

**The Thin Line Between Academic Collaboration and Economic Espionage:
A Study of *United States v. Hu***

By Christy White

I. Introduction.

Anming Hu, University of Tennessee professor, was arrested on February 27, 2020,¹ charged with three counts of wire fraud in violation of 18 U.S.C. § 1343 and three counts of making false statements in violation of 18 U.S.C. § 1001.² Professor Hu was the target of an FBI investigation which began in March 2018.³ The FBI believed Professor Hu was part of the Thousand Talents Program described by the lead investigator as “a Chinese government-sponsored program attempting to acquire U.S. science and technology and transfer it back to China to aid . . . the Chinese military and economy.”⁴ This investigation seemed to be fueled, at least in part, by the Department of Justice’s China Initiative, a program announced in November 2018 as a “strategic priority of countering Chinese national security threats and reinforces the President’s overall national security strategy.”⁵ Professor Hu’s trial was held June 7-11, 2021. After two full days of deliberation, the jury delivered a message to the Court stating, “Your Honor, we regret to inform you that the jury has reached an impasse. It appears that no amount of additional time will change the outcome.”⁶ Professor Hu was acquitted of all charges on September 9, 2021.⁷

¹ Trial Tr. vol. IV, 190, *United States of America v. Hu*, No. 3:20-cr-21 (E.D. Tenn. Sept. 9, 2021).

² Indictment, *United States of America v. Hu*, No. 3:20-cr-21 Doc. 1 at 14-15 (E.D. Tenn. Sept. 9, 2021).

³ Trial Tr. vol. IV, *supra* note 1 at 174.

⁴ Trial Tr. vol. IV, *supra* note 1 at 177.

⁵ THE UNITED STATES DEPARTMENT OF JUSTICE, <https://www.justice.gov/nsd/information-about-department-justice-s-china-initiative-and-compilation-china-related> (last visited Nov. 22, 2021).

⁶ Trial Tr. vol. VII, 14, *United States of America v. Hu*, No. 3:20-cr-21 (E.D. Tenn. Sept. 9, 2021).

⁷ Memorandum Op. & Ord., *United States of America v. Hu*, No. 3:20-cr-21 Doc. 141 at 1 (E.D. Tenn. Sept. 9, 2021).

The investigation of Professor Hu began as an economic espionage case. “Economic espionage is a major drain on competitive advantage, unique [intellectual property], and market share.”⁸ The Economic Espionage Act (“EEA”), 18 U.S.C. § 1831⁹, was enacted October 11, 1996, to combat this. After signing the bill into law, then President Bill Clinton stated, “[the EEA] strengthens our protections against the theft or misuse of proprietary business information. It will help us crack down on acts like software piracy and copyright infringement that cost American businesses billions of dollars in lost revenues. And it will advance our national security.”¹⁰

Despite hopes that the EEA would strengthen the country’s ability to prosecute those who seek to steal or misuse trade secrets, only ten defendants have been convicted under the EEA (as of November 5, 2021).¹¹ Implementation of the China Initiative, the latest push by the executive

⁸ Randolph A. Kahn, Economic Espionage in 2017 and Beyond: 10 Shocking Ways They Are Stealing Your Intellectual Property and Corporate Mojo, AMERICAN BAR ASSOCIATION (May 18, 2017), https://www.americanbar.org/groups/business_law/publications/blt/2017/05/05_kahn/ (last visited Nov. 22, 2021).

⁹ 18 U.S.C.S. § 1831 (LexisNexis, 2021) (emphasis added).

(a) In general. Whoever, intending or knowing that the offense will **benefit any foreign government, foreign instrumentality, or foreign agent**, knowingly—

(1) steals, or without authorization appropriates, takes, carries away, or conceals, or by fraud, artifice, or deception obtains a trade secret;

(2) without authorization copies, duplicates, sketches, draws, photographs, downloads, uploads, alters, destroys, photocopies, replicates, transmits, delivers, sends, mails, communicates, or conveys a trade secret;

(3) receives, buys, or possesses a trade secret, knowing the same to have been stolen or appropriated, obtained, or converted without authorization;

(4) attempts to commit any offense described in any of paragraphs (1) through (3); or

(5) conspires with one or more other persons to commit any offense described in any of paragraphs (1) through (3), and one or more of such persons do any act to effect the object of the conspiracy, shall, except as provided in subsection (b), be fined not more than \$5,000,000 or imprisoned not more than 15 years, or both.

