Chinese Talent Plans Create Opportunities for Economic Espionage and Theft of Trade Secrets

The FBI Counterintelligence Division, in coordination with the Office of Private Sector, prepared this LIR to provide information to academia regarding Chinese Talent Plans which contribute to the loss of US intellectual property through economic espionage and theft of trade secrets. Chinese Talent Plans help incentivize the illicit transfer of technology to China from the United States and other developed nations in furtherance of China’s national, military, and economic goals.¹

Although, the United States welcomes international research collaboration, it is critical for US institutions and individuals to be aware of the financial risk and potential legal pitfalls of these programs.

What are Talent Plans?

Talent Plans are vehicles used by a foreign government to recruit individuals for the purpose of transferring technology or expertise. Though many countries now utilize these programs, China remains the most prolific Talent Plan sponsor. There are hundreds of Talent Plans overseen by Chinese national and local government entities. These programs are not limited to targeting ethnic Chinese; there are sub-programs specifically tailored to recruit non-ethnic Chinese experts in a variety of sectors identified as Chinese government priorities.²

The vast number of students, researchers, scientists, engineers, business persons, and professionals in the United States, combined with US leadership in key technologies, makes the United States a priority target for Talent Plan recruitment efforts. Some Talent Plans allow awardees to participate on a part-time basis³, makes it easier for recruits to be employed through Talent Plans while simultaneously maintaining their US-based employment and resulting access to US intellectual property (IP).

Impact of Chinese Talent Plans

As of 2017, the Chinese press reported that Talent Plans have successfully recruited 6,000 high-level recruits associated with key national programs.⁴ Additional media reporting noted China’s efforts to lure scientists from overseas institutions brought major advances to Chinese military technologies, including highly sensitive technologies such as hypersonics, missile defense systems, acoustically advanced submarines, and clean energy.
Other notable areas which benefited from China’s efforts are clean nuclear energy and wind tunnel design. High numbers of recruits come from prominent US national laboratories which receive substantial federal funding for basic and applied defense research which can often be a precursor to sensitive research projects. Chinese Talent Plans not only impact businesses, universities, and labs but also affect the academic clout of researchers and scientists themselves. A theft or unauthorized transfer creates a risk that someone could take credit for the researcher’s efforts, thereby negatively impacting the researcher’s credibility and potential future streams of funding.

Information for US Businesses, Universities, and Granting Institutions

- **Talent Plan participants have a contractual agreement with a foreign government.** The Chinese Communist Party vets all Talent Plan applicants and oversees the recruitment process. Participants sign a contractual agreement with a Chinese university, state-owned enterprise, business, or research laboratory. These contracts can potentially put a recruit in violation of confidentiality agreements, non-compete requirements, and US grant requirements for disclosing foreign sources of funding.

- **Talent Plan participation incentivizes the transfer of IP or technology.** Talent Plan applicants must demonstrate capability in or access to a technology not possessed by China or have the ability to create a finished project in a short timeline. Applicants often leverage their current US-based work projects in their application process. They are encouraged to provide China with a more advanced (next generation) version of their US-based work.

- **Talent Plans create a one-way transfer of technology and expertise.** Talent Plan participants agree to be subject to Chinese law, including National Security, Intellectual Property, and Secrecy Laws. This prohibits Talent Plan participants from sharing any new technology developments or breakthroughs with current US entities without special authorization, undermining reciprocity of research.

- **Talent Plan participants are often required to recruit others into the program.** Participants are often under contractual agreement to recruit other experts into the Talent Plan. This is often at the expense of the Talent Plan participant’s current employer, as participants are most likely to recruit their co-workers and often make use of their employer’s time and resources to do this.

Information for Individual Researchers and Academics

Though involvement in the Talent Plans, recruits have been observed committing export-control law violations, economic espionage and theft of trade secrets, and grant fraud. Additionally, Talent Plan participation may put an individual in violation of conflict of interest policies with their employer or federal grant funding agency. In addition to criminal penalties, individuals may stand civilly liable if they violate their agreements with their employer. Specific case examples are provided to educate the public to help individuals comply with the law and avoid similar negative legal consequences.
APPENDIX: A

