.³⁰¹ The IG found that "NIH did not consider the risk presented by foreign principal investigators when permitting access to United States genomic data."³⁰² NIH expects foreign principal investigators to "safeguard NIH data and use sound security practices in accordance with signed user agreements," but the IG's report notes that "NIH does not verify that foreign [principal investigators]

²⁹⁸ HHS IG REPORT: REPORTING at 7 (Sept. 2019).

²⁹⁹ Id. at 8.

³⁰⁰ Id.

 $^{^{301}}$ OFFICE OF THE INSPECTOR GEN., DEP'T OF HEALTH AND HUMAN SERV., A-18-18-09350, OPPORTUNITIES EXIST FOR THE NAT'L INS. OF HEALTH TO STRENGTHEN CONTROLS IN PLACE TO PERMIT AND MONITOR ACCESS TO ITS SENSITIVE DATA (Feb. 2019). 302 Id. at Report in Brief.

have completed security training, even though NIH's Security Best Practices for Controlled-Access Data emphasize security training as a key control."303

Additionally, the report found that NIH had not assessed the risks to national security when permitting access to foreign principal investigators, and did not ensure that NIH Policy reflected the current emerging threat to national security. For example, NIH permitted access to genomic data to for-profit entities, including WuXi Nextcode Genomics and Shenzhen BGI Technology Company, which the FBI said have ties to the Chinese government. In another example, "NIH did not consider any restrictions on which foreign principal investigators were permitted access to research data based on national security risks, such as weaponizing for biological warfare." Finally, the HHS IG noted that "NIH officials did not consider risks related to the United States' national security by foreign [principal investigators] connected to state-sponsored activities, the presence of United States and international sanctions, or whether the [principal investigator] is in a foreign country that is on a United States Government watch list." in a foreign country that is on a United States Government watch list."

6. TTP Members Misappropriated NIH Research

While NIH continues to investigate cases of undisclosed foreign support, it has already identified instances in which TTP members misappropriated NIH-funded research. As of September 13, 2019, NIH had contacted 70 institutions regarding more than 130 individuals who received or are receiving NIH funding.³⁰⁸

NIH sent confidential communications to institutions that received NIH funding: "It has come to our attention that there are issues of potential noncompliance with NIH policies regarding disclosures of outside research support and relevant affiliations or foreign components." NIH then provided the NIH researcher or investigator's name and specific details about that individual's alleged participation in the TTP or other source of foreign funding. NIH then instructed the institution to within 30 days to "review these issues" and "confirm that this investigator and the [U.S. institution that received NIH funding] complied with [NIH's] policies." Place of the institution of the policies." NIH funding complied with [NIH's] policies.

³⁰³ *Id*.

³⁰⁴ *Id*. at 4.

oo 10. at 4

 $^{^{305}}$ *Id*.

³⁰⁶ *Id.* at 5.

³⁰⁷ *Id.* at 4.

³⁰⁸ Email from U.S. Health and Human Serv. to the Subcommittee (Sept. 13, 2019) (on file with Subcommittee); Nat'l Inst. of Health briefing with the Subcommittee (Oct. 3, 2019).

³⁰⁹ Documents on file with the Subcommittee (PorCTP-0000144).

 $^{^{310}}$ *Id*.

³¹¹ *Id*.

As of this report, NIH has only received complete responses concerning 51 individuals believed to have undisclosed foreign affiliations. NIH was able to determine that taking administrative action, such as holding awards, changing the principal investigator, or other grants actions, was necessary for 66 individuals. NIH indicated that this statistic does not include those grant recipients who were either terminated or resigned. Additionally, as of late 2018, NIH told the Subcommittee that it identified roughly 45 individuals who could no longer work on NIH grants due to their participation in foreign talent recruitment plans. Signals

The Subcommittee worked with NIH to produce the below case examples of NIH research grants and connections to the TTP.³¹⁶ These examples detail specific instances of misappropriation, or in some instances theft, of U.S.-funded intellectual property.

Individual Z

In early 2019, NIH contacted a medical school concerning three principal investigators with potential affiliations with the TTP, Chinese universities, and other Chinese government funded grant programs.³¹⁷ The institution conducted an internal review and initially indicated that it did not identify any financial conflicts of interests.³¹⁸ The internal review involved phone interviews and written questions and answers with the principal investigators at issue.³¹⁹

NIH, however, submitted additional questions concerning one of the principal investigators who told the institution that he or she never worked at Peking University and did not receive any funds from any talent recruitment plans.³²⁰ NIH sent the institution a screenshot of Peking University's website that identified the principal investigator as a "Professor" since 2012.³²¹ NIH also sent the institution information indicating that the principal investigator was likely a TTP member.³²² The institution later provided NIH with an affidavit from the principal investigator stating he or she never held a position at Peking. The principal investigator also told the institution that Peking University's web site must be an oversight as he or

³¹² Email from U.S. Health and Human Serv. to the Subcommittee (Oct. 19, 2018) (on file with Subcommittee).

 $^{^{313}}$ *Id*.

 $^{^{314}}$ *Id*.

 $^{^{315}}$ *Id*.

 $^{^{\}rm 316}$ NIH primarily wrote the case examples due to law enforcement equities. The Subcommittee edited for clarity and uniformity.

³¹⁷ PorCTP-0000506.

³¹⁸ PorCTP-0000504.

³¹⁹ PorCTP-0000501.

³²⁰ PorCTP-0000504.

³²¹ PorCTP-0000503.

³²² PorCTP-0000503.

she never actually accepted the position.³²³ NIH then informed the institution that the principal investigator likely had a potential conflict as he or she maintained an active, unreported Natural Science Foundation of China ("NSFC") grant.³²⁴ The institution's representative wrote back to NIH: "Obviously concerning to us."³²⁵

Despite these violations of NIH grant policy, the institution allowed the individual to continue as a principal investigator on the NIH grant and NIH has yet to take any further action. 326

Individual X

In early 2019, NIH contacted a medical research institution concerning a principal investigator, Individual X.³²⁷ That individual also was publicly listed as serving in several positions at Huazhong University of Science and Technology.³²⁸ Additionally, NIH alleged that the principal investigator also worked on two active NSFC grants that Individual X did not disclose.³²⁹

Subsequently, the institution conducted an internal investigation and stated that it

may have failed to completely disclose [Individual X's] affiliation at Huazhong University of Science and Technology, funding from the National Natural Science Foundation of China, and the Chinese Thousand Talents Program, and foreign components of the awarded projects in applications and progress reports which designate [Individual X] as the [principal investigator] or Key Personnel.³³⁰

After the institution's inquiry into the individual's foreign associations, Huazhong University deleted the individual's online resume.³³¹ The institution, however, asserted that the work did not overlap with past or existing NIH grants.³³² Despite these violations of NIH grant policy, the institution allowed the individual to continue as a principal investigator on the NIH grant and NIH has yet to take any further action.³³³

Individual Y

 333 *Id*.

³²³ PorCTP-0000501.
324 PorCTP-0000500.
325 PorCTP-0000499.
326 Id.
327 PorCTP-0000145.
328 Id.
329 Id.
330 PorCTP-0000155.
331 Documents on file with the Subcommittee.
332 PorCTP-0000172.

In early 2019, NIH contacted a hospital institution regarding alleged foreign support for an NIH-sponsored medical researcher, Individual Y.³³⁴ Individual Y worked at the institutions' Biomedical Informatics and Division of Biostatistics.³³⁵ The institution conducted an internal investigation and located a TTP contract signed by Individual Y.³³⁶ The TTP contract required Individual Y to "recruit three undergraduate students each year ... focus on recruiting 1-2 post-doctoral students each year ... [and] publish 12 papers in mainstream international journals."³³⁷

The institution's internal investigation also discovered that in addition to being a member of the TTP on contract through 2020, Individual Y had faculty appointments at two universities in China: Jianghun and Wuhan. Individual Y also received a 2018 award from the National Natural Science Foundation of China. Individual Y also proposed using a U.S. data set for the NSFC-funded project. The institution did not disclose any of the sources of foreign support to NIH. The institution subsequently counseled Individual Y on the "importance of full and accurate disclosure." 342

NIH also identified potential conflicts of commitment. For example, NIH asked if the institution was aware that Individual Y "was spending 6 months a year in China working on this project?" The institution reported that it was not aware. As a corrective measure, the institution refunded to NIH Individual Y's salary draws for time periods where there was "most likely potential for effort overlap." NIH continues to investigate the alleged violations.

Individual 1347

Individual 1 was a professor and researcher working in cellular and molecular physiology. Individual 1 is also a principal investigator who worked on an NIH Exploratory/Developmental Research Grant Award. On April 11, 2014,

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<sup>334</sup> PorCTP-0000245.
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 $^{^{335}}$ *Id*.

 $^{^{336}}$ *Id*.

³³⁷ PorCTP-0000247-248.

³³⁸ PorCTP-0000236.

 $^{^{339}}$ *Id*.

³⁴⁰ See PorCTP-0000238 (Upon further investigation, the Institution was unable to locate a "Data Use Certification" for use of the U.S. data relating to an NSFC funded project. Ultimately, the Institution was unable to definitively determine if Individual Y used the U.S. data in an unauthorized manner).

³⁴¹ PorCTP-0000237.

³⁴² *Id.* (emphasis in original).

³⁴³ PorCTP-0000231.

³⁴⁴ *Id*.

³⁴⁵ PorCTP-0000240.

³⁴⁶ *Id*.

³⁴⁷ Health and Human Serv. production (Oct. 2, 2019) (documents on file with the Subcommittee).

Individual 1 requested and received a one-year unpaid leave of absence starting in July 2014 to work at Tsinghua University.

Individual 1 joined Tsinghua Medical School as a recipient of a TTP award in July 2014. While working at Tsinghua Medical School, Individual 1 worked on developing special antibodies. Tsinghua provided Individual 1 with other special opportunities, such as the ability to work with a distinguished Nobel Prize winner, the use of first-class technology and facilities, and access to the institution's renowned structural biology center. Individual 1 even received an award from the Chinese government that fully supported his or her research and salary at Tsinghua University from July 2014 to June 2017.

On April 6, 2015 Individual 1 requested and received extended leave permitting the individual to maintain a 50 percent appointment at the institution while working at Tsinghua University. The institution also granted permission for Individual 1 to continue to conduct research at the institution.

While Individual 1 was supposed to conduct all the work at the U.S. institution's facilities, Individual 1 directed some of the work to be done in China at Tsinghua University.³⁴⁸ Individual 1 did not submit a financial disclosure form to the U.S. institution in 2014 as required by the U.S. institution. The individual also did not disclose to the U.S. institution the salaries received from Tsinghua University in subsequent disclosure forms.³⁴⁹

"The institution's internal investigation determined that it should have reported to NIH the possibility of collaboration with investigators at a foreign site that could result in co-authorship and should have provided a Foreign Justification attachment to Individual 1's award application." In addition, the institution failed to include Individual 1's Tsinghua University's position on supplementary reports and failed to report the continuing arrangement with Tsinghua. In response to repeated violations of NIH policies and TTP membership, the institution's only actions was to develop a remediation plan that required Individual 1 to file annual conflict of interest disclosures. ³⁵¹

Individual 3352

A medical school reported that a pharmacology and dermatology professor, Individual 3, potentially failed to comply with NIH policies requiring disclosure of outside research support and foreign affiliations or research components. Individual 3 has an NIH grant from the National Cancer Institute. On several publications, Individual 3 listed foreign support, in addition to his or her NIH

³⁴⁸ PorCTP-0001532.

 $^{^{349}}$ PorCTP-0001533.

 $^{^{350}}$ *Id*.

³⁵¹ PorCTP-0000240.

 $^{^{352}}$ *Id*.

support, and held affiliations with at least five Chinese institutions. None of the foreign support or foreign affiliations, however, were disclosed on Individual 3's NIH grant documents.

When questioned by the institution, Individual 3 said his or her publications included reference to support from the NSFC because he or she considered it an honor. Individual 3, however, also claimed that he or she received no financial support from the NSFC award for his or her NIH-funded, or any other, research. He or she also claimed that the aim of the project was different than the subject of his or her NIH award.

During its internal investigation, the institution found online reports suggesting Individual 3 was a Dean at Jiangsu University, participated in the Jinshan Scholars Program, and in the TTP. Individual 3 said he or she rejected the position and never participated in the alleged programs. Individual 3 also worked with three post-doctoral students on an NIH grant who held concurrent positions at Chinese institutions. Though these post-doctoral researchers did not list their foreign government support in co-authoring publications with Individual 3, these post-doctoral researchers' co-authors at their affiliated Chinese institutions listed Chinese government support.

As part of its response to this matter, the institution convened a Committee on Research Security and Conflicts of Commitment to make recommendations about how to secure research on its campuses and ensure that researchers' commitments supporting their research are not compromised by external relationships. The institution told NIH that it will also review all of Individual 3's grant applications for the next two years.

Individual 4353

NIH contacted a medical research institution after identifying issues of potential willful non-disclosure of outside research support and relevant affiliations or foreign components. NIH found that Individual 4, who serves as the Principal Investigator on an NIH grant from the National Cancer Institute, may have willfully failed to disclose the following affiliations:

- 1. A distinguished professorship Zhejiang University;
- 2. Selection for the Chinese Talents Program;
- 3. At least two NSFC grants;
- 4. One National Key R&D Program of China grant;
- 5. One Shanghai Education Development Foundation "Shuguang Program" grant:
- 6. One Chinese Minister of Science and Technology grant; and
- 7. Two Department of Education of Jiangxi grants.

³⁵³ Health and Human Serv. production (Oct. 11, 2019) (documents on file with the Subcommittee).

The TTP contract required Individual 4 to work "at least 9 months" in China from January 2014 to December 2018 while the individual was a faculty member at the institution. Further, the Chinese Talents Program contract required awards, patents, and projects during the contract period would be under the Chinese Institutions name. The contract also required the individual to resign from the institution by January 2019 and work full-time for the Chinese institution.

As part of its response to this matter, the institution prepared several communications to raise awareness across the university research community on the importance of fully reporting foreign components and relationship with foreign collaborators as required by NIH policy and other sponsors. The institution also revised help guides and business processes and outside interest disclosure forms to better identify the need for faculty to disclose outside relationships with foreign entities.

The institution, after conducting a preliminary investigation, told NIH that the only failure to disclose concerned was the affiliation with Zhejiang University. The other awards did not overlap with the NIH award. The institution did express concern that the Thousand Talents contract required Individual 4 to work "at least 9 months" in China. NIH continues to investigate the matter.

Individual 5354

NIH contacted Individual 5's institution after identifying issues of potential noncompliance regarding disclosure of outside research support and relevant affiliations or foreign support. Individual 5 serves as a principal investigator on a current NIH award from the National Institute on Mental Health. While working on the NIH award, Individual 5 also has a position at Guangzhou Medical University in China and holds at least two NSFC grants. Several of Individual 5's NIH-supported publications were also supported by foreign awards, suggesting foreign collaborations. The grants and affiliations were not disclosed in applications to NIH. The institution, however, stated that research activities conducted in China as part of the consulting agreement did not overlap with the NIH application.

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³⁵⁴ Health and Human Serv. production (Oct. 2, 2019) (documents on file with the Subcommittee).

C. THE DEPARTMENT OF ENERGY

The Department of Energy ("Energy") is a cabinet-level agency whose mission is "to ensure America's security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions."³⁵⁵ Energy is also tasked with "reducing the threat of nuclear proliferation, overseeing energy supply, carrying out the environmental clean-up from the Cold War nuclear mission," and overseeing the 17 National Laboratories ("National Labs").³⁵⁶ Energy's Office of Science is the country's largest federal sponsor of basic research in the physical sciences.³⁵⁷

Energy's prominent role in advanced research and development makes it particularly attractive to China's talent recruitment plan efforts. According to the FBI, Energy is the U.S. government agency subject to the "most penetration attempts" for technology transfers because of its "prominent role in advanced R&D, particularly in energy and nuclear weapons development." It comes as no surprise then that Energy recently identified TTP members who worked on sensitive research at National Labs. Examples include a post-doctoral researcher who stole 30,000 electronic files from a National Lab and a National Lab contract employee who filed for a U.S. patent overlapping with Energy-funded research. In the most egregious cases, National Lab personnel recruited through foreign talent recruitment plans later worked on foreign military programs.

Energy has been slow to address vulnerabilities surrounding the openness of the U.S. scientific community and its scientific collaboration with countries of risk. For more than 30 years, federal regulations have prohibited U.S. government employees from receiving compensation from foreign entities that conflict with their official duties; however, Energy did not issue guidance to its employees or contractors on participation in foreign talent recruitment plans until 2019.³⁶²

³⁵⁵ About Us, U.S. DEP'T OF ENERGY (2019), https://www.energy.gov/about-us.

³⁵⁶ I.J

³⁵⁷ Office of Science Funding, U.S. Dep't of Energy (2019), https://www.energy.gov/science/office-science-funding.

³⁵⁸ Dep't of Energy production (June 26, 2019).

³⁵⁹ See infra § IV(C)(5).

 $^{^{360}}$ *Id*.

³⁶¹ Dep't of Energy production (June 26, 2019).

³⁶² Executive Order 12674 ordered individual agencies to consolidate conduct regulations, setting out comprehensive basic principles of ethical conduct for executive branch employees. *See* Exec. Order No. 12,674, 54 Fed.Reg. 15,159 (Apr. 14, 1989) (as modified by Exec. Order No. 12731, 55 Fed. Reg. 42547 (Oct. 17, 1990)). Accordingly, the Office of Gov't Ethics published the Standards of Ethical Conduct for Employees of the Executive Branch in 1992, codified as amended at 5 C.F.R. pt. 2635. *See* § 2635.802 (specifically noting that a federal government "employee shall not engage in outside employment or any other outside activity that conflicts with his official duties."); U.S. DEP'T OF

1. National Laboratories

Energy's National Labs began as an outgrowth of scientific investment by the U.S. government during World War II and now serve as leading institutions of science, with an emphasis on translating basic science research into innovation.³⁶³ The National Labs provide access to large-scale, costly research and scientific facilities that universities typically cannot afford.³⁶⁴ The 17 National Labs use cutting-edge research to address complex and critical scientific challenges.³⁶⁵

Sixteen of the 17 National Labs are Government Owned, Contractor Operated ("GOCO") Federally Funded Research and Development Centers. The federal government owns GOCO labs, but third-party contractors such as a universities, non-profits, or for-profit firms operate them. These facilities are designed to address long-term research that cannot be completed effectively at other government research facilities or in the private sector. The other category of National Lab is Government Owned, Government Operated ("GOGO"). A GOGO lab is operated by a federal agency where all management and staff are considered government employees and are subject to government employment regulations.

Each National Lab is overseen by one of six Energy's program areas and supports at least one of Energy's missions, typically the mission of its sponsoring program area.³⁷⁰ Many National Labs, however, support multiple missions and receive funding from multiple program areas.³⁷¹ Three National Labs fall under the NNSA: Lawrence Livermore National Laboratory, Los Alamos National Laboratory, and Sandia National Laboratories.³⁷² The NNSA is responsible for "enhancing national security through the military application of nuclear science."³⁷³

ENERGY, DOE O 486.1, FOREIGN GOV'T TALENT RECRUITMENT PROGRAMS (June. 7, 2019), https://www.directives.doe.gov/directives-documents/400-series/0486-1-border/@@images/file. ³⁶³ National Laboratories, U.S. DEP'T OF ENERGY (2019), https://www.energy.gov/national-laboratories.

³⁶⁴ Office of Science User Facilities, U.S. Dep't of Energy (2019), https://www.energy.gov/science/science-innovation/office-science-user-facilities.

³⁶⁵ *Id*.

³⁶⁶ *Id*. at 19.

³⁶⁷ Belfer Report at 20.

³⁶⁸ *Id*. at 20.

³⁶⁹ *Id*. at 18.

³⁷⁰ *Id*. at 25.

³⁷¹ *Id*. at 24.

³⁷² National Laboratories, U.S. DEP'T OF ENERGY, (2019), https://www.energy.gov/national-laboratories.

³⁷³ About NNSA, NAT'L NUCLEAR SECURITY ADMIN. (2019), https://www.energy.gov/nnsa/about-nnsa.

2. Foreign Scientists and the Department of Energy

International competition to develop the most advanced scientific facilities is fierce and is an important component of economic competitiveness.³⁷⁴ Foreign nationals play a significant research role at the National Labs. In 2018, for example, there were more than 35,000 foreign nationals conducting research in National Labs—about 10,000 from China.³⁷⁵ According to one public report, while the number of Chinese scientists who previously conducted research at one of Energy's National Labs and then returned to China is unknown, "so many scientists from Los Alamos have returned to Chinese universities and research institutes that people have dubbed them the 'Los Alamos club."³⁷⁶

Energy's Office of Science has focused on the construction and operation of large federally sponsored scientific user facilities. These user facilities are accessible to foreign researchers.³⁷⁷ These facilities are federally sponsored research facilities available to scientists and provide access to utilize the most advanced tools of science, including accelerators, colliders, supercomputers, and light- and neutron-sources.³⁷⁸ The Office of Science currently operates 26 user facilities at the National Labs "as shared resources for the scientific community, with access determined on a competitive basis using peer review."³⁷⁹ Open user facilities are federally sponsored research centers utilized by external users to advance scientific or technical knowledge.³⁸⁰ Researchers, both foreign and domestic, from academia, industry, and other government institutions can conduct research at these facilities, but are required to publish their results.³⁸¹ Proprietary users can access user facilities, but are subject to full cost recovery.³⁸²

 $^{^{374}}$ *Id*.

³⁷⁵ Dep't of Energy production (June 26, 2019). Will Thomas, *DOE Barring Researchers From Rival Nations' Talent Programs*, AMERICAN INS. OF PHYSICS (June 13, 2019), https://www.aip.org/fyi/2019/doe-barring-researchers-rival-nations%E2%80%99-talent-programs.

³⁷⁶ Stephen Chen, *America's Hidden Role in Chinese Weapons Research*, SOUTH CHINA MORNING POST (Mar. 29, 2017), https://www.scmp.com/news/china/diplomacy-defence/article/2082738/americas-hidden-role-chinese-weapons-research.

³⁷⁷ Office of Science User Facilities, U.S. DEP'T OF ENERGY (2019), https://www.energy.gov/science/science-innovation/office-science-user-facilities.

 $^{^{378}}$ *Id*.

 $^{^{379}}$ *Id*.

 $^{^{380}}$ *Id*. at 2.

³⁸¹ Proposal Guidelines, U.S. DEP'T OF ENERGY, CENTER FOR INTEGRATED NANOTECHNOLOGIES (2019), https://cint.lanl.gov/becoming-user/proposal-guidelines.php.
³⁸² Id.

3. Department of Energy Financial Assistance Programs

Energy is the largest federal sponsor of basic research in the physical sciences. 383 Energy's Office of Science FY 2019 budget of \$6.6B supports a portfolio of basic research, which includes grants and contracts supporting over 25,000 researchers, including students, located at over 300 institutions and all 17 DOE national laboratories."384 The Office of Science solicits grant funding proposals from "universities, non-profit and for-profit research organizations, National Labs, small businesses, and other federal research organizations."385 It provides grants through two types of funding announcements: (1) Funding Opportunity Announcements ("FOAs") which are available to universities, non-profit and for-profit research organizations, National Labs, and small businesses; and (2) Energy's National Laboratory Announcements which are open only to National Labs.³⁸⁶

Funding Opportunity Announcements. All grant proposals must be submitted in response to an FOA.387 The FOA contains the required application forms and instructions for the grant application.³⁸⁸ Each FOA issued by the Office of Science provides: a technical description of the type of work to be funded; information about the type, size, number, and duration of awards expected; eligibility criteria; instructions for any submission of letters of intent, preapplications or preproposals, and applications or proposals; due dates and times; review and selection information, including merit review criteria; and agency points of contact.389

Energy's National Laboratory Announcements. Energy's National Laboratory Announcements provide National Labs with multi-year funding for specific research projects.³⁹⁰ These announcements function like the FOAs, but are exclusive to National Labs. Responses to an announcement include a proposal that Energy staff evaluate to ensure alignment with Energy's research priorities.³⁹¹ Energy awards

³⁸³ Office of Science Funding, U.S. DEP'T OF ENERGY (2019), https://www.energy.gov/science/officescience-funding.

 $^{^{384}}$ *Id*.

³⁸⁵ Funding Opportunity, U.S. DEP'T OF ENERGY, OFFICE OF SCI. FUNDING (2018). https://www.energy.gov/science/office-science-funding/office-science-funding-opportunities.

³⁸⁷ Funding Opportunity Announcements (FOAs), U.S. DEP'T OF ENERGY, OFFICE OF Sci. (2019), https://science.osti.gov/grants/FOAs.

³⁸⁸ Grants Process, U.S. DEP'T OF ENERGY, OFFICE OF SCI. (2019), https://science.osti.gov/ grants/Grants-Process.

³⁸⁹ Funding Opportunity Announcements (FOAs), U.S. DEP'T OF ENERGY, OFFICE OF Sci. (2019), https://science.osti.gov/grants/FOAs.

³⁹⁰ National Laboratory Research, U.S. Dep't of Energy, Office of Energy Efficiency and RENEWABLE ENERGY, (2019), https://www.energy.gov/eere/solar/national-laboratory-research.h. ³⁹¹ *Id*.

this funding based on competitive merit review and other criteria communicated in the announcement. 392

Grant Process. After an applicant submits an application, the Office of Science conducts an initial review for completeness and responsiveness. A Program Manager then conducts the merit review. During the merit review, both federal and non-federal technical experts review the application and provide their assessment to the Program Manager. The Program Manager then decides whether to recommend funding the application. Grants and Contracts Support reviews the file after a series of senior officials approve the recommendation for funding. The Integrated Service Center then releases the Notice of Financial Assistance Award, the binding award document that contains the assistance agreement, terms and conditions of award, and other items.

Disclosure of Foreign Support and Affiliations. During the application process, Energy requires the disclosure of current and pending support, and affiliations in the applicant's biographical sketch.³⁹⁹ At the time of this report, Energy requires the disclosure of the name and institutional affiliation for any collaborators and co-editors up to 48 months preceding the submission of the application.⁴⁰⁰ The name and organizational affiliations of any graduate and postdoctoral advisors and advisees must also be disclosed.⁴⁰¹

The awardee must also provide a list of all current and pending support for project directors and senior personnel, including sub awardees, for any ongoing projects or pending applications. ⁴⁰² A list of all sponsored activities and awards that required a "measurable commitment of effort, whether paid or unpaid" must also be provided. ⁴⁰³ For every activity, the awardee must provide the following information:

³⁹² Funding Opportunity Announcements (FOAs), U.S. DEP'T OF ENERGY, OFFICE OF SCIENCE (2019), https://science.osti.gov/grants/FOAs.

³⁹³ Grants Process, U.S. DEP'T OF ENERGY, OFFICE OF SCI. (2019), https://science.osti.gov/grants/Grants-Process.

 $^{^{394}}$ *Id*.

 $^{^{395}}$ *Id*.

 $^{^{396}}$ *Id*.

 $^{^{397}}$ *Id*.

 $^{^{398}}$ *Id*.

³⁹⁹ U.S. DEP'T OF ENERGY, OFFICE OF SCIENCE, DE-FOA-0001968, FY 2019 CONTINUATION OF SOLICITATION FOR THE OFFICE OF SCI. FIN. ASSISTANCE PROGRAM, 61-62 (Dec. 31, 2018), https://science.osti.gov/-/media/grants/pdf/foas/2019/SC_FOA_0001968.pdf.

 $^{^{400}}$ *Id*.

⁴⁰¹ *Id*. at 62.

 $^{^{402}}$ Id.

⁴⁰³ *Id*.

- Name of the activity sponsor or the source of funding;
- Title of the award or activity;
- Total cost or value of the award or activity, including direct and indirect costs;
- Total amount of requested funding for pending proposals;
- Award period;
- Months of effort per year being dedicated to the award or activity; and
- Brief description of the research being performed, explicitly identifying any overlaps with the proposed research.⁴⁰⁴

4. Energy Did Not Implement Policies Prohibiting Involvement in Foreign Talent Recruitment Plans Until 2019

Energy recently ramped up efforts to address vulnerabilities in its collaborative research systems, particularly those risks associated with countries of risk and foreign talent recruitment plans. Energy formalized its efforts in December 2018 when it approved "immediate policy changes" to prevent foreign countries of concern from exploiting the openness of the U.S. scientific community to the detriment of U.S. national security. These new policies will eventually require all foreign nationals' resumes be included in Foreign Visits and Assignments requests to all National Labs, sites, and plants as well as in the Foreign Access Central Tracking System database. Energy also began enhanced vetting of foreign nationals from sensitive countries seeking Foreign Visits and Assignments approval. 407

Energy is implementing the Strategic International Science and Technology Engagement Policy ("SISTEP") to mitigate risks in scientific collaboration with countries of risk. SISTEP limits scientific engagement on sensitive, but unclassified technologies with countries and individuals of concern. Under SISTEP, a newly established Federal Oversight Advisory Body reviews and maintains an S&T Risk Matrix. Also The S&T Risk Matrix details areas of international scientific collaboration that pose potential risks to U.S. national interests and recommends research areas and technologies whose access by countries of risk should be limited

 $^{^{404}}$ *Id*.

 $^{^{405}}$ Dep't of Energy production (June 26, 2019).

⁴⁰⁶ *Id.* In 2013, Energy's Inspector General identified concerns about FACTS. *See* ENERGY INSPECTOR GEN., INS-O-13-05, UNCLASSIFIED FOREIGN NAT'L VISITS AND ASSIGNMENTS AT OAK RIDGE NAT'L LABORATORY, 3 (Sept. 2013), https://www.energy.gov/sites/prod/files/2013/09/f2/INS-O-13-05.pdf.

⁴⁰⁷ *Id*.

⁴⁰⁸ Dep't of Energy production (June 26, 2019).

⁴⁰⁹ *Id*.

or restricted.⁴¹⁰ Energy is still developing the S&T Risk Matrix in consultation with its National Labs and plans to implement that policy in early 2020.⁴¹¹

Months before finalizing SISTEP, however, policy drafts were leaked and at least two news reports detailed how Energy was looking to crack down on participation in foreign talent recruitment plans. On February 11, 2019, an Energy employee wrote in an email, "I'm sure everyone has seen Science Magazine published an article and referenced the International S&T memo, which has been leaked. ... I think this places greater urgency in getting the S2 guidance memo signed and disseminated to the labs so we can address any confusion behind the intent of the memo." Research institutions and an advocacy group contacted Energy to try to better understanding the situation after a news report based on the leak generated confusion "among leaders of the academic research enterprise." 414

In early 2019, Dan Brouillette, Energy's Deputy Secretary, announced that Energy personnel, including contractors, fellows, interns, and grantees, would be subject to limitations and possible prohibitions on their participation in foreign talent recruitment plans. Energy issued its policy through directive DOE O 486.1 on June 10, 2019. The directive states that Energy will prohibit "DOE employees and DOE contractor employees, while employed by the DOE or performing work under a contract, from the unauthorized transfer of scientific and technical information to foreign government entities through their participation in foreign government talent recruitment programs" as designated by Energy's Office of Intelligence and Counterintelligence.

This directive requires Energy employees to disclose any participation in a foreign talent recruitment plan to their immediate supervisor and Designated Agency Ethics Official before entering into discussions with a foreign talent recruitment plan. If an Energy employee is already participating in the foreign talent recruitment plan, they must report in writing such participation to their immediate supervisor and to the Designated Agency Ethics Official within 30 days. Those who fail to report are "subject to discipline up to and including

 $^{^{410}}$ *Id*.

⁴¹¹ Dep't of Energy briefing with the Subcommittee (Oct. 10, 2019).

⁴¹² DOE 01 [169]; See also Jeffrey Mervis, New DOE Policies Would Block Many Foreign Research Collaborations, SCI. MAGAZINE (Feb. 2, 2019), https://www.sciencemag.org/news/2019/02/new-doe-policies-would-block-many-foreign-researchcollaborations.

⁴¹³ Dep't of Energy production (June 26, 2019).

⁴¹⁴ Id.

⁴¹⁵ Dep't of Energy production (Sept. 25, 2019).

 $^{^{416}}$ U.S. DEP'T OF ENERGY, DOE O 486.1, FOREIGN GOV'T TALENT RECRUITMENT PROGRAMS (June. 7, 2019), https://www.directives.doe.gov/directives-documents/400-series/0486-1-border/@@images/file. 417 Id.

 $^{^{418}}$ Id.

⁴¹⁹ *Id*.

removal from federal service."⁴²⁰ If the Designated Agency Ethics Official determines that participation in a foreign talent recruitment plan conflicts with legal requirements or Energy's policies and directives, the employee must cease participation in the foreign talent recruitment plan within 30 days.⁴²¹

By September 24, 2019, all Energy contractors were required to revise employee contracts and implement these new requirements regarding foreign talent recruitment plans.⁴²² The effectiveness of these policies, however, remains to be seen. As of October 10, 2019, after full implementation of the policy, less than 12 Energy employees or contractors self-reported participation in a talent recruitment plan as defined by Energy's policies.⁴²³ Energy's policy defines foreign talent recruitment plans as the following:

In general, such programs include any foreign-state-sponsored attempt to acquire U.S. scientific-funded research or technology through foreign government-run or funded recruitment programs that target scientists, engineers, academics, researchers, and entrepreneurs of all nationalities working or educated in the United States. These recruitment programs are often part of broader whole-of-government strategies to reduce costs associated with basic research while focusing investment on military development or dominance in emerging technology sectors.⁴²⁴

Energy's definition of a talent recruitment plan is helpful in that it is the first publicly available federal agency definition that will aid research institutions in better understanding the issues and threats.