(b) Organizations. Any organization that commits any offense described in subsection (a) shall be fined not more than the greater of \$10,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided.

¹⁰ Statement by President William J. Clinton upon Signing H.R. 3723, 32 WEEKLY COMP. PRES. DOC. 2040 (October 14, 1996).

¹¹ See Melanie Reid, *A Comparative Approach to Economic Espionage: Is Any Nation Effectively Dealing With This Global Threat?*, 70 U. MIAMI L. REV. 757, 771 (Spring 2016) (itemizing and describing the only successful prosecutions under the Economic Espionage Act since its inception in 1996 through 2014). The idea for the table in this footnote and the information contained in the first six entries came from this article by Melanie Reid. This author used the same formatting and entries for the first six cases and the same formatting for her additions to the table.

Year	Case Name	Jurisdiction	Case No.	Company	Trade Secret	Foreign Entity	Country	Sentence
2006	United States v. Fei Ye & Ming Zhong	Court of Appeals for Ninth Circuit	436 F.3d 1117 (9th Cir. 2006)	NEC Electronics; Sun Microsystems, Inc.; Transmeta Corporation	Microchip blueprints	Defendants' privately owned Chinese company	China	1 year in prison
2006	United States v. Xiaodong Meng	Northern District of California	CR 04-20216	Quantum3D, Inc.	nVSensor	Royal Thai Air Force, Royal Malaysian Air Force & China's Navy Research Center	Thailand, Malaysia, China	24 months in prison
2011	United States v. Dongfan "Greg" Chung	Court of Appeals for the Ninth Circuit	659 F.3d 815 (9th Cir. 2011)	Boeing	Aviation Technologies	China Aviation Industry Corp; The People's Republic of China	China	188 months in prison, and 3 years supervised release
2011	United States v. Kexue Huang	Southern District of Indiana	2011 WL 6386398	Dow AgroSciences; Cargill, Inc.	Biochemicals	Chinese University	China; Japan	87 months in prison, 3 years of supervised release
2011	United States v. Elliot Doser	District of Massachusetts	1:11-CR-10268 (D. Mass Dec. 21, 2011)	Akamai Technologies, Inc.	Customer and employee lists and contact information	Israeli Government	Israel	6 months in prison, 2 years of supervised release, and a fine of \$25,000
2014	United States v. Walter Liew, & USA Performance Technology, Inc.	Northern District of California	2014 WL 2586329	E.I. du Pont de Nemours & Company ("DuPont")	Titanium Dioxide ("TiO2" used in Oreo(R) Whitening Recipe)	Pangang Group Limited Company	China	Fine of \$25,000, 15 years in prison, and a fine of \$511,667.82
2016	United States v. Yu Long	District of Connecticut	3:16-cr-00229	Major Defense Contractor	U.S. Air Force Metals Affordability Initiative	China	China	\$200 assessment
2017	United States v. Gregory Allen Justice	Central District of California	2:16-cr-00499	Cleared Defense Contractor	Defense Communications Technology	--	Russia	60 months imprisonment \$200 assessment
2021	United States v. Xiaorong You	Eastern District of Tennessee	2:19-cr-00014	Eastman Chemical Coca-Cola Akzo-Nobel BASF Dow Chemical PPG Toychem Sherwin Williams	Formulations for BPA-free coatings for inside of beverage cans	Weihai Jinhong Group; Italian company	China; Italy	Scheduled for 11/01/2021. If the sentencing hearing occurred, no information has been released.
2021	United States v. Yanjun Xu a/k/a Xu Yanjun a/k/a Qu Hui a/k/a Zhang Hui	Southern District of Ohio – Western Division	1:18-cr-00043	GE Aviation Safran Group	Unique design and composite materials used to manufacture jet engine fan blades and fan blade encasements	Nanjing University of Aeronautics & Astronautics; Commercial Aircraft Corporation of China; China Ministry of State Security	China	Guilty verdict entered 11/08/2021. Sentencing date TBD.

