

Research Security and Malign Foreign Influence

Panelists:

David Furman, University of South Alabama Russ Ward, The University of Alabama in Huntsville

Poll #1

Raise your hand if your university is a cleared facility for classified federal work.



Poll #2

Raise your hand if your university is a "covered entity" for purposes of NSPM-33.



Poll #3

Raise your hand if you are faculty.



National Security Presidential Memorandum – 33 (NSPM-33)

- Released in January 2021 (last week of first Trump presidency)
- Interim Implementation Guidance Released January 2022
- Final Guidelines for Research Security Programs released by OSTP on July 9, 2024
- Individual Agencies can impose additional restrictions
- "Covered Entity" = \$50 million and above annual federal science and engineering funding
- Required to certify in awards that they have a Research Security Program with the following elements:
 - Cybersecurity
 - Foreign Travel Security
 - Research Security Training
 - Export Control Training



CHIPS & Science Act of 2022

- Codifies much of NSPM-33
- Creates and defines "Countries of Concern"
- Mandates disclosure of Malign Foreign Talent Recruitment Program Participation, and requires institutions to notify their employees
- Notification to NSF of any funding received from Countries of Concern
- NSF creation of the SECURE Center



Why Academia?

US Colleges and Universities are known for innovation, collaboration, and knowledge-sharing. A large percentage of US Government funded research occurs on college campuses. These qualities make US universities attractive targets for theft of patents, trade secrets, Intellectual Property (IP), research, and sensitive information. Restrictions on sharing often controlled by terms of contract or grant.

- Obtain restricted information or products
- Bypass expensive research & development
- Find recruits to place in valuable positions
- Exploit the student visa program for improper purposes (military intelligence personnel)
- Less scrutiny than other classes of long-term visa applicants





Academic Espionage Tradecraft

The following have been proven as successful platforms for academic espionage in the past and flourish in collaborative, open environments:

- Social media manipulation; using false identities to solicit sensitive information via the Internet (LinkedIn Consultants; Headhunters for CDCs; Iran spoofing campaign)
- Academic event solicitation; using a conference as an opportunity to solicit sensitive information in person
- Tour groups/delegation visits; pretending to be lost and wandering into sensitive areas, or to gain physical access to automated systems (Global USA International Visitor Notification Form)
- Talent Recruitment Programs
- · Portable electronic media







National Security & Academia

Where do National Security and Academia meet?

- Contracts
- Cooperative Agreements
- Grants

*The federal government is the largest funder of academic research and development. In 2021, academic institutions performed \$90 billion in R&D, with \$49.5 billion (55%) funded by federal government.

US ranks highest among total funding of academic R&D

*US universities have 236 million net assignable square feet of science and engineering research space (33.9 million NASF added from 2011 to 2021)

* Source: National Science Foundation FY2022 Academic Research and Development Executive Summary (October 2023)



National Security & Academia

<u>Foreign Talent Recruitment Programs:</u> A foreign entity that compensates an individual in exchange for the agreement to transfer knowledge, expertise or other intellectual assets to the foreign entity.

- Contracts often in foreign language; English version may be different
- Foreign language version contains venue for breach and penalties for non-compliance
- Knowledge, expertise or intellectual property sought/required is often proprietary or trade secret
- Participants often encouraged to not disclose to their employers
- Requirement to acquire specific technology or recruit others with access to that technology;
 contracts may be voided for failure to produce
- Compensation includes cash, research funding, honorific titles, lab space, career advancement opportunities

<u>Note:</u> Participation alone is not illegal. Consequences due to failure to disclose to employers, federal sponsors, IRS, etc... All federal agencies now require disclosure on grant applications and disqualify participants in Malign Foreign Talent Recruitment Programs.



Malign Characteristics:

- "Country of Concern"
- Requests unauthorized transfer of intellectual property
- Compliance violates terms and conditions of existing federal award (establishment of laboratory, acceptance of faculty position)
- Extremely difficult to terminate requires litigation in foreign country
- Requirement to not disclose to employer
- Requirement to recruit others
- Requirement to engage in work that duplicates existing federal research award
- All original Agreement documents in foreign language



History

- Originally seen as prestigious and US researchers encouraged to apply and collaborate
- Foreign universities posted lists of "foreign talent" on their websites
- Lax federal enforcement of disclosure requirements
- Dear Colleagues letter from NIH Director Francis Collins August 20, 2018
- NSF bans employees from participation July 11, 2019; other federal agencies soon follow
- CHIPS & Science Act August 9, 2022 Identified "Countries of Concern" and prohibits "covered individuals " from participation in federally funded research project if they are participant in MFTRP
 - Research entities must query all personnel and also warn of prohibition