5. TTP Members Likely Stole Energy Research and Intellectual Property

Energy's Office of Intelligence and Counterintelligence produced three case examples of National Labs and connections to foreign government talent recruitment plans. These case examples detail specific instances of TTP members likely stealing U.S.-funded intellectual property. The three case studies provided by Energy are detailed below. Separate from these limited case examples, Energy officials told the Subcommittee that it is "aware of hundreds of persons who

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 $^{^{420}}$ Id.

⁴²² Dep't of Energy briefing with the Subcommittee (Sept. 19, 2019).

⁴²³ Dep't of Energy briefing with the Subcommittee (Oct. 10, 2019).

⁴²⁴ U.S. DEP'T OF ENERGY, DOE O 486.1, FOREIGN GOV'T TALENT RECRUITMENT PROGRAMS (June. 7, 2019), https://www.directives.doe.gov/directives-documents/400-series/0486-1-border/@@images/file.
⁴²⁵ Energy's Office of Intelligence and Counterintelligence primarily wrote these three case examples or "vignettes" due to law enforcement equities and classification issues. The Subcommittee edited them for clarity and uniformity.

have participated in Talent Programs and have ties to the Department of Energy."⁴²⁶ In more detailed public testimony before the U.S. Senate Judiciary Committee, a U.S. defense contractor explained that "Thousand Talents websites name more than 300 U.S. government researchers who have accepted the program's money."⁴²⁷ Most concerning, however, was Energy's admission that as of December 2018 it was aware of at least nine former employees linked to TTP who also maintained U.S.-issued security clearances.⁴²⁸

Individual M

A National Lab employee, Individual M, who accepted a joint appointment at a Chinese university as part of the TTP likely took National Lab intellectual property and patent information without consent of other laboratory scientists, in order to file a similar patent with Chinese collaborators. Individual M subsequently filed for a U.S. patent that overlapped with the design and claims of the patent held by the National Lab.⁴²⁹

Individual N

Energy's Office of Intelligence and Counterintelligence conducted an investigation of Individual N that applied to the TTP while working at a National Lab. The investigation determined that Individual N was a supervisor at the National Lab and oversaw other TTP applicants who worked on sensitive but unclassified national security topics.⁴³⁰

While employed at the National Lab, Individual N hosted dozens of other Chinese nationals, worked on numerous Energy funded projects, and visited multiple Energy labs. The individual hired at least four Chinese nationals and TTP participants, while at least eight others were known to be no-pay appointments paid for by other Chinese organizations. The investigation revealed a disproportionate collaboration with Chinese institutions, and the individual attempted to initiate official sharing agreements between the laboratory and a Chinese organization. Additionally, the investigation found that monitoring the group's work was complicated by the language barrier, the revolving door of personnel, and the somewhat insular nature of the group. A later review identified at least six projects designated as sensitive.⁴³¹

⁴²⁶ Documents on file with the Subcommittee (Sept. 22, 2019).

⁴²⁷ China's Non-Traditional Espionage Against the United States: Hearing on The Threat and Potential Policy Responses Before the S. Comm. on the Judiciary, 115th Cong. (2018) (testimony of James Mulvenon, Ph.D. General Manager, Special Programs Division SOS International, LLC).

⁴²⁸ Dep't of Energy briefing with the Subcommittee (Dec. 7, 2018).

⁴²⁹ Documents on file with the Subcommittee (Aug. 13, 2019).

 $^{^{430}}$ *Id*.

⁴³¹ *Id*.

Individual O

Energy's Office of Intelligence and Counterintelligence investigated a post-doctoral researcher, Individual O, whom China selected for the TTP. The investigation determined that Individual O removed multiple gigabytes of unclassified data totaling over 30,000 electronic files from the National Lab prior to departing for China. 432

While employed at the National Lab, Individual O was selected for China's TTP. In support of the TTP application, the researcher obtained recommendation letters from U.S. colleagues and detailed some ongoing projects. Shortly after being selected for the TTP, the researcher took a professorial position in China.⁴³³

After Individual O departed for China, Energy discovered that the researcher uploaded multiple gigabytes of information including presentations, technical papers, research, and charts, from the National Lab network to a personal cloud storage account. Individual O told his or her prospective Chinese employer that his or her research area in the United States would play a critical role in advanced defense applications. Individual O furthermore planned to leverage the Chinese university's strength in national defense and military research to support the modernization of the People's Republic of China's national defense. After returning to China, Individual O committed to keeping a close and collaborative relationship with several named research teams at the National Lab.⁴³⁴

432	Id.
433	IJ

 $^{^{434}}$ *Id*.

D. THE DEPARTMENT OF STATE

The U.S. Department of State ("State") "leads America's foreign policy through diplomacy, advocacy, and assistance by advancing the interests of the American people, their safety and economic prosperity." State adjudicates nonimmigrant visa ("NIV") applications and manages the application process at U.S. embassies and consulates overseas in coordination with other federal departments and agencies. NIVs are temporary permits given to foreign nationals seeking to visit the United States to study, work, or conduct research. State considers every visa adjudication to be a national security decision.

State's role in reviewing NIV applications puts it on the front line in the U.S. government's efforts to protect against intellectual property theft and technology transfers. State has a process to examine NIV applicants who may be attempting to steal sensitive technologies or intellectual property. State's authority under the Immigration and Nationality Act to deny visas is limited, leading to a low denial rate for visa applicants. State denied less than five percent of the visa applications it determined warranted additional scrutiny due to concerns that the applicant might violate export control laws. State makes visa applicant files and supporting documentation available to U.S. law enforcement, but not in easily accessible or useful formats. Finally, State does not systematically track visa applicants linked to China's talent recruitment plans.

1. The Nonimmigrant Visa Application Review Process

State's Bureau of Consular Affairs ("Consular Affairs") is responsible "for the issuance of passports and other documentation to citizens and nationals" and for the "facilitation of legitimate travel to the United States." 440 Consular Affairs is funded in part through consular fees it collects for its services. 441 Foreign scientists,

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⁴³⁵ About the U.S. Department of State, U.S. DEP'T OF STATE, https://www.state.gov/about/about-the-u-s-department-of-state.

⁴³⁶ U.S. Gov't Accountability Off., GAO-18-608, Nonimmigrant Visas: Outcomes of Applications and Changes in Response to 2017 Executive Actions, 6 (Aug. 2018), https://www.gao.gov/assets/700/693763.pdf.

⁴³⁷ Requirements for Immigrant and Nonimmigrant Visas, U.S. CUSTOMS AND BORDER PROTECTION, https://www.cbp.gov/travel/international-visitors/visa-waiver-program/requirements-immigrant-and-nonimmigrant-visas.

⁴³⁸ See U.S. Nonproliferation Policy and the FY 2020 Budget: Hearing Before the Subcomm. on Asia, the Pacific, and Nonproliferation of the H. Comm. on Foreign Affairs, 116th Cong. 2–3 (2019) (statement of Christopher A. Ford, Assist. Secretary for Int'l Security & Nonproliferation, U.S. Dep't of State).

⁴³⁹ See Complaint at 4, 10, United States v. Zhongsan Liu, 19MAG-864 (S.D.N.Y Sept. 13, 2019) [hereinafter LIU COMPLAINT (Sept. 13, 2019)].

 $^{^{440}}$ Bureau of Consular Affairs: Mission, U.S. DEP'T OF STATE, https://travel.state.gov/content/travel/en/about-us.html.

⁴⁴¹ *Id*.

students, and others seeking to acquire a NIV begin the visa process by filling out an online application called the DS-160.⁴⁴² The DS-160 collects a significant amount of information about a visa applicant such as name, marital status, travel companions, home address, places of employment, previous military experience, and educational history.⁴⁴³ In addition, the applicant may be asked to provide supporting documentation such as a resume, research plans and publications, and information on any universities or other entities with which the applicant is associated.⁴⁴⁴ There currently is no online form that would require applicants to submit these materials in a standardized format, and as a result, State stores these documents as unsearchable PDFs.⁴⁴⁵

After completing the DS-160, the foreign national schedules a visa interview with a consular officer. During the interview, a consular official reviews the visa application, checks the applicant's name in State's databases for potential criminal activity, adverse information, previous visa denials, and other immigration violations. The official also obtains fingerprints and a photograph and ensures the applicant is eligible for the type of visa. Once the consular official determines that the applicant is eligible for the visa, the applicant is typically notified within 24 hours. Consular officials, however, can request a more in-depth review of the visa application and supplemental documentation from the visa applicant.

2. Security Advisory Opinions

A consular official can request a Security Advisory Opinion or "SAO" if the visa applicant appears to pose a national security risk to the United States. U.S. national security agencies screen over 100,000 visa applications every year for potential issues ranging from the proliferation of weapons of mass destruction to

⁴⁴² Online Nonimmigrant Visa Application: DS-160 Exemplar, U.S. DEP'T OF STATE, BUREAU OF CONSULAR AFFAIRS, https://travel.state.gov/content/dam/visas/PDF-other/DS-160-Example_07292019.pdf.

⁴⁴³ *Id*.

⁴⁴⁴ **I**d

⁴⁴⁵ Interview with U.S. State Dep't, Bureau of Int'l Security and Nonproliferation (July 23, 2019) [hereinafter STATE DEP'T, BISN INTERVIEW (July 23, 2019)].

⁴⁴⁶ *Id.* The foreign national provides all of the necessary paperwork concerning their proposed U.S. institutional assignment, unlike the situation with export license applicants where the U.S. company is responsible for providing information.

⁴⁴⁷ U.S. GOV'T ACCOUNTABILITY OFF., GAO-05-198, BORDER SECURITY: STREAMLINED VISAS MANTIS PROGRAM HAS LOWERED BURDEN ON FOREIGN SCI. STUDENTS AND SCHOLARS, BUT FURTHER REFINEMENTS NEEDED 3 (Feb. 2005), https://www.gao.gov/new.items/d05198.pdf [hereinafter 2005 GAO MANTIS REPORT].

 $^{^{448}}$ *Id*.

⁴⁴⁹ *Id*. at 4.

illicit transfers of sensitive technology.⁴⁵⁰ According to a 2005 Government Accountability Office report on SAOs:

SAOs are required for a number of reasons, including concerns that a visa applicant may engage in illegal transfers of sensitive technology. An SAO based on sensitive technology transfer concerns is known as Visas Mantis and, according to State officials, is the most common type of SAO applied to science applicants.⁴⁵¹

State designed the Visa Mantis process to further four important national security objectives:

- prevent the proliferation of weapons of mass destruction and their missile delivery systems;
- restrain the development of destabilizing conventional military capabilities in certain regions of the world;
- prevent the transfer of arms and sensitive dual-use items to terrorists and states that sponsor terrorism; and
- maintain U.S. advantages in certain militarily critical technologies. 452

After a consular officer requests a Visa Mantis review, the officer submits the application package and visa interview notes through State's cabling system to Consular Affairs in Washington, D.C.⁴⁵³ Consular Affairs coordinates with DHS and other U.S. government agencies to conduct a review of the application and supporting documents for the visa application.⁴⁵⁴ State typically gives DHS ten business days to conclude its review, with extensions granted on a case-by-case basis.⁴⁵⁵ After the interagency review process is completed, a consular official abroad "reviews the SAO and, based on the information from Washington, decides whether to deny or issue the visa to the applicant."⁴⁵⁶ The 2005 GAO report provides a graphic that further explains the visa adjudication process, including the Visa Mantis review.⁴⁵⁷

⁴⁵⁰ U.S. Nonproliferation Policy and the FY 2020 Budget: Hearing Before the Subcomm. on Asia, the Pacific, and Nonproliferation of the H. Comm. on Foreign Affairs, 116th Cong. 2–3 (2019) (statement of Christopher A. Ford, Assist. Secretary for Int'l Security & Nonproliferation, U.S. Dep't of State). ⁴⁵¹ 2005 GAO MANTIS REPORT at 5.

⁴⁵² *Id.* at 5.

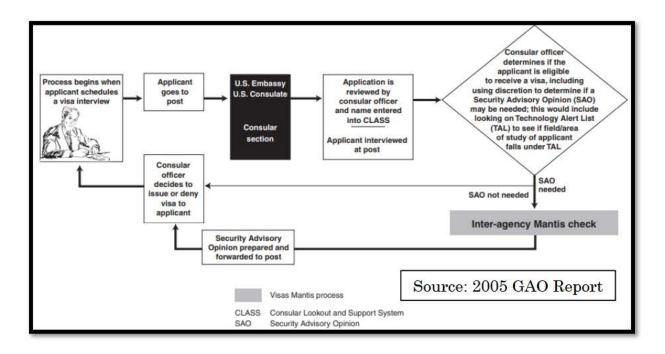
⁴⁵³ *Id.* at 6.

⁴⁵⁴ A DHS official told the Subcommittee that this and other similar reviews can be delayed as State does not make the attachments to the visa applications, typically the resume and other supporting documents, keyword searchable. Interview with U.S. Dep't of Homeland Security, Office of Intelligence (Sept. 11, 2019). *See also* 2005 GAO MANTIS REPORT.

⁴⁵⁵ 2005 GAO MANTIS REPORT at 7.

⁴⁵⁶ *Id*.

⁴⁵⁷ Id. at 6.



3. Consular Affairs Has Limited Authority to Deny Visa Applicants on National Security Grounds Related to Intellectual Property Theft

According to State officials, Consular Affairs has limited authority to deny visa applicants suspected of involvement in intellectual property theft. This is because denial must be specifically linked to violations of export control laws related to controlled technology. The commonly cited export control laws include the Export Administration Regulations, including the Commerce Control list, and the International Traffic in Arms Regulations. Edward Ramotowski, with State's Consular Affairs, elaborated on State's limited authorities under the Immigration and Nationality Act in recent congressional testimony when he stated that a consular officer can consider "whether there are reasonable grounds to believe that a visa applicant seeks to enter the United States to engage solely, principally, or incidentally in activity to violate or evade U.S. law prohibiting the export from the United States of goods or technology."460

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⁴⁵⁸ STATE DEP'T, BISN INTERVIEW (July 23, 2019). If the visa applicant's field of study or work is not covered by an export law, State indicated that it can rely on a "catch all" provision, 15 C.F.R. § 744.3, to make denial recommendations. To rely on this provision, however, State would need to explain how a visa applicant visit could contribute to a controlled end use.

Student Visa Integrity: Protecting Educational Opportunity and National Security: Hearing Before the Subcomm. on Border Security and Immigration of the S. Comm. on the Judiciary, 115th Cong. (2018) (statement of Edward J. Ramotowski, Dep. Assist. Secretary of Consular Affairs, U.S. Dep't of State) [hereinafter RAMOTOWSKI TESTIMONY (June 6, 2018)].
 Id.

As a result, denials must be linked to tightly controlled commodities and technology that are subject to export controls under the Export Administration Regulations, International Traffic in Arms Regulations, or other U.S. regulations such as those imposing economic sanctions. An arms Regulations further stated that, It has broader these export controls are, the more often we can use them to deter and disrupt activities of concern. The Export Control Reform Act of 2018, which requires Commerce to regularly update Commerce Control List to include merging and foundational technologies, may provide State greater flexibility to deny NIV applicants seeking to steal intellectual property as Commerce updates its list.

Because consular officials must base a denial on a specific anticipated violation of an already existing export law, they cannot currently deny a visa application if they have reason to believe that the visa applicant seeks to "lawfully gain knowledge through work or study in a sensitive area of technology that is not export controlled—for example, certain technology related to robotics or artificial intelligence." Furthermore, State officials told the Subcommittee that participation in a foreign talent recruitment plan does not automatically lead to visa ineligibility. Those same officials, however, said that State has denied some TTP members NIVs. 466

4. Consular Officers Manually Search State's "Technology Alert List" and Other Supporting Documentation

When deciding whether to conduct a Visa Mantis review, a consular official determines whether the applicant's background or proposed activity in the United States could include exposure to technologies on the Technology Alert List ("TAL").⁴⁶⁷ The TAL is a list based on U.S. export control laws published by State in coordination with the interagency community that "includes science and technology-related fields where, if knowledge gained from research or work in these fields were used against the U.S., it could be potentially harmful."⁴⁶⁸

While older, incomplete versions of the TAL are publicly available online, the Subcommittee reviewed the most recent, comprehensive version.⁴⁶⁹ The more than

462 *Id*

 $^{^{461}}$ *Id*.

⁴⁶³ Pub. L. No. 115–232, 132 Stat. 2208 (codified as amended at 50 U.S.C. §4801 et seq).

⁴⁶⁴ RAMOTOWSKI TESTIMONY (June 6, 2018).

⁴⁶⁵ STATE DEP'T, BISN INTERVIEW (July 23, 2019).

 $^{^{466}}$ *Id*.

⁴⁶⁷ 2005 GAO MANTIS REPORT at 5.

⁴⁶⁸ *Id*. at 5–6.

⁴⁶⁹ U.S. Dep't of State: Tech. Alert List, BOSTON U. (Aug. 2002), https://www.bu.edu/isso/files/pdf/tal.pdf; Tech. Alert List – Info. for Scholars/Students, CARNEGIE MELLON U., https://www.cmu.edu/oie/foreign-students/docs/tal-students.pdf.

60-page document provides 16 categories of technologies that State considers sensitive, including for example nuclear and missile technologies.⁴⁷⁰ The TAL also contains additional instructions on how to evaluate visa applicants and an FAQ for consular officers.⁴⁷¹ The TAL, however, does not contain entities of concern or any references to foreign talent recruitment plans.⁴⁷²

The Subcommittee identified some shortcomings in Consular Affairs' process for reviewing a visa applicant according to the TAL. For example, State officials told the Subcommittee that a consular officer would have a copy of the TAL available while interviewing the applicant. As the process is not automated, consular officers search the TAL manually. Some consular officers even refer to printed copies of the TAL during interviews. State officials indicated that while there are not concrete plans to automate the process of reviewing visa applicants for concerns related to export controlled technology, there are ongoing discussions within Consular Affairs to determine if automation would be more efficient.

5. Chinese Visa Applicants Comprise a Majority of Visa Mantis Reviews, But Are Rarely Denied

State classified the specific number of visa applicants that receive a Visa Mantis review. In 2005, however, the last time State publicly released data regarding State's Mantis program, the GAO found that "China and Russia account for roughly 76 percent of all Visa Mantis cases." The Subcommittee learned that Chinese visa applicants also continue to comprise a majority of Visa Mantis reviews in 2019. That rarely denies visa applicants after the review. A Subcommittee survey of Visa Mantis reviews showed that State denied less than five percent of reviewed Chinese visa applicants. The subcommittee survey of Visa Mantis reviews showed that State denied less than five percent of reviewed Chinese visa applicants.

The Subcommittee asked State to provide case examples of Visa Mantis files related to visa applicants with connections to China's talent recruitment plans, including the TTP.⁴⁷⁹ State could not provide any of the requested files. State wrote that it was "unable to provide specific examples of applicants involved in China's talent recruitment plans, as [State] does not systematically track this

⁴⁷⁰ State Dep't briefing with the Subcommittee (Sept. 24, 2019).

⁴⁷¹ *Id*.

 $^{^{472}}$ *Id*.

⁴⁷³ STATE DEP'T, BISN INTERVIEW (July 23, 2019).

⁴⁷⁴ Id.

 $^{^{475}}$ Id.

⁴⁷⁶ 2005 GAO MANTIS REPORT at 16.

⁴⁷⁷ U.S. Dep't of State letter to the Subcommittee (July 21, 2019) (documents on file with Subcommittee).

⁴⁷⁸ *Id*.

⁴⁷⁹ Subcommittee letter to U.S. Dep't of State (July 31, 2019).

information."⁴⁸⁰ Instead, State provided 20 classified case examples—unrelated to talent recruitment plans—of denied Chinese visa applicants to demonstrate State's review process.⁴⁸¹

6. Ongoing Criminal Prosecution Highlights Problems with State's Lack of Scrutiny of Research Scholar Visas

A recent indictment from the Southern District of New York shows that Chinese government officials are aware of State's weakness in screening certain types of visas, particularly student and researcher scholar visas. On September 17, 2019, a complaint was unsealed, detailing an alleged Chinese government conspiracy to commit visa fraud. Zhongshan Liu, a Chinese citizen, was charged in connection with 'his involvement in a conspiracy to fraudulently obtain U.S. visas for Chinese government employees." As alleged in the complaint, "Liu conspired to obtain research scholar visas fraudulently for people whose actual purpose was not research but recruitment" of scientists and researchers. Liu allegedly provided assistance in obtaining visas for individuals claiming to be research scholars, but in reality his assignment was to recruit for China's talent recruitment plans.

According to the complaint, Liu operated the New York office of the China Association for International Exchange of Personnel ("CAIEP-NY"). AS CAIEP-NY is a Chinese government agency that, among other things, recruits scientists, academics, engineers and other experts in the United States to work in China. Liu worked with other Chinese government employees in the United States, including at Chinese consulates, to fraudulently procure J-1 Research Scholar visas for a CAIEP-NY employee and a prospective CAIEP-NY employee. In addition, Liu attempted to assist a CAIEP-NY hire to obtain a J-1 research scholar visa

⁴⁸⁰ U.S. Dep't of State letter to the Subcommittee (Sept. 19, 2019) (unclassified cover letter when separated from classified enclosures).

⁴⁸¹ U.S. Dep't of State production to the Subcommittee (Sept. 19, 2019) (classified S//NF).

⁴⁸² Press Release, U.S. Dept. of Justice, Chinese Government Employee Charged in Manhattan Federal Court with Participating in Conspiracy to Fraudulently Obtain U.S. Visas (Sept. 16, 2019) (https://www.justice.gov/opa/pr/chinese-government-employee-charged-manhattan-federal-court-participating-conspiracy).

 $^{^{483}}$ *Id*.

 $^{^{484}}$ Id.

 $^{^{485}}$ Id.

⁴⁸⁶ See LIU COMPLAINT at 6 (Sept. 13, 2019).

⁴⁸⁷ Press Release, U.S. Dept. of Justice, Chinese Government Employee Charged in Manhattan Federal Court with Participating in Conspiracy to Fraudulently Obtain U.S. Visas (Sept. 16, 2019) (https://www.justice.gov/opa/pr/chinese-government-employee-charged-manhattan-federal-court-participating-conspiracy).

⁴⁸⁸ The J-1 Research Scholar visa program permits foreign nationals to come to the United States for the primary purpose of conducting research at a corporate research facility, museum, library, university or other research institution. LIU COMPLAINT at 11 (Sept. 13, 2019).

under false pretenses.⁴⁸⁹ Liu contacted multiple U.S. universities to try to arrange for a university to invite the CAIEP-NY hire to come as a J-1 Research Scholar.⁴⁹⁰ Liu was in communication with an individual affiliated with a U.S. university who explained that it would "be very easy for us to give him/her a J-1 [visa]."⁴⁹¹

⁴⁸⁹ Press Release, U.S. Dept. of Justice, Chinese Government Employee Charged in Manhattan Federal Court with Participating in Conspiracy to Fraudulently Obtain U.S. Visas (Sept. 16, 2019) (https://www.justice.gov/opa/pr/chinese-government-employee-charged-manhattan-federal-court-participating-conspiracy).

⁴⁹⁰ *Id*.

⁴⁹¹ LIU COMPLAINT at 15 (Sept. 13, 2019).

E. THE DEPARTMENT OF COMMERCE

The Department of Commerce's ("Commerce") mission is to create "the conditions for economic growth and opportunity." Commerce has offices in every state and territory and more than 86 countries worldwide. Commerce consists of multiple operating units, including the National Oceanic and Atmospheric Administration, International Trade Administration, Bureau of Economic Analysis, National Institute of Standards and Technology, United States Patent and Trademark Office, and the Bureau of Industry and Security ("BIS").

Commerce relies on BIS to advance "U.S. national security, foreign policy, and economic objectives by ensuring an effective export control and treaty compliance system, and by promoting continued U.S. leadership in strategic technologies." BIS conducts industrial base assessments of defense-related technologies and also "administers export controls of dual-use items which have both military and commercial applications." 496

To work with controlled dual-use technology in the United States, foreign nationals and the firms that employ or sponsor them must comply with U.S. export controls and visa regulations. Commerce, through an interagency review process, is responsible for issuing deemed export licenses to firms that employ or host foreign nationals seeking to work on controlled technology projects. ⁴⁹⁷ A Subcommittee review of those license applications found that Commerce issued deemed licenses to Chinese nationals who participated in talent recruitment plans and were affiliated with other concerning entities, including some now on Commerce's Entity List. ⁴⁹⁸

⁴⁹² History, U.S. DEP'T OF COMMERCE (2019), https://www.commerce.gov/about/history; Strategic Plan 2018–2022, U.S. DEP'T OF COMMERCE, 2 (Oct. 7, 2017),

 $https://www.commerce.gov/sites/default/files/us_department_of_commerce_2018-2022_strategic_plan.pdf.$

⁴⁹³ Strategic Plan 2018–2022, U.S. Dep't of Commerce, 2 (Oct. 7, 2017),

 $https://www.commerce.gov/sites/default/files/us_department_of_commerce_2018-2022_strategic_plan.pdf.$

⁴⁹⁴ Organizational Chart Final, U.S. Dep't of Commerce (2015),

https://www.commerce.gov/sites/default/files/media/files/2015/docorgchartfinal.pdf.

⁴⁹⁵ Budget in Brief Fiscal Year 2019, U.S. DEP'T OF COMMERCE, 47 (2019), http://www.osec.doc.gov/bmi/budget/FY19BIB/FinalBiBFY2019.pdf.

⁴⁹⁶ U.S. Gov't Accountability Off., GAO-19-516, Defense Supplier Base: Challenges and Pol'y Considerations Regarding Offshoring and Foreign Investment Risks, 7 (Sept. 2019), https://www.gao.gov/assets/710/701170.pdf.

⁴⁹⁷ U.S. GOV'T ACCOUNTABILITY OFF., GAO-02-972, EXPORT CONTROLS: DEPARTMENT OF COM. CONTROLS OVER TRANSFERS OF TECHNOLOGY TO FOREIGN NATI'LS NEED IMPROVEMENT, 2 (Sept. 6, 2002), https://www.gao.gov/products/GAO-02-972.

⁴⁹⁸ Lists of Parties of Concern, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY (2019), https://www.bis.doc.gov/index.php/policy-guidance/lists-of-parties-of-concern. ("The Entity List identifies foreign parties that are prohibited from receiving some or all items subject to the EAR unless the exporter secures a license. These parties present a greater risk of diversion to weapons of

1. Deemed Export Licensing

BIS is charged with administering the Export Administration Regulations which impose licensing requirements on the export of items that are controlled for national security and foreign policy reasons.⁴⁹⁹ The Regulations' export control provisions serve the national security, foreign policy, and other interests of the United States by restricting access to items by countries or persons that might use such items in a way hostile to U.S. interests.⁵⁰⁰ According to the GAO's 2002 review of BIS licensing standards:

Under U.S. export control regulations, a firm is required to seek a deemed export license if the export of the technology to the foreign national's country of citizenship would require a license. If a license is required, the exporter must submit a license application to Commerce identifying the technology, the reason it is controlled, the proposed destination, and the intended end user. In the case of deemed export license applications, firms must also provide the foreign national's resume, visa type, and a list of his or her publications.⁵⁰¹

The Regulations obligate U.S. individuals and corporations to apply for and receive a license from the U.S. government before releasing to foreign-individuals and employees in the United States certain types of technology.⁵⁰² This obligation is commonly known as the "deemed export rule," as releases of controlled technology to foreign individuals in the U.S. are "deemed" to be an export to that person's country.⁵⁰³

Organizations that commonly use deemed export licenses include high-tech research and development institutions, bio-chemical firms, and the medical and computer sectors.⁵⁰⁴ Individuals with legal permanent residence status or U.S.

mass destruction (WMD) programs, terrorism, or other activities contrary to U.S. national security and/or foreign policy interests. By publicly listing such parties, the Entity List is an important tool to prevent unauthorized trade in items subject to the EAR.").

 $^{^{499}}$ Fact Sheet for Revised Form I-129, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY, 1 (Feb. 18, 2011), https://www.bis.doc.gov/index.php/documents/deemed-exports/101-dhs-non-immigrant-form-i-129/file.

⁵⁰⁰ CONG. RESEARCH SERV., R41916, THE U.S. EXPORT CONTROL SYSTEM AND THE EXPORT CONTROL REFORM INITIATIVE, 3 (Apr. 5, 2019), https://fas.org/sgp/crs/natsec/R41916.pdf.

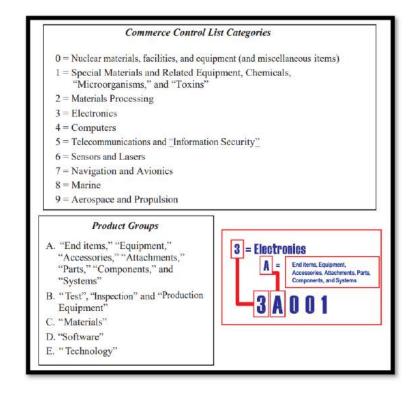
⁵⁰¹ U.S. GOV'T ACCOUNTABILITY OFF., GAO-02-972, EXPORT CONTROLS: DEPARTMENT OF COM. CONTROLS OVER TRANSFERS OF TECH. TO FOREIGN NAT'LS NEED IMPROVEMENT, 6 (Sept. 6, 2002), https://www.gao.gov/products/GAO-02-972.

⁵⁰² Fact Sheet for Revised Form I-129, U.S. DEP'T OF COMMERCE, BUREAU OF INDUS. AND SECURITY, 1 (Feb. 18, 2011), https://www.bis.doc.gov/index.php/documents/deemed-exports/101-dhs-non-immigrant-form-i-129/file.
⁵⁰³ Id.

⁵⁰⁴ Deemed Exports, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY (2019), https://www.bis.doc.gov/index.php/policy-guidance/deemed-exports.

citizenship and persons granted status as "protected individuals" are exempt from the deemed export rule.⁵⁰⁵ A deemed export license is only required for release of controlled technology or software to a foreign individual if a license would be required for the export of such items to the individual's country of origin.⁵⁰⁶

A deemed export license is required if an export license is needed to export technology described under an Export Control Classification Number listed on the Commerce Control List and if the foreign national' country of most recent citizenship or affiliation would require an export control license.⁵⁰⁷ An Export Control Classification Number describes the item that is exported and indicates licensing requirements.⁵⁰⁸ The Commerce Control List consists of ten broad categories with each subdivided into five product groups, as shown in the example below.⁵⁰⁹



⁵⁰⁵ Id.

⁵⁰⁶ Guidelines for Preparing Export License Applications Involving Foreign Nationals, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY, 1 (2018),

https://www.bis.doc.gov/index.php/documents/deemed-exports/709-guidelines-for-foreign-national-license-applications/file.

⁵⁰⁷ Commerce Control List, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY (2019), https://www.bis.doc.gov/index.php/regulations/commerce-control-list-ccl.
508 Id.

⁵⁰⁹ Id. See also Introduction to Commerce Department Export Controls, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY, 3, https://www.bis.doc.gov/index.php/documents/regulations-docs/142-eccn-pdf/file.

If an item under Commerce's jurisdiction is not listed on the Commerce Control list—typically low-technology consumer goods—it generally does not require a license.⁵¹⁰ If the item is being shipped to an embargoed country, to an end user of concern, or in support of a prohibited end use, an export license may still be required.⁵¹¹ Commerce does not regulate all goods, services, and technologies being exported; other federal agencies have export control responsibilities for regulating exports that are more specialized.⁵¹²

To be granted a deemed export license, an employer must fill out an application requiring the disclosure of the following three items:

- (1) how the controlled technology will be used by the foreign individual;
- (2) the immigration status of the foreign individual; and
- (3) a resume including personal background, educational and vocational background, employment history, military service, and optionally special information the applicant believes the BIS should take into account when reviewing the application.⁵¹³

Commerce and other reviewing agencies use this information to determine the risk that the technology could be diverted for unauthorized uses or unauthorized users.⁵¹⁴ Commerce, under Executive Order 12981, conducts the review of license applications with the Departments of Defense, State, and Energy.⁵¹⁵ Commerce also may request information or input from other federal agencies, including the FBI, but the Executive Order nor the Export Control Reform Act, grants the FBI specific authority or responsibility in this process.⁵¹⁶ Commerce's intelligence analysts review open source, classified, and law enforcement databases when reviewing license applications.⁵¹⁷

⁵¹⁰ Commerce Control List, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY (2019), https://www.bis.doc.gov/index.php/regulations/commerce-control-list-ccl.

⁵¹² Frequently Asked Questions to Export Licensing Requirements, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY, 2, https://www.bis.doc.gov/index.php/documents/pdfs/286-licensing-faq/file. See also Cong. Research Serv., R41916, The U.S. Export Control System and the Export CONTROL REFORM INITIATIVE, 3 (Apr. 5, 2019), https://fas.org/sgp/crs/natsec/R41916.pdf. ⁵¹³ Guidelines for Preparing Export License Applications Involving Foreign Nationals, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY, 1 (2018), https://www.bis.doc.gov/index.php/documents/ deemed-exports/709-guidelines-for-foreign-national-license-applications/file. 514 *Id*.

⁵¹⁵ Dep't of Commerce briefing with the Subcommittee (Sept. 20, 2019). 516 *Id*.

⁵¹⁷ *Id*.