branch to curtail economic espionage to China, has led to detainments and arrests; however, only two of those have led to successful convictions under § 1831, *United States v. Xiaorong You* and *United States v. Xu Xanjuan*. (See table in footnote 11.) Although these convictions have occurred, many more alleged spies have been prosecuted and/or convicted on lesser and easier to prove charges¹² such as trade secrets (18 U.S.C. § 1832),¹³ wire fraud (18 U.S.C. § 1343),¹⁴ or false statements (18 U.S.C. § 1001).¹⁵ Convictions under these statutes are easier to obtain

¹² *Id.* at 771-72. See also Ellen Nakashima & David Nakamura, *China Initiative Aims to Stop Economic Espionage. Is Targeting Academics Over Grant Fraud 'Overkill'?*, THE WASHINGTON POST, September 15, 2021 at 11:00 a.m. EDT. https://www.washingtonpost.com/national-security/china-initiative-questions-dismissals/2021/09/15/530ef936-f482-11eb-9738-8395ec2a44e7_story.html (last visited Nov. 22, 2021).

¹³ 18 U.S.C.S. § 1832 (LexisNexis 2021) (emphasis added).

(a) Whoever, with intent to convert a trade secret, that is related to a product or service used in or intended for use in interstate or foreign commerce, to the economic **benefit of anyone other than the owner thereof**, and intending or knowing that the offense will, injure any owner of that trade secret, knowingly—

(1) steals, or without authorization appropriates, takes, carries away, or conceals, or by fraud, artifice, or deception obtains such information;

(2) without authorization copies, duplicates, sketches, draws, photographs, downloads, uploads, alters, destroys, photocopies, replicates, transmits, delivers, sends, mails, communicates, or conveys such information;

(3) receives, buys, or possesses such information, knowing the same to have been stolen or appropriated, obtained, or converted without authorization;

(4) attempts to commit any offense described in paragraphs (1) through (3); or

(5) conspires with one or more other persons to commit any offense described in paragraphs (1) through (3), and one or more of such persons do any act to effect the object of the conspiracy, shall, except as provided in subsection (b), be fined under this title or imprisoned not more than 10 years, or both.

(b) Any organization that commits any offense described in subsection (a) shall be fined not more than the greater of \$5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided.

¹⁴ 18 U.S.C.S. § 1343 (LexisNexis 2021).

Whoever, having devised or intending to devise any scheme or artifice to defraud, or for obtaining money or property by means of false or fraudulent pretenses, representations, or promises, transmits or causes to be transmitted by means of wire, radio, or television communication in interstate or foreign commerce, any writings, signs, signals, pictures, or sounds for the purpose of executing such scheme or artifice, shall be fined under this title or imprisoned not more than 20 years, or both. If the violation occurs in relation to, or involving any benefit authorized, transported, transmitted, transferred, disbursed, or paid in connection with, a presidentially declared major disaster or emergency (as those terms are defined in section 102 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5122)), or affects a financial institution, such person shall be fined not more than \$1,000,000 or imprisoned not more than 30 years, or both.

¹⁵ 18 U.S.C.S. § 1001 (LexisNexis 2021).

(a) Except as otherwise provided in this section, whoever, in any matter within the jurisdiction of the executive, legislative, or judicial branch of the Government of the United States, knowingly and willfully—

(1) falsifies, conceals, or covers up by any trick, scheme, or device a material fact;

(2) makes any materially false, fictitious, or fraudulent statement or representation; or

(3) makes or uses any false writing or document knowing the same to contain any materially false, fictitious, or fraudulent statement or entry;

shall be fined under this title, imprisoned not more than 5 years or, if the offense involves international or domestic terrorism (as defined in section 2331 [18 USCS § 2331]), imprisoned not more than 8 years, or both. If the matter

because they do not have the requirement of proving that the spy's actions have benefitted a foreign country. Only § 1831 has that requirement.