Consequences of Non-Disclosure

- Criminal Prosecution (as of 2023, only if evidence of actual tech transfer / economic espionage)
- Award Suspension
- Award Termination
- Final Payment Cancelled
- USG wide Suspension
- Debarment (University and/or Researcher)
- Voluntary Exclusions
- Bar on Serving as a Reviewer, Panelist or Consultant



Current NSF Attestation – Signed by PI

When the individual signs the certification on behalf of themselves, they are certifying that the information is current, accurate, and complete. This includes, but is not limited to, information related to current, pending, and other support (both foreign and domestic) as defined in 42 U.S.C. §§ 6605. Misrepresentations and/or omissions may be subject to prosecution and liability pursuant to, but not limited to, 18 U.S.C. §§ 287, 1001, 1031 and 31 U.S.C. §§ 3729- 3733 and 3802.

Previous NSF Attestation – Signed by University Authorized Representative

By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances * and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)



National Security & Academia

Expansion of Reporting Requirements - NIH

- "Dear Colleague" Letter from NIH Director on 08/20/2018
- Through 06/10/2024, 258 Researchers investigated by NIH for nondisclosure
- 112 (43%) fired or resigned
- 232 (91%) received funding from China
- 178 (69%) received undisclosed foreign grant; 134 (52%) foreign talent awards
- 47 (18%) owned a foreign company or held foreign patents
- 216 (84%) serious violations (either NIH or employer policy)
- 48 (18%) resulted in repayments to NIH (total \$35.9 million)
- 5 (2%) resulted in DOJ actions (\$17.7 million in fines and penalties)
- 55 (21%) institution excluded from grants
- 167 (65%) researcher removed from the grant
- 197 (76%) researcher removed from peer review



National Security & Academia

Foreign Talent Recruitment Programs:



"In order to further improve work guaranteeing the safety of overseas talent, work units **should not use emails, instead use phone or fax when carrying out the interview process.** Candidates should be notified under the name of inviting them to China to participate in an academic conference or forum. Written notices **should not include the words "Thousand Talents Plan"** (emphasis added)

Examples: Sixth Zongjun Hu (sent via Research Gate)

Invitation for 2024 Chinese Research Projects Funding Opportunity
O Sixth Zongjun Hu to you Jan 15, 2024

Report

Hope this message finds you in good health. I'm Zongjun Hu and I'm working for Jiangsu Qingfei Talent Technology Co., Itd. (http://www.qingfeitalent.com/) It is a registered Chinese based company, located in Nanjing, Jiangsu Province. The company serves more than 1,000 enterprises, spreading across the globe, and is a strategic partner of the local governments of Shanghai, Hangzhou, Suzhou, Wuxi, Nantong, and Ningbo. We help enterprises to hire high-profound scientists from across the globe for using their talent to develop new technology. Moreover, the program is also designed for those talents who can convert an idea into a useful product. A high amount of funds is allocated for this program.

I'm inviting you to apply for a China's project called Qiming Plan. You could google it. It is similar to a previous project called Thousand Talents program. You can search it on wiki. Since this program is kinda secret, there is no official channel for talents aboard themselves to apply for. Chinese gymt leave these stuff to companies like mine. Our job is to find talents like you, then we will first collect your materials and fill out the government application form in Chinese as required. Because it is not the application time now, we will find the most suitable job for you based on your major, research direction and company needs before the designated time. And our income comes from the government's compensation. That's the reason why we will never ask you for money. Regardless of whether you are selected or not, the project does not require any cost from you.



Examples: American Advanced Educational Association (AAEA)

Sender: Jenette Tseng < aaearesearch@gmail.com >

Date: March 2, 2024 GMT-6 7:17:02 AM Recipient: @southalabama.edu

Subject: Research Funding Matching Opportunities

Professor xxxxxxxxx : Hello!

We are AAEA, our website is www.aaeaa.org. Located in Boston, eastern United States, it is a non-profit organization initiated by scholars from various countries. Among them, Professor Thomas Patterson from the Harvard Kennedy School of Government, Academician Berthold Horn from the MIT School of Computer Science, and Roland Eils, an academician from the European Academy of Sciences and the German Academy of Sciences, are our AAEA mentors. Our core purpose is to coordinate universities and scientific research resources in various countries, and assist in the construction and development of university laboratories in various countries, so that more scholars have the opportunity to improve their scientific research conditions and have broader development space in their respective research fields.

We are currently cooperating with a talent project fund of funds in Zhejiang Province, with a management scale of approximately 6 billion. They specialize in investing in potential talents and projects. We noticed that your research is very cutting-edge. If you are interested in communicating, we will arrange for you to connect with the fund. You will have half an hour to explain your research direction and prospects, and the fund will evaluate it. If it passes the joint review, you will receive an unconditional grant of US\$ 20.000 to US\$100.000.