2. A Majority of Deemed Export Licenses are for Chinese Nationals

Since 2013, Commerce has processed 7,777 deemed export license applications.⁵¹⁸ More than 52 percent of all deemed license applications were for Chinese nationals during that time.⁵¹⁹ "In 2018, 3,102 companies submitted a total of 34,851 license applications, including deemed exports."⁵²⁰ "1,101 companies applied for only one license, 506 companies applied for two licenses and 937 companies applied for three to nine licenses."⁵²¹ In 2018, applications for Chinese nationals accounted for approximately 35 percent of approved applications, as shown below.⁵²²

2013-2018 Approved										
Country of Origin	Top ECCN 2018	2013	2014	2015	2016	2017	2018	Country Approvals/ Total Applications 2018		
China	3E001	852	633	697	799	771	350	34.89		
Iran	5E002	162	162	172	224	267	184	18.39		
India	3E001	67	29	108	50	79	77	7.69		
Mexico	9E610	2	9	15	18	20	31	3.19		
United Kingdom	3E611	0	11	24	28	25	20	2.09		
Japan	9E002	26	0	13	8	21	16	1.69		
Syria	5E002	6	8	15	20	16	14	1.49		
Armenia	3E001	2	1	0	2	8	12	1.29		
France	9E610	1	4	12	16	9	12	1.29		
Vietnam	3E001	16	6	14	19	15	9	0.9		
Russia Federation	3E001	39	43	52	85	44	9	0.99		
Germany	0E606	0	2	13	8	6	9	0.99		
Taiwan	3E001	1	2	2	2	2	8	0.89		
Finland	0E982	0	0	1	0	0	7	0.79		
Brazil	0E606	2	2	13	3	9	6	0.69		
Total applications		1,325	1,063	1,381	1,476	1,525	1,007			
Source: Commerce U.S. I	Exports Exporter Supp	ort System, ret	trieved on M	farch 5, 2019)					

⁵¹⁸ Deemed Export Licenses, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY (Mar. 5, 2019), https://www.bis.doc.gov/index.php/documents/technology-evaluation/ote-data-portal/licensing-analysis/2410-2018-statistical-analysis-of-bis-licensing-pdf/file.
⁵¹⁹ Id.

⁵²⁰ Statistics of 2018 BIS License Authorization, U.S. DEP'T OF COM., BUREAU OF INDUS. AND SECURITY, https://www.bis.doc.gov/index.php/documents/technology-evaluation/ote-data-portal/licensing-analysis/2453-2018-statistical-analysis-of-bis-licensing-pdf-1/file.
521 Id.

⁵²² Id.

3. Commerce Rarely Denies License Applications

Commerce rarely denies deemed export license applications. As shown below, Commerce's denial rate in 2018 was 1.1 percent.⁵²³ Commerce also told the Subcommittee that it has not revoked a deemed export license in the past five years, despite the recent listing of new entities on Commerce's Entity List.⁵²⁴

			2013-2	2018			
	2013	2014	2015	2016	2017	2018	% Change from 2017
Approved	1,245	964	1,268	1,377	1,394	846	-39.3%
Rejected	13	18	18	13	24	11	-54.2%
RWA*	67	81	95	86	107	150	40.2%
Total	1,325	1,063	1,381	1,476	1,525	1,007	-34.0%
RWA: Retun	n without action	1				111	
Source: Comm	erce U.S. Exports	Exporter Suppor	t System, retrieve	ed on March 5,	2019		

4. Commerce Issued Deemed Export Licenses for Chinese Nationals Linked to Talent Recruitment Plans and Other Concerning Entities

The Subcommittee examined nearly 2,000 deemed export license applications for Chinese nationals that Commerce issued over the past three years. Following an interagency review, Commerce issued deemed export licenses to Chinese foreign nationals linked to talent recruitment plans and other concerning entities, including Huawei and Chinese universities with connections to the Chinese military. Most of the issued licenses allow "foreign nationals from countries of concern to work with advanced computer, electronic, or telecommunication and information security technologies." ⁵²⁵

⁵²³ Id

⁵²⁴ Email from Dep't of Commerce Legis. Aff. to the Subcommittee (Aug. 5, 2019) (on file with Subcommittee).

⁵²⁵ Note, however, that not "all domestic transfers of controlled technology to foreign nationals require a license. For example, certain types of dual-use technology and software may be provided to foreign nationals from India, Pakistan, and Israel without a license." U.S. GOV'T ACCOUNTABILITY OFF., GAO-02-972, EXPORT CONTROLS: DEP'T OF COM. CONTROLS OVER TRANSFERS OF TECHNOLOGY TO FOREIGN NATIONALS NEED IMPROVEMENT, 2 (Sept. 6, 2002),

Talent Recruitment Plans. Commerce issued at least 20 licenses to Chinese nationals associated with various Chinese talent recruitment plans.⁵²⁶ A sample of these license applications follow below.

- In 2017, a U.S. company applied for a Chinese national to work on digital cellular radio equipment. According to the application, the nature of the work would allow the foreign national access to controlled technology and capabilities of various products in development by the U.S. company. That same foreign national previously worked on at least two research projects concerning video-based, real-time object tracking supported by two talent recruitment plans.⁵²⁷
- In 2016, a U.S. company applied for a Chinese national to work on controlled and proprietary wireless technology. That same individual published a research paper in 2016 on wireless technology that was funded, in part, by a talent recruitment plan.⁵²⁸
- In 2016, a U.S company applied for a Chinese national to work on controlled cellular technology. That same individual published a research paper on similar technology funded by a talent plan.⁵²⁹

China's National Defense Universities. Commerce issued licenses to individuals associated with one of the seven Chinese universities, known as the "Seven Sons" that are under "direct supervision" by China's Military Commission. Two of these universities, Beihang University and Northwest Polytechnical University, are currently on Commerce's Entity List. The other five institutions, Beijing Institute of Technology, Harbin Institute of Technology, Harbin Institute Engineering University, Nanjing University of Aeronautics and Astronautics, and Nanjing University of Science and Technology, are not on Commerce's Entity List as of this report. Commerce granted more than 150 licenses to Chinese nationals linked to one of the seven defense universities. A sample of these license applications follow below.

⁵²⁶ Production from the Dep't of Commerce (June 17, 2019).

⁵²⁷ Id.

 $^{528 \} Id.$

⁵²⁹ *Id*

⁵³⁰ C4ADS, OPEN ARMS: EVALUATING GLOBAL EXPOSURE TO CHINA'S DEFENSE INDUS. BASE, 21 (Sept. 26, 2019),

https://static1.squarespace.com/static/566ef8b4d8af107232d5358a/t/5d95fb48a0bfc672d825e346/1570110297719/Open+Arms.pdf; Peijie Wang, China's Governance: Across Vertical and Horizontal Connexions, 54 (2017).

 $^{^{531}}$ Lists of Parties of Concern, U.S. Dep't of Commerce, Bureau of Industry and Security, (2019), https://www.bis.doc.gov/index.php/policy-guidance/lists-of-parties-of-concern. 532 Id.

⁵³³ Production from the Dep't of Commerce (June 17, 2019).

- In 2018, a U.S. company applied for a Chinese national to access semiconductor technology and converter integrated circuits. That same individual received a Bachelor's of Electronic Information Engineering from Beihang University.⁵³⁴
- In 2017, a U.S. company applied for a Chinese national to work as a packaging engineer, providing packaging design, development, and support for semiconductor technology. That same individual received a Bachelor's in Optical Information Science and Technology and a Masters in Optics from the Northwestern Polytechnical University.⁵³⁵

Huawei. According to information reviewed by the Subcommittee, Commerce issued at least 65 licenses to Chinese nationals who previously worked for or were supported by Huawei. Huawei is on Commerce's Entity List as of this report. A sample of these license applications follow below.

- In 2018, a U.S. company applied for a Chinese national to work on systems for telecommunications carriers, cable providers, and data center customers. This individual previously worked at Huawei as a software engineer. 536
- In 2017, a U.S. company applied for a Chinse national that previously worked on machine learning and embedded software for Huawei and also graduated from Harbin Institute of Technology with a bachelor's degree in engineering.⁵³⁷

The Chinese Academy of Sciences ("CAS"). CAS has been referred to as the "backbone" of the Chinese innovation system. According to the U.S.-China Economic and Security Review Commission, CAS has a research staff of 50,000 and "employs much of China's best scientific and engineering talent and has an extensive system of roughly 100 research institutes and laboratories." The U.S. Department of Defense also found that CAS is the:

[H]ighest academic institution for comprehensive R&D in the natural and applied sciences in China and reports directly to the State Council

 535 Id.

⁵³⁴ *Id*.

 $^{^{536}}$ Id.

 $^{537 \} Id.$

⁵³⁸ SECURITY COMMISSION REPORT at 18 (Jan. 2011).

in an advisory capacity, with *much of its work contributing to products* for military use.⁵³⁹

According to information reviewed by the Subcommittee, Commerce, after an interagency review, issued more than 60 licenses to Chinese nationals associated with CAS. A sample of these license applications follow below.

- In 2018, a U.S. company applied for a Chinese national to work on microelectronics fabrication intended for semiconductor technology. That same individual received a Master's in Electrical Engineering from the Institute of Microelectronics at CAS.⁵⁴⁰
- In 2017, a U.S. company applied for a Chinese national to have access to semiconductor technology for the development and production of integrated circuits. That same individual received a Masters of Electronics and Communication Engineering from the Institute of Semiconductors at CAS.⁵⁴¹

⁵³⁹ U.S. DEP'T OF DEFENSE, ANNUAL REP. TO CONGRESS: MILITARY AND SECURITY DEVELOPMENTS INVOLVING THE PEOPLE'S REPUBLIC OF CHINA 2019, 97–98 (May 2, 2019), https://media.defense.gov/2019/May/02/2002127082/-1//1/2019_CHINA_MILITARY_POWER_REPORT.pdf (emphasis added); WAYNE M. MORRISON, CONG. RES. SERV., IF10964, THE MADE IN CHINA 2025 INITIATIVE: ECON. IMPLICATIONS FOR THE UNITED STATES, (Apr. 12, 2019), https://www.crs.gov/Reports/IF10964?source=search&guid=404a7bd0aad54011bda40bb9f7d1880e&index=1. China's State Council is "the highest Chinese executive organ of state power."

 $^{^{540}}$ Production from the Dep't of Commerce (June 17, 2019). 541 Id.

F. THE FEDERAL BUREAU OF INVESTIGATION

The FBI is a federal law enforcement agency that operates under the Department of Justice's jurisdiction. The FBI employs 35,000 people, including special agents, intelligence analysts, language specialists, scientists, and information technology specialists at its headquarters in Washington D.C. and 56 field offices.⁵⁴² The FBI has broad law enforcement responsibilities, including protecting and defending the United States against terrorist attacks, foreign intelligence threats and espionage, cyber-based attacks and high-technology crimes.⁵⁴³ The FBI also informs the public and state and local law enforcement agencies of potential crimes and vulnerabilities to criminal organizations. Specifically, the FBI is charged with working with state and local law enforcement "to address crime problems common to federal/state/local agencies" and providing "timely and relevant criminal justice information and identification services concerning individuals, stolen property, criminal organizations and activities, crime statistics, and other law enforcement related data" to "FBI qualified law enforcement, criminal justice, civilian, academic, employment, licensing, and firearms sales organizations."544

The FBI has been slow to respond to threats posed by Chinese talent recruitment plans. Despite the Chinese government's public announcements in 2008 of its intent to recruit overseas researchers with access to cutting-edge research and absorb, assimilate, and re-innovate technologies, the FBI did not identify Chinese talent recruitment plans as a "threat vector" until 2015.⁵⁴⁵ In a 2018 FBI document, the Bureau acknowledged that the U.S. government "was slow to recognize the threat of the Chinese Talent Plans, but that has changed in recent years."⁵⁴⁶ The FBI also took nearly two years to make a coordinated dissemination of information identifying potential talent recruitment plan participants to federal grant-making agencies. This delay may have deprived those agencies and inspectors general additional opportunities to identify talent recruitment plan members who engaged in crimes, unethical grant practices, or unauthorized technology transfers. Finally, while the FBI is making progress towards creating a unified messaging strategy to U.S. research institutions, it still lacks a coordinated national outreach program to address these issues.

⁵⁴² Missions and Priorities, FED. BUREAU OF INVESTIGATION, https://www.fbi.gov/about/mission.

⁵⁴⁴ Organization, Mission and Functions Manual: Federal Bureau of Investigation, DEP'T OF JUSTICE, (2014), https://www.justice.gov/jmd/organization-mission-and-functions-manual-federal-bureau-investigation.

 $^{^{545}}$ Fed. Bureau of Investigation production, 16 (Oct. 12, 2018). 546 Id.

1. The FBI was Slow to Recognize the Threat

In 2008, the Chinese government announced its plan to recruit top overseas-researchers and to eventually bring their talents and expertise to China to benefit the government. Despite China's public declaration of its intentions, the FBI took nearly ten years to recognize that Chinese government talent programs posed a threat to the U.S. academic community and federal research grants. In 2015, the FBI "identified the Chinese Talent Plans as a known vector of the non-traditional threat." It was not until mid-2018, however, that FBI headquarters in Washington, D.C. took control of the FBI's response to the threat.

An early and significant FBI criminal investigation of a TTP member resulted in a guilty plea in December 2016. A team of FBI special agents in the Connecticut field office arrested Dr. Long Yu, a Chinese citizen and U.S. legal permanent resident, in November 2014 for attempting to take hundreds of gigabytes of export-controlled, proprietary information to China. These materials included design information for the F-22 and JSF-35 military jet engines. In court documents, Dr. Long confirmed he used his knowledge of U.S. technology to apply for multiple Chinese talent plans, and he did so while employed by a U.S. defense contractor. The second statement of the second second

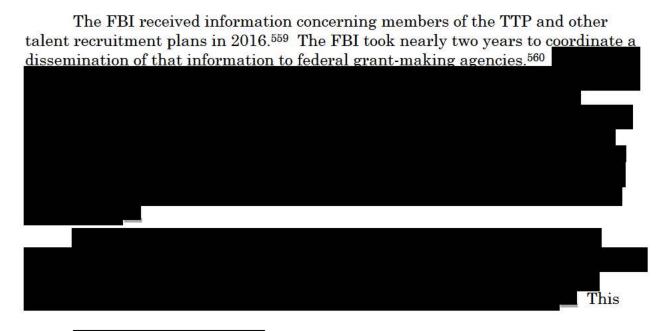
As part of his applications, Dr. Long corresponded with Chinese government researchers and described how he would use his future position to benefit Chinese government research.⁵⁵² Dr. Long described the ways he would leverage his knowledge of U.S. technologies and manufacturing processes to benefit China, saying, "These unique working experiences have provided me a great starting point to perform R&D and further spin off business in China. I believe my efforts will help China to mature its own aircraft engines."⁵⁵³ In December 2016, Dr. Long pleaded guilty to conspiracy to commit economic espionage and attempted export of defense articles.⁵⁵⁴ During the course of the Dr. Long investigation, FBI special agents who were working the case concluded that Dr. Long's illegal activity was not an isolated incident of a talent recruitment plan member's illegal behavior.

A 2018 FBI PowerPoint presentation titled, "Talent Plan Education Package Briefing," recognized that the U.S. "government has identified the Talent Plans as an avenue of illicit technology transfer." That same presentation also stated that

 $^{^{547}}$ Id. 548 Fed. Bureau of Investigation briefing with the Subcommittee (Sept. 12, 2019). 549 Documents on file with the Subcommittee (Oct. 12, 2018). 550 Id. 551 Id. 552 Id. 553 Id. 554 Id. 555 Fed. Bureau of Investigation production, 16 (Oct. 12, 2018).

the "[t]he U.S. government was slow to recognize the threat of the Chinese Talent Plans, but that has changed in recent years." The FBI's slow response to Chinese recruitment operations through the TTP and other talent recruitment plans provided the Chinese government the opportunity to recruit U.S.-based researchers and scientists. Though Chinese government statistics on the number of TTP members in China are sparse, a state-run media outlet lauded China for recruiting more than 6,000 TTP members by 2016, including 70 Nobel Prize laureates and academicians from the United States and Europe. A U.S. media report showed a year later that the number of TTP members had further increased to over 7,000.

2. The FBI Took Nearly Two Years to Disseminate Talent Recruitment Plan Information to Federal Grant-Making Agencies



⁵⁵⁶ Id.

⁵⁵⁷ National Talent Base Statistics Show Our Country Speeding Toward Becoming a 'Talent Country', XINHUA (Aug. 29, 2017), http://www.xinhuanet.com//politics/2017-08/29/c_1121565760.htm; Su Zhou, Returnees finding big opportunities, CHINA DAILY (Feb. 25, 2017), http://www.chinadaily.com.cn/china/2017-02/25/content_28345785.htm.

⁵⁵⁸ Hepeng Jia, *China's plan to recruit talented researchers*, NATURE (Jan. 17, 2018), https://www.nature.com/articles/d41586-018-00538-z.

 $^{^{559}}$ Fed. Bureau of Investigation production (Oct. 4, 2019) (on file with the Subcommittee). The following information is redacted as the FBI classified it as "Law Enforcement Sensitive." 560 Id.

⁵⁶¹ *Id*.

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⁵⁶² Id.

 $^{^{563}}$ Id.

⁵⁶⁴ Id.

⁵⁶⁵ Id.

delay may have deprived the NIH, the Department of Energy, and the NSF and their respective inspectors general from effectively identifying talent recruitment plan members that engaged in illegal or unethical grant practices using taxpayer dollars and preventing any unauthorized technology transfers.

3. The FBI Disbanded its National Security Higher Education Advisory Board

The FBI disbanded its National Security Higher Education Advisory Board ("NSHEAB") designed to facilitate security cooperation with the U.S. higher education community in 2018.⁵⁶⁶ The FBI created the NSHEAB in 2005 to better understand "the unique culture, traditions, and practices of higher education, including the culture of openness and academic freedom and the importance of international collaboration" and to serve as an "ongoing dialogue about national security issues between higher education institutions, the FBI, and other federal agencies."⁵⁶⁷ The NSHEAB met quarterly from 2005 until 2014 and included approximately 20 representatives from leading institutes of higher learning and research.⁵⁶⁸

According to the FBI, because participation in the NSHEAB waned in 2014, the FBI ceased holding NSHEAB meetings, despite the growing threat of foreign talent plans such as the TTP.⁵⁶⁹ After a four year hiatus, the FBI sent a letter in February 2018 to NSHEAB members informing them of the decision to disband the NSHEAB. The FBI told NSHEAB members that the FBI's Office of the Private Sector would reevaluate "mutually-beneficial academic engagement opportunities" and would potentially initiate "new advisory groups to partner with the FBI."⁵⁷⁰

The FBI's decision to disband its forum for discussing national security issues with the U.S. academic community came one week after FBI Director Wray's Senate Select Intelligence Committee testimony highlighted the Chinese threat to the U.S. academic community. During his February 13, 2018 testimony, Director Wray stated:

[T]he use of nontraditional collectors, especially in the academic setting, whether it's professors, scientists, students, we see in almost every field office that the FBI has around the country. It's not just in major cities. It's in small ones as well. It's across basically every discipline. I think

⁵⁷⁰ *Id*.

⁵⁶⁶ Fed. Bureau of Investigation Email to the Subcommittee (Sept. 27, 2019).

⁵⁶⁷ Press Release, Fed. Bureau of Investigation, National Security Higher Education Advisory Board Confirms Seven New Members (Oct. 3, 2007), https://archives.fbi.gov/archives/news/pressrel/pressreleases/national-security-higher-education-advisory-board-confirms-seven-new-members.

⁵⁶⁸ Fed. Bureau of Investigation briefing with the Subcommittee (Oct. 4, 2019; 11:00 A.M.); Fed. Bureau of Investigation briefing with the Subcommittee (Oct. 4, 2019; 12:00 P.M.)

 $^{^{569}}$ Fed. Bureau of Investigation Email to the Subcommittee (Sept. 27, 2019).

the level of naiveté on the part of the academic sector about this creates its own issues. They're exploiting the very open research and development environment that we have, which we all revere, but they're taking advantage of it.⁵⁷¹

Shortly after the FBI dissolved the NSHEAB, ACE, the Association of American Universities, the Association of Public and Land-Grant Universities, and the Council on Government Relations publicly criticized the FBI's decision. In a joint statement submitted during an April 11, 2018 house hearing on foreign plots targeting America's research, ACE and the other associations noted that the disbandment came "at a time when the very types of discussions the Board enabled between the university community and federal security agencies could be especially valuable." 572

The FBI has defended its decision to disband the NSHEAB, stating that it was "no longer the most practical medium for sharing threat information and engaging academia." Instead, the FBI created the Office of Private Sector ("OPS") in 2014 as it recognized the need for more resources, coordination, and engagement with the private sector. The OPS was supposed to reflect the FBI's desire to remain "ahead of the threat through leadership, agility, and integration." The FBI now designates "at least one Private Sector Coordinator in every FBI field office focused on engagement with the private sector, to include academia." The OPS also has full-time personnel, including a Supervisory Special Agent, a senior Management and Program Analyst, and administrative contractor support, who are "solely committed to academia outreach and coordination." Notably, the FBI's OPS did not have a dedicated outreach team for U.S. universities until July 2019. The OPS then began collaborating with the three largest academia associations—ACE, Association of American Universities,

⁵⁷¹ Worldwide Threats: Hearing Before the S. Select Comm. on Intelligence, 115th Cong. (2018) (testimony of Christopher Wray, Director, Fed. Bureau of Investigation).

⁵⁷² Joint Statement of the American Council on Education, Association of American Universities, Association of Public and Land-grant Universities and the Council on Governmental Relations to the Subcommittees on Oversight and Research & Technology, Committee on Science, Space, and Technology, Hearing: Scholars or Spies: Foreign Plots Targeting America's Research and Development (Apr. 11, 2018), https://www.aau.edu/sites/default/files/AAU-Files/Key-Issues/Science-Security/Higher-Ed-Assn-Statement-April-11-2018-House-SST-Cmte-Hearing.pdf ⁵⁷³ Id.

⁵⁷⁴ Fed. Bureau of Investigation Email to the Subcommittee (Sept. 27, 2019).

⁵⁷⁵ DARREN E. TROMBLAY, INFO. TECH. & INNOVATION FOUND., PROTECTING PARTNERS OR PRESERVING FIEFDOMS? HOW TO REFORM COUNTERINTELLIGENCE OUTREACH TO INDUSTRY, 10 (Oct. 2017), http://www2.itif.org/2017-counterintelligence-outreach-

 $industry.pdf?_ga=2.214257303.1084333806.1572981056-1186362390.1572981056.$

⁵⁷⁶ Fed. Bureau of Investigation Email to the Subcommittee (Sept. 27, 2019).

⁵⁷⁸ Fed. Bureau of Investigation briefing with the Subcommittee (Oct. 31, 2019).

and Association of Public and Land-Grant Universities—on issues of mutual concern.⁵⁷⁹

The FBI told the Subcommittee that OPS provides support to FBI field offices to hold regional academia conferences with universities and "hosts an annual Academia Summit at FBI Headquarters with university executives, science funding agencies (such as NIH and NSF), academia associations, and other government agencies in attendance." To better understand the FBI's engagement with the higher education community, the Subcommittee requested on two occasions to attend the annual Academia Summit. The FBI declined the Subcommittee's requests, but offered to brief the Subcommittee after the summit. 581

4. The FBI Continues to Lack a Coordinated National Outreach Program on the Threat from Talent Recruitment Plans

The FBI has delivered mixed messages to the U.S. higher education community concerning how to respond to threats posed by foreign talent recruitment plans. More than a dozen U.S. universities and higher education advocacy groups told the Subcommittee that the Bureau's outreach efforts were inconsistent and lacked specificity. The FBI is making progress towards a unified strategy, but still lacks a coordinated national outreach program to address these issues.

The Subcommittee met with more than a dozen U.S. universities and higher education advocacy groups to discuss research security as well as the Bureau's outreach efforts.⁵⁸² The responses varied, but in nearly all cases, the U.S. higher institutions expressed the need to have more specific information about the threat that Chinese talent recruitment plans pose.⁵⁸³ This included specific requests for case examples or talent recruitment plan contracts that could provide more detail about the loss of intellectual capital and property or violations of federal grant terms and conditions.⁵⁸⁴ University officials also described the FBI's outreach on

⁵⁷⁹ Fed. Bureau of Investigation Email to the Subcommittee (Sept. 27, 2019).

⁵⁸⁰ Id

⁵⁸¹ Fed. Bureau of Investigation Email to the Subcommittee (Sept. 30, 2019).

⁵⁸² Briefing with the Subcommittee (Oct. 31, 2019); Briefing with the Subcommittee (Oct. 30, 2019); Briefing with the Subcommittee (Oct. 24, 2019); Briefing with the Subcommittee (Oct. 17, 2019); Briefing with the Subcommittee (Oct. 10, 2019); Briefing with the Subcommittee (Oct. 4, 2019; 11:00 A.M.); Briefing with the Subcommittee (Oct. 4, 2019; 12:00 P.M.); Briefing with the Subcommittee (Oct. 1, 2019); Briefing with the Subcommittee (Sept. 19, 2019); Briefing with the Subcommittee (July 17, 2019); Briefing with the Subcommittee (June 13, 2019); Briefing with the Subcommittee (May 18, 2019); Briefing with the Subcommittee (Apr. 24, 2019).

 $^{^{583}}$ Id.

⁵⁸⁴ *Id*.

the threat that China poses as "haphazard" or a "mixed bag."⁵⁸⁵ These criticisms were meant to be constructive as many U.S. universities officials also indicated that they maintained productive relationships with the local FBI field office.⁵⁸⁶ This included coordinating with the FBI on threats such as campus security.⁵⁸⁷

University officials' criticism of FBI outreach on foreign talent recruitment plans is well-founded. For example, in one case, the FBI provided a university a list of suspected TTP members without explaining what next steps the university should take to protect itself.⁵⁸⁸ At least one university president wrote in a public opinion piece that he interpreted the FBI's outreach as inappropriate direction to "spy" on "foreign-born students."⁵⁸⁹ Several other universities felt compelled to issue public letters to their university communities to clarify that their communities remain "open to people from all over the world."⁵⁹⁰

Despite OPS forming a team specifically to explain risks to the U.S. higher education community earlier this year, the FBI continues to lack a coordinated national outreach program on these issues. Prior to 2019, special agents needing information before briefing or interacting with higher education institutions in their area of responsibility would contact FBI headquarters to receive briefing

⁵⁸⁵ Briefing with the Subcommittee (Oct. 30, 2019); Briefing with the Subcommittee (Oct. 4, 2019; 11:00 A.M.); Briefing with the Subcommittee (Oct. 31, 2019); Briefing with the Subcommittee (Oct. 7, 2019); Briefing with the Subcommittee (June 13, 2019).

⁵⁸⁶ Briefing with the Subcommittee (Oct. 7, 2019); Briefing with the Subcommittee (Oct. 4, 2019; 11:00 A.M.); Briefing with the Subcommittee (Oct. 4, 2019; 12:00 P.M.); Briefing with the Subcommittee (Oct. 1, 2019); Briefing with the Subcommittee (Sept. 19, 2019); Briefing with the Subcommittee (June 13, 2019); Briefing with the Subcommittee (May 18, 2019); Briefing with the Subcommittee (Apr. 24, 2019).

⁵⁸⁷ Id.

⁵⁸⁸ Briefing with the Subcommittee (June 13, 2019).

 $^{^{589}}$ Lee C. Bollinger, No, I Won't Start Spying on my Foreign-Born Students, WASH. POST (Aug. 20, 2019), https://www.washingtonpost.com/opinions/no-i-wont-start-spying-on-my-foreign-born-students/2019/08/29/01c80e84-c9b2-11e9-a1fe-ca46e8d573c0_story.html.

Carol Christ, Campus & Community: Reaffirming our Support for Berkeley's International Community, U.C. Berkeley (Feb. 21, 2019), https://news.berkeley.edu/2019/02/21/reaffirming-our-support-for-berkeleys-international-community; Peter Salovey, Office of the President: Yale's Steadfast Commitment to our International students and Scholars, Yale U. (May 23, 2019), https://president.yale.edu/yale-s-steadfast-commitment-our-international-students-and-scholars. L. Rafael Reif, Letter to the MIT community: Immigration is a Kind of Oxygen, MIT News (June 25, 2019), http://news.mit.edu/2019/letter-community-immigration-is-oxygen-0625#.XROIF2_3H7A.twitter; Patrick Gallagher, Office of the Chancellor: In Support of Global Education, U. OF PITT. (2019), https://www.chancellor.pitt.edu/spotlight/support-global-education; Farnam Jahanian, Leadership: The Importance of Being an Open, Global and Secure Research University, CARNEGIE MELLON U. (Aug. 15, 2019), https://www.cmu.edu/leadership/president/campus-comms/2019/2019-08-15.html; Ronald J. Daniels, Sunil Kumar & Paul B. Rothman, Office of the President: Supporting our international scholars and students, JOHNS HOPKINS U. (July 9, 2019), https://president.jhu.edu/meet-president-daniels/speeches-articles-and-media/supporting-our-international-scholars-and-students.

information or talking points on a case-by-case basis.⁵⁹¹ The FBI maintained presentation materials on the broader risks associated with Chinese economic espionage, but not specifically talent recruitment plans.⁵⁹² In January 2019, OPS created a publicly available document titled "China: The Risk to Academia" to increase the information sharing by FBI special agents meeting with higher education institutions.⁵⁹³ OPS and FBI counterintelligence are currently working on a standard PowerPoint presentation concerning China's economic espionage efforts, including talent recruitment plans, to better coordinate messaging across its 56 field offices.⁵⁹⁴

⁵⁹¹ Fed. Bureau of Investigation with the Subcommittee (Oct. 31, 2019).

 $^{^{592}}$ Id.

 $^{^{593}}$ Id.

 $^{^{594}}$ Id.

G. THE OFFICE OF SCIENCE AND TECHNOLOGY POLICY

The White House Office of Science and Technology Policy ("OSTP"), established in 1976 in the Executive Office of the President, advises "the President of scientific and technological considerations involved in areas of national concern" and serves "as a source of scientific, engineering, and technological analysis and judgement for the President with respect to major policy, plans, and programs of the Federal Government." OSTP also facilitates and directs interagency science and technology efforts, policy coordination, and safety coordination. 596

Currently, OSTP is in the midst of a policy review to take a coordinated approach to adopt best practices across the federal government to mitigate foreign exploitation of "the U.S. open innovation system." This review is to develop a "longer-term strategy for balancing engagement and risk without stifling innovation." The U.S. government's vast and varied array of grant-making agencies complicates this policy review. As of today, federal agencies are providing the academic community with varied messages on the appropriate response to foreign exploitation.

1. The National Science and Technology Council

OSTP's National Science and Technology Council ("NSTC") seeks to "coordinate the science and technology policy-making process." NSTC is chaired by the President, and "upon his direction, the Assistant to the President for Science and Technology may convene meetings of the council." Additionally, NSTC may utilize "established or ad hoc committees, task forces, or interagency groups." The NSTC is comprised of "the Vice President, Cabinet Secretaries and Agency Heads with significant science and technology responsibilities, and other White House officials." NSTC manages six primary committees: (1) Science and Technology (S&T) Enterprise; (2) Environment; (3) Homeland and National Security; (4) Science; (5) STEM Education; and (6) Technology. In addition, NSTC operates two special committees: the Joint Committee on the Research

⁵⁹⁵ National Science and Technology Policy, Organization, and Priorities Act of 1976, Pub. L. No. 94-282, Title II, §§ 205–06, 90 Stat. 464 (1976) (codified as amended in scattered sections of 42 U.S.C.).

⁵⁹⁶ Office of Science and Technology Policy, WHITE HOUSE, www.whitehouse.gov/ostp/.

⁵⁹⁷ Off. of Sci. and Tech. Pol'y briefing with the Subcommittee (July 29, 2019).

⁵⁹⁸ Id.

⁵⁹⁹ Exec. Order No. 12,881, 58 Fed. Reg. 62,491 (Nov. 26, 1993).

 $^{^{600}}$ *Id*.

 $^{^{601}}$ *Id*.

⁶⁰² Office of Science and Technology Policy: NSTC, WHITE HOUSE, https://www.whitehouse.gov/ostp/nstc/.

 $^{^{603}}$ *Id*.

Environment and the Select Committee on Artificial Intelligence.⁶⁰⁴ Each committee oversees various subcommittees and working groups.⁶⁰⁵

2. Joint Committee on the Research Environment

In May 2019, NSTC launched the Joint Committee on the Research Environment ("JCORE") to "coordinate interagency work related to improving the safety, integrity, and productivity of research settings." JCORE is co-chaired by representatives from OSTP, the NSF, the NIH, the Department of Energy, and the National Institute of Standards and Technology. JCORE aims to take an integrative approach to improve "the collective safety, integrity, productivity, and security of [the] nation's multi-sector research environment." To further these efforts, JCORE maintains four subcommittees in the following areas: (1) Coordinating Administrative Requirements for Research; (2) Rigor & Integrity; (3) Research Security; and (4) Safe and Inclusive Research Environments. Each subcommittee is comprised of approximately two dozen leaders across numerous federal science, foreign affairs, and security agencies.

First, the Subcommittee on Coordinating Administrative Requirements for Research ("CARR") works to fulfill statutory requirements and the needs of the research community. CARR's aim is to create significant reductions in administrative work and costs in the research community and is working to simplify grant application requirements. CARR also has planned initiatives to consult with the research community when developing next steps and share Research Business Model efforts with the research community.

 $^{^{604}}$ *Id*.

 $^{^{605}}$ Id.

⁶⁰⁶ *Id*.

⁶⁰⁷ *Id*.

⁶⁰⁸ NAT'L SCI. & TECH. COUNCIL, JOINT COMMITTEE ON THE RES. ENV'T, SUMMARY OF THE 2019 WHITE HOUSE SUMMIT OF THE JOINT COMMITTEE ON THE RESEARCH ENVIRONMENT (JCORE) (2019), https://www.aau.edu/sites/default/files/AAU-Files/Key-Issues/Science-Security/Summary-of-JCORE-Summit-November-2019.pdf.

⁶⁰⁹ See Office of Science and Technology Policy: NSTC, WHITE HOUSE, https://www.whitehouse.gov/ostp/nstc/.

⁶¹⁰ Letter from Kelvin Droegemeier, Director, Exec. Off. of the President, Off. of Sci. and Tech. Pol'y, to the United States Res. Community (Sept. 16, 2019), https://www.whitehouse.gov/wp-content/uploads/2019/09/OSTP-letter-to-the-US-research-community-september-2019.pdf.