There is no denying that government security is an important priority; however, some worry that “legitimate concerns about Chinese espionage are being twisted into an irrational ‘Red Scare’”¹⁶ and leads one to wonder where the line is drawn between academic collaboration and economic espionage.

Part II of this paper will examine the history of the Economic Espionage Act and the various programs (both domestic and foreign) impacting the use of it to stop foreign countries from benefitting from American research. Part III will explore issues surrounding the inability to obtain convictions under the Act and the oft-used lesser charges by specifically examining why Professor Hu was acquitted and how that impacts the effectiveness of the Act going forward. Part IV proposes that enforcement of the EEA should be enhanced by setting guidelines for the government as to which cases should be prosecuted, specifically implementing uniform safeguards and restrictions across agencies regarding which individuals can receive agency grant money for scientific research, and by requiring training of scholars, university personnel, and

relates to an offense under chapter 109A, 109B, 110, or 117, or section 1591 [18 USCS §§ 2241 et seq., 2250, 2251 et seq., 2421 et seq., or 1591], then the term of imprisonment imposed under this section shall be not more than 8 years.

(b) Subsection (a) does not apply to a party to a judicial proceeding, or that party's counsel, for statements, representations, writings or documents submitted by such party or counsel to a judge or magistrate [United States magistrate judge] in that proceeding.

(c) With respect to any matter within the jurisdiction of the legislative branch, subsection (a) shall apply only to—

(1) administrative matters, including a claim for payment, a matter related to the procurement of property or services, personnel or employment practices, or support services, or a document required by law, rule, or regulation to be submitted to the Congress or any office or officer within the legislative branch; or

(2) any investigation or review, conducted pursuant to the authority of any committee, subcommittee, commission or office of the Congress, consistent with applicable rules of the House or Senate.

¹⁶ Andrew Chongseh Kim, *Prosecuting Chinese “Spies”: an Empirical Analysis of the Economic Espionage Act*, 40 Cardozo Law Review, 749, 754 (Dec. 2018).

agency (including FBI) personnel to make clear the distinction of the difference between espionage and scholarly collaboration.

II. The Chinese-American Relationship, Programs of Importance, and the Economic Espionage Act.

A. Chinese/U.S. Relationship.

According to the most recent Worldwide Threat Assessment of the US Intelligence Community, China and Russia together present the greatest threats of espionage and cyberattack to the United States.¹⁷ Currently, the United States remains the world's strongest economy with China as the second strongest.¹⁸ China's goal is to be the world's leader in science and technology by 2050.¹⁹ China wants U.S. technology to aid in the advance their economic and military needs,²⁰ and China's top priorities target the following categories of scientific development:

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

¹⁷ DANIEL R. COATS, DIR. NAT'L INTELLIGENCE, STATEMENT FOR THE RECORD, WORLDWIDE THREAT ASSESSMENT OF THE US INTELLIGENCE COMMUNITY, SENATE SELECT COMMITTEE ON INTELLIGENCE, at 5 (Jan. 29, 2019), <https://www.dni.gov/files/ODNI/documents/2019-ATA-SFR---SSCI.pdf> (last visited Nov. 22, 2021).

¹⁸ International Monetary Fund, World Economic Outlook Database (April 2021), <https://www.imf.org/en/Publications/WEO/weo-database/2021/April/> (data retrieved Nov. 5, 2021).

¹⁹ Micah Springut, Stephen Schlaikjer, and David Chen, *China's Program for Science and Technology Modernization: Implications for American Competitiveness*, THE U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION, January 2011 (citing CHINESE ACADEMY OF SCIENCES, *The Science & Technology Revolution and China's Modernization: Thinking on China's Science & Technology Development Strategy toward 2050*. The English version is available through a joint publication agreement between Science Press Beijing and Springer-Verlag: Science and Technology in China: A Roadmap to 2050: Strategic General Report of the Chinese Academy of Sciences (November 2009)).

²⁰ See UNITED STATES SENATE, PERMANENT SUBCOMMITTEE ON INVESTIGATIONS, COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS, STAFF REPORT, THREATS TO THE U.S. RESEARCH ENTERPRISE: CHINA'S TALENT RECRUITMENT PLANS, at 1 (Nov. 18, 2019), <https://www.hsgac.senate.gov/imo/media/doc/2019-11-18%20PSI%20Staff%20Report%20-%20China's%20Talent%20Recruitment%20Plans.pdf> (last visited Nov. 22, 2021).