If you are interested, we will make an appointment for a meeting. We look forward to hearing from you.

good luck,

Jen Tseng
Asia-Pacific Representative
American Advanced Educational Association
50 Gardner St. Newton MA 02458
www.aaeaa.org



Examples: Advanced American Educational Association (AAEA)

WHO WE ARE

The American Advanced Educational Association (AAEA), is located in Cambridge, MA, United States. It is a non-profit organization initiated by a group of American college scholars.

AAEA is committed to coordinate the teaching and scientific research resources of the Top colleges and universities in United States, focus on developing new scientific projects that furthers the field of study, and inspiring and educating future generations of scientists and technologists so that more scholars and students have the opportunity to obtain a broader and further development in their respective research fields. At present, AAEA has ensured the numerous of the on-going projects have fulfilled as much as resources they need including equipment purchase, R&D fund support, research materials update, and research assistant recruitment. So far, AAEA has been cooperating with dozens of research groups and laboratories from the top universities including Harvard University, Carnegie Mellon University, Massachusetts Institute of Technology, Columbia University, Stanford University and Pennsylvania University.

WHAT WE DO

In the future, AAEA will consolidate more laboratory resources and information, such as joint laboratories, academic exchanges between laboratories and research groups, recruitment of scientific research assistants, etc. As well as helping more laboratories and research scientists obtain funds, technology advances, personnel support.



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Registrar MR: http://whois.aliyun.com
updated bate: 204-02-007035-3187-3287
Creation Date: 2018-01-31708:25:50
Registry Expiry Date: 2028-01-31708:25:50
Registrar: ALIBABA.COM SINGAPORE E-COMMERCE PRIVATE LIMITED
 Registrar IANA ID: 3775
Reğistrar Abuse Contact Email: DomainAbuse@service.aliyun.com
Registra Abuse Contact Phone: +86.1065985888

Domain Status: autoRenewPeriod https://icann.org/epp#autoRenewPeriod

Registry Registrant ID: REDACTED FOR PRIVACY

Registry Registrant Name: REDACTED FOR PRIVACY
 Registrant Organization: Xu Ning
Registrant Street: REDACTED FOR PRIVACY
Registrant City: REDACTED FOR PRIVACY
Registrant State/Province: Zhejiang
  egistrant Postal Code: REDACTED FOR PRIVACY
 Registrant Country: CN
Registrant Phone: REDACTED FOR PRIVACY
Registrant Phone Ext: REDACTED FOR PRIVACY
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Admin Fax Ext: REDACTED FOR PRIVACY
Tech Name: REDACTED FOR PRIVACY
Tech Organization: REDACTED FOR PRIVACY
Tech Street: REDACTED FOR PRIVACY
Tech City: REDACTED FOR PRIVACY
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Tech Phone: REDACTED FOR PRIVACY
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Tech Email: Please query the RDDS service of the Registrar of Record identified in this output for information on how to contact the Registrant, Admin, or Tech contact of the queried domain name.
Name Server: dns19.hichina.com
Assees Server: (dns20.hichina.com
DNSSEC: unsigned
URL of the ICANN whois Inaccuracy Complaint Form: https://www.icann.org/wicf/
>>> Last update of WHOIS database: 2024-03-14T13:50:06Z <<<
 or more information on Whois status codes, please visit https://icann.org/epp
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Dr. Charles Lieber

Harvard University

- Chair of Harvard's Chemistry and Chemical Biology Department
- Received over \$15 million in funds from DoD and NIH both require disclosures of foreign funds
- Did not disclose talent recruitment contract and affiliation with Wuhan University of Technology (WUT) from 2012 -2017
- Paid \$1.5 million to establish nanoscience research lab at WUT
- \$50k per month for salary
- Obligated to work for WUT "not less than nine months per year"
- Arrested in January 2020 and charged with failure to disclose foreign funding; superseding indictment charging tax offenses for not reporting income
- Convicted in December 2021 of false statements (18 USC 1001) and tax charges sentenced to time served, \$50k fine, \$33.6k restitution, 6 months home confinement, and 2 years supervised release



Stanford University

- False Claims Act civil action brought against Stanford due to failure to disclose current and pending support received by 12 professors who were PIs on 23 separate grant awards
- Between 2015 and 2020, Stanford received awards from 3 military branches, NASA, and NSF, and PIs did not disclose foreign funding, to include from a foreign government's national science foundation
- As a result of failure to disclose, funding agencies were not aware that at least one researcher was "overcommitted", pledging to conduct well in excess of 12 months of research each year.
- Stanford agreed to \$1.9 million settlement with DOJ on October 2, 2023



New York City-based Medical Research Facility

- Facility employee applied for visa at Russian Consulate in NYC to visit Russia
- Employee was an émigré who wanted to visit family in Russia
- Targeted for recruitment by SVR (Russian Foreign Intelligence Service)

SVR Agent Codename Bull: "They (documents provided by Bull) were cutting edge medical research paid for by the US Government. Most described cutting edge experiments performed by scientists searching for cures for disease, such as cancer and aids....The reports were extremely technical, and I noticed each had a dollar amount in the index that described exactly how much the U.S. government had spent to pay for this research. Most cost in excess of several million dollars. The center ordered....as many reports as possible. The SVR bragged that it managed to obtain scientific research that cost the US government forty million dollars for the price of eight hundred dollars in airplane tickets".