⁶¹¹ Off. of Sci. and Tech. Pol'y briefing with the Subcommittee (July 29, 2019).

⁶¹² WHITE HOUSE: OFF. OF SCI. AND TECH. POL'Y, UPDATE FROM THE NATIONAL SCIENCE AND TECHNOLOGY COUNCIL JOINT COMMITTEE ON RESEARCH ENVIRONMENTS (July 9, 2019), https://www.whitehouse.gov/wp-content/uploads/2019/07/Update-from-the-NSTC-Joint-Committee-on-Research-Environments-July-2019.pdf.

⁶¹³ Off. of Sci. and Tech. Pol'y briefing with the Subcommittee (July 29, 2019).

⁶¹⁴ WHITE HOUSE: OFF. OF SCI. AND TECH. POL'Y, UPDATE FROM THE NATIONAL SCIENCE AND TECHNOLOGY COUNCIL JOINT COMMITTEE ON RESEARCH ENVIRONMENTS, 3 (July 9, 2019),

Second, the Subcommittee on Rigor and Integrity of Research ("Rigor and Integrity") "seeks to address concerns over institutional incentives and systemic practices that undermine rigor and integrity." Rigor and Integrity has identified areas across federal agencies to promote baseline policies and hopes to work with stakeholders in the research community to disseminate the recommendations and best practices. Rigor and Integrity will identify policies, practices, and incentives that do not reward rigor, and create best practices and trainings to address the issues. Rigor and Integrity hopes to maximize federally funded Research and Development investments.

Third, the Subcommittee on Research Security ("Research Security") aims to "protect America's researchers from undue foreign influence without compromising our values or our ability to maintain the openness and integrity of our innovation ecosystem." In other words, Research Security seeks to balance the need for open research environments while at the same time protecting national assets. During a recent congressional hearing, the director of OSTP noted the benefit of collaborative and open research but emphasized the risks faced in the absence of protocols. Additionally, he stressed that the subcommittee's goal is to generate best practices that do not place cumbersome burdens on institutions, but rather establish effective and efficient standards.

Research Security also collaborates with private and public partners on four key areas:

- Coordinating outreach and engagement with research partners to help understand and demonstrate the challenges;
- Establishing and coordinating disclosure requirements for participation in the federally funded research enterprise;
- Developing best practices for academic research institutions; and

616 *Id*. at 3.

https://www.whitehouse.gov/wp-content/uploads/2019/07/Update-from-the-NSTC-Joint-Committee-on-Research-Environments-July-2019.pdf.

 $^{^{615}}$ *Id*.

 $^{^{617}}$ Off. of Sci. and Tech. Pol'y briefing with the Subcommittee (July 29, 2019).

⁶¹⁹ WHITE HOUSE: OFF. OF SCI. AND TECH. POL'Y, UPDATE FROM THE NATIONAL SCIENCE AND TECHNOLOGY COUNCIL JOINT COMMITTEE ON RESEARCH ENVIRONMENTS, 3 (July 9, 2019), https://www.whitehouse.gov/wp-content/uploads/2019/07/Update-from-the-NSTC-Joint-Committee-on-Research-Environments-July-2019.pdf.

⁶²⁰ Budget and Oversight: Hearing on White House Office of Science and Technology Policy Before the Subcomm. on House Subcomm. on Commerce, Justice, Sci., and Related Agencies of the H. Comm. On Appropriations, 116th Cong. (July 24, 2019) (testimony of Kelvin Droegemeier, Director, White House Office of Science and Technology Policy).
⁶²¹ Id.

• Developing methods for identification, assessment, and management of risk.⁶²²

Research Security expects to provide best practices to funding agencies and academia on topics like conflicts of interest, vetting responsibilities, and enforcement mechanisms.⁶²³ Additionally, Research Security is working with federal grant-making agencies to standardize grant terms, conditions, forms, and language—a process OSTP plans to complete by early 2020.⁶²⁴

Fourth, the Subcommittee on Safe and Inclusive Research Environments ("Safe and Inclusive") "is the primary coordinating body for Federal agencies to share practices, challenges, and activities to combat harassment of all types in the research environment." Safe and Inclusive will focus on polices which help to recruit and retain diverse researchers.

3. Inconsistent Federal Grant Policies and Outreach Efforts Complicate OSTP's Ability to Respond to Foreign Talent Recruitment Plans

While JCORE's goal is to make federal grant proposals as harmonized and standardized as possible, federal grant-making agencies' policies and processes currently differ in several key ways.⁶²⁷ These differences complicate the grant process for applicants, stifle U.S. law enforcement's ability to investigate grant crimes, and frustrate the federal government's ability comprehensively understand grant spending.

One key problem is different disclosure requirements concerning foreign support across the government. For example, current NSF conflict of interest and conflict of commitment reporting does not require investigators to disclose in-kind support or any activities outside a principal investigator's institutional

 ⁶²² Letter from Kelvin Droegemeier, Director, Exec. Off. of the President, Off. of Sci. and Tech. Pol'y, to the United States Res. Community (Sept. 16, 2019), https://www.whitehouse.gov/wp-content/uploads/2019/09/OSTP-letter-to-the-US-research-community-september-2019.pdf.
 623 Id.

⁶²⁴ *Id*

⁶²⁵ WHITE HOUSE: OFF. OF SCI. AND TECH. POL'Y, UPDATE FROM THE NATIONAL SCIENCE AND TECHNOLOGY COUNCIL JOINT COMMITTEE ON RESEARCH ENVIRONMENTS, 3 (July 9, 2019), https://www.whitehouse.gov/wp-content/uploads/2019/07/Update-from-the-NSTC-Joint-Committee-on-Research-Environments-July-2019.pdf.

⁶²⁷ See Budget and Oversight: Hearing on White House Office of Science and Technology Policy Before the Subcomm. on House Subcomm. on Commerce, Justice, Sci., and Related Agencies of the H. Comm. On Appropriations, 116th Cong. (July 24, 2019) (testimony of Kelvin Droegemeier, Director, White House Office of Science and Technology Policy).

appointment.⁶²⁸ On the other hand, NIH "requires reporting of all sources of research support, financial interests, and affiliations."⁶²⁹

Another policy difference concerns the permissibility of participation in foreign talent recruitment programs. The new Energy policy restricts participation in talent recruitment programs by all Energy employees and Energy contractor employees. NSF's policy makes it clear that NSF personnel detailed to NSF cannot participate in foreign government talent recruitment programs, but the policy does not extend to principal investigators. And NIH does not have a policy specifically concerning foreign government talent recruitment programs at all.

U.S. university officials told the Subcommittee that they have received letters from federal grant-making agencies detailing new obligations regarding talent recruitment plans, but the agencies all have their own approach, and there is a lack of coordination. One U.S. higher education organization told the Subcommittee "the messaging from federal agencies that foreign talent programs are a concern is consistent, but federal agency efforts are dissimilar." Other university officials told the Subcommittee that their institution "is not sure what to do with the information on Chinese foreign talent programs provided" by the FBI. Another U.S. school told the Subcommittee that there is concern in the academic community "that an entire group [Chinese-Americans and Chinese students and faculty] is being painted with a broad brush" and is "under attack."

OSTP acknowledged there has not been a clear message on university administrative responsibilities, noting that JCORE plans to coordinate outreach and engagement with federal agencies, academic research institutions, companies, non-governmental organizations, researchers, and students.⁶³⁷ JCORE also will focus on best practices to combat harassment of all types in the research

 $^{^{628}}$ See Nat'l Sci. Found., NSF-20-1, Proposed Changes to the Proposal and Award Policies And Procedures Guide, II-23 (May 29, 2019).

⁶²⁹ HHS IG REPORT: FCOIS (Sept. 2019).

⁶³⁰ See U.S. DEP'T OF ENERGY, DOE O 486.1, FOREIGN GOV'T TALENT RECRUITMENT PROGRAMS (June.

^{7, 2019),} https://www.directives.doe.gov/directives-documents/400-series/0486-1-order/@@images/file.

⁶³¹ See NAT'L SCI. FOUND., PERSONNEL POLICY ON FOREIGN GOVERNMENT TALENT RECRUITMENT PROGRAMS (July 11, 2019), https://www.nsf.gov/bfa/dias/policy/researchprotection/PersonnelPolicyForeignGovTalentRecruitment%20Programs07_11_2019.pdf.

⁶³² Nat'l Inst. of Health briefing with the Subcommittee (Oct. 3, 2019).

⁶³³ Briefing with the Subcommittee (Oct. 7, 2019); Briefing with the Subcommittee (Oct. 4, 2019; 11:00 A.M.); Briefing with the Subcommittee (Oct. 4, 2019; 12:00 P.M.); Briefing with the Subcommittee (Oct. 1, 2019); Briefing with the Subcommittee (Sept. 19, 2019); Briefing with the Subcommittee (Sept. 17, 2019); Briefing with the Subcommittee (July 17, 2019); Briefing with the Subcommittee (June 13, 2019); Briefing with the Subcommittee (May 18, 2019); Briefing with the Subcommittee (Apr. 24, 2019).

⁶³⁴ Briefing with the Subcommittee (Sept. 19, 2019).

⁶³⁵ Briefing with the Subcommittee (Sept. 17, 2019).

⁶³⁶ Briefing with the Subcommittee (Sept. 19, 2019).

⁶³⁷ Off. of Sci. and Tech. Pol'y briefing with the Subcommittee (July 29, 2019).

environment and support recruiting and retaining diverse researchers. 638 During the next few months, OSTP announced it will be "holding meetings at academic institutions across the Nation to converse with researchers and students on matters of research security and other topics within JCORE." 639

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⁶³⁹ Letter from Kelvin Droegemeier, Director, Exec. Off. of the President, Off. of Sci. and Tech. Pol'y, to the United States Res. Community (Sept. 16, 2019), https://www.whitehouse.gov/wp-content/uploads/2019/09/OSTP-letter-to-the-US-research-community-september-2019.pdf.

APPENDIX A

CHINA'S TALENT RECRUITMENT PLAN CONTRACTS

PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

UNITED STATES SENATE



《岗位职责和工作任务书》

Post Re	sponsibilities	and	Work	Duties	Agreement
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Party A: Wuhan University

Unit: School of Information Management

Legal representative:

Address: Wuhan University Postal code: 430072

Party B (name):

Sex: Male

Date of birth:

ID number / passport number:-

Address: School of Information Management, Wuhan University

Email: @gmail.com

Duration of Agreement:

Appointment expiration:

As required by the needs in the field of information management, as well as the school and research institutions demand for professors (Thousand Talents Program), Party B shall perform the following duties and tasks:

(1) Job Responsibilities

- 1. Conscientiously implement the national education policy and provide educational services in accordance with national laws and regulations and university rules and professional ethics.
- Strive to continuously improve teaching methods, create new teaching content, and provide proper education in undergraduate and graduate courses.
- Actively seek to host provincial and ministerial and above research projects addressing the country's strategic needs and international cutting-edge science.
- 4. Be an expert in the field, follow developments, develop original theoretical and practical research, and seek to obtain landmark results.
- 5. Actively participate in the department's work.
- Actively provide local government theoretical and technical advice and support
- (2) Work Tasks
- 1. Teaching Work
 - On average, teach one graduate course per year.

- 2) On average, advise two undergraduate students and recruit three graduate students each year.
- 3) Each year the work time shall be not less than two months.

Research Work

- 1) Seek to create two provincial-level research projects, among them one national-level project. The funds received shall not be less than the matching funds provided by the school.
- 2) Publish at least 12 papers in mainstream international journals in the relevant discipline during the term of the Agreement (meaning as the author or lead completion work unit of SCI Region 2 and above papers)

3. Team Building and International Exchanges

- 1) Assist in introducing the research institution to core domestic and international talent, helping to build a high-level research team; or participate in an existing team; or build flexible project-based teams.
- 2) Participate in at least four international academic conferences, public papers in at least three international conferences, attempt to have three papers read (lectured on?) at international conferences
- 3) Continuously improve academic work and influence, strengthen domestic and international connections and exchanges, and serve in positions such as judge, reviewer, and expert in domestic and international research groups.

4. Social Work

- 1) Actively participate in and complete the social construction work organized by the school and research institution (subject level and fundamental evaluation, review and reporting).
- 2) Actively participate in relevant public welfare activities organized by the university and research institute.
- 3) Participate in student activities organized by the research institute, advise students in extracurricular activities, or actively participate in political and ideological education of the students, and complete other student advising and counseling as directed.
- 4) Complete other work as directed by the institute.

(3) Assignment Working Conditions

Work Conditions

1) Party A shall provide Party B with research start-up funds of 2 million RMB, disbursed in accordance with the annual usage plan [budget]. Party B shall use the funds within the three years from the commencement of the contract, with unspent funds returned to Party A.

- Party A's post-appointment unit will provide Party B with two lab and office rooms.
- 3) During the first appointment period, Party A will provide Party B with a list of doctoral and graduate students and focus on recruiting 1-2 post doctoral students each year. Depending on actual needs, Party B's post-appointment work unit may set the graduate student admissions standards based on Party B's requests.

2. Benefits

- Give a monthly stipend of 10,000 RMB in the form of a talent special region allowance. Provide international travel expenses to Wuhan University two times per year. Provide housing at Wuhan University.
- 2) Awards are given according to actual high-level achievements, calculated according to the "Interim Measures for Wuhan University High Level Research Awards."
- 3) Party A will provide Party B with a housing subsidy of 500,000 RMB. A position of the political designation of th Party B may receive 30% of this subsidy in a one-time disbursal, with the remainder 70% paid out over eight years. If Party B transfers out of or is released from the teaching appointment during the term of this Agreement, Party B will return the housing subsidy.



人类病毒学研究所

Institute of Human Virology, SYSU

Pennsylvania United States of America Dear
September 30, 2013
SON TO
40 K
Pennsylvania
United States of America
Dear Dear
On behalf of the institute of Human Virology in Sun Yat-sen University, I am writing to
confirm the terms of your engagement by our institution. The goal of this engagement is
to obtain your assistance in building a new program in immunology that will advance our
institutional capabilities in basic medical science. The following paragraphs describe key
elements of the engagement.
00 8
1. You will be responsible for assisting our institutions in the establishment of a major
immunology laboratory that integrates basic and translational medicine, and
pharmaceutical science. You will provide expertise to guide us in recruiting and
training staff, and supervising research in the laboratory. In conjunction with these
activities, we anticipate that you will offer periodic lectures, assist in organizing
conferences and scientific exchanges that promote international collaboration, and
author publications with scientists here.
2. We anticipate that you will make several trips to China each year during the term of
your engagement, but will perform much of your work remotely. We acknowledge
that you are and will remain a professor and principle investigator (PI) of
for a period of time, based upon your appointment contract with
and that you are subject to policies, including those concerning
consulting, conflicts of interest and intellectual property. When you are not in China,
Our laboratory here will be overseen by
Lo.
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3. We recognize that your research in China will relate closely to your ongoing work at

and that it may be difficult to avoid comingling the results of your work. As a

will own your interest in all discoveries or inventions, whether

人类病毒学研究所

Institute of Human Virology, SYSU

or not patentable, that you may make in the course of your research at or at our institutions. This agreement does not give our institutions any right to inventions that are owned solely by However, should Chinese scientists contribute to your discoveries in China, as we anticipate, and our institutions will jointly own, protect and manage the commercialization of these jointly-made discoveries.

- 4. Based on your strong scientific record, we expect that you will author publications based on your work in China. You will have the right to publish the results of your research in China without restriction. In any publication describing research that was primarily conducted in China, you will list our institution as your primary, and as your secondary, site of academic appointment. Authorship on publications will follow the guidelines established by the International Committee of Medical Journal Editors (ICMJE).
- Your engagement will continue for a term of five (5) years. However, either you or we may terminate the engagement for any teason by giving sixty (60) days advance notice.

If these terms accurately reflect your understanding of this engagement, please co-sign this letter as indicated below. Again, we look forward with great anticipation to your work with us and are confident that we will build a successful research program together during the years to come.

Znongshan Senool of Medicine

Sun Yat-sen University
74 Zhongshan 2nd Road
Guangzhou China 510080

Read and Agreed To:

09/30/2015

Date:

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(Photocopy not Accepted)

CONTRACT OF EMPLOYMENT

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CONTRACT OF EMPLOYMENT Employer (Party A) Name of the Employer: Tsinghan University Legal Representative: Agent ad litem: Address: hedical sciences Embling Tsinghan University Reports Tel: Fax: Employed Foreign Experts or Professional and Farty B) Name: Sex: Date of Birth: Nationality: ID Number: Overseas Address: Telau With the principles of legality, fairness,	65
Employer (Party A)	ervice
Name of the Employer: Tsingha University	So
Legal Representative:	
Agent ad litem:	
Address: Medical sciences Building. Tsinghua University. 50 mg 20084	
Tel:	
Fax:	\$
	Š.
Employed Foreign Experts or Professionals (Forty B)	
Name:	
Sex:	
Date of Birth:	
Nationality:	
ID Number:	
Overseas Address	
TelauColithe	
6105	
Both parties, in line with the principles of legality, fairness,	

-] =

equality, mutual agreement, honesty, and trustworthiness, on a

voluntary basis, and in a spirit of friendly cooperation, agree to sign this contract and pledge to fulfill all the obligations stipulated hereinafter.

II. The term of this contract shall be from June 1, May 31, 2017, with the first month set as probation period.

III. Tasks assigned to Party B (see the appendix).

And Human Services

And Human Services

And Human Services

And Human Services

And Human Services Party B's amual salary shall be RMB 800 IV. Party B's monthly salary shall be RME of which 50 % can be converted into foreign currency on a monthly basis. Please see the appendix terms and conditions on other remunerations and benefits consort

- V. Party A's Obligations: Purely Borrelevant laws and regulations of the People's Republic to China as well as any institutions and administrative stip chations concerned with Party B's employment as herem provided.
- 2. Party A shall conduct regular supervision, inspection and review of Pary B's working performance.
- they A shall provide Party B with necessary working and
 - A shall deploy fellow staff for Party B for coordination
 - Party A shall pay Party B's salary as scheduled.

VI. Party B's Obligations:

- 1. Party B shall observe relevant laws and regulations of the People's Republic of China and shall not interfere in China's internal affairs.
- Aluman Senices 2. Party B shall observe any institutions and administrative stipulations concerned with its employment, and shall be subject to Party A's arrangements, supervision, inspection review of his/her working performance. Without Pa consent, Party B shall not conduct any part-time by any other party.
- Party B shall fulfill the tasks assigned to him standards within the prescribed timefrance
- 4. Party B shall respect China's religious policies, and shall not conduct any religious activities compatible with his/her status as a foreign expert.
- 5. Party B shall respect Chargese pople's ethics and customs.

VII. Revision, Carcellatise and Termination of the Contract: Both parties shat abide the contract and shall refrain from revising, cancaling Oterminating the contract without mutual

- ne contract. This contract can be revised with future Consent. Before both parties have reached an agreement, the ontract shall be strictly observed.
 - Cancellation of the contract. This contract can be canceled with mutual consent. Before both parties have reached an agreement, the contract shall be strictly observed.

- And Human Services (1) Under the following conditions, Party A shall have the right to inform Party B in writing of the cancellation of this contract:
- a. Party B fails to fulfill this contract or the obligations and agreed conditions as herein stipulated, and fails to amend
- b. On the basis of the physician's diagnosis, Party B fails to resume normal work after a sick leave for a period of successive 30 days.

 (2) Party B has the right to inform D
- cancellation of this contract under the following
- a. Party A fails to provide Party B with necessary working and living conditions as stipulated in this contract,
- b. Party A fails to pay Party B as scheduled
- (3) In case either party asks to tolumingte this contract, it shall give a 30 day notice to the other part in writing, and the contract shall only be terminated after 30 days.
- inated upon mutual agreement by
- This contract shall be terminated once it expires.
- (2) The contrast may be terminated with the mutual consent of ties, and it shall be strictly observed until both parties ch an agreement otherwise.

When either part as set When either party fails to fulfill any part or all of the obligations as stipulated in this contract, that is, in the event of breach of the contract, the said party shall pay a breach penalty of US\$ 800 to

The an exact above-mentioned amount, it shall be explicated in the appendix of this contract.

When Party B claims to cancel this contract due to force majoure. Human it shall produce certifying documents issued by competent authorities; after the contract is cancelled with Party Consent, Party B shall bear the traveling expenses thus increased by a fails to provide any valid reshall bear the travel'. shall bear the traveling expenses thus incurred appray the breach penalty to Party A as stipulated in this sontrain

When Party A claims to cancel this pontrant due to force majeure, and the contract is thus cancelled with Party B consent, it shall bear Party B's traveling expenses this incurred; and when Party A fails to provide any valid reason to cancel this contract, it shall bear the traveling expenses of us incurred to Party B and pay the breach penalty to Party has stipulated in this contract.

IX. The appendix of this contract forms an indispensable part of shall have the same legal effect with the text of

contract shall take effect upon being signed by both parties shall be automatically terminated upon expiration. When either party requires signing a renewed contract, it shall forward

MI. Settlement to Dispute

Any dispute in connection with this contract shall be first stall settled between both parties concerned through triending of informediation, both parties shall substitute and consultations or informediation, both perties shall statement as and dispute for arbitration with local personnel supported to perfect the parties of the personnel supported to perfect the personnel supported to personnel supported t

PorCTP-1111

Work	Permit	No.:	
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Party Real Party B:

Party Real Party B:

Prepared by the Human Resr

INSTRUCTIONS

Do Not Disclose Intitrout Pernission From Deo't of Health and Hintout Pernission From Deo't of Health Recultive From Deo't of He

	ARTY A: Tsinghua University
P	arty A's authorized unit: School of Medicine
	ARTY B (Tenured)
	el.: entity card/passport no.:
	ationality/Registered household address:
	ensure Party A's work is carried out as normal and its tasks are completed smoothly, as
	ell as to protect Party B's legitimate rights and interest, both parties hereby enter into this
CO	entract after reaching consensus through equal discussion.
1)	Contract type and term
•,	Contract type and term
1.	This tenure contract is a fixed-term as well as open-ended contract.
2.	All provisions herein are applicable to the first-term tenure contract and the contracts
	for subsequent terms.
	·d' 81.
2)	Contract type and term This tenure contract is a fixed-term as well as open-ended contract. All provisions herein are applicable to the first-term tenure contracts at the contracts for subsequent terms. Party A's obligations Provide Party B an annual salary of RMB 800,000, which is paid by both the State and the University. For payment method, see Appendix Chemunication Agreement" of this contract. Provide a scientific research launch fund of RMB 10,000,000. This scientific research
3.	Provide Party B an annual salary of RMB 800 000, which is paid by both the State and
٠.	the University. For payment method, see Appendix "Remunication Agreement" of
	this contract.
4.	Provide a scientific research launch fund of RMB 10,000,000. This scientific research
Q.	launch fund shall be managed according to sarry Ale Project 985 Fund Management
-	Measures.
5.	Set up a research team. Assign 1 assignant from the School (Department, Center) and
	hire 0 assistant through Party A's resultment procedure.
6. 7.	Allow Party B to recruit 2 PhD students per ear for three consecutive years. Provide one apartment for the period Forty B is working at Party A.
8.	A laboratory shall be provided by the School (Department, Center).
9.	An office shall be provided by the School (Department, Center)
	An office shall be provided by the School (Department, Center).
3)	Party B's obligation ()
	S
10.	
	at Party A to achieve world's leading standard.
11.	
	Par B shall work at Party A for no less than month(s) per year from (month/year) to (month/year).
	Starting in June 2014, Party B shall work at Party A full-time and may not take on
	any substantive part-time work in other organizations or institutions.
12	During me tenure period, Party B shall complete the teaching and scientific research
	taste specified by Party A and continuously seek academic progress to obtain world's
1	. deading academic achievements. Party B shall abide by laws and disciplinary rules as
.<	Well as the code of conduct for teaching staff and Party A's rules and regulations.
13.	Party B shall act with honesty and integrity and fulfill his or her obligations to protect
,	Party A's intellectual property rights and the secrets specified in the confidentiality
	regulations (including not disclosing the contents of this contract to unrelated personnel).
14:	
17.	Party A's relevant financial rules and regulations. Party B shall agree to be subject to

the supervision and guidance of the relevant departments.

Contract modification, cancellation, termination, and renewal

- Where there are changes to the laws, administrative regulations, and rules and regulations based on which this contract is entered into, corresponding modifications shall be made to this contract accordingly.
- other Services 16. Where this contract can no longer be performed due to significant changes in the objective circumstances based on which it is entered into, with consensus reached between both parties through discussion, corresponding modifications shall be made to this contract accordingly. If both parties are unable to reach consensus on the modification of this contract, either party may cancel the contract and notify the other party in writing thirty (30) days in advance.

This contract may be cancelled with consensus reached between both par discussion.

- 18. This contract terminates automatically:
 - upon expiration; (1)
 - when Party B reaches retirement age; or (2)
 - when Party B dies or is declared missing or dead by a peg
- Following termination or cancellation of this contract, Party B handover conscientiously, return the office equipment, and Party A the balance of the disbursed scientific research to anused.

5) Liability for breach and economic compensation

centract when they violate any of Party A and Party B shall bear liability for breath of 20. the provisions herein.

In the event Party A breaches this contract Party & authorized unit shall pay Party B 21. corresponding economic compensation and damages according to relevant State regulations.

22. In the event Party B breaches this contract Party A's regulations on intellectual property rights, confidentiality Gto., and causes Party A to incur losses, it shall compensate Party A economic losses according to relevant regulations.

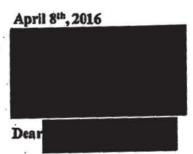
Others

The following processors and added with consensus reached between Party A and 23. Party B through discussion:

Party Aand Rany B shall keep the contents of this contract confidential. Neither bose the contents to unrelated parties without consent from the

prepared in triplicate. Party A's authorized unit, Party B, and the human resources department shall hold one copy each.

The first-term contract is a fixed-term contract. The tenure is from	TENURE	E CONTRACT TERM
renure position: Tenure Professor rarty A's authorized unit (Seal) erson-in-charge (Signature) seal School of Medicine, Tsinghua University Signature] ate: April 1, 2014 Tsinghua University Human Resources Department (Seal) [Seal] Human Resources Department, Tsinghua University Date: TENURE CONTRACT TERM TENURE CONTRACT TERM Tenure position: arty A's authorized unit (Seal) erson-in-charge (Signature) TENURE CONTRACT TERM Tsinghua University Human Resources Department (Seal) Tenure position: Tenure position: Trainghua University Human Resources Department (Seal) Trainghua University Human Resources Department (Seal) Tenure Contract is a fixed-term contract. Trainghua University Human Resources Department (Seal) Tenure Contract is a fixed-term contract. Trainghua University Human Resources Department (Seal) Tenure Contract is a fixed-term contract. Trainghua University Human Resources Department (Seal) Tenure Contract TERM Tenure Contr	e first-term contract is a fixed-term contra	act.
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Date:	4	Date:
Tsinghua University Human Resources Department (Seal)	Tsinghua University Hur	man Resources Department (Seal)
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The Shanghai Tech University (the "University") pleared to offer you the position of Professor-in-Residence of the Shanghai Institute for Act Steed Immunochemical Studies (the "Institute" or the "SIAIS"), Shanghai Tech University, commencing as of the 1st day of June, 2016 for a term to 31st, December, 2018.

You will be entitled to receive a salary of 603,000 RMB per annum. This salary is paid monthly in equal installments after applicable payed hax deductions.

This offer is contingent on the successful completion of your submission of satisfactory proof of your identity and your legal appropriation to work in the People's Republic of China. China's law stipulates that we obtain this information. In addition, as a condition of your employment, you will be required to sign our standard Employment, Confidential Information and Invention Assignment Agreement.

The University regulations an employment-at-will relationship with its employees. You retain your somal right to terminate this employment relationship at any time and for any reason. The University Giso retains the same right. In the event your employment with the University is terminated prior to the end of the Term for any reason, then concurrent with such termination, you will be entitled to receive all compensation accrued, but unpaid, up to the date of termination.

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聘用协议

EMPLOYMENT AGREEMENT

甲方: 上海科技大学

Party A Shanghai Tech University

地址 上海市浦东新区华夏中路 393 号

Address: No. 393 Huaxia Middle Road, Shanghai

Tel:

乙方 (Pany B)

证件号码 (Passport No.)

Oversight Requestinan Services

The Other Realth and Human Services

The Other Realth and Human Services

The Other Realth and Human Services 双方本裔合法、公平、平等自愿 精神,自愿签订本协议并保证

Both parties, in accordance with the principles of legality, fairness, equality, mutual agreement, honesty, and confivorations, on a voluntary basis, and in the spirit of friendly cooperation, agreed to sign his agreement and pledge to fulfill all the obligations stipulated herefnafter.

有效期限自2019年1月1

greement & Extension

n of this agreement is fixed, which shall commence retrospectively from 12. 2019 and end on December 31, 2024 (hereinafter referred to as the Rerm"); however either party may terminate this agreement for any reason with 30 days written notice.

第二条、岗位工作内容和目标

1. 乙方同意根据甲方所设科研教学方向 在上海科技大学 特聘教授 一职 工作地点在上海科技大学。乙方应承担以下工作目标中所

PorCTP-1127

列的职责以及甲方不时为其指派的其他职责。乙方在此同意将善意地并尽

- Article 2 Job Description and Objectives

 1. Party B agrees to take the position of Distinguished Advances rolessor according to Party A's research and education plan. The Job Meetingry Party B is at Shanghai Tech University. Party B shall assume the espansibilities and duties est forth in the Job Objectives (as below) as Sell as a five other tasks assign—Party A and agreed by party B from time to hims. Party B hereby and the best efforts to perform all the responsibilities and duties areasonably required for the position shall party B under equirements that may be given by Party B shall substantially afform the responsibilities.

 The party B shall substantially afform the responsibilities are the responsibilities and place under equirements that may be given by Party B.
- 2. Party B's Job objectives thring the Term: To provide periodic advice and guidance controlled projects in cell biology conducted under the supervision of Associate Professor (or his successor) in the School of Associate Professor ing the Term: To provide periodic advice and (or his successor) in the School of This research will not overlap with NIH-funded e and guidance to projects at will be provided during to one week each. including travel time) and on the phone and by udgement.

第三条、薪酬待遇

1. 年基本薪酬 税前 75万元 (人民币) 按月发放。 2. 乙方应当承担所有对其适用的所得税和法律要求的扣减。甲方应当依照相

- pre-tax) per annum, which will be paid monthly.

 2. Party B shall be responsible for all the income taxes applicable to him/her and such other deductions as required by Chinese law. Party A shall be responsible for withholding such taxes and deductions for Party B in accordance with the requirement of relevant laws and regulations.

 1. 国际 中方责任、义务和权利

 中方在本协议期间应当协助乙方依法办理出入场、留屋 根据甲方的相关规定 为了一种

- 作条件,并协助办理其他事宜

Article 4 The Duties, Obligations and R

- ement, assist Party B in securing permits 1. Party A shall, during the Term of this and approvals required by Comese lawthat are necessary for Party B's entry into, exit from, living and working in China.
- gulations, Party A shall provide Party B with 2. According to the I and assist with other matters to complete the goals necessary wor and tasks.

乙方须遵守甲方的工作制度和管理规定 接受甲方工作评估。

方本人及甲方名(即必须同时署作者及作者单位,作者第一单位应署上科

4. 乙方为执行甲方及其所属单位任务 或利用甲方及其所属单位物质技术条 件完成的发明创造、作品、软件、集成电路布图设计以及其他技术成果等 均屬职务技术成果,职务技术成果所有权属于甲方 职务技术成果完成 Jestinan Service 后,除非另有协议约定,相关知识产权的所有权利属于甲方 经营、管理等工作中形成的具有经济价值,不为公众所知悉的技术信息、 经营信息等采取保密措施的信息均属于商业秘密

Article 5 The Duties and Rights of Party B

- 1. Party B shall observe laws and regulations of the People's Republic of China.
- 2. During the Term, Party B shall observe any institutions and administrative stipulations concerned with its employment, and shall be subject to Party (review of his/her working performance.
- 3. Any copyrightable or patentable materials, and other related or si properties, such as software, prototype, paper, patent and other are created or developed by Party B (and collaborators) in the control work at Party A and during the Agreement period, and shall be affilied and publicized in the names of both Party B and Party A (Party A shall perfit first Mathor affiliation).
- 4. To the extent that it is consistent with the policie of Part primary employer Party A shall have the right town intentions, works, software, layout-design of integrated circuits and other technological achievements accomplished by Party B in the course of partographs the duties, or mainly by using Party A's resources. If Party A hastcencluded a contract with Party B on the ownership of intellectual property shon kind of provision shall prevail. Trade secret concerning Party B's work (c.s. astual and proposed terms of research agreements, financial arrangements, or Confidents business information) shall be owned by Party A.

第六条、其他

is the primary employer of Party B, and A acknowledges that Mat in case of conflict, the policies of will prevail. The two parties shall consult with each other and mediate any disputes friendly which may arise about the agreement.

2. The Agreement is in triplicate, and all shall take effect upon being signed at the same time. Party A holds two, Party B holds one, and all have equal legal effect. The Agreement is written in both Chinese and English, but has been modified by Party B in the English text only. Therefore, the English version shall prevail.

日期(Date): March A Recules the Control of the Contr

National "Thousand Talents Plan" Employment Contract

Final 12/6/13

Party A:	Zhejiang	University
----------	----------	------------

Address: 866 Yuhangtang Road, Hangzhou

Contact telephone number:

Party B: Gender: Date of birth:

Nationality: Passport number:

Contact address:

Contact telephone number:

Party C: Medical School (Department)

Contact telephone number:

Reduest an Service Upon the equal negotiation among the three parties, Party A, Party B, and Party agreement was reached regarding the employment of Party B to work at specific terms are as follows:

Article 1 Employment period

- 1. The term of employment is a non-fixed period, from the time when B reports to Party A to when the conditions of the statutory rescission or termination of the contract arese. The first stage of the non-fixedterm contract is for 5 years, from January 2014 to December and Party B shall work at Party A for 9 months or more each year.
 - 2. Party B shall resign from his original position a Party A full time by January 2019.