Export Control Violations and Economic Espionage Convictions

In December 2016, Dr. Long Yu pleaded guilty to conspiring to commit Economic Espionage for taking F-22 and F-35 engine designs to support Talent Plan research in China. In November 2014, Dr. Long—who at the time was employed at United Technologies Corporation (UTC)—was apprehended while attempting to board a flight to China while in possession of hundreds of gigabytes of proprietary manufacturing process information, including export restricted data. Dr. Long later admitted he was taking this information to China in support of his Chinese Talent Plan position at a Chinese Government laboratory. In court documents, Dr. Long confirmed he used his knowledge of US technology to apply for multiple Talent Plan positions, and he did so while still employed at a US cleared defense contractor. Dr. Long told investigators he was admonished by Talent Plan recruiters on two separate occasions that he would eventually need to show “proof” of his work in the United States, even after he told them it was export controlled.\textsuperscript{27,28}

Grant Fraud

In September 2018, Yiheng Percival Zhang, a former Virginia Tech professor studying artificial sweeteners was found guilty of conspiring to commit federal grant fraud, making false statements, and obstruction by falsification. In 2015, Zhang conspired to submit fraudulent grant proposals to the National Science Foundation. The grant funds obtained would be used for research Zhang knew had already been done in China at the Tianjin Institute for Industrial Biotechnology, Chinese Academy of Sciences. Zhang intended to use the grant funds for other projects rather than for the projects for which the funds were requested. Additionally, Zhang and co-conspirators did not disclose additional research funding received from the PRC government or their participation in the Chinese Talent Plans.\textsuperscript{29}
Theft of Trade Secrets Conviction

In September 2016, Huang Xiwen was convicted of theft of trade secrets for stealing clean coal technology from his US based employer and providing it to a Chinese based competitor. He was sentenced to 5 years imprisonment. As early as 2013, while still working for his US-based employer, Huang applied for positions, grants, and Talent Plan funding in exchange for his employer’s clean coal technology. Huang admitted receiving approximately $297,000 (USD) from China’s Shanghai Thousand Talents Program and Hubei 100 Talent Plan. Investigators determined Huang also received funding from a private China-based company to develop the stolen technology. Huang eventually used the funds to form his own private company to commercialize stolen trade secrets in China.30

Conflict of Interest Law Conviction

In 2010, Dr. Wang Chunzai entered into contractual work agreements with two Talent Plans, the Thousand Talents Plan and the Changjiang Scholars. Dr. Wang was also an employee of the National Oceanic and Atmospheric Administration (NOAA) and one of the world’s foremost experts on ocean-atmosphere interaction, climate change, and hurricanes.

Through employment contracts associated with the Plans, Dr. Wang was obligated to conduct work for the Chinese Government, while maintaining his status as a US Government employee. Dr. Wang’s simultaneous employment with the US and Chinese Governments constituted a knowing and willful violation of US law. He pleaded guilty to Title 18, U.S. Code, Section 209, in February 2018.31
## Traffic Light Protocol (TLP) Definitions

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<th>Color</th>
<th>When should it be used?</th>
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<td><strong>TLP:RED</strong></td>
<td>Not for disclosure, restricted to participants only. Sources may use TLP:RED when information cannot be effectively acted upon by additional parties, and could lead to impacts on a party's privacy, reputation, or operations if misused.</td>
<td>Recipients may not share TLP:RED information with any parties outside of the specific exchange, meeting, or conversation in which it was originally disclosed. In the context of a meeting, for example, TLP:RED information is limited to those present at the meeting. In most circumstances, TLP:RED should be exchanged verbally or in person.</td>
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<td><strong>TLP:AMBER</strong></td>
<td>Limited disclosure, restricted to participants' organizations. Sources may use TLP:AMBER when information requires support to be effectively acted upon, yet carries risks to privacy, reputation, or operations if shared outside of the organizations involved.</td>
<td>Recipients may only share TLP:AMBER information with members of their own organization, and with clients or customers who need to know the information to protect themselves or prevent further harm. Sources are at liberty to specify additional intended limits of the sharing; these must be adhered to.</td>
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<td><strong>TLP:GREEN</strong></td>
<td>Limited disclosure, restricted to the community. Sources may use TLP:GREEN when information is useful for the awareness of all participating organizations as well as with peers within the broader community or sector.</td>
<td>Recipients may share TLP:GREEN information with peers and partner organizations within their sector or community, but not via publicly accessible channels. Information in this category can be circulated widely within a particular community. TLP:GREEN information may not be released outside of the community.</td>
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<tr>
<td><strong>TLP:WHITE</strong></td>
<td>Disclosure is not limited. Sources may use TLP:WHITE when information carries minimal or no foreseeable risk of misuse, in accordance with applicable rules and procedures for public release.</td>
<td>Subject to standard copyright rules, TLP:WHITE information may be distributed without restriction.</td>
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### ENDNOTE REMOVED PRIOR TO RELEASE

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