Comrade J (2007) – Pete Early (p. 273-274)



<u>Undisclosed University – Part 1</u>

- Medical Researcher approximately \$750k per year in funding over a 3 year period – majority from NIH – research licensing potential
- Three (3) separate trips to China 2016 2019
- Trip #1 (2016)
 - Approached at conference in US by colleague from another US university
 - PRC paid for speaking tour regarding research to five (5) universities in China + honoraria
 - Side trips to historic sites between speaking engagements
 - Spouse allowed to accompany



<u>Undisclosed University – Part 2</u>

- Trip #2 (2018)
 - Presentation regarding research at City University of Hong Kong (CUHK)
 - Invitation in appreciation for writing a letter of recommendation for promotion of colleague at CHUK
 - All expenses paid, but no honorarium
- Trip #3 (2019)
 - US based colleague asked researcher to speak at 2 conferences in August 2019
 - 1st location unknown; 2nd location Weifang Medical University (WMU)
 - WMU offers posts for "Taishan Scholars"; affiliated with Thousand Talents Program
- All travel approved through University; researcher watered down presentation to ensure no proprietary (but no peer or supervisory review)





Song Guo Zheng

Ohio State / Penn State

- Professor of Internal Medicine at Ohio State and Penn State
- Numerous false statements to NIH and employers regarding participation in Chinese talent programs
- Provided results of NIH funded research to PRC, which benefited their expertise in rheumatology and immunology.
- Arrested on May 22, 2020, after he arrived in Anchorage, AK aboard a charter flight, preparing to fly to China. He was carrying a briefcase containing 2 laptops, 3 cell phones, several USB drives, several silver bars, deeds for property in China, and other items.
- Pled guilty and admitted that he lied on NIH applications to receive over \$4.1 million to develop China's expertise in rheumatology and immunology.
- Sentenced to 37 months in federal prison for making false statements to federal authorities, and ordered to pay \$3.4 million restitution to NIH, and \$413,000 to Ohio State.
- Deported from the US after completion of sentence currently Dean of the School of Cell & Gene Therapy at Shanghai Jiao Tong University School of Medicine



<u>Iran Example - 2022</u>

- IRGC member contacted US academic via LinkedIn from spoofed account of legitimate French biologist Samuel Valable
- "Valable" suggested a zoom meeting, which took place in August 2022
- During the meeting, "Valabale" appeared in only grainy stills, and blamed it on a bad internet connection
- "Valable" mentioned a specific book on numerous occasions and stated that the book was his source material for some research
- "Valable" sent a supposed Google Books link in the chat box with the name "googlebook"
- Cybersecurity researchers identified the IRGC member as affiliated with Charming Kitten APT and the link as designed to acquire academic's login credentials



Multiple US Universities (Iran (2013 - 2018)

- Coordinated cyber intrusion into IT systems at 144 US universities + 176 other foreign universities
- · Conducted at behest of IRGC and benefited IRGC and Iranian universities
- Targeted thousands of accounts, mainly belonging to professors, and stole IP which cost the US universities at least \$3.4 billion to procure
- Conducted online reconnaissance of professors of interest and their published articles
- Spearphishing emails sent to target professors purporting to be from professor at another university interested in victims' published article; email contained links supposedly to other articles of interest to victim
- Clicking on links led to malicious domain that appeared to be login page for victim's home university
- Tricked many professors into thinking that they had been logged off and entering User Name and Password
- Cyber actors used stolen credentials to exfiltrate journals, theses, research, etc
- Most interested in STEM fields (useful in WMD production)
- 31.5 terabytes stolen from 3,768 accounts in US



Resources:

- NSF SECURE Center: https://www.securecenter.uw.edu/
- CIA World Factbook: https://www.cia.gov/the-world-factbook/
- Visual Compliance: https://www.visualcompliance.com/
- Defense Counterintelligence and Security Agency (DCSA): https://www.dcsa.mil/
- Office of Foreign Assets Control: https://ofac.treasury.gov/
- Open Source resources:
 - Internet search engines
 - Electronic translators
- Counter Intelligence Briefings
- Classified Resources