Article 2 Party B's job objectives and tasks

- 1. The job objectives and tasks that Par B should complete in the first phase of the contract are: leading the development of the school's translational reducine discipline, advancing the building of the discipline and the talent team, undertaking taks of teaching undergraduate and postgraduate courses and talents training work, and vigorously introducing outstanding talents, improving teaching and research skills, expanding international exchanges and cooperation, enhancing the international influence of the discipline, achieving innovative research and comoting the pace of building our university into a first-class university.
- and task of Party B's work after the first stage of the non-fixed-term contract 2. The job objective shall be separately neg eed by Party A, Party B, and Party C.

ints and billigations

Righ Cand distingations of Party A and Party C

- reward, and punish Party B in accordance with the laws and regulations of the dublic of China and the rules and regulations of Party A and Party C.
 - eguand the rights that Party B is entitled to in accordance with the law.
- Party B with the necessary workplace and material and technical conditions for performing
- Party B makes significant achievements during the term of his employment, Party A and Party C ecommend Party B to apply for various awards.
 - 5. Pay Party B's remuneration package on time.

(2) Rights of Party B

1. Remuneration package: Party A provides Party B with wages of RMB 500,000 yuan/year and allowance of RMB 300,000 yuan/year, in a total of RMB 800,000 yuan/year (this income is pre-tax income, including but not limited to payments to Party B for various social insurance premiums and welfare benefits payable by organizations or individuals as required by the government, such as housing subsidies and medical insurance and, subsidies for the spouse living in China. Other than the one-time subsidy from the central government and the science and technology talent incentive awards provided by the Zhejiang provincial government in accordance with relevant rules, Party A will not pay Party B any additional wages or fees. In accordance with the relevant rules of the state and localities, Party A will pay social insurance premiums such as medical insurance for Party B on time, and the relevant fees shall be withheld and paid by Party A on behalf of Party B) on a monthly basis.

Remuneration payment method: Party B's remuneration will be such as the such a

Remuneration payment method: Party B's remuneration will be paid according to the actual hours. Party B works at the university. At the end of the 12th month of each appointment year, Party B shall settle the specific amount to be paid for the current year according to the actual working hour Party B. If payable amount based on Party B's actual hours of work after conversion is less that the amount actually paid by Party A, the excess will be deducted one-time by Party A from Party B's bunual setury in the following year or Party B will make a one-time refund to Party A.

After the first phase of the contract, Party B's remuneration package and parment method will be negotiated and agreed upon in accordance with the relevant documents.

In addition, after Party B comes to work at the university, Party B will only a one-time subsidy from the central government and the provincial government scientific and technical talent awards provided by Zhejiang Province according to the relevant regulations of the call and Thejiang Province.

Housing arrangements: Party B can rent a teacher's toartment from Party A, and the rent and other corresponding expenses shall be borne by Party B. If Party B meets the application criteria for the reserved housing for high-level talents in Zhejiang University, Party B capapply and purchase a corresponding house.
 Working conditions: Party A shall provide Party B with a research start-up fund of RMB 10 million

3. Working conditions: Party A shall provide Party B with a research start-up fund of RMB 10 million (including support funds provided by the state, relevant ministries and commissions, and provinces and municipalities for the selection of the national Thousand Falents Plan").

4. Offices and laboratories: Party C arrange offices and laboratories for Party B. Party B shall pay a

4. Offices and laboratories: Party C wil arrange offices and laboratories for Party B. Party B shall pay a certain amount of resources usage fees coording to the relevant regulations of the university. Depending upon the needs of Party B's work, Party B can indee some instruments, equipment, and facilities of Party A and Party C according to the relevant regulations of the university.

5. Team building: Party A said Party Support Party B's team building, and Party A shall provide remuneration to Party B's team members who meet Party A's employment criteria for the teaching-and-research teacher position. There is a remuneration packages of all other personnel shall be included in Party B's research fund, and the imployment procedures shall be handled in accordance with Party A's relevant personnel sules.

6. Student assession enteria (including supervising doctors, postgraduates and post-doctoral staff, senior visiting cololars vio.): The university first arranges and recommends outstanding doctoral and master students, and supervises post-doctoral staff and senior visiting scholars.

obligations of Party B

Working hours at the university: 9 months or more every year beginning January 2014. Party B plans to report to the university in <u>January 2014</u>. After the official registration is completed, the salary will be calculated.

onscientiously abide by the laws and regulations of the People's Republic of China and the rules and regulations of Party A and Party C.

3. Perform job duties, achieve the job objectives and tasks as agreed in Article 2 of the contract, and ensure the quality of work. Accept the work arrangement, business guidance, inspection, evaluation, rewards and punishments by Party A and Party C.

- 4. During the term of Party B's employment, if Party B publishes papers and works, or applies for relevant awards, patents and scientific research projects and funds, Party B shall sign the names of Party B, Party A and Party C at the same time (i.e., the author and the author's organization must be both listed at the same time, and the author's organization must be in the name of Party A and C only).
- 5. Party B shall make the total fund use plan and annual use budget for the research funds provided by Party A and Party C. Party A shall retrieve the part of the annual budget that has not been used according to the rules on the use of funds. Party A will retrieve any unused research funding at the end of the employment term or when the contract is rescinded.
- 6. During the period of employment, Party B will not interfere with China's internal affairs, will abide by China's religious policies, will not engage in activities that are incompatible with the expert status, and will be by the moral standards and customs of the Chinese people.

Article 4 Modification, Rescission and Termination of Contract

(1) Modification of the contract

Upon agreement of the parties to the contract, the changes may be made, but subject to the written opinions reached by the three parties.

(2) Rescission of the contract

- notify Party B to rescind the contract 30 days in advance in writing. If Party A resolutes the contract due to any of the circumstances, Party A shall not assume any responsibility for Party B. (1) Party B. foils to any of
- (1) Party B fails to perform the main obligations of the contract or ion fulfilling his contractual obligations he fails to comply with the agreed-upon conditions fails make the corrections within a reasonable period after being pointed out by Party A and Party C;
 - (2) [Party B] fails to pass evaluation after being evaluated by Party A and Party C.
- 2. If Party B has one of the following circumstant may unilaterally rescind this contract at any time:
 - (1) Serious violations of the rules and regul ons Party A and Party C;
 - (2) Commission of a criminal act.
- 3. If Party A fails to pay Party B's representation package on time 30 days after the deadline, Party B has the right to notify Party A in writing to resemble the contract.
- 4. If the parties to the contract agree by consensus, the contract may be rescinded. Any party that proposes to rescind the contract by negotiation and procedures:
- (1) If Party B proposes to erminate the contract for special reasons during the term of employment, Party B shall submit a written application to Party A and Party C 3 months in advance, and upon Party A and Party C's consent, the contract may
- Party Oproposes to rescind the contract for special reasons during Party B's employment period, either party shar notife Party B in writing 3 months in advance and fully communicate with Party B.
- 5. If the compact cannot be performed normally due to force majeure during the period of employment, and the contract needs to be modified or rescinded, the three parties shall properly handle such situation in accordance
- B provises to resign from his original employer by January 2019. If Party B cannot resign from his this definal employer within the stipulated timeframe, Party A and Party C have the right to change or

rmination of the contract:

contract is terminated when the contract term expires or the conditions for the statutory rescission or nation of the contract arise.

Article 5 Supplementary Provisions

- 1. Party B confirms that the contact address at the beginning of the contract is the address where Party A and Party C send written notices to Party B. If there is any change in the delivery Aman Services address of Party B during the performance of the contract, Party B shall notify Party A and Party C in writing. If the address provided by Party B is inaccurate or Party B does not promptly notify Party A and Party C of such change of address, such that Party A's or Party C's written notifications are not delivered or not delivered in time, Party B shall bear the legal consequences arising therefrom.
- 2. If the terms of the "Thousand Talents" employment contract signed in June 2012 conflict with this contract, the terms of this contract shall prevail.

The conclusion, interpretation and dispute resolution of this contract shall be governed the laws of the People's Republic of China.

- 3. When a dispute arises between Party A, Party C and Party B, it shall be settled? friendly negotiation or mediation. If the negotiation or mediation fails, a party may and to Zhejiang Personnel Dispute Arbitration Court for arbitration. If any party is dissatisfied with the outcome of the arbitration, it may file a lawsuit with the local people's court at A.
- 4. If there are any unfinished matters in this contract, the three parties hall regotiate and make a written supplementary agreement. The written supplementary agreement and this contract have equivalent legal effect.
- 5. This contract is signed in Hangzhou, Zhejiang, China, with three cobies of the same format. Each of Party A, Party B and Party C retains one copy; and the contract takes effect when

Signature Party
[illegible]

2013

Produced to this carry
[illegible]

Produced to this Permission of the Company

Produced to this Permission of the Company

On Worth Discourse the Company

Signature of Party C's Representative:

[signature]

[seal] Zhejiang University School of Medicine

December 6, 2013

Qingdao University introduces high-level talent employment contract

Appointment unit: Qingdao University (hereinafter referred to as Party A)

Appointed expert: (hereinafter referred to as Party B)

ID card (passport):

In order to protect the legitimate rights and interests of both parties, in accordance with the relevant national laws, regulations, rules and the personnel and personnel policies of Shandong Province and Qingdao Municipality, this contract was concluded through negotiation between the two parties.

Article 1 Appointment position and term of appointment

Party A shall appoint Party B to work full-time at the Institute of Cancer Precision Medicine (Qingdao Cancer Research Institute) of Qingdao University. The first appointment period is five years, counting from the date of signing the contract. After the expiration of the first appointment, if Party B fulfills the contractual target, it will automatically renew its employment.

Article 2 Party B's job tasks and objectives

(1) Team building and talent training

A total of 8-10 post-doctoral and doctoral students are trained.

- (2) Research and innovation transformation
- 1. Obtain 2-3 major national or other national major issues and 1-2 national natural youth projects;
- 2. Published 5-8 SCI papers, including 2-4 articles with 10 or more points;
- 3. Efforts to achieve a new target for cancer prevention and treatment were first reported in the world and used for the development of new anti-tumor drugs. Actively cooperate with the research institute to screen and discover lead compounds with anti-tumor activity.
- 4. The scientific research results are reported to the provincial and ministerial level results of the first and second prizes or 1-2 national-level achievements;
- 5. Apply for more than 2 invention patents;
- (3) Disciplinary construction and academic exchanges

Initiate academic reports or lectures 3 times; attend academic conferences and report 3-5 times. According to the development needs of the institute, it is involved in the construction of related disciplines.

(4) Public services

According to the needs of the institute, it undertakes or cooperates with the management and service of the research institute's personnel training, talent introduction, laboratory preparation, discipline development, scientific research and transformation, and publicity.

Article 3 Rights and obligations

- I. Party A's rights
- (1) To manage Party B in accordance with national laws, regulations and relevant regulations of the school.
- (2) To assess Party B in accordance with the relevant provisions of the State and the agreed tasks and objectives of the post.

Second, Party A's obligations

(1) Protecting and maintaining the rights that Party B shall enjoy in accordance with the law and supporting Party B's work.

- (2) Providing necessary living and working conditions for Party B to carry out work
- 1. Salary, insurance and other welfare benefits: the salary structure implements the national policy wages + special post allowance 200,000 / year + research grants + research awards (a total of about 500,000 yuan / year, of which 100,000 yuan for performance pay, annual Pay after passing the examination). The payment method is issued on a monthly basis. Party B shall enjoy the welfare benefits of Party A in the preparation of formal employees. Party A shall pay various insurance premiums and provident funds for Party B. Party B's personal burden shall be deducted by Party A on the basis of the formal staff standard.
- 2. Housing subsidy: RMB 600,000, which is paid once when Party B purchases a house.
- 3. Research start-up funds: Provide Party B with RMB 2 million for research start-up funds (including 500,000 yuan for schools and the rest will be provided by the Institute) for Party B's research work expenses. After Party B arrives at the post, it will be allocated according to Party B's work needs. Third, Party B rights
- (1) During the work of Party A, Party B shall implement the relevant provisions of the relevant working hours and work holidays of the State.
- (2) Enjoying the working and living conditions provided by Party A. Fourth, Party B's obligations
- (1) Party B shall abide by the laws and regulations of the State and the rules and regulations of the employer.
- (2) Party B shall work full-time in Party A. Party A shall not work part-time in the foreign unit without the consent of Party A, earnestly perform the duties of the post, complete the post work tasks and work objectives, and accept the assessment of Party A.
- (3) The intellectual property rights obtained by Party B during the work of Party A, including copyright, patent rights, trademark rights, etc., are owned by Party A. According to the definition of intellectual property rights between the two parties, Party B has certain sharing rights within the defined scope.
- (4) Party B shall abide by Party A's relevant confidentiality regulations and keep confidentiality of Party A's trade secrets and other intellectual property-related confidential matters.

Article 4 Assessment

- 1. Annual assessment: Party B accepts Party A's annual work assessment during the employment period and submits the "Working Progress Report of the Year".
- 2. Mid-term assessment: During the term of employment, Party B will accept the mid-term assessment of Party A's work for three years and submit the "Medium-term Work Progress Report".
- 3. Appointment assessment: Party B will accept Party A's assessment of the appointment period after the expiration of the appointment period. The evaluation of the employment period is based on the tasks and objectives of the employment of the contract, and Party B submits the "Summary Report on the Employment Period".
- Article 5 Change, Termination and Dissolution of the Contract
- (1) Both parties may agree to change the relevant content of this contract or terminate or terminate this contract.
- (2) If Party B fails to pass the examination during the employment period, has a major direct liability accident or has a violation of law or discipline, Party A has the right to dismiss the employee and terminate the contract. At the same time, Party B shall pay the remaining amount of research funds paid by Party A. Return Party A and return the housing subsidy for the remaining years of less than 5 years to Party A.

(3) If Party B proposes to resign within 5 years, it shall submit a written application to Party A 6 months in advance. After Party A's consent, Party B may apply for resignation and refund the remaining research funds paid by Party A and return the housing subsidy for the remaining years of less than 5 years to Party A.

Party B shall submit a written application to Party A 6 months in advance after resigning after 5 years of work.

(4) In the event of any unforeseen circumstances that cannot be prevented by the parties during the appointment period, the contract may not be properly performed. If the contract needs to be changed or terminated or terminated, the two parties shall properly handle the contract in accordance with relevant regulations.

Article 6 Supplementary Provisions

- (1) This contract is made in two copies, and Party A and Party B each hold one copy. This contract shall take effect on the date of signature and seal.
- (2) Except for the occurrence of force majeure factors, the parties may strictly perform the terms of the contract. The parties shall strictly perform the terms and conditions of the contract.
- (3) After the signing of this contract, both parties shall have confidentiality obligations for their contents and shall not disclose it to third parties.
- (4) If there are any outstanding matters in this contract, it shall be negotiated by both parties to make supplementary provisions. Supplementary provisions have the same effect as this contract

Subcommittee Translation of State Administration of Foreign Experts Affairs' Contract of Employment Template

The State Administration of Foreign Experts Affairs ("SAFEA") created a Chinese-language and English-language version of its Contract of Employment Template. However, the SAFEA English-language version does not include SAFEA guidance found in the Chinese-language version. The Subcommittee has provided a provisional translation of this SAFEA guidance in blue text below.

说明

各有关用人单位需在申报"高端外国专家项目"(文教类)时提供工作合同(工作意向书),工作合同或意向书是国家外国专家局评审和资助的重要依据。

所附工作合同(工作意向书)文本仅供参考,各相关用人单位 应根据本单位情况自行拟定工作合同(工作意向书),相关法律责 任由用人单位承担。

Explanation

All employers are required to provide a contract of employment (letter of intent to work) in applications for "High-End Foreign Experts Program." The contract of employment or letter of intent to work is an important foundation for evaluating and funding by the State Administration of Foreign Experts Affairs.

The attached contract of employment (letter of intent to work) text is for reference only. Each employer shall prepare its own work contract (letter of intent to work) according to the employer's circumstances and be responsible for any related legal issues.

工作合同文本 (工作意向书)

(仅供参考)

甲方 (用人单位)

乙方 (受聘专家)

根据中华人民共和国法律法规,双方在平等、自愿、协商一致的基础上签订本合同(工作意向书)。

甲方	_ (用人单位,	以下简称"甲方	")
法定代表人:			
联系人:	_职务:		
办公电话:	手机:		
乙方(中文)	(外文)	(受聘专家,以	下简称"乙方")
国籍:性兒	别:出生	日期年_月_	_日
护照号码:			
居住国通讯地址	:		

电话: 传真:
电子邮箱:
第一条工作时间
本合同/意向书约定: 2013年乙方在甲方
(或自 2013 年起乙方在甲方
2013年工作_个月,2014年工作_个月,2015年工作_个月)。
第二条 劳动报酬
本合同/意向书约定:
2.1、乙方完成约定的工作量(包括工作时间),2013年甲方将支付乙方
劳动报酬元人民币(税前),2014年支付元人民币(税前)
2015年支付元人民币(税前)。
2.2、甲方应按照中华人民共和国有关规定为乙方代缴个人所得税。
第三条 岗位职责(请用人单位根据情况自行约定)
3.1 甲方聘用乙方在 部门担任 岗位的工作。
3.2 乙方的主要工作任务是:
J.2 CJ/1 HJ 工 久 工 IF
0

第四条 福利待遇(请用人单位根据情况自行约定)

- 4.1 乙方在甲方工作期间,除双方另有约定,甲方应按照中国《劳动法》 有关规定,安排乙方执行标准工时制度,即乙方每日工作 8 小时,每周工作 40 小时。
 - 4.2 甲方安排或者同意乙方加班的,应按照法律规定安排乙方补休或支付

加班工资。

4.3 乙方享受中国公民法定带薪节日休假。

第五条 权利和义务(请用人单位根据情况自行约定)

5.1 知识产权保护

乙方在甲方工作期间,在项目工作中所取得的知识产权,包括著作权、专利权、商标权等,其所有权归____。

(建议甲乙双方根据工作范围和事项另行签订知识产权保护协议)

5.2 保密义务

乙方须遵守甲方相关保密规定,对甲方商业秘密及其他与知识产权相关 的涉密事项进行保密。

若乙方违反保密义务,除赔偿甲方因此造成的损失外,应按照相关法律 法规承担相应的法律责任。

<u>(建议甲乙双方根据工作性质及实际需要商定保密范围和事项,另行签</u> 订保密义务协议)

5.3 竞业限制

竞业限制的约定不得违反法律、法规的规定。

<u>(建议甲乙双方商定竞业限制的范围、地域、期限以及经济补偿和违约</u> 赔偿金额及相关责任,另行签订竞业限制协议)

5.4 侵害第三方权利的责任

本合同/意向书执行期间,如发生侵害第三方权利情形的,要按照甲乙双方的过错确定责任,并由过错方依法进行赔付。因乙方过错侵害第三方权利,而甲方为此先行赔付的,甲方可向乙方追偿。

5.5 其他义务

(1)甲方应按照有关规定协助乙方办理出入境、居留等相关手续,为 乙方开展工作提供必要的条件,按时支付乙方劳动报酬,保障乙方的福利待 遇和正当权益,同时对乙方的工作进行考核评价和成果评估。

- (2) 乙方应遵守中国法律、法规和用人单位的规章制度,按照合同约 定的时间在岗工作,认真履行岗位职责,完成岗位工作任务,接受甲方的考 核和监督。
- (3) <u>建议甲乙双方明确约定甲方是否为乙方提供国际交通或国际交通</u> 补贴)

本合同/意向书一式两份,由甲方和乙方分别留存。合同/意向书分别用中、英文书就,两种文本内容完全一致,具有同等的效力。

甲方: 乙方:

法定代表人

(単位公章)

时间: 年月日 时间: 年月日

Contract of Employment/Letter of Intent

(For Reference Only	7)
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Party A (Employer)

Party B (Employee)

According to the relevant laws and regulations of the PRC, both Parties, in line with the principles of equality, mutual agreement, and on a voluntary basis, agree to sign this Contract/Letter of Intent.

Party A

(Employer, hereafter referred to as "Party A")
Legal Representative:
Contact Person: Position:
Telephone: Cell Phone:
Party B (in Chinese)(in native language)
(Employee, hereafter referred to as "Party B")
Nationality: Gender:
Date of Birth: (year) (month)(date)

Passport Number:
Address (outside of China):
Telephone:Fax:
Email Address:
Article 1. Term of Employment
Party B ensures to work in Party A(Unit) formonths in 2013 (or from
year 2013, Party B ensures to work for years continuously in Party A,
months in 2013,months in 2014, months in 2015)
Article 2. Compensation or Salary
2.1 If Party B accomplishes his/her responsibilities (including the working
time), Party A should payRMB (before tax) to Party B as compensation or
salary in 2013, payRMB (before tax) to Party B in 2014 and payRMB
(before tax) to Party B in 2015.
2.2 Party A should help Party B go through tax-related procedures in
accordance with the related regulations and policies of the PRC.
Article 3. Job Responsibilities (optional) (Employers should agree based upon their circumstances.)
3.1 Party A employs Party B as in
3.2 Party B's job responsibilities are:
Article 4. Benefits (optional)
(Employers should agree according to their circumstances.)

4.1 Unless the two Parties agree otherwise, Party A will adopt standard working time for Party B in accordance with the Labor Law of PRC. That is to say, Party B will work 8 hours a day, 40 total hours each week.

- 4.2 If Party A asks Party B to work overtime or endorses Party B's application for overtime work, Party A shall give Party B overtime payment according to the relevant laws and regulations.
 - 4.3 Party B is entitled to have paid public holidays of China.

Article 5. Rights and Obligations (optional)

(Employers should agree according to their circumstances.)

5.1 Intellectual Property Protection

_____owns the copyrights of the works, inventions, patents and other intellectual properties produced by Party B during the Contract period.

(It is recommended that both parties sign an intellectual property protection agreement in accordance with the scope and content of the work.)

5.2 Confidentiality

Party B should obey the rules concerning confidentiality formulated by Party A. Party B is obliged to maintain confidentiality of Party A's secrecy, including but not limited to trade secrets, issues related to intellectual properties, etc.

If Party B disobeys the confidentiality obligations, he or she shall not only compensate Party A for the loss but also bear the relevant legal liability in accordance with relevant laws and regulations.

(It is recommended that Party A and Party B agree on the scope and content of what should be confidential based on the necessity and nature of the work and sign a separate confidentiality agreement.)

5.3 Non-Competition Restriction

The non-competition restriction shall be determined according to the relevant

laws and regulations.

(It is recommended that Party A and Party B agree on the scope, geographical scope, time limit, and the amount of economic compensation and breach of contract compensation and related responsibilities, and sign a separate non-competition agreement.)

5.4 Liability for Violation of the Third Party's Rights

Should any rights of the third Party be violated during the Contract period, both Parties shall determine the responsible Party who will be liable for reimbursement. In the event that Party A pays for Party B's misbehavior, Party A shall be compensated by Party B.

5.5 Other Obligations

- (1) Party A shall help Party B manage issues such as residence, entry and exit, etc. Party A should provide essential conditions to Party B in order to carry out joint programs, pay compensation or salary to Party B on time, ensure the benefits and rights of Party B when he/she works for Party A, and evaluate the work performances and contributions of Party B.
- (2) Party B shall observe all relevant laws and regulations of the PRC, follow the rules and employment discipline formulated by Party A, start work on the prescribed date according to this Contract/Letter of Intent, fulfill the tasks assigned to him/her with high standards within the prescribed timeframe, and be subject to Party A's supervision and review of his or her working performance.

((3) It is recommended that Party A and Party B clearly agree whether Party A will provide Party B with international transportation or international transportation subsidies.)

There are two original copies of the Contract/Letter of Intent, which to be preserved separately by Party A and Party B. Each copy will be signed in duplicate in both English and Chinese with both texts being equally authentic.

Party A: Party B:

Legal Representative

Date:

(Official Seal)

APPENDIX B

CHINA'S TALENT RECRUITMENT PLAN CASE STUDIES

PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

UNITED STATES SENATE



Chinese Talent Recruitment Case Examples

Individual M

A National Lab employee, Individual M, who accepted a joint appointment at a Chinese university as part of the TTP likely took National Lab intellectual property and patent information without consent of other laboratory scientists, in order to file a similar patent with Chinese collaborators. Individual M subsequently filed for a U.S. patent that overlapped with the design and claims of the patent held by the National Lab.

Individual N

Energy's Office of Intelligence and Counterintelligence conducted an investigation of Individual N that applied to the TTP while working at a National Lab. The investigation determined that Individual N was a supervisor at the National Lab and oversaw other TTP applicants who worked on sensitive but unclassified national security topics.

While employed at the National Lab, Individual N hosted dozens of other Chinese nationals, worked on numerous Energy funded projects, and visited multiple Energy labs. The individual hired at least four Chinese nationals and TTP participants, while at least eight others were known to be no-pay appointments paid for by other Chinese organizations. The investigation revealed a disproportionate collaboration with Chinese institutions, and the individual attempted to initiate official sharing agreements between the laboratory and a Chinese organization. Additionally, the investigation found that monitoring the group's work was complicated by the language barrier, the revolving door of personnel, and the somewhat insular nature of the group. A later review identified at least six projects designated as sensitive.

Individual O

Energy's Office of Intelligence and Counterintelligence investigated a post-doctoral researcher, Individual O, whom China selected for the TTP. The investigation determined that Individual O removed multiple gigabytes of unclassified data totaling over 30,000 electronic files from the National Lab prior to departing for China.

While employed at the National Lab, Individual O was selected for China's TTP. In support of the TTP application, the researcher obtained recommendation letters from U.S. colleagues and detailed some ongoing projects. Shortly after being selected for the TTP, the researcher took a professorial position in China. After Individual O departed for China, Energy discovered that the researcher uploaded multiple gigabytes of information including presentations, technical papers, research, and charts, from the National Lab network to a personal cloud storage account. Individual O told his or her prospective Chinese employer that his or her research area in the United States would play a critical role in advanced defense

applications. Individual O furthermore planned to leverage the Chinese university's strength in national defense and military research to support the modernization of the People's Republic of China's national defense. After returning to China, Individual O committed to keeping a close and collaborative relationship with several named research teams at the National Lab.

Individual Z

In early 2019, NIH contacted a medical school concerning three principal investigators with potential affiliations with the TTP, Chinese universities, and other Chinese government funded grant programs. The institution conducted an internal review and initially indicated that it did not identify any financial conflicts of interests. The internal review involved phone interviews and written questions and answers with the principal investigators at issue.

NIH, however, submitted additional questions concerning one of the principal investigators who told the institution that he or she never worked at Peking University and did not receive any funds from any talent recruitment plans. NIH sent the institution a screenshot of Peking University's website that identified the principal investigator as a "Professor" since 2012. NIH also sent the institution information indicating that the principal investigator was likely a TTP member. The institution later provided NIH with an affidavit from the principal investigator stating he or she never held a position at Peking. The principal investigator also told the institution that Peking University's web site must be an oversight as he or she never actually accepted the position. NIH then informed the institution that the principal investigator likely had a potential conflict as he or she maintained an active, unreported Natural Science Foundation of China ("NSFC") grant. The institution's representative wrote back to NIH: "Obviously concerning to us." Despite these violations of NIH grant policy, the institution allowed the individual to continue as a principal investigator on the NIH grant and NIH has yet to take any further action.

Individual X

In early 2019, NIH contacted a medical research institution concerning a principal investigator, Individual X. That individual also was publicly listed as serving in several positions at Huazhong University of Science and Technology. Additionally, NIH alleged that the principal investigator also worked on two active NSFC grants that Individual X did not disclose.

Subsequently, the institution conducted an internal investigation and stated that it

may have failed to completely disclose [Individual X's] affiliation at Huazhong University of Science and Technology, funding from the National Natural Science Foundation of China, and the Chinese Thousand Talents Program, and foreign components of the awarded

projects in applications and progress reports which designate [Individual X] as the [principal investigator] or Key Personnel.

After the institution's inquiry into the individual's foreign associations, Huazhong University deleted the individual's online resume. The institution, however, asserted that the work did not overlap with past or existing NIH grants. Despite these violations of NIH grant policy, the institution allowed the individual to continue as a principal investigator on the NIH grant and NIH has yet to take any further action.

Individual Y

In early 2019, NIH contacted a hospital institution regarding alleged foreign support for an NIH-sponsored medical researcher, Individual Y. Individual Y worked at the institutions' Biomedical Informatics and Division of Biostatistics. The institution conducted an internal investigation and located a TTP contract signed by Individual Y. The TTP contract required Individual Y to "recruit three undergraduate students each year ... focus on recruiting 1-2 post-doctoral students each year ... [and] publish 12 papers in mainstream international journals."

The institution's internal investigation also discovered that in addition to being a member of the TTP on contract through 2020, Individual Y had faculty appointments at two universities in China: Jianghun and Wuhan. Individual Y also received a 2018 award from the National Natural Science Foundation of China. Individual Y also proposed using a U.S. data set for the NSFC-funded project. The institution did not disclose any of the sources of foreign support to NIH. The institution subsequently counseled Individual Y on the "importance of <u>full and accurate disclosure</u>."

NIH also identified potential conflicts of commitment. For example, NIH asked if the institution was aware that Individual Y "was spending 6 months a year in China working on this project?" The institution reported that it was not aware. As a corrective measure, the institution refunded to NIH Individual Y's salary draws for time periods where there was "most likely potential for effort overlap." NIH continues to investigate the alleged violations.

Individual 1

Individual 1 was a professor and researcher working in cellular and molecular physiology. Individual 1 is also a principal investigator who worked on an NIH Exploratory/Developmental Research Grant Award. On April 11, 2014, Individual 1 requested and received a one-year unpaid leave of absence starting in July 2014 to work at Tsinghua University.

Individual 1 joined Tsinghua Medical School as a recipient of a TTP award in July 2014. While working at Tsinghua Medical School, Individual 1 worked on developing special antibodies. Tsinghua provided Individual 1 with other special

opportunities, such as the ability to work with a distinguished Nobel Prize winner, the use of first-class technology and facilities, and access to the institution's renowned structural biology center. Individual 1 even received an award from the Chinese government that fully supported his or her research and salary at Tsinghua University from July 2014 to June 2017.

On April 6, 2015 Individual 1 requested and received extended leave permitting the individual to maintain a 50 percent appointment at the institution while working at Tsinghua University. The institution also granted permission for Individual 1 to continue to conduct research at the institution.

While Individual 1 was supposed to conduct all the work at the U.S. institution's facilities, Individual 1 directed some of the work to be done in China at Tsinghua University. Individual 1 did not submit a financial disclosure form to the U.S. institution in 2014 as required by the U.S. institution. The individual also did not disclose to the U.S. institution the salaries received from Tsinghua University in subsequent disclosure forms.

"The institution's internal investigation determined that it should have reported to NIH the possibility of collaboration with investigators at a foreign site that could result in co-authorship and should have provided a Foreign Justification attachment to Individual 1's award application." In addition, the institution failed to include Individual 1's Tsinghua University's position on supplementary reports and failed to report the continuing arrangement with Tsinghua. In response to repeated violations of NIH policies and TTP membership, the institution's only actions was to develop a remediation plan that required Individual 1 to file annual conflict of interest disclosures.

Individual 3

A medical school reported that a pharmacology and dermatology professor, Individual 3, potentially failed to comply with NIH policies requiring disclosure of outside research support and foreign affiliations or research components. Individual 3 has an NIH grant from the National Cancer Institute. On several publications, Individual 3 listed foreign support, in addition to his or her NIH support, and held affiliations with at least five Chinese institutions. None of the foreign support or foreign affiliations, however, were disclosed on Individual 3's NIH grant documents.

When questioned by the institution, Individual 3 said his or her publications included reference to support from the NSFC because he or she considered it an honor. Individual 3, however, also claimed that he or she received no financial support from the NSFC award for his or her NIH-funded, or any other, research. He or she also claimed that the aim of the project was different than the subject of his or her NIH award.

During its internal investigation, the institution found online reports suggesting Individual 3 was a Dean at Jiangsu University, participated in the Jinshan Scholars Program, and in the TTP. Individual 3 said he or she rejected the position and never participated in the alleged programs. Individual 3 also worked with three post-doctoral students on an NIH grant who held concurrent positions at Chinese institutions. Though these post-doctoral researchers did not list their foreign government support in co-authoring publications with Individual 3, these post-doctoral researchers' co-authors at their affiliated Chinese institutions listed Chinese government support.

As part of its response to this matter, the institution convened a Committee on Research Security and Conflicts of Commitment to make recommendations about how to secure research on its campuses and ensure that researchers' commitments supporting their research are not compromised by external relationships. The institution told NIH that it will also review all of Individual 3's grant applications for the next two years.

Individual 4

NIH contacted a medical research institution after identifying issues of potential willful non-disclosure of outside research support and relevant affiliations or foreign components. NIH found that Individual 4, who serves as the Principal Investigator on an NIH grant from the National Cancer Institute, may have willfully failed to disclose the following affiliations:

- 1. A distinguished professorship Zhejiang University;
- 2. Selection for the Chinese Talents Program;
- 3. At least two NSFC grants;
- 4. One National Key R&D Program of China grant;
- One Shanghai Education Development Foundation "Shuguang Program" grant;
- 6. One Chinese Minister of Science and Technology grant; and
- 7. Two Department of Education of Jiangxi grants.

The institution did express concern that the Thousand Talents contract required Individual 4 to work "at least 9 months" in China from January 2014 to December 2018 while the individual was a faculty member at the institution. Further, the Chinese Talents Program contract required awards, patents, and projects during the contract period would be under the Chinese Institutions name. The contract also required the individual to resign from the institution by January 2019 and work full-time for the Chinese institution.

As part of its response to this matter, the institution prepared several communications to raise awareness across the university research community on the importance of fully reporting foreign components and relationship with foreign

collaborators as required by NIH police and other sponsors. The institution also revised help guides and business processes and outside interest disclosure forms to better identify the need for faculty to disclose outside relationships with foreign entities.

The institution, after conducting a preliminary investigation, told NIH that the only failure to disclose concerned was the affiliation with Zhejiang University. The other awards did not overlap with the NIH award. The institution did express concern that the Thousand Talents contract required Individual 4 to work "at least 9 months" in China. NIH continues to investigate the matter.

Individual 5

NIH contacted Individual 5's institution after identifying issues of potential noncompliance regarding disclosure of outside research support and relevant affiliations or foreign support. Individual 5 serves as a principal investigator on a current NIH award from the National Institute on Mental Health. While working on the NIH award, Individual 5 also has a position at Guangzhou Medical University in China and holds at least two NSFC grants. Several of Individual 5's NIH-supported publications were also supported by foreign awards, suggesting foreign collaborations. The grants and affiliations were not disclosed in applications to NIH. The institution, however, stated that research activities conducted in China as part of the consulting agreement did not overlap with the NIH application.

<u>Circumvention of Export Controls</u>

One other federal agency provided the Subcommittee with two additional case studies that are detailed below.

Case Study 1

Federal agencies discovered a previously unknown Chinese state-sponsored talent recruitment program co-sponsored by a Chinese government organization that conducts military research and development. The talent recruitment program appears to specifically target US academics who are experts in critical science, technology, engineering, and math ("STEM") fields, as well as individuals with direct placement and access to federally-funded research in US academic institutions. Some identified US selectees of this talent recruitment program served as grant managers at a federal agency, making decisions on research grant awards, while simultaneously being employed and tasked by the Chinese government. These talent recruitment selectees allocated federal research funds to other US academics who were themselves selectees of the same and other Chinese talent recruitment programs. After several years another generation of talent program selectees were appointed to the same grant management positions with decision authority over federally-funded research grants. Based on this information, we assess that this state-sponsored talent program represents part of a coordinated effort on the part of the Chinese government to target critical STEM fields.

Talent program selectees have sponsored masters, doctoral, and post-doctoral students from Chinese universities with which the selectees themselves are associated, including People's Liberation Army ("PLA")-affiliated schools. Talent program selectees have accepted positions in Chinese universities, including adjunct or visiting professorships, advisors to research programs, and visiting lecturers. In some cases these talent program selectees may have contractual obligations to Chinese institutions and are being directed to sponsor or hire Chinese students from specific Chinese programs to work with them in their US-based labs on federally-funded research.

A review of Chinese students sponsored or hired by the talent program selectees found that many of these students come from labs and research programs that perform research with defense applications, including PLA-affiliated schools and research institutes, and civilian universities and programs that conduct extensive defense-related research. Many of these students have also received funding from state-run programs such as the China Scholarship Council that require researchers to return to China after the completion of their studies to facilitate the transfer of sensitive scientific know-how.

This trend also represents significant economic security concerns. A selectee of multiple talent recruitment programs sponsored Chinese graduate students to work in a federally-funded laboratory at a US university. The selectee then cofounded a China-based medical technology business together with the entrepreneurial component of another talent recruitment program and hired their former students. The Chinese business now competes with major U.S. companies.

Case Study 2

A Professor at a U.S. University who specialized in a critical, dual-use STEM field and was the recipient of numerous US government research grants was also a selectee of multiple Chinese talent recruitment programs and an "overseas professor" of a Chinese university. The professor directed a China-based laboratory performing applied military research and development. Instead of traveling directly to China to work at this laboratory, the Professor stayed in the United States and sponsored visiting Chinese students and scholars from the laboratory to study under the professor's guidance in the United States. This technique, commonly seen throughout the United States with talent recruitment program selectees, allowed the professor to pass dual-use research, and potentially export-controlled research, to China via the visiting students and scholars without having to physically leave the United States. Many of these visiting students and scholars were not only affiliated with the Professor's Chinese laboratory but they were directly affiliated with research and development organizations involved in China's military modernization efforts.

Conclusion: The cases described above are just two examples of identified talent program selectees and their activities that undermine US national and economic security. Some of this activity may violate U.S. law in areas such as grant fraud, computer fraud, misuse of public resources for personal financial gain, or illegal supplementation of a federal salary. Additionally, some of the activity may not be illicit in nature, but involve conflicts of interest or commitments and/or violations of federal research grant terms and ethical or research integrity codes of conduct. Lastly, it is unknown the extent or scale of China's efforts to incentivize, employ, or task individuals in the U.S. through these talent recruitment programs or similar state-sponsored mechanisms.

CHINESE TALENT PLAN CONTRACTS VIOLATE U.S. RESEARCH VALUES

"Shall observe relevant laws and regulations of the People's Republic of China and shall not interfere in China's internal affairs."

"Intellectual property rights...including copyright, patent rights, trademark rights are owned by [the Chinese institution]."

"When you are not in China, your laboratory here will be overseen by [a China-based researcher]."

"You will perform much of your work remotely."

"Serve in positions such as judge, reviewer, and expert in domestic and international research groups."

"Focus on recruiting 1-2 post-doctoral students each year."

"It may be difficult to avoid comingling the results of your work."

Shall not "disclose [the contract] to unrelated parties without consent."



Department of Justice

STATEMENT OF

JOHN BROWN ASSISTANT DIRECTOR COUNTERINTELLIGENCE DIVISION FEDERAL BUREAU OF INVESTIGATION

BEFORE THE

PERMANENT SUBCOMMITTEE ON INVESTIGATIONS COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS U.S. SENATE

AT A HEARING ENTITLED

"SECURING THE U.S. RESEARCH ENTERPRISE FROM CHINA'S TALENT RECRUITMENT PLANS"

PRESENTED NOVEMBER 19, 2019

STATEMENT OF JOHN BROWN ASSISTANT DIRECTOR COUNTERINTELLIGENCE DIVISION FEDERAL BUREAU OF INVESTIGATION

BEFORE THE

PERMANENT SUBCOMMITTEE ON INVESTIGATIONS COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS UNITED STATES SENATE

AT A HEARING ENTITLED "SECURING THE U.S. RESEARCH ENTERPRISE FROM CHINA'S TALENT RECRUITMENT PLANS"

PRESENTED NOVEMBER 19, 2019

Chairman Portman, Ranking Member Carper, Members of the Subcommittee, thank you for the opportunity to appear before you today, and thank you for highlighting the national security and economic threat from Chinese talent plans.

Time and time again, the Communist government of China has proven that it will use any means necessary to advance its interests at the expense of others, including the United States, and pursue its long-term goal of being the world's superpower by 2049.

The Chinese government knows that economic strength and scientific innovation are the keys to global influence and military power, so Beijing aims to acquire our technology—often in the early stages of development—as well as our expertise, to erode our competitive advantage and supplant the United States as a global superpower. As part of this effort, China has been making extensive use of nontraditional collectors. These individuals are not "spies" in the traditional sense of intelligence officers, but they are nonetheless collecting information sought by the Chinese government.

Among its many ways of collecting information, prioritized in national strategies such as the Five-Year Plan, the Chinese government oversees expert recruitment programs known as talent plans. Through these programs, the Chinese government offers lucrative financial and research benefits to recruit individuals working and studying outside of China who possess access to, or expertise in, high-priority research fields. These talent recruitment programs include not only the well-known Thousand Talents Plan but also more than 200 similar programs, all of which are overseen by the Chinese government and designed to support its goals, sometimes at U.S. taxpayers' expense.

While mere participation in a talent plan is not illegal, investigations by the FBI and our partner agencies have revealed that participants are often incentivized to transfer to China the research they conduct in the United States, as well as other proprietary information to which they can gain access, and remain a significant threat to the United States. In some cases, this has resulted in violations of U.S. laws, including economic espionage, theft of trade secrets, and grant fraud.

Talent plan participation can also violate conflict-of-interest policies put in place by American research institutions or federal grant agencies—particularly if talent plan participants fail to disclose their sources of funding.

In addition, many talent plan participants sign contracts outlining work that mirrors the research they perform at American institutions. These contracts subject participants to the broad laws of the Chinese government and—ironically—strictly protect China's right to the patents and other intellectual property developed during work within the talent plan.

It is also important to mention that last year, after we began some high-visibility arrests and prosecutions of talent plan members, the Chinese government responded by abruptly removing their public information about these programs and their participants. If these plans are as innocuous as they try to imply, why the shift to secrecy? By contrast, anyone can go online and search every grant awarded by the National Science Foundation, for example; the U.S. Government does not conceal our research funding because we have nothing to hide. The Chinese government's abrupt concealment is not just an admission of the ulterior motives of their talent plans; viewed more broadly, it is yet another illustration of China's lack of openness, fairness, and reciprocity, as contrasted with the behavior of free nations like the United States and our allies.

I would also like to note that people of any ethnicity may be recruited to join talent plans, so I cannot overstate that ethnicity plays no role in our investigations. Instead, we follow facts and evidence wherever they lead. We have never asked any university, company, or other entity to profile people based on ethnicity, and we would be appalled if they did. As is true for all FBI programs, we investigate specific individuals when we have specific evidence that they are engaged in unlawful activity or pose a threat to national security.

Nor do we have any intention of chilling academic freedom or curtailing international exchange—quite the reverse. International collaboration plays a crucial role in the development of scientific breakthroughs throughout U.S. research institutions. The open and collaborative nature of the American academic environment produces advanced research and cutting-edge technology, but it also puts our universities at risk for exploitation by foreign adversaries looking to advance their own scientific, economic, and military development goals. Our goal is to preserve academic freedom and free enterprise by maintaining a fair, open environment and protecting campuses and companies from malign foreign actors.

It is essential for the FBI to continue protecting American research from unfair exploitation while ensuring that our academic and business environments remains free and open. To advance that mission, we have developed strong partnerships with other federal agencies, some of whom sit beside me today, and we will continue working together to safeguard American research, technology, and ingenuity.

As a sign of the importance we place on partnerships, since my arrival each of our 56 field offices has established a counterintelligence task force, which brings together the capabilities of participating agencies in that field office's area of responsibility. We support this through a centralized National Counterintelligence Task Force (NCITF), which assists with matters such as budget and memoranda of understanding, as well as serving a coordination function in its own right.

Engagement outside of government is another essential part of our work. Each of our 56 field offices has frequent, substantive engagement with universities and businesses in its area of responsibility, thereby allowing a customized exchange of information about cases, threats, and trends. This engagement by counterintelligence personnel is done in tandem with private sector coordinators, field office personnel whose full-time job is to develop and coordinate private-sector relationships across all programs.

We also direct national-level engagement from FBI Headquarters; this takes many forms, so I will provide just a few examples. Since June 2018, the Counterintelligence Division has been partnering with the three largest university associations: the American Council on Education (ACE), the Association of American Universities (AAU), and the Association of Public and Land-grant Universities (APLU). We have been doing this through a series of meetings and events coordinated by the FBI's Office of the Private Sector (OPS), which facilitates the FBI's private-sector engagement work across all programs. Since my arrival, within the Counterintelligence Division we have also created an Engagement Office, which works with OPS, field offices, and other components to strengthen engagement and promote messaging on key threats, including threats to U.S. innovation.

The FBI previously also conducted university engagement through the National Security Higher Education Advisory Board (NSHEAB), a small subset of university presidents who periodically met at FBI Headquarters. Today, the FBI's Office of Private Sector continues to hold events for university presidents, including an annual academic summit that includes approximately three times as many universities as NSHEAB did. However, as I mentioned before, our greatest asset in this area is field offices' ongoing engagement with university officials at all levels—presidents, vice presidents for research, campus police, chief information officers, and others—surpassing what could be done through NSHEAB in scope, specificity, and timeliness.

That having been said, we always seek new ways to improve our effectiveness. With our present-day knowledge of the threat from Chinese talent plans, we wish we had taken more rapid and comprehensive action in the past, and the time to make up for that is now. We appreciate the conclusions in the report released yesterday by the Subcommittee, including areas for improvement, so we will take action accordingly.

Thank you for taking time to highlight the critical issue of Chinese talent plans, and I look forward to our discussion.

Bill Priestap

Assistant Director, Counterintelligence Division Federal Bureau of Investigation

Statement Before the Senate Judiciary Committee Washington, D.C.

December 12, 2018

China's Non-Traditional Espionage Against the United States: The Threat and Potential Policy Responses

Statement for the Record

Chairman Grassley, Ranking Member Feinstein, members of the committee, thank you for the opportunity to appear before you today, and thank you for highlighting the threat from Chinese espionage.

It is impossible to overstate the differences between the American and Chinese systems. China is an authoritarian, one-party state where the Chinese Communist Party reigns supreme. At the Chinese Communist Party's direction, the Chinese government dominates every facet of Chinese life, through actions such as central economic planning, Internet and media censorship, and leveraging intrusive technologies.

The Chinese government is attempting to acquire or steal, not only the plans and intentions of the United States government, but also the ideas and innovations of the very people that make our economy so

incredibly successful. The Chinese government understands a core lesson of the Cold War between the United States and the Soviet Union: economic strength is the foundation of national power. The competition between the United States and China will be greatly influenced, if not ultimately decided, on the strength of our economies.

The Chinese government means to compete with us in every way possible, playing by the rules at times, bending them at others, and breaking them when necessary to ensure their success. They also aim to rewrite the rules to shape the world in their image, and they have already made progress on this front. The rules they write seek to guarantee the dominance of their businesses and root Chinese national power in the very fabric of an international system.

From my vantage point, it appears we are at the early stages of a hyper-competitive world. This is not simply a competition between businesses and industries but also between governments and the ways in which they govern their societies. Make no mistake: the Chinese government is proposing itself as an alternative model for the world, one without a democratic system of government, and it is seeking to undermine the free and open rules-based order we helped establish following World War II. Our businesses and our government must adapt in order to compete and thrive in this world.

Business in a Hyper-Competitive World

Many American businesses are just now starting to understand the new environment in which they are operating. The continued proliferation of cyber hacking tools and human intelligence capabilities means that this environment will only become more hostile and more treacherous for our companies. Our businesses face competitors in the form of foreign enterprises assisted or directed by extremely capable intelligence and security services. These capabilities are used to target not just

intellectual property, but any proprietary information that could give Chinese or other countries businesses a crucial edge in the market. As a result, American companies are increasingly having to compete against businesses that are their mirror images, built on stolen ideas, information and innovations, but operating more nimbly and cheaply, not weighed down by the honest expense of developing intellectual property.

Part of this new environment is that some foreign governments, especially the Chinese government, selectively and unfairly create and enforce laws and regulations to disadvantage our businesses. The Chinese government is not satisfied to "stack the deck" for its businesses solely in their domestic market. They are also cultivating other countries' economic dependence, partly to gain geopolitical influence and partly to ensure the success and dominance of Chinese businesses in overseas markets.

Because the Chinese government creates an uneven playing field, and because this is done partly to facilitate the transfer of technology to China, our companies face what appears to be a very grim choice: participate and compete in the Chinese market and put vital corporate assets at grave risk, or neglect China and risk the loss of the second largest market in the world. But this is a false choice for three reasons.

First, a lack of participation in the Chinese market will not spare a company from the risks the Chinese government and its companies pose. While the risks may be more acute for companies with business in China, all companies, even those solely operating in the United States, are at risk.

Second, while U.S. companies may be able to operate and profit in China for a time, it is on borrowed time. The Chinese government will permit foreign companies to operate only so long as it is advantageous to China. Is the U.S. company making a product that China needs but cannot yet produce domestically, such as sophisticated agricultural machinery? If so, the U.S. company will be allowed to operate, but only until China learns enough about the business that they can replace it with a domestic version. Is the U.S. company using sophisticated intellectual property or a unique business model? Then such companies may also be allowed to operate, as long as they divulge the required technology, data, or expertise to a Chinese entity. Alternatively, a company may be allowed to operate simply to give China a better opportunity to understand how to copy the business and outcompete it globally. From the viewpoint of the Chinese government, many of the foreign companies doing business in China represent a temporary failure of the domestic market to meet demand. The government believes that if something can be made in China, then it should be made in China.

Third, the bulk of the competition between U.S. companies and Chinese companies is not in the Chinese or American market. It is everywhere else in the world. American businesses will need a strategy to compete with China's national champions globally. Such a strategy will likely require new and innovative corporate business models that are tailored to withstand the challenges of various business "ecosystems" in the world. For example, U.S. companies must carefully construct their internal enterprise IT infrastructures so that vital data, communications, and intellectual property are protected, even in jurisdictions without strong rule of law and even if local regulations are coercively designed to collect data. They must carefully consider where to manufacture their products, as this may expose them to risks that cannot be mitigated. Ultimately, they may need to compete in the Chinese market, if only to maintain a window on the ecosystem that will be creating their global competitors.

Government in a Hyper-Competitive World

It is unclear what it means for governments to compete in the 21st century. Will it be a second Cold War where we once again count missiles and warheads aimed at each other? Or, will it be United States, Inc. versus China, Inc.? Based on our experience so far, it seems far more likely that competition in the commercial realm will play a decisive role.

Let me describe what I believe is coming. There will be competition between companies and industries as outlined above, but we will also compete with China at a more basic level. Our governments and economic systems will compete. They will compete for people, for resources, for ideas and, ultimately, they will compete throughout the world to be the governmental and economic system of choice: the one picked by other nations to organize their societies. This will be a competition of economics, but also of ideals and values, to determine which system better utilizes the talents and resources of the people, for the good of the people.

The United States must ensure that we are both developing our domestic talent and attracting foreign talent from around the globe as we always have. Our nation will compete for this talent with other nations just as companies now compete for unique and exceptional employees. The Chinese government is already far ahead of us in creating direct financial incentives to draw gifted scientists and researchers to relocate and do work in their country. At the same time, the Chinese government has created comprehensive programs to identify, develop, and retain their most talented citizens. These talent recruitment and "brain gain" programs (as some in China call them) also encourage theft of intellectual property from U.S. institutions. For example, China's talent recruitment plans, such as the Thousand Talents Program, offer competitive salaries, state-of-the-art research facilities, and honorific titles, luring both Chinese overseas talent and

foreign experts alike to bring their knowledge and experience to China, even if that means stealing proprietary information or violating export controls to do so.

To be clear, there are distinct advantages to our decentralized approach, including the flexibility and agility to respond quickly to problems, as well as the openness of our system and strength of its governing institutions. The independence and historical dominance of the U.S. private sector has helped us attract global talent for decades. Alternatively, if we do not also develop a holistic national response and recognize the importance of sharpening our country's competitive advantages, we will not continue to attract or keep the people we need.

This competition between the American and Chinese systems will manifest not only directly, but indirectly as other countries choose with whom to align themselves and how best to develop their societies. Countries throughout the world are being affected by unprecedented transformations in their societies and economies brought on by rapid technological change. They are searching for the correct model by which to organize their societies in order to survive these changes and even benefit from them.

To many, our system of openness and transparency appears to be under attack. We are being exploited by China, so we are right to shore up our defenses against this. However, we must also make certain that, as we address the loopholes and vulnerabilities within our system, we do not simultaneously undermine the open, free, and fair principles that have made it thrive. Our efforts must inspire other nations to preserve similar systems. We must persuade them to choose freedom, reciprocity, and the rule of law. What hangs in the balance is not just the future of the United States, but the future of the world.

Chairman Grassley, Ranking Member Feinstein, and members of the committee, thank you again for this opportunity to discuss the concerns the Federal Bureau of Investigation is seeing with the China threat. We are grateful for the support each of you, and this committee, continue to provide to the Federal Bureau of Investigation. I look forward to answering any questions you may have on this topic.

As of March 2018, more than 1.4 million international students and professors were participating in America's open and collaborative academic environment. The inclusion of these international scholars at U.S. colleges and universities entails both substantial benefit—and notable risk. Many of these visitors contribute to the impressive successes and achievements enjoyed by these institutions, which produce advanced research, cutting-edge technology, and insightful scholarship. However, this open environment also puts academia at risk for exploitation by foreign actors who do not follow our rules or share our values.

The annual cost to the U.S. economy of counterfeit goods, pirated software, and theft of trade secrets is \$225-\$600 BILLION

The vast majority of the 1.4 million international scholars on U.S. campuses pose no threat to their host institutions, fellow classmates, or research fields. On the contrary, these international visitors represent valuable contributors to their campuses' achievements, providing financial benefits, diversity of ideas, sought expertise, and opportunities for cross-cultural exchange. Any research institution hoping to be—and to remain—among the best in the world must attract and retain the best people in the world, wherever they are from. The FBI recognizes, and values, this unique package of benefits these international students and professors provide.

However, some foreign actors, particularly foreign state adversaries, seek to illicitly or illegitimately acquire U.S. academic research and information to advance their scientific, economic, and military development goals. By doing so, they can save their countries significant time, money, and resources while achieving generational advances in technology. Through their exploitative efforts, they reduce U.S. competitiveness and deprive victimized parties of revenue and credit for their work. Foreign adversaries' acquisition efforts can come in many forms, including overt theft, plagiarism, elicitation, and the commercialization of early-stage collaborative research.

As foreign adversaries use increasingly sophisticated and creative methodologies to exploit America's free and open education environment, the United States faces an ever-greater challenge to strike a sustainable balance between unrestricted sharing and sufficient security within this education ecosystem. Through a whole-of-society approach that includes increased public awareness, academic vigilance, industry self-protection, government and law enforcement collaboration, and legislative support, the U.S. higher education system can continue to enjoy the manifold contributions that international academics provide, while minimizing the risk they (and their affiliated home governments) pose to U.S. security priorities. The FBI maintains that striking this balance is possible and necessary.

Foreign adversaries exploit America's deeply held and vital culture of collaboration and openness on university campuses, with the Chinese government posing a particular threat to U.S. academia for a variety of reasons. First, it does not play by the same rules of academic integrity that U.S. educational institutions observe. Many recent high-profile examples show plagiarism is commonplace throughout Chinese academic and research institutions. Illustrative of this endemic plagiarism, when the *Journal of Zhejiang University–Science* became the first in China to employ text analysis software to identify

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plagiarism in 2008, its analysis of articles published over a two-year period found approximately 31% of papers exhibited "unreasonable" copying and plagiarism, according to the journal director.

Second, the Chinese government has historically sponsored economic espionage, and China is the world's principal infringer of intellectual property. The annual cost to the U.S. economy of counterfeit goods, pirated software, and theft of trade secrets is between \$225 billion and \$600 billion.

Lastly, while the vast majority of students and researchers from China are in the United States for legitimate academic reasons and contribute to the diversity of backgrounds and ideas important in our society, the Chinese government uses some Chinese students—mostly post-graduate students and post-doctorate researchers studying science, technology, engineering, and mathematics (STEM)—and professors to operate as non-traditional collectors of intellectual property. These Chinese scholars may serve as collectors—wittingly or unwittingly—of economic, scientific, and technological intelligence from U.S. institutions to ultimately benefit Chinese academic institutions and businesses.

Regardless of motive, this exploitation comes at great cost to U.S. interests. When these foreign academics unfairly take advantage of the U.S. academic environment, they do so at a cost to the institutions that host them, as well as to the greater U.S. innovation ecosystem in which they play a role. Directly or indirectly, their actions cost money, jobs, expertise, sensitive information, advanced technology, first-mover advantage, and domestic incentive to innovate.

The FBI values academic integrity and rules-based scholarship, and we recognize international academics infuse campuses—and greater U.S. society—with a diversity of ideas that helps fuel the continued growth of the U.S. economy. According to the current numbers, immigrants—including many who first came to America as international students—founded almost a quarter of all new U.S. businesses, nearly one-third of our venture-backed companies, and half of Silicon Valley's high-tech startups. More than 18% of Fortune 500 companies were founded by immigrants.

Academic environments represent the very bedrock on which this country is built and upon which its future depends. These campuses are where young minds from diverse background and countries discover new technologies, learn novel concepts, establish crucial connections, pursue innovation, and lay the groundwork for America's continued leadership in scholarship and technology advancement for decades to come. If these open, free, and collaborative environments are compromised, limited, or obstructed, all of us here today—and the country's future generations—lose. We want to work with you to address these challenges.

DIFFERENCES IN BUSINESS PRACTICES					
UNITED STATES	CHINA				
Generally accessible market	Highly restrictive market				
Market economy	State-run economy				
Development by innovation	Development by theft, replication, and commercialization				
Independent judiciary and separation of powers	Judiciary subordinate to the government				
Laws protecting intellectual property	Unequal protection of intellectual property				
No government-sponsored economic espionage	Government-sponsored economic espionage				

CHINA'S DEVELOPMENT STRATEGY

The Chinese government's strategic goals include becoming a comprehensive national power, creating innovation-driven economic growth, and modernizing its military. It aspires to equal or surpass the United States as a global superpower and influence the world with a value system shaped by undemocratic, totalitarian ideals. Using a whole-of-society approach to achieve these goals, the Chinese government takes advantage of every opportunity—from academic collaboration to economic espionage—to develop and maintain a strategic economic edge.

To achieve its economic, technological, and military goals, the Chinese government relies on various state-directed plans. These plans provide insight into the kinds of knowledge, research, intellectual property, and trade secrets the country targets and seeks to acquire from foreign sources. At present, China's government has as many as 100 plans guiding China's foreign acquisition, and their scale and influence are impressive. Two of the most important among these plans include the 13th Five-Year Plan and the Made in China 2025 Plan, both of which help to guide the country's overall strategic direction.



The Made in China 2025 Plan lists 10 domestic Chinese industries from which the government of China seeks to eliminate any foreign-produced technology:

- Information technology
- · Computer numerical control machine tools and robotics

edge to China.

- · Aerospace equipment
- · Marine engineering equipment and high-tech ships
- · Advanced rail transportation equipment

- Energy-efficient and new-energy automobiles
- Electric power equipment
- · Agricultural equipment
- · New materials
- Biomedicine and high-performance medical instruments

ACCORDING TO THE CHINESE GOVERNMENT'S STATE COUNCIL, CHINA USES THE FOLLOWING FOUR-STEP DEVELOPMENT PROCESS TO GAIN A TECHNOLOGICAL EDGE:

The Chinese government uses numerous methods—some legitimate but others, such as stealing technology from foreign competitors, meant to illicitly introduce foreign technology and knowl-

2 UNDERSTAND The Chinese government uses its numerous civilian and military institutions and resources to understand the materials acquired from foreign sources.

3 ASSIMILATE Those same institutions <u>assimilate</u> foreign technology and knowledge into Chinese infrastructure—frequently by reverse-engineering it.

Chinese institutions <u>re-innovate</u> foreign technologies, such as military aircraft, high-speed trains, and nuclear reactors, to develop new and state-of-the-art technology. Such advances allow China to achieve generational advances and save time and money on research and development.

FOREIGN TRADECRAFT USED AGAINST ACADEMIA

Academic Targets of Foreign Adversaries

If your university or institution's research has technical applications, expect foreign adversaries to target it. If your university or institution invests significantly in expensive research and development, anticipate foreign adversaries will target it—including those conducting the research and the development processes you use to produce your end products. Some of the information these adversaries target might seem insignificant, but by bypassing the research and development phase and stealing your technical information or products, foreign adversaries can gain a competitive economic and military advantage.

Research can lead to the development of products with national security applications. Even if the technologies and their applications are not currently classified, they could be in the future. Foreign adversaries know this and seek to obtain this technology when it is least restricted and easiest to obtain: before it is classified.

Foreign adversaries might target your:

- Students, professors, and researchers with access to research and technical information (particularly graduate and post-doctorate students)
- · Pre-publication research results
- · Research data
- · Techniques and processes
- · Laboratory equipment and software
- · Pre-classification research
- · Access protocols
- · Budget estimates and expenditures
- · Computer access protocols
- · Computer network design

- · Customer and employee data
- · Equipment specifications
- Passwords for your computer, phone, or accounts
- · Phone and property data
- · Proprietary research, formulas, and processes
- · Prototypes or blueprints
- · Software, including source codes
- · Technical components and plans
- · Vendor information and supply chain
- · Confidential documents
- Grant data

CASE EXAMPLE

A Chinese researcher at a Midwestern medical school was charged with economic espionage for illegally acquiring an American researcher's patented cancer research and transferring it to a university in China. The American researcher placed several containers of a patented cancer research compound on his desk, stepped away, and found them gone when he returned. The university's review of security surveillance footage showed the Chinese researcher was the only other individual who had entered the American researcher's office that day. The Chinese researcher had also accessed the university's computer server and attempted to delete proprietary information related to the research and compound. When questioned by law enforcement, the Chinese researcher indicated he could not understand English, despite his coworkers' assurances he spoke the language well and had lived in the United States for several years. He was arrested only days before he was scheduled to fly to China and ultimately pleaded guilty to intentionally accessing a computer without authorization and obtaining information worth more than \$5,000.

This case highlights the vulnerability even protected, patented materials and information face due to the open, collaborative environment of U.S. academic institutions, further emphasizing the need for constant vigilance and proactive protection. This case also highlights the tremendous incentives foreign governments such as China are offering to their citizens to produce or procure (by whatever means necessary) cutting-edge research and technology through research funding and talent recruitment efforts.

THE CHINESE GOVERNMENT USES A WHOLE-OF-SOCIETY APPROACH TO ADVANCE ITS ECONOMIC DEVELOPMENT, ACHIEVE GENERATIONAL ADVANCES IN RESEARCH AND DEVELOPMENT, AND SAVE MONEY. YOUR UNIVERSITY OR INSTITUTION'S PROFESSORS, STUDENTS, OR RESEARCH MIGHT BE TARGETED.

CASE EXAMPLE

An American aerospace engineering professor at a Michigan university accepted a Chinese student's request to study with him. The student indicated she was affiliated with a Chinese civilian institution and expressed an interest in the professor's work. However, her China-based address in the university directory corresponded to a college for Chinese military officers, and she had previously published an article about improving China's anti-satellite technology. According to the professor, the Chinese student pressured him to reveal secrets about his work and was likely interested in research with military satellite applications.

This case describes how foreign adversaries like China sometimes task students to hide connections to a foreign government—in this case, a foreign military. To combat theft of technology and research, colleges and universities should consider proactive steps to ensure students and faculty understand how to protect intellectual property effectively, how to share and protect information responsibly, and how to avoid potential threats or compromises before they arise. Universities, as stewards of taxpayer research dollars, should consider implementing and enforcing clearer—and, in some cases, more restrictive—guidelines regarding funding use, lab access, collaboration policy, foreign government partnership, nondisclosure agreements, and patent applications. Additionally, the more willing colleges and universities are to engage with U.S. law enforcement as issues arise and suspicious circumstances become noticed, the more likely it is that the FBI and its partners can help to mitigate risk or minimize damage to these colleges and universities.

Tactics Foreign Adversaries Use to Target U.S. Academia

Foreign adversaries leverage joint research opportunities, language and cultural training, unsolicited invitations, visiting students and professors, and state-sponsored industrial and technical espionage to support their military and commercial research, development, and acquisition.

The tactics below all represent legitimate opportunities for your university or institution. However, foreign adversaries might use any combination of them to strategically target you and your work.

TALENT RECRUITMENT OR "BRAIN GAIN" PROGRAMS encourage the transfer of original ideas and intellectual property from U.S. universities. For example, China's talent recruitment plans, such as the Thousand Talents Program, offer competitive salaries, state-of-the-art research facilities, and honorific titles, luring both Chinese overseas talent and foreign experts alike to bring their knowledge and experience (or that of advisors and colleagues) to China.

Association with talent recruitment plans by itself is not illegal; however, potential participants and their employers should be aware of legal issues that may arise as a result of participation, including violation of export-control laws, economic espionage, or violation of employer conflict-of-interest policies. A simple download of intellectual property or proprietary information has the potential to become criminal activity.

FOREIGN STUDENTS OR VISITING PROFESSORS are usually studying or working at U.S. universities for legitimate reasons. However, some foreign governments coerce legitimate students into reporting on the research they are doing in the Unites States—or even offer scholarships or funding in exchange for the information.

LANGUAGE AND CULTURAL TRAINING opportunities can enable foreign adversaries to use universities not only to increase their understanding of the local language and culture, but also to make contacts.

FUNDING AND DONATIONS provided by foreign adversaries can enable universities to establish cultural centers, support academic programs, or facilitate joint research while also fostering goodwill and trust between the donor organization and university. However, a foreign adversarial funding organization could place stipulations on how the programs or centers function or install its own recruits in positions with little or no university oversight.

ELICITATION of information about your research or work can come in many forms. A foreign adversary might try to elicit information by using flattery, assuming knowledge, asking leading questions, claiming a mutual interest, or feigning ignorance.

JOINT RESEARCH OPPORTUNITIES and collaborative environments, such as incubators or joint research centers, can enable a foreign adversary to obtain your research. They can also provide an opportunity to spot, assess, and befriend fellow STEM students or researchers who might assist—either wittingly or unwittingly—in passing your research and development to a foreign adversary.

FOREIGN TRAVEL can leave American students, professors, and researchers vulnerable to targeting through searches of luggage and hotel rooms, extensive questioning, manufacture of compromising situations, and confiscation of electronics. Foreign governments do not operate under the same laws or observe the same privacy rights that the U.S. government observes.

FOREIGN VISITORS entering sensitive research areas can pose a security risk to your intellectual property or competitive edge. Some visitors might verbally elicit information, some might brazenly ignore the security parameters of a tour, and others might use concealed electronic devices to obtain restricted information or access.

CASE EXAMPLE

A well-known U.S. professor obtained a U.S. Air Force-funded contract to develop specialized plasma technology to control the flight of military drone aircraft. The professor inappropriately allowed two international students to work with him on the government-backed research and permitted the foreign nationals to access restricted, export-controlled data and equipment. The professor also illegally traveled to China with a laptop containing export-controlled research data—even though his university had counseled that the data must remain in the United States. The U.S. profes-

sor was convicted of conspiracy, wire fraud, and 15 counts of exporting defense articles and services without a license.

This example illustrates how universities can protect theft of technology from foreign adversaries by implementing and enforcing clear—and in some cases more restrictive—guidelines regarding funding use, lab access, collaboration policy, foreign government partnership, and nondisclosure agreements.

A Chinese professor at a U.S. university contributed to a classified U.S. Department of Defense project. He was also a member of the Thousand Talents Program and an advisor for the Chinese government's Institute of Electronics and Automation Engineering at a Chinese university—as well as the lead scientist for an advanced technology project at a major Chinese research institute. The Chinese professor provided the Chinese institute with research that closely resembled the classified work he had performed for the U.S. Department of Defense.

This example shows the threat posed by programs like the Thousand Talents Program. Intentional or not, foreign governments' talent recruitment and "brain gain" programs encourage theft of intellectual property from U.S. universities. China's talent recruitment plans, such as the Thousand Talents Program, offer competitive salaries, state-of-theart research facilities, and honorific titles, luring both Chinese overseas talent and foreign experts alike to bring their knowledge and experience (or that of advisors and colleagues) to China at the expense of the United States.

Spotting Students or Professors

Foreign intelligence services routinely collect information about U.S. universities' programs, administrators, professors, and demographics. Foreign adversaries might target students and researchers with current or future access to sensitive information, including studying their motivations, weaknesses, politics, ambitions, and previous work. They can spend years targeting an individual and developing a relationship that leads the student, professor, or researcher—either wittingly or unwittingly—to provide information to the foreign adversary.

Foreign adversaries are particularly interested in American students or researchers traveling overseas who are sponsored by the U.S. government; conducting research with future, potentially classified applications; or seeking future U.S. government employment.

Foreign adversaries might use any of these techniques to access information or research via students, professors, or researchers:

- Appeals to ethnicity or nationality (for example, common ethnic heritage or dual-citizenship)
- Sponsorship of foreign travel
- · Coercion

- · Study abroad opportunities
- Overseas professional opportunities
- Talent recruitment programs
- Social engineering
- · Scholarships or research funding
- Publishing opportunities
- Joint research opportunities

American citizen Glenn Duffie Shriver was an undergraduate studying in Shanghai when he responded to an ad in a Chinese newspaper soliciting essays on U.S.-China relations. Shriver's essay submission led to interactions with three Chinese intelligence officers who represented themselves as municipal government officials. They developed a relationship with Shriver over time and eventually asked him to return to the United States and obtain employment with the U.S. government. After graduating, Shriver spent the next five years attempting to gain employment with the U.S. Department of State and the Central Intelligence Agency (CIA), all the while maintaining contact with the intelligence officers and accepting \$70,000 from them. Shriver knew the purpose of his intended U.S. government employment was to gain access to national defense information and provide it to the Chinese government. While he was being processed for employment with the CIA, Shriver made false statements to conceal his relationship with the Chinese intelligence officers. He was arrested in 2010 and subsequently pleaded guilty to conspiracy to provide national defense information to a person not entitled to receive it. The following year, he was sentenced to four years in prison. The FBI's short film *Game of Pawns: The Glenn Duffie Shriver Story* is based on these events. Accessible at www.fbi.gov, the film educates viewers about the foreign intelligence threat Americans face abroad.

This example shows that foreign intelligence services seek to identify U.S. students who can help them gain access to information or persons of interest—either immediately or in the future. Foreign intelligence services develop initial relationships with U.S. students overseas under seemingly innocuous pretexts, such as job or internship opportunities, paid paper writing engagements, language exchanges, and cultural immersion programs. As these relationships develop, foreign intelligence services ask the U.S. students to perform tasks and provide information (which is not necessarily sensitive or classified) in exchange for payment or other rewards, slowly increasing their demands over time. Without proper awareness about this threat, U.S. students overseas have inadvertently become involved in espionage activities and have been prosecuted for these activities.

Insider Threats

Your university or institution may be vulnerable to damage from an insider—someone who has legitimate or illegitimate access to your information or research and provides that information to a foreign adversary. Insider threats could begin as early as the application phase, when applicants might be directed by foreign governments to seek enrollment in, or employment with, universities or research institutions with access to desired programs and persons.

Some of these behaviors might indicate an individual potentially poses an insider threat to your university or institution:

- · Displays suitability issues, such as alcohol or drug abuse
- · Insists on working in private
- Volunteers to help on classified or sensitive work
- · Expresses an interest in covert activity
- Has unexplained or prolonged absences
- Rummages through offices or desks of others
- Misuses computer or information systems
- · Attempts a computer network intrusion
- · Has criminal contacts or associates
- Employs elicitation techniques
- · Displays unexplained affluence
- · Fails to report overseas travel, if required

- Takes classified or sensitive material home without authorization
- Conceals foreign contacts
- · Lacks concern for or violates security protocols
- Brings audio or visual recording devices into work areas without authorization
- Unnecessarily photocopies or downloads sensitive material
- Attempts to gain access without a need to know
- Shows unusual interest in information outside the scope of his or her role
- Takes short trips to foreign countries for unexplained reasons

A Chinese-American employee at a U.S. university established an internship placement service for American students interested in traveling to China for student exchanges. However, the employee was also knowingly in contact with a Chinese intelligence officer who targeted American students for intelligence exploitation. The employee provided the intelligence officer with personal and identifying information about American graduate students in China, including their travel logistics, contacts, and studies. The following year, the employee provided the Chinese intelligence officer with email communications between the U.S. university and a U.S. company that managed international education programs in China. The employee then provided the Chinese intelligence officer with résumés, interview information, and personal data to facilitate the targeting of students at several U.S. universities.

This example shows that foreign intelligence services seek to identify U.S. students who can help them gain access to information or persons of interest—either immediately or in the future. Foreign intelligence services develop initial relationships with U.S. students overseas under seemingly innocuous pretexts, such as job or internship opportunities, paid paper writing engagements, language exchanges, and cultural immersion programs. As these relationships develop, foreign intelligence services ask the U.S. students to perform tasks and provide information (which is not necessarily sensitive or classified) in exchange for payment or other rewards, slowly increasing their demands over time. Without proper awareness about this threat, U.S. students overseas have inadvertently become involved in espionage activities and have been prosecuted for these activities.

Foreign adversaries look for opportunities to exploit individuals' vulnerabilities and motivations to gain access to your research and development. In the past, foreign adversaries have targeted the following vulnerabilities and situations when exploiting insiders:

- Ideology (such as divided loyalty to a country other than the United States)
- Professional or academic opportunities, such as conferences
- · Greed or financial stress

- Ego or self-image
- · Coercion or compromise
- · Anger, revenge, or disaffection
- The need for adventure or thrills

Cyber Techniques

Foreign adversaries might conduct computer intrusions by writing or manipulating computer code to gain access to, or install unwanted software on, your network. To do so, they could employ a variety of techniques.

CLICK-BAITING is when an adversary conceals hyperlinks beneath legitimate clickable content (such as "Like" and "Share" buttons on social networking sites). Once clicked, the links cause a user to unknowingly perform unwanted actions, such as downloading malware or sending the user's ID to a third party.

PHISHING is when an adversary conceals a link or file containing malware in something like an email, text message, or social media message that looks like it is from a legitimate organization or person. If clicked, the link or file compromises the recipient's electronic device and/or associated account.

SOCIAL ENGINEERING is when an adversary tricks a user into divulging confidential or personal information that may be used for fraudulent purposes.

UNPATCHED SOFTWARE EXPLOITATION is when an adversary takes advantage of people or companies that do not update their software regularly to conduct malicious activity, such as computer exploitation or malware installation.

SOCIAL MEDIA EXPLOITATION is when an adversary uses social media networks to exploit a user's personal connections—including his or her profile, content, and interactions on social media websites—to spot and assess employees for potential recruitment.

After the FBI alerted it to a cyberattack on its College of Engineering's network, a large northeastern state university enlisted a third-party expert to identify the nature of the attack and take appropriate action. The third-party investigation revealed the presence of two sophisticated, previously undetected threat actors and confirmed at least one of the two attacks emanated from a threat actor based in China with a history of targeting victims in aerospace, defense, and academia. Evidence linked the China-based actor directly to the compromise of usernames and passwords issued by the College of Engineering and accessed via

its network. The third-party investigation also revealed the university's network had been compromised for at least two years.

The university president said in a letter to the university community, "As we have seen in the news over the past two years, well-funded and highly skilled cybercriminals have become brazen in their attacks on a wide range of businesses and government agencies, likely in search of sensitive information and intellectual property." On an average day, the university blocks more than 20 million cyberattacks from around the world.

HOW TO PROTECT YOUR UNIVERSITY OR INSTITUTION

Your organization could consider adopting some of these suggested measures to identify and combat potential insider threats. Depending on your company's specific needs, policies, processes, and legal guidelines, you should determine what security measures are necessary to sufficiently protect your company's most important assets.

- Educate and regularly train employees on security policies and protocols.
- Ensure proprietary information is carefully protected.
- Employ appropriate screening processes to hire new employees.
- Develop strong risk management and compliance programs.
- Provide convenient ways for employees to report suspicious behavior, and encourage such reporting.
- Monitor computer networks routinely for suspicious activities.
- Provide security personnel with full access to relevant human resources data.

- Ensure physical security personnel and information technology security personnel have sufficient threat detection software, countermeasure tools, and protective processes in place.
- Implement a continuous evaluation program to persistently screen onboard employees.
- Conduct in-depth background checks on potential partners for associations with state-sponsored entities.
- Ensure retired, separated, or dismissed employees turn in all company-issued property.
- Ensure sufficiency of existing nondisclosure agreement requirements and policies restricting the removal of company property.

It is every university and institution's responsibility to safeguard its information. The FBI actively partners with universities and institutions to support this effort, providing counterintelligence tools and awareness training to help your schools and scholars recognize suspicious behavior and better protect your facilities and information. The FBI can collaborate with U.S. universities or institutions on a wide variety of topics, including:

- Responsibly performing U.S. government-funded research
- Countering foreign intelligence services' attempts to recruit U.S. students and professors
- Safeguarding personal and sensitive information
- Employing best practices for domestic and overseas campus safety
- · Employing effective cybersecurity measures

Develop a Security Strategy

Ensure you have a security strategy to protect your institution's information and employees from potential physical and cyber threats. To develop this strategy, identify your most important research and assets and ensure you devote appropriate resources to their protection. Establish formal agreements and procedures to determine ownership of intellectual property.

Develop a prevention, recognition, and response plan tailored to addressing insider, foreign adversary, and cyber threats. Form teams made up of legal counsel, cyber experts, physical security specialists, and academic supervisors to specifically combat insider threats. Ensure your university or institution's response policies can be easily accessed by employees and that they adequately account for privacy and confidentiality.

Talk to your local FBI field office to report any suspicious activities, request training, or ask for threat and awareness materials to ensure you remain up to date on evolving threats.

Combating Foreign Adversaries' Tactics to Target Your University or Institution

ACADEMIC COLLABORATION is necessary to advance knowledge. Simple security measures, however, can go a long way in preventing the loss of current research and future opportunities. Consider the hidden risk of unsolicited offers for employment, research collaboration, or conference attendance.

FOREIGNER VISITS can present potential vulnerabilities to sensitive university facilities. Keep visitor groups together and monitor them at all times during the duration of their visit to areas containing sensitive technology, products, or personal information. When possible, ensure all visitors have proper clearance and background checks before they enter your facilities. Be aware of last-minute additions to visitor lists, as foreign adversaries sometimes add individuals at the last minute in an attempt to steal your information. Prevent unauthorized access to computer systems and ensure visitors do not record building security access procedures by ensuring visitors do not take videos or photographs or plug portable media devices into university computers.

MALICIOUS CYBER ACTIVITY can also present potential vulnerabilities. Monitor logs on these systems to better identify this activity:

· Firewalls

· Anti-virus

Windows event

Proxy

· Active directory

Intrusion Detection System (IDS)

· Web Server

Network Address Translation (NAT)

Domain Name Server (DNS)

If you suspect a cyber intrusion, assess the nature and scope of the incident by isolating the affected systems, target, and origin of the activity. Collect the network logs and records. Implement your company's cyber response plan and report the incident to law enforcement.

When in Doubt, Report the Incident

When in doubt, report a security violation or cyber intrusion to your institution's security officer or your local FBI office. *Do not* alert the person under suspicion. Your security officers or law enforcement partners will handle the interaction according to their response policies.

Although your first inclination might be to distance your university or institution from a harmful threat, terminate an employee, or expel a student, there is significant value in reporting a security violation or cyber intrusion to law enforcement. Monitoring and investigating the threat could uncover third party actors and reveal previously unknown vulnerabilities of your university or institution.

WAYS YOU CAN PROTECT YOUR ORGANIZATION There are steps organizations may take to identify and deter potential threats. The FBI offers these for information, but each organization must assess applicability in terms of its own policies, processes, and legal guidelines.	NON- TRADITIONAL COLLECTORS*	INSIDER THREATS	JOINT	FRONT	CYBER
Conduct exit interviews to identify potential high-risk employees (such as terminated employees and retired employees with insider threat indicators)		•		•	
Create a program that regularly screens employees for insider threats					
Develop strong risk management and compliance programs					
Educate and regularly train employees on security policies and protocols					
Employ appropriate screening processes to hire new employees					
Encourage responsible use of social media sites and ensure online profiles have proper security protections in place					
Ensure the company in question has been vetted through diligent research					
Ensure physical security personnel and information technology security personnel have the tools they need to share information					
Ensure proprietary information is carefully protected					
Ensure retired, separated, or dismissed employees turn in all company-issued property					
Establish Virtual Private Networks (VPNs) for added protection					
Evaluate the use of nondisclosure agreements and policies restricting the removal of company property					
Install Intrusion Detection Systems (IDSs)					
Monitor computer networks routinely for suspicious activities					
Negotiate joint venture terms and penalize actions that contradict the agreement					
Provide nonthreatening, convenient methods for employees to report suspicious behavior, and encourage such reporting					
Provide security personnel with full access to human resources data					
Routinely monitor computer networks for suspicious activities					
Update software, firewalls, and anti-virus programs					

^{*}A non-traditional collector is an individual who is not operating on behalf of an intelligence service but who collects information from the United States and other foreign entities to support foreign government–directed objectives.

For More Information

Training Materials						
ORGANIZATION	CONTACT	DETAILS				
Center for Development of Security Excellence	http://cdse.edu/catalog/ elearning/INT101.html	Insider Threat Awareness Course (INT101.16)				
Center for Development of Security Excellence	http://www.cdse.edu/ toolkits/insider/index.php	Insider Threat Toolkit				
Software Engineering Institute, Carnegie Mellon University	https://resources.sei. cmu.edu/library/asset- view.cfm?assetID=484738	Common Sense Guide to Mitigating Insider Threats, Fifth Edition				
Federal Bureau of Investigation	http://www.fbi.gov	Numerous publications and videos on the threat from foreign adversaries targeting U.S. businesses.				
Additional Contacts						
ORGANIZATION		CONTACT INFORMATION				
FBI Field Offices		https://www.fbi.gov/contact-us/field-offices				
FBI Internet Crime Complaint Center		http://www.ic3.gov				
National Cyber Investigative Joint Task Force		855.292.3937 cywatch@fbi.gov				
National Cybersecurity and Communications Integration Center, U.S. Department of Homeland Security		888.282.0870 <u>NCCIC@hq.dhs.gov</u>				



For more information, contact your local field office at

https://www.fbi.gov/contact-us/field-offices



COUNTERINTELLIGENCE STRATEGIC PARTNERSHIP INTELLIGENCE NOTE (SPIN)

SPIN: 15-007

SEP 2015

(U) Chinese Talent Programs

(U) INTRODUCTION

(U) Chinese Talent Programs are a vital part of Chinese industry. Talent programs recruit experts to fill technical jobs that drive innovation and growth in China's economy. National, provincial, and municipal talent recruitment programs provide opportunities for experts to work in industry and academic organizations supporting key areas deemed critical to China's development. The talent programs recruit experts globally from businesses, industry, and universities with multiple incentives to work in China. Associating with these talent programs is legal and breaks no laws; however, individuals who agree to the Chinese terms must understand what is and is not legal under US law when sharing information. A simple download of intellectual property (IP) or proprietary information has the potential to become criminal activity.



(U//FOUO) The large number of foreign students, researchers, scientists, and professionals in the United States, combined with current technological capabilities, allows foreign governments to contact and recruit individuals with the hopes to acquire advanced technology without research costs. While the majority of the population are law abiding individuals, anyone has the capability to acquire information. The theft of information can come from current or former employees, business partners, consultants, contractors, temporary hires, foreign agents, suppliers, or even vendors who have access to proprietary information.

- (U) Recruiting these individuals allows China to:
 - (U//FOUO) Gain access to research and expertise for cutting edge technology
 - (U//FOUO) Benefit from years of scientific research conducted in the United States supported by US Government grants and private funding
 - (U//FOUO) Severely impact the US economy.
- (U) The goal of this SPIN is to provide an overview of the potential threats posed by the Chinese Talent Programs.

(U) CHINA'S TWELFTH FIVE-YEAR PLAN

(U//FOUO) China's National People's Congress approved a new national development program that will last for the next five years. These Five-Year Plans emphasize higher quality growth by determining themes and targets to ensure long-term prosperity. China is currently on its Twelfth "Five-Year Plan" covering 2011 to 2015, which focuses on the following:

- 1. New Energy: Nuclear, wind, and solar power
- 2. Energy Conservation and environmental protection: Energy reduction targets
- 3. Biotechnology: Drugs and medical devices
- 4. New Materials: Rare earths and high-end semiconductors
- 5. New Information Technology: Broadband networks, Internet security infrastructure, and network convergence
- 6. High-end equipment manufacturing: Aerospace and telecom equipment
- 7. Clean energy vehicles
- (U) Among the plan's goals is the transformation of China from a manufacturing hub to a world leader in innovation, which will be partly met by an increase in highly skilled workers from 114 million to 180 million by 2020. Additionally, the Chinese Government spending on talent development is expected to increase from 10.75 percent of the country's gross domestic product (GDP) to 15 percent by 2020, which is approximately \$1.3 trillion based on the 2014 China GDP. China's talent development program acts as a vehicle to achieve the Five Year Plan's goals.

COUNTERINTELLIGENCE STRATEGIC PARTNERSHIP INTELLIGENCE NOTE (SPIN)

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(U) THOUSAND TALENTS PROGRAM

(U//FOUO) China's most prominent national talent recruitment program is the "Recruitment Program of Global Experts," which is commonly known as the Thousand Talents Program. It focuses on identifying key national-level organizations and associated personnel involved in implementation and management.

(U) Its goal is to recruit ethnic Chinese experts from Western universities, research centers, and private companies to boost China's national capabilities in the science and technology (S&T) fields and to move China forward as an innovative nation. The program also implemented sub-programs for both young and foreign (non-ethnic Chinese) experts.

(U//FOUO) Originally, this program had a five-to-ten year goal of recruiting 2,000 professionals worldwide who could lead innovation and pioneering work in key technologies, and promote the development of emerging industries. However, this program expanded its scope – recruiting far more than the initial goal of 2,000 individuals – and extended its life through at least 2020.



- (U) In order to be eligible as a candidate for the Thousand Talents Program, an individual must be in a field of study the Chinese Academy of Science (CAS) deems critical or meet the following criteria:
 - ·(U) Expert or scholar with full professorship in a prestigious foreign university or research and development (R&D) institute
 - ·(U) Technical managerial professional in a senior position at an internationally known company or financial institution
 - · (U) Entrepreneur holding IP rights or key technologies and possesses overseas experience

(U) HUNDRED TALENTS PROGRAM

(U//FOUO) The Hundred Talents Program was launched in 1994 and was China's first overseasoriented program to recruit high-level talent. The program is exclusively designed for cultivating scientific research personnel at CAS and focuses on attracting a younger talent pool.

(U//FOUO) The primary goal of the program is to cultivate a group of leaders in their areas of specialty to work at various CAS organizations. Although focused on recruiting overseas Chinese, the Hundred Talents Program will accept applicants who are currently in China. These domestic-based applicants must demonstrate internationally-recognized expertise. Most of the Hundred Talents selectees have become "chief scientists" of various 973 Program (National Basic Research Program)



projects; "responsible persons" on 863 Program (National High Technology R&D Program) projects; associated with Project 111, which recruits the world's top researchers and scholars regardless of nationality or ethnic origin to work with Chinese universities; directors of state key laboratories or CAS key laboratories; or have taken high-level leadership positions within CAS institutes or offices. Selectees of this program are given 600,000 RMB (about \$99,000) for resettlement costs and two million RMB (about \$330,000) in startup funding for research.

(U) OTHER TALENTS PROGRAMS

(U//FOUO) The Innovative Talent Promotion Program is another Chinese Government-sponsored program. This program's ultimate goal is to create a cadre of world-class scientists and entrepreneurs who will lead technological innovation and allow China to compete internationally in S&T and strategic emerging industries.

(U//FOUO) The Thousand Youth Talents Program for Distinguished Young Scholars is a development program for young talent. Top candidates are sent to first-class universities overseas to study. These individuals are groomed into business professionals needed for the future development of China.

(U//FOUO) Lastly, there are programs that seek to develop entrepreneurial talent by focusing on building an internationally competitive corporate management cadre. The program plans to cultivate entrepreneurs with "world foresight, strategic thinking, pioneering spirit, and operating capability," and it sets a goal of having 10,000 talented personnel in management who have expertise in strategic planning, capital management, human resources management, finance and accounting, law, etc.

COUNTERINTELLIGENCE STRATEGIC PARTNERSHIP INTELLIGENCE NOTE (SPIN)

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(U) THREAT TO US BUSINESS AND UNIVERSITIES

(U//FOUO) Chinese Talent Programs pose a serious threat to US businesses and universities through economic espionage and theft of IP. The different programs focus on specific fields deemed critical to China, to boost China's national capability in S&T fields. These subject matter experts often are not required to sign non-disclosure agreements with US entities, which could result in lost of unprotected information that jeopardizes contracts or research funding. One of the greatest threats toward these experts is transferring or transporting proprietary, classified, or export-controlled information, or IP, which can lead to criminal charges.

(U//FOUO) The threat not only targets businesses or universities but potentially targets the researchers or scientists themselves. The technology researched or developed not only costs millions of dollars but costs years, if not decades to develop. Additionally, the theft of information or IP creates a risk that someone else could take credit for the researcher's efforts. The information stolen can be recreated, resold or claimed by others, which in turn will cost the originator creditability and potential funding for future endeavors.

- (U) Theft of intellectual property is an increasing threat to organizations and can go unnoticed for months or even years. In today's society, technology affords easier access to every aspect of academia and business. Some of these tools have become effective for recruiting, such as social media. Social media websites often display large amounts of personal data, such as who an individual works for, phone numbers, known associates, previous jobs, and locations. Additionally, websites like LinkedIn have full resumes, detailing the history of an individual's achievements and accomplishments.
- (U) The FBI assesses each year the United States loses billions of dollars due to technology transfer. While it is important to conduct collaborative research, it is vital for the survival of US businesses and universities that they protect their information and mitigate lost or stolen information.

(U) Areas of Interest for Recruitment:

- Information Technology
- Biotechnology
- Aerospace
 - Materials & Manufacturing
- Sensors & Optics
- Energy & Environment
- Basic Sciences



(U) MEDICAL CENTER OF WISCONSIN



- (U) Zhao, J. Hua (DPOB: 1971, China) In February 2013, Zhao, a research assistant at Medical College of Wisconsin (MCOW) under Professor Marshall Anderson, stole three vials of C-25, a compound patented by Anderson and used in his cancer research. Security footage examined during an internal investigation revealed Zhao entering Anderson's office and leaving shortly after.
- (U) Zhao was reprimanded previously for placing laboratory data on his personal computer. The internal investigation found research data on C-25. Zhao claimed the data would be used to conduct further studies at Zhejiang University.

He was ordered to remove the data from his computer and place it on an MCOW computer. Additionally, MCOW discovered a posting by Zhao on an Internet site called Researchgate indicating he discovered a cancer fighting compound he wanted to bring back to China.

(U) In March 2013, Zhao was arrested. In addition to the 384 files found on Zhao's personal computer relating to Anderson's research was an application to the National Natural Science Foundation of China that provides funding for many talent programs and to a Chinese foundation claiming he invented C-25 and requesting funding for additional research. This application was an exact translation of the grant application written by Professor Anderson several years earlier. It was also determined that Zhao accessed his MCOW computer remotely on the day he was suspended and attempted to delete the files he stole relating to C-25. Zhao was convicted to time served in August 2013.

(U//FOUO) Zhao had a previous history of disregarding the appropriate handling of university property and had full access to Professor Anderson's lab. His access allowed him the ability to walk in and out of the lab at his own discretion to steal the vials of C-25 and laboratory data. Had C-25 not been patented by Anderson, Zhao could have claimed and patented the cancer-fighting compound for himself. Additionally, Zhao's LinkedIn profile indicated he held a position at Zhejiang University, which has ties to the Thousand Talent Program.

COUNTERINTELLIGENCE STRATEGIC PARTNERSHIP INTELLIGENCE NOTE (SPIN)

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(U) DUKE UNIVERSITY



(U) <u>Liu, Ruopeng</u> – (DPOB: 1983, China) In 2006, Liu, a graduate student at Duke University, worked in the laboratory a US researcher studying metamaterials. Liu had full access to the researcher's lab, which conducted basic and fundamental research. While working for this researcher, Liu arranged meetings between the researcher's lab and Cui Tie Jun, a Chinese program manager associated with Project 1.11 (focused on basic science and advanced technology by recruiting the best international experts to China to study from). The idea behind this connection was to share ideas, however, the US researcher eventually realized most of the ideas were coming from his lab.

(U) Over the next few years, he discovered pictures and information related to his research used to market a business started by the Liu. The business originally seemed plausible to him, because he knew Liu was applying for positions with Massachusetts Institute of Technology, which tends to favor

faculty members who also have an entrepreneurial bent. The information marketed by Liu attracted a Chinese technology company. Additionally, Liu invited two Chinese visitors associated with CUI's lab from Southeast University to visit the lab. The visitors took photographs of all the equipment in the lab, including the make and model, which in turn were used to reproduce the lab in China.

(U) In 2009, the US researcher received a book entitled *Metamaterials: Theory, Design, and Applications* by Cui, Liu, and the researcher that was published in the United States. Unknowingly, the researcher had in fact signed off on some forms and received multiple e-mails regarding the book by relying on Liu's interpretation. At the same time, Liu, Cui, and another Chinese individual collaborated on a research idea based on a paper regarding carpet-cloak theory later published in 2009 in an issue of *Science*. Located in the article is a footnote acknowledging the support from Innovation Technology, National Science Foundation, National Basic Research Program (973) of China, Natural Science Foundation of Jiangsu Province, and Project 111.

(U) While the researcher's lab does not conduct restricted research, it receives funding from the US Department of Defense and US Intelligence Community. Since the research was not restricted, there were no rules against or restrictions on the lab's collaborative research efforts. Liu did not have to sign a non-disclosure agreement. Liu moved back to China after the researcher retracted his recommendation for Liu's employment at Princeton with Dr. Stephen Chou, the head of the nanotechnology laboratory. Liu has reportedly established a research institution in Shenzhen.

(U//FOUO) By convincing the US researcher to collaborate with Cui, Liu was able to freely share information and invite visitors to the lab. Although this was not restricted research, the metamaterials research could have both military and civilian applications. The US researcher risked his research by allowing visitors to come into his lab without personally looking at their background and being too trusting of his scientific relationship with Liu.

(U) HOW TO PROTECT YOUR ORGANIZATION

- (U) The first step to protecting your business or university is to identify the threat.
- Who would benefit from your information, processes, or strategies?
- Who are your competitors?
- Have individuals been unusually interested in what you do?
- (U) The next step is to identify proprietary or trade secrets or IP. This includes, but is not limited to the manufacturing process, financial information, list of suppliers and customers, chemical formulas, marketing strategies, and R&D data. By understanding the threat and your business or university's critical technologies, it can help you identify methods in which they can be easily stolen. Theft, bribery, espionage, blackmail, hacking, and electronic intercepts are just some of the different methods individuals may use to steal trade secrets.
- Patent

 Trademark

 Frade
 Secret

 Intellectual
 Property
- (U) Have professors, students, and employees sign non-disclosure agreements.
- (U) Identify foreign personnel who are sponsored by professors/employees.
- (U) Understand agreements between international organizations and US businesses and universities.
- (U) Identify and label or mark IP or sensitive data that is most important to US businesses and universities.
- (U) Identify methods in which professors and employees are contacted (for example, e-mail, social media, conferences) and educate them on what solicitation looks like.
- (U) Report any incidents or concerns to your security office and local FBI field office.

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- (U) If you wonder about the safety of your research or intellectual property, or the legality of your interactions with China, ask yourself the following questions. If any of the answers concern you, or you would like additional information, please contact your local FBI Strategic Partnership Coordinator or FBI field office.
- (U) Do you collaborate with anyone who is currently in China?
- (U) Do you have any publications? If so, in which journals and with whom? Which institutions are they associated with?
- (U) What type of funding do you have to conduct your research? Where do you obtain your funding?
- (U) Do you belong to any professional societies? If so, which ones and where are the based?
- (U) Do you travel regularly to China? Is it for business or pleasure or both? How long do you stay in China during these trips? Are you working with anyone in China on your research during this time?
- (U) How do you maintain contact with your laboratory in the United States while in China? Do you contact it via computer (login to laboratory site)?
- (U) Do you plan to return to China permanently? What will you do for employment?
- (U) Where did you attend school? What type of degrees did you earn? How did you apply for a fellowship, post-doctoral position, guest researcher or other employment with your current employer? Did someone you know refer you to this lab, university, or principal investigator?
- (U) What type of research do you conduct? What are the applications of this research? Do you expect to get a patent from this research?
- (U) With whom are you working at your laboratory? Do you collaborate with individuals from other research institutions in the United States or abroad?

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NEWS / HEALTH

Moffitt Cancer Center shakeup: CEO and others resign over China ties

The actions come amid a widening federal investigation of foreign attempts to take advantage of U.S.-backed medical research.













Weunesuay, along with five other wightit employees. [SOOT | NELER | Tilles]

By Justine Griffin

Published Yesterday Updated Yesterday

Dr. Alan List, the CEO and president of H. Lee Moffitt Cancer Center & Research Institute, resigned under pressure Wednesday amid a controversy that linked him and others at the hospital to possible exploitation of American-funded research by China.

List was joined by Thomas Sellers, a vice president and director at Moffitt, and four of the cancer center's researchers, who also resigned abruptly. The departures come during a time of heightened scrutiny by federal agencies of foreign attempts to take advantage of American-backed medical research. Among the investigating agencies is the National Institutes of Health, one of the largest funding sources for medical research in the world.

Tampa Bay Times

Timothy Adams, Moffitt's board chairman, will assume responsibilities for operating the center while a national CEO search is underway.

Moffitt's internal compliance office launched an internal investigation into the hospital's partnership with any China research arms and found several "compliance violations," officials said. Most were linked to Moffitt employees' personal involvement in China's "Thousand Talents" program, which is List, Sellers and others were found to have violated conflict of interest rules through their work in China. The center did not elaborate.

"About last summer, the NIH began warning institutions to be on alert," Adams said. "Our compliance team spent countless hours reviewing the findings of the investigation in this unfortunate circumstance. I believe we took the appropriate action."

The center's namesake, former Florida House Speaker H. Lee Moffitt, also weighed in Wednesday. "This great institution did its job," he said in a statement. "We listened to the warnings from NIH, conducted a proactive review, and took strong action when it was needed."



The center shared the preliminary findings of its review with the federal government and is continuing to investigate. The *Washington Post* reported in July that the FBI is among the federal agencies working to tighten enforcement of disclosure rules regarding medical research funding and grant proposals, which can contain confidential information.

Moffitt is also reviewing its 12-year research and education partnership with the Tianjin Medical University Cancer Institute and Hospital, a 2,400-bed hospital outside of Beijing. Last year, Moffitt also celebrated five years of collaboration with China's International Personalized Cancer Center. Both relationships gave the Tampa-based cancer center a physical presence in China.

RELATED: In need of an upgrade, Moffitt Cancer Center seeks millions more from state cigarette tax

Since 2008, Moffitt and Tianjin have conducted joint research projects. Graduate students, post-doctoral fellows, physician scientists and research nurses from Tianjin came to Moffitt from training, according a news release from 2018. The allure, the release said, is that Tianjin is located in a "free trade zone" that expedited approvals for clinical trials.

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This "open exchange of ideas" between countries was once encouraged by the U.S. government, Moffitt officials said. But the Trump administration has become worried that foreign interests, especially China, are targeting American academic and medical centers to copy research and technology projects and steal intellectual property.

"We started that relationship at a time when foreign policy was about bringing China into the fold of the rest of the world," Adams said. "We looked at that as a great opportunity to collaborate. Cancer knows no borders."

Earlier this year, three scientists from the University of Texas MD Anderson Cancer Center in Houston were fired amid similar concerns. NIH investigation reports tied these researchers to institutions in China, and accused them of failing to disclose international collaborators. Others were fired at Emory University in Atlanta for similar allegations.

Federal officials have said that some scientists have been involved in "shadow laboratories" where American-funded research was being conducted in China instead of the United States.

Tampa Bay Times

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List has been the CEO and president of Moffitt since 2012. Aside from his executive roles with the cancer hospital, he is still a practicing physician. He's known for his work in treating myelodysplastic syndromes and acute myeloid leukemia, cancers that start in bone marrow.

List was leading a push to expand the Moffitt campus across Tampa Bay, and had met with state lawmakers earlier this year to secure financial support.

"The patient need remains the same. The need to cure this terrible disease remains the same," Adams said. "I expect we will not miss a beat."



Before becoming CEO, List held a variety of roles at Mofffit, including the executive vice president and physician-in-chief and chief of the malignant hematology division. He came to Moffitt in 2003 after working as a professor of medicine at the University of Arizona, Tuscon. There, he also worked as the director of the leukemia and blood and marrow transplant program and the director of the division translational/clinical research program.

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List graduated with a medical degree in 1980 from the University of Pennsylvania in Philadelphia. He completed an internship and residency in internal medicine at the Good Samaritan Medical Center in Phoenix. He also held fellowships in hematology and medical oncology at Vanderbilt University Medical Center in Nashville.

He could not immediately be reached for comment.

JUSTINE GRIFFIN

Medical Reporter

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University of Florida also a target in foreign research scandal

In a scenario similar to last month's revelations about Moffitt Cancer Center, four UF faculty members were found to have ties with foreign recruitment programs.













Century Tower rises at the center of the University of Florida campus, where four medical school researchers recently were found to have had foreign interactions that violated university rules. [University of Florida]

By Justine Griffin

Tampa Ban Times

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Four faculty members from the University of Florida have left the school amid a widening investigation into foreign exploitation of American-funded medical research.

Three of the researchers resigned and one was terminated after the university received a letter from the National Institutes of Health regarding questionable foreign meddling in grant research and funding. The terminated employee worked part time for the university's College of Medicine. Two were from the College of Engineering and one was from the College of Liberal Arts and Sciences.



Two of the researchers were tied directly to the inquiry by the federal agency, which gives out \$30 billion a year to American scientists and universities for biomedical research. Activity by the two others came to light during the university's own review, said UF spokesman Steve Orlando.

The National Institutes of Health awarded UF more than \$190 million in grants last year, more than any other Florida university. The school now joins the ranks of Tampa's Moffitt Cancer Center, which last month became part of the government's inquiry into whether America's investment in top scientific research is being systematically stolen by foreign actors.

Moffitt cut ties with its CEO Dr. Alan List and five other employees over their failure to disclose ties to Chianesciprogrames that aim to improve the quality of that country's research and innovation by luring back esteemed scientists. Researchers would be paid for their work, sometimes in Chinese currency. Others would steal ideas from peer-reviewed proposals that originated the U.S. and were funded by U.S. agencies.

RELATED: Moffitt Cancer Center shakeup: CEO and others resign over Subscribe Log in

Evidence was found that the six Moffitt employees were potentially compensated by a Chinese talent recruitment program and failed to disclose it, officials at the center said. Moffitt officials did not divulge whether List and others accepted money from China, but said an internal investigation revealed conflicts of interest and a lack of disclosure of international collaborators.

The NIH has launched 180 individual inquiries into 70 institutions related to foreign attempts to take advantage of U.S.-backed medical research.

"The university has identified certain faculty members who were participating or were seeking to participate in a foreign talents program. The university has addressed or is in the process of addressing each of these matters," UF President W. Kent Fuchs wrote in a Dec. 13 letter to U.S. Senator Rick Scott.

Earlier in the month, Scott sent letters to Florida university presidents requesting more information on any steps they have taken to protect intellectual property from "the influence of foreign adversaries, including Communist China".

Chris Hartline, Scott's communications director, confirmed that three responses from universities have been received. The University of South Florida in Tampa had yet to submit a response as of Monday.

RELATED: Florida House speaker calls for investigation into China-Moffitt ties

At the state level, Rep. Chris Sprowls is leading a committee in the Florida House to investigate the Moffitt case and others in the state. That committee will meet for the first time on Jan. 21, Sprowls said.

Meanwhile, other connections to Chinese recruitment programs are being discovered at research institutions across the country. A federal judge will decide what becomes of Private Private Professor, and early engineering professor, for allegedly working for Chinamino Corrett while also working for the University of Kansas. Another cancer researcher in Boston is accused of trying to smuggle stolen lab samples in his luggage. He was attempting to board a flight to Beijing when authorities stopped him, according to the New York Times.

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The University of Florida launched a website outlining the proper disclosure requirements for researchers last year. It also developed a new international risk assessment process to screen activities with foreign institutions and developed an electronic system to monitor the disclosures of outside activities and interests, which Fuchs outlined in his letter to Scott.

The UF president also offered to travel to Washington, D.C., to meet with Scott in person.

"The university does not approve participation in foreign talents programs as an outside activity," Fuchs wrote. "Any faculty member who fails to disclose their participation in a foreign talents program is subject to discipline, including termination for cause."

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The spies among us: More Chinese agents digging up secrets in Florida

By MARIO ARIZA
SOUTH FLORIDA SUN SENTINEL | JAN 17, 2020



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FBI Deputy Director David Bowdich speaks at a news conference to announce a criminal law enforcement action involving China, at the Department of Justice in Washington in 2018. U.S. officials were announcing criminal charges and an operation to thwart Chinese economic espionage. Florida has become an increasingly attractive destination in the shadowy war of spies between the United States and the People's Republic of China. (Pablo Martinez Monsivais / AP)

They've been caught taking photos of military installations, arrested trespassing at Mar-a-Lago, convicted of illegally exporting critical technology, and sentenced for working at federal research institutions while still on their home countries' payroll. National security officials say it's only the tip of the iceberg.

Florida has become an increasingly attractive destination in the shadowy war of spies between the United States and the People's Republic of China, given that the Sunshine State is home to research institutions, defense installations, universities and, yes, even President Donald Trump's <u>Mara-Lago estate in Palm Beach</u>.

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And the pace of Chinese spying in Florida appears to be quickening, according to a review of federal court filings, along with conversations with espionage experts, state and national politicians, and national security officials. In just the past two years, at least nine Chinese nationals were detained in Florida while engaging or possibly engaging in espionage-related activities. Five of those arrests happened in just the past few months.

"Recent incidents remind us that concerns about Chinese espionage are not hysteria," Florida Sen. Marco Rubio told the South Florida Sun Sentinel. "China poses a serious and long-term challenge to the United States that requires an enduring comprehensive response."

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A rich history of spies

Florida has a long history of spy craft, particularly high-profile cases in South Florida.

The University of Miami's South Campus was once the home of a massive CIA outpost.

For decades, Cuban-exile paramilitary groups waged a violent and bitter covert campaign against the Castro regime from the shores of Biscayne Bay, bombing airliners and even making attempts against the life of Fidel.

In the late 1990s, five intelligence operatives from that Caribbean island's communist government were arrested in Miami and convicted of espionage. And according to the Miami Herald, Cuban operatives may have been **probing the security at Miami International Airport** as recently as last spring.

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Mar-a-Lago is one of the locations that have increasingly become the focus of potential Chinese intelligence gathering, as the president's presence there makes it a plum target.

But the spies from the Middle Kingdom aren't waging your grandfather's Cold War cloak-and-dagger conflict.

"Chinese espionage is vastly different," said Nicholas Eftimiades, a retired senior intelligence officer and the author of the book "Chinese Intelligence Operations."

Chinese espionage operations — unlike those of Cuba or the former USSR — aren't always carried out by professionally trained spies, and are just as often focused on economic targets as on military targets, Eftimiades said.

China's "approach to intelligence gathering employs both amateurs and intelligence officers to support the nation," he said.

Eftimiades maintains a database of all Chinese nationals prosecuted for Log IN espionage around the globe for the past 30 years as part of his research.

His data shows that Chinese intelligence objectives seem to be set by high-level brass, and that they closely align to the countries' **stated development goals**, meaning that Chinese spies often go after technology that their leaders believe will help expand an economic sector they have expressed interested in developing.

Stealing trade secrets

Experts and defense officials have long warned of a broad and comprehensive intelligence gathering operation carried out across the United States by or at the behest of Chinese security services.

A review of federal anti-espionage prosecutions carried out by the Justice Department against Chinese nationals last year shows that the majority of cases hinged on technology theft or the purloining of trade secrets, as agents from China were accused of attempting to steal everything from autonomous vehicle technology from Apple to live biological samples from cancer-research centers.

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At first glance, Florida appears to be just one front in a wider struggle. Of the 304 federal Chinese espionage prosecutions conducted in the past 30 years, only 11 occurred in the state, according to an independent database maintained by researchers at Penn State.

But Florida increasingly has been in the crosshairs.

"It's a target-rich environment," says Chris Sprowls, the Speakerdesignate of the Florida House of representatives, of Florida's industrial and research infrastructure.

Amin Yu, of Orlando, was working part-time at an unnamed university in Orlando when authorities caught up with her. A federal judge sentenced her to 21 months in prison in September 2016 for exporting "systems and components for marine submersible vehicles." Basically, Yu was shipping submarine parts to China.

The Department of Justice said her co-conspirators would use what she obtained "in the development of marine submersible vehicles, including unmanned underwater vehicles, remotely operated vehicles and autonomous underwater vehicles."

A federal sentencing memo said Yu was a graduate of Harbin Engineering University, a school with "historical and modern relationship with aspects of the Chinese Navy," and that she maintained a close correspondence with an unindicted co-conspirator affiliated with the school.

Yu pleaded guilty to working as an unregistered agent of a foreign government, a charge traditionally reserved for espionage prosecutions. But David Haas, Yu's defense attorney, said the case wasn't about espionage. "At no point did the government ever call my client a spy," he said.

There are concerns about Chinese espionage at Florida's research institutions.

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Chunzai Wang, an oceanographer employed by the National Oceanic and Atmospheric Administration research center on Virginia Key, also was employed by a Chinese agency at the same time. That's a violation of federal law.

Wang was sentenced to time served in February 2018 for being involved "in China's 973 Program, which mobilizes scientific talents to strengthen basic research in line with national strategic targets of the People's Republic of China," according to the Justice Department.

RELATED: Two more Chinese Nationals Arrested in Key West »

Wang's attorney could not be reached for comment, but national security officials point to his case as one that highlights the worrying influence of China's espionage services in American academic and research circles.

It's an influence that the National Institute of Health, which funds medical research, is concerned about. In August 2018, the health institute put out a <u>letter</u> warning that "foreign entities have mounted systematic programs to influence NIH researchers."

And in December, Sen. Rick Scott sent a letter to the presidents of universities in Florida warning that China was "stealing our information to ultimately use against us," and asking the leaders for information about links between academic researchers and China.

In Florida, the letters seemed to have an effect.

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Last month, the CEO and president of H. Lee Moffitt Cancer Center & Research Institute in Tampa **resigned** after an internal review revealed that they and four other researchers were collaborating with China's "1000 talents program," a **suspected espionage program**, according to the FBI.

There have been no accusations of espionage in that case, though the resignations did come about as a result of efforts by the National Institute of Health to stamp out foreign attempts to steal American medical research.

And on Jan. 13, <u>the Tampa Bay Times reported</u> that four University of Florida faculty had left that school as a result of that institution's audit of its researchers ties with the people's republic of China.

The worries about Chinese espionage in academic and research settings also has prompted the Florida Legislature to create a committee focused on ferreting out the phenomenon, the first of its kind for any state.

The concern is that researchers with undisclosed ties to China may be passing that country valuable intellectual property.

"We don't want to be in a position where the Florida taxpayer is inadvertently subsidizing research and development for a foreign country," Sprowls, the Speaker-designate of the Florida House and the chair of the bipartisan committee, told the Sun Sentinel.

"The more I learn," said Sprowl's of Chinese espionage activity in Florida research and academic institutions, "the more horrific it gets."

On Tuesday, Scott released a follow-up statement to his December letter, saying, "I'm still waiting to hear from many universities in Florida.

Everyone needs to understand this risk."

Raising security concerns

David Kris is the former head of the National Security Division of the Department of Justice, which handles espionage prosecutions. He sees something larger afoot from all the spy work. "These latest developments are part of this larger pattern," said Kris, now a principal at Culper Partners, a consulting firm.

"And of course, the Chinese efforts that we discover and block are only part of the story — there are surely many such efforts that we may never discover."

Even if the majority of China's espionage aims may be focused on stealing tech and research, it doesn't mean they don't engage in real spy stuff carried out by assets or agents of the People's Liberation Army or China's Ministry of State Security, and focusing on more traditional military or defense targets.

In Jacksonville, Fan Yang, a U.S. Navy lieutenant, his wife and two Chinese nationals were indicted in November for allegedly attempting to export seven "military style inflatable boats" and eight "military outboard motors" to China without proper authorization, according to the Department of Justice.

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Fan Yang held a top-secret military clearance and was a trained flight officer on submarine hunting aircraft, according to federal court documents.

One of the indicted Chinese nationals had received "tactical weapons training by hiring U.S.-based firearms and tactical instructors with prior military experience, including some with specialized tactical training from their respective experiences serving as Special Forces operators," according to the criminal complaint.

Yet even when it comes to traditional espionage targets, the Chinese intelligence services often employ rather unorthodox methods.

Lyuyao Liao, a 27-year-old Chinese national enrolled in a law program at Washington University in St. Louis, was arrested in Key West on Dec. 26 on the charge of trespassing onto the Truman Annex of Naval Air Station, Key West.

Liao claims to have entered into the secure area out of a desire to take photos of the sunrise, according to federal court documents. But he has been charged with taking photos of U.S. military installations after an image of the Truman Annex was found on his camera.

RELATED: Mar-a-Lago trespasser Yujing Zhang sentenced to 8 months in prison »

"My client never intended to trespass," said Daniel Lawrence Rashbaum, Liao's attorney. "He wanted to take pictures of the sunrise, like many other tourists in Key West, and he will be vindicated at trial." Three other Chinese nationals were accused of trespassing and photographing parts of Naval Air Station, Key West in just the past year and a half. Two were nabbed barely a fortnight after Liao was arrested. One, Zhao Qianli, was sentenced to one year in prison in February 2019 after taking photos of antennae equipment at the base.

"This is not professional intelligence work," Eftimiades said.

Current and former American security officials also think the pattern of intrusions at Key West fits into China's intelligence gathering practices.

"As a general matter, China's intelligence collection playbook has long included gathering information on sensitive American facilities at home and abroad. Whether the individuals recently arrested in Key West were engaged in such activity is a matter for the FBI and Justice Department to determine," says Dean Boyd, communications executive for the National Counterintelligence and Security Center at the Office of the Director of National Intelligence.

The incursions also drew concern from Rubio, the state's senior senator. "I have discussed the most recent incident with the relevant counterintelligence officials," he said in a written statement. "Florida is home to more than 20 military installations, and it's important we ensure that all areas sensitive to national security are protected."

Mar-a-Lago is another location that has increasingly become the focus of potential Chinese intelligence gathering, as the president's presence there makes it a plum target.

"The ultimate goal [of any intelligence service] is to get someone as close to the president or the national security team as they can," explains Ray Batvinis, a retired FBI supervisory special agent. SECTIONS LOG IM

In this April 15 courtroom sketch, Yujing Zhang, left, a Chinese national charged with trespassing at President Trump's Mar-a-Lago resort, listens to a hearing before Magistrate Judge William Matthewman in West Palm Beach, Fla. (Daniel Pontet/AP)

Yujing Zhang, a Chinese businesswoman, was sentenced to time served in November after being convicted of lying to the Secret Service about wandering the grounds of Mar-a-Lago.

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Zhang, who represented herself at trial, was apprehended with several electronic devices in her purse, one of which was an iPhone in a Faraday cage, an anti-tracking device often used by intelligence professionals.

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A second Chinese national was recently arrested at Mar-a-Lago. But is unclear if the Dec. 18 arrest of Lu Jing, a Chinese national, is being investigated by the Secret Service as a possible instance of espionage. Jing was picked up by the Palm Beach Police Department on charges of

loitering and resisting an officer without violence after attempting to enter the resort that night.

According to a probable cause affidavit filed in Palm Beach Circuit Court, Jing entered Mar-a-Lago through a service entrance after being turned away from the door. Surveillance footage described in the affidavit shows Jing reached about 100 yards into the compound, taking photos as she went, before being waylaid by security.

The Secret Service and representatives of the People's Republic of China at their U.S. embassy could not be reached for comment.

"I've been harping on this issue for the past 30 years," Eftimiades said of China's unorthodox intelligence gathering practices. "It hasn't filtered through to the U.S. government, which is not structured to contend with Chinese espionage as it is practiced."





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Michael Lauer leads the National Institutes of Health's extramural research program. NATIONAL INSTITUTES OF HEALTH

NIH probe of foreign ties has led to undisclosed firings—and refunds from institutions

By **Jeffrey Mervis** | Jun. 26, 2019, 5:10 PM

An aggressive effort by the National Institutes of Health (NIH) to enforce rules requiring its grantees to report foreign ties is still gathering steam. But it has already had a major impact on the U.S. biomedical research community. A senior NIH official tells ScienceInsider that universities have fired more scientists—and refunded more grant money—as a result of the effort than has been publicly known.

But other major U.S. research universities have also fired faculty in cases that have remained confidential, according to Michael Lauer, head of NIH's extramural research program. And some have repaid NIH "hundreds of thousands of dollars" in grants as a result of rule violations, he says. "I can understand why [the universities] aren't talking about it," Lauer says. "No organization wants to discuss personnel actions in a public forum."

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Lauer suspects some of the cases NIH has uncovered may result in the U.S. government banning certain scientists from receiving federal funds, a process called debarment. NIH has referred at least 18 cases to its parent agency, the Department of Health and Human Services (HHS), for further investigation. "We are still reasonably early on in the process," Lauer says, "and for a number of cases we don't know where we'll end up."

He also thinks other federal agencies that fund academic research may soon copy NIH's aggressive approach. "I wouldn't be surprised if other agencies follow our lead and start doing similar things," he says.

Connecting the dots

This week, Lauer sat down with ScienceInsider at his office on the NIH campus to talk about how NIH became concerned about foreign influence and what it is doing to defend the process used to spend more than \$20 billion annually on outside research projects.

He says the agency's concerns were initially sparked by reports that scientists were violating the confidentiality of NIH's peer-review process, in which thousands of volunteer reviewers rate tens of thousands of grant proposals every year. In mid-2016, he says, NIH received a report from the HHS Office of Inspector General that a Federal Bureau of Investigation (FBI) probe had uncovered an MD Anderson researcher sharing proposals he had been asked to review with several other people.

That's a clear violation of NIH rules intended to ensure the confidentiality of every grant proposal, Lauer says. But few such breaches ever trigger an FBI investigation. "There are people who will download an application and share it with a postdoc or a buddy down the hall and ask a question," he says. "People are not supposed to do that, but maybe that's not a hanging offense."

larger assault on the integrity of NiH-tunded research. Over the next ∠ years, he says, NiH grant managers would find numerous examples of NIH-funded scientists at U.S. universities who were publishing papers that listed a foreign institution—often in China—as their primary affiliation and cited foreign funding sources in the fine print. But the scientists hadn't reported those affiliations and grants to their institutions or to NIH, as required.

The discovery was serendipitous, Lauer explains, and grew out of the agency's routine monitoring of progress reports filed by grantees. "We have about 1300 people here, fully trained scientists, who oversee our [extramural] scientific programs," Lauer says. "They are assigned a set of grants. And each year they look at progress reports to make sure things are OK. And one question we ask is, 'What have you published?"

The program managers were looking for exciting new scientific results, Lauer says. But they also found troubling discrepancies between the affiliations and funding that a grantee had reported to NIH and what they wrote in their papers.

"It's fascinating," Lauer says. The reporting discrepancy "had been going on for a number of years, apparently, but it took a long time before we noticed it. That's when we decided there was something going on."

Initial resistance

NIH's first step was to notify all grantee institutions that it was launching an investigation. That August 2018 letter, from NIH Director Francis Collins, was followed by inquiries from Lauer about specific researchers.

Many universities pushed back, he says, telling him the agency's suspicions were misplaced. "What we heard was that there's nothing going on," Lauer says. A typical response from a senior university official went like this, according to Lauer: "The faculty member says he's never been to China, he doesn't receive any support from the government, and he has no affiliation with any Chinese university. They told us we're just blowing smoke."

But Lauer says most university officials changed their tune after NIH showed them evidence that included grant numbers from foreign funders and employment contracts with foreign institutions. "So then what happens is that the university digs a bit deeper and finds that, yes, there is a lot going on," he says.

we round one person with a 55 million startup package from a Uninese university that wash t disclosed to anybody, not to his American university, and not to us," Lauer asserts. "This is not subtle. It's not an, 'Oops, I forgot to list it on a form.' We're talking about really, really egregious stuff."

Those absent without leave scientists were not just stiffing their home institutions, Lauer points out. They were also fleecing NIH and, by extension, U.S. taxpayers. The rip-off became clear, he says, whenever their time commitment to funded research projects exceeded 12 months.

"The American institution thinks it has a 12-month employee who's working for them," Lauer explains. "And we give them funding for research that will take 8 months of their time. But they already have 9 months of outside time commitments. So it adds up to 17 months. And that's not possible."

Uncovering that faulty math has had financial repercussions, Lauer notes. "Several universities have actually refunded us money for salaries paid during times when, as best they could tell, the faculty member wasn't at the institution and couldn't have been working on the NIH grant," he says. Some of the refunds, Lauer says, are for "hundreds of thousands of dollars." That is money NIH could have spent on other researchers who are playing by the rules, he adds.

What NIH has learned

Lauer says he hasn't done a thorough analysis of the 180 cases in which NIH believes scientists have withheld information about their foreign ties. But a few things stand out.

"Most of the scientists are well-funded, meaning they have multiple NIH grants," he says. "Most are ethnically Chinese, although some of our more serious cases are not ethnically Chinese." Lauer says the scientists work at institutions all over the United States: "We have examples from the northeast, the southeast, Texas, obviously, the southwest, and elsewhere."

No particular field seems to have attracted more than its share of bad actors, according to Lauer. "All the people at MD Anderson work on cancer," he says. "But we've also seen [cases involving scientists in] mental health, cardiology, neurology, basic cell biology, and so on."

Lauer declined to speculate on why these scientists chose not to disclose their foreign ties. But he said NIH has found several cases where the omissions were selective. "We've seen scientists who reported other foreign grants and affiliations, but not the Chinese grants and affiliations," he says.

Among U.S. lawmakers and the media, some of the concern about foreign influence in U.S. research has focused on the role of the Thousand Talents Program, part of China's decadelong campaign to

top-tier journals. But the provisions about what activities should and should not be disclosed are not uniform.

"We have seen contracts that say all the intellectual property that this scientist generates must stay in China and cannot be reported to their American university," he says. "You can imagine that U.S. universities are not happy when they see that. U.S. universities expect to reap the benefits of research done at their institution, and they are losing that [opportunity]."

Other contracts lean in the opposite direction, Lauer says. "They say every paper a scientist publishes must cite the Chinese university," he says. "Some have gone so far as to say their university must be cited first." Lauer says those scientists are also required to cite the Chinese entity funding their research funding, "for the same reason we require people to cite their NIH grants: We want to make sure we get credit for the research we have funded."

Guilt by association?

Many members of the Asian American community believe that U.S. government agencies have been targeting Asian-born scientists simply for their participation in Thousand Talents and similar Chinese foreign recruitment programs. Lauer says NIH has no problem with U.S. scientists who participate in Thousand Talents so long as they disclose that relationship fully in their grant applications and research progress reports.

"Thousand Talents is not a threat [to the United States]," he says. "It's not the specific conduct we are focusing on, it's the failure to disclose it."

To make his point, Lauer offers an alternative scenario of what he considers to be acceptable behavior. "A U.S. scientist goes to their boss and says, 'I would like to work in China for 3 months a year, and I managed to secure a part-time employment arrangement. I'll tell you what I'm working on, and how intellectual property will be handled, and how much they will pay me.' And then they report all of that in their biosketch."

That should be the norm, he says. But it's not. "If that is what was happening," Lauer says, "you and I would not be sitting here today."

Posted in: Scientific Community doi:10.1126/science.aay5369

Jeffrey Mervis



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The Science Security Threat

At gathering of university research officers, federal agency officials document foreign governments' efforts to persuade scientists to engage in academic espionage.

// November 13, 2019

7 COMMENTS (/NEWS/2019/11/13/FEDERAL-OFFICIALS-DOCUMENT-INTERNATIONAL-THREATS-US-SCIENCE-SECURITY#DISQUS_THREAD)

Roger Wakimoto of UCLA moderates science security panel.

SAN DIEGO -- Some of the university research administrators in the audience seemed loaded for bear, ready to scold the Trump administration officials in front of them for what many academics have perceived to be racial profiling of Chinese scientists in recent months.

Roger Wakimoto, vice president for research at the University of California, Los Angeles, didn't soft-pedal the issue as he introduced the session on science and security here Monday at the annual meeting of the Association of Public and Land-grant Universities.

"We've been told repeatedly that this is a partnership," Wakimoto said of the effort to "protect U.S. science from undue foreign influence," as the session was titled. "If this is a partnership, stopping our faculty at the airport is not acceptable."

Over the course of the next hour, what might have been an uncomfortably confrontational situation took a different course.



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But two things averted what might have been a train wreck. First, the officials from the U.S. Department of Energy, the National Institutes of Health and the National Science Foundation (who noted that they were at the meeting on a federal holiday that would otherwise have been a day off, which

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won them some points) emphasized that -- despite the positions they hold and message they were delivering -they were colleagues with those in the audience.

"The American university system is justifiably the envy of the world," said Chris Fall, director of the Energy Department's office of science. "I could talk all day about great things we're doing with you, and I would prefer that. But we're here to talk about science security and about threats to our system of labs."

Fall and his federal colleagues -- Jodi Black, who directs the NIH's office of extramural research, and Rebecca Keiser, who heads the office of international science and engineering at NSF -- sought throughout to make clear that they understand how central openness and collaboration are to scientific work. And that the growing emphasis on trying to prevent intellectual property theft (and worse) is in direct tension with those traits.

"We recognize that addressing these [security] risks, these very real problems ... must be weighed together with the openness and transparency and collaboration that has always characterized American science," Fall said.

Several people in the audience said they appreciated the federal officials' collaborative nature, which they said showed a marked change from the much more confrontational approach Trump administration officials took on this issue a year ago.

But it wasn't the officials' attitude that most changed the direction of the session: it was the information they presented, which, taken together, seemed to dispel any doubts anyone in the room harbored about whether there is a security threat to American science.

"When I came in [to science policy] in the '90s, we were dealing with nonproliferation issues at NASA, and the funding going to former Soviet weapon scientists," said Keiser of the NSF. "I'm here to tell you that the challenges we're facing today are different, in scope and complexity. As we peel back the onion, the layers just keep growing -- this is the most giant onion I've ever seen."

These being scientists, data and facts mattered more than words -- and the federal officials delivered those.

The presentation by Black of the NIH was especially jarring.



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to co-opt discoveries and ideas from American universities -- in ways that divert proprietary information, undermine peer review and "distort our [science] funding model," by giving grants to scientists on the payrolls of other countries that could have gone to other deserving scientists.

Again, words. But Black had the rapt attention of the audience when she launched into a discussion of China's
Thousand Talents Program (http://www.1000plan.org.cn/en/) (see Inside Higher Ed coverage here
(https://www.insidehighered.com/news/2019/04/16/federal-granting-agencies-and-lawmakers-step-scrutiny-foreign-research) and here (https://www.insidehighered.com/news/2018/06/07/lawmakers-discuss-national-security-concerns-and-chinese-students).

Her presentation was complete with slides (which she asked attendees not to share) containing documents showing that participants in the Chinese government's talent-recruitment program were openly told not to tell their U.S. university employers about the program, not to report their intellectual property to their U.S. institutions, and they were being paid in many cases for time commitments of six to 10 months -- arguably making it difficult if not impossible for them to do their U.S. jobs.

The endgame for these arrangements: to move their labs to China, in the meantime extracting information from the labs' work back to China.

Black said that NIH had identified "at least 120 scientists at 70 institutions" that had in some way failed to "fully disclose substantial contributions from other organizations, including foreign governments," failed to disclose financial conflicts of interest, diverted proprietary information or sent information gleaned by participating in the peer-review process to other countries.

"They were not all ethnically Chinese," she said, directly addressing Wakimoto's assertions that the intensified government scrutiny is, intentionally or not, singling out Chinese scholars -- many of whom are U.S. citizens. "We are not trying to racially profile anybody."

Profiling, Purposeful or Not?

One research administrator joined Wakimoto in pressing the federal officials directly on whether their efforts to clamp down on scientific security was resulting in unfair treatment of individuals -- and of a broader "chilling effect" on foreign scholars and graduate students, especially from China.

She recounted stories of one University of California, Berkeley, scientist who had been taken off a flight at Newark International Airport and made to feel "like a spy," and a Harvard University scholar who had been



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pad actor, but there could be some racial profiling happening.

Fall, of the Energy Department, said that there was "no connection" between the Department of Energy and agencies like the Department of Homeland Security and Customs and Border Protection. "There is no excuse for people being treated inappropriately at the border, and it's troubling what you said."

But this isn't about racial profiling, he emphasized. "This is about an organized effort by states, including China, including Russia, to appropriate technology" and other innovations through their work at American universities.

Maybe so, said Wakimoto of UCLA, but other corners of the government are sending other messages -- like that "any Chinese student can be a spy."

"We've got to work on our messaging," he said.

Read more by Doug Lederman

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(/print/news/2019/11/13/federalofficials-document-internationalthreats-us-science-security)

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NIH Concerns and Actions Related to Undue Foreign Influence at U.S. Research Institutions

In the past year Congress, federal science agencies, and the media have highlighted concerns about the impact of undue foreign influence in U.S. federally funded research. In a series of AAMC communications on the topic, we will provide background information, relevant federal policies, and institutional considerations related to this issue. This first document focuses on the NIH's actions and communications to the grantee community.

Key Dates: NIH Communications Regarding Threats to the Integrity of U.S. Biomedical Research

August 2018: NIH Director Francis Collins issued a <u>statement</u> and sent <u>a letter</u> to over 10,000 grantee institutions, outlining three areas of concern for the agency:

- Diversion of intellectual property to other entities, including other countries
- Sharing of confidential information on grant applications by NIH peer reviewers with others
- Failure by researchers working at NIH-funded institutions to disclose substantial resources from other organizations

The letter also noted that the NIH Office of Extramural Research (OER) would reach out to specific institutions "regarding grant administration or oversight questions or requests about specific applications, progress reports, policies, or personnel."

December 2018: An NIH Advisory Committee to the Director released a Dec. 2018 <u>report</u> on foreign influences and research integrity, containing recommendations for recipient organizations related to:

- Communicating with investigators (education campaigns on disclosure requirements; guidelines for visitors)
- Mitigating risk (assessment of internal controls, proactively notifying NIH about breaches)
- Ongoing monitoring (developing 'flags' for audit, considering post-travel questionnaires for select countries, and working with federal security agencies on best practices)

July 2019: NIH released relevant guide notice and FAQs (see below)

Scope of NIH investigations

As of July 2019, the NIH has contacted over 60 research institutions regarding 180 individual scientists that the agency believes have failed to disclose substantial financial ties to foreign agencies or have failed to uphold the confidentiality of the peer review process. Investigations conducted in collaboration with awardee institutions are ongoing and several institutions have returned grant funds to the NIH and in some cases dismissed researchers for violations of agency and/or institutional policies. The NIH has recently sent at least a dozen cases to the Department of Health and Human Services Office of the Inspector General for external review, and OIG has referred some cases to the Department of Justice for prosecution.

The NIH is directing questions to its Division of Grants Compliance Oversight and has also encouraged institutions to work directly with their local FBI offices.



Applicable NIH Policies and Guidance

As described in a July 2019 <u>guidance document</u>, institutions receiving extramural funding from the NIH are subject to several relevant policies and regulations:

- The NIH Grants Policy Statement (NIHGPS) requires grant applicants to disclose *Other Support* to ensure no scientific, budgetary or commitment overlap, including "all financial resources, whether Federal, non-Federal, commercial or institutional, available in direct support of an individual's research endeavors." (Section 2.5.1)
- The NIHGPS also requires recipients to determine whether activities it supports include a foreign component, which may or may not involve the direct use of NIH grant funds (e.g. performance of work by a researcher or recipient in a foreign location or a collaborator outside of the U.S. who performs experiments in support of an NIH-funded project or with an expected co-authorship).
- Federal conflict of interest regulations (42 CFR Part 50, Subpart F) include a requirement for researchers to disclose to their intuitions significant financial interests (SFIs) in addition to any reporting required by NIH policy. (See more generally at www.aamc.org/coi)
 - NIH <u>clarified in 2018</u> that while these regulations do not require disclosure of certain SFIs from "an Institution of higher education," this is only for U.S. institutions, and remuneration from foreign institutions is a disclosable SFI.

A related <u>FAQ</u> updated July 11, 2019 confirms that these policies and regulations are already in place and that the guide notice serves as a reminder to the community, not an expansion of the Other Support policy. Institutions should note that one <u>FAQ</u> instructs that "Outside Activities such as teaching or consulting that may be compensated or uncompensated constitute Other Support if they are in any way related to the investigator's research endeavors or expertise." [Update: As of July 23, 2019, the FAQ in question was removed after the community expressed concerns about its scope to NIH].

A <u>blog post</u> from the NIH OER, provides additional context for the timing of the guide notice and states that "depending on the severity and duration of the noncompliance... (it) may contact the affected institutions, impose specific award conditions, disallow costs, withhold future awards for the project or program, suspend the award activities, make a referral for investigator suspension or debarment, or terminate the award."

Institutional Responses and Next Steps

Individual institutions have taken a number of steps to address this issue, including clarifying existing institutional policies for disclosure and reporting, and reminding investigators of appropriate university resources to assist with compliance and conflict of interest management. Many institutions have also issued statements of support of international collaborations and researchers. In addition to this document and the recent <u>AAMC News</u> article, the AAMC will continue to develop resources for the community.

For questions, please contact Ross McKinney, MD, Chief Scientific Officer (rmckinney@aamc.org) and Heather Pierce, JD, Senior Director of Science Policy and Regulatory Counsel (hpierce@aamc.org).