9. Major New Drug Development
10. Major Infectious Disease Prevention and Cure
11. Large-Scale Airplanes
12. High Resolution Earth Observation Technology
13. Manned Spaceflight.²¹

Although there have recently been increased concerns about Chinese economic espionage, these concerns were not exclusive to the Trump administration. In 2013, then President Obama “pledge[d] . . . to do more to combat the threat of Chinese espionage.”²²

B. China’s Talent Programs.

In the 1980s the Chinese government determined that something needed to be done to incentivize Chinese scientists, entrepreneurs, and academics to return to China upon completion of education, fellowships, and/or employment abroad.²³ In 2007, Li Yuanchao became the director of China’s Organization Department and Leadership Group on Talent.²⁴ Under his leadership, the department determined that in order combat “brain drain” and encourage Chinese talent to return to China, the nation needed to focus on improving working conditions (such as higher salaries and better laboratories) and awarding special privileges to them in terms of work benefits, as well as developing short-term talent programs (government grant funding) to increase the flow of ideas.²⁵

²¹ *Id.* at 17.

²² Kim, *supra* note 16 at 759.

²³ David Zweig & Siqin Kang, America Challenges China’s National Talent Programs, CTR. FOR STRATEGIC AND INT’L STUDIES, 1, 3-4 (May 2020), <https://www.csis.org/analysis/america-challenges-chinas-national-talent-programs> [<https://perma.cc/SX75-P3F5>].

²⁴ *Id.* at 3.

²⁵ *Id.* See also Ellen Barry and Gina Kolata, *China’s Lavish Funds Lured U.S. Scientists. What Did It Get in Return?*, THE NEW YORK TIMES, Feb. 6, 2020, <https://www.nytimes.com/2020/02/06/us/chinas-lavish-funds-lured-us-scientists-what-did-it-get-in-return.html> (reporting that under the TTP, salaries for scientists are often three to four times higher and researchers feel that they can focus more on their research because they do not have to constantly deal with seeking out and requesting funding from grant programs).

Based on those recommendations, China has developed more than two hundred talent recruitment plans.²⁶ Developed in 2008, the Thousand Talents Program (TTP) is the largest of those programs and is run by the communist government of China.²⁷ According to a Senate subcommittee report, the TTP incentivizes researchers to “transmit the knowledge and research they gain [in the United States] to China in exchange for salaries, research funding, lab space, and other incentives.”²⁸ Recently, Thousand Talent participants have become a focus for the Department of Justice because United States officials believe the program has been used as a conduit for funneling ideas from American laboratories to China.²⁹

Daniel R. Coats, Director of National Intelligence submitted a statement for the record to the Senate titled “Worldwide Threat Assessment of the US Intelligence Community” on January 29, 2021.³⁰ The report states an expectation that “China’s intelligence services will exploit the openness of American society, especially academia and the scientific community, using a variety of means.”³¹ According to a Senate report, the use of the talent programs to target specifically technology sectors is one of those means.³² Some scientists and researchers investigated by the FBI have obtained patents in China based on work funded by the United States government

²⁶ UNITED STATES SENATE STAFF REPORT, THREATS TO THE U.S. RESEARCH ENTERPRISE: CHINA’S TALENT RECRUITMENT PLAN, *supra* 20, at 1.

²⁷ See Zweig & Kang, *supra* note 23, at 2-3.

²⁸ UNITED STATES SENATE, PERMANENT SUBCOMMITTEE ON INVESTIGATIONS, COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS, STAFF REPORT, *supra* note 26, at 1.

²⁹ Barry & Kolata, *supra* note 25.

³⁰ DANIEL R. COATS, DIR. NAT’L INTELLIGENCE, STATEMENT FOR THE RECORD, WORLDWIDE THREAT ASSESSMENT OF THE US INTELLIGENCE COMMUNITY, SENATE SELECT COMMITTEE ON INTELLIGENCE, *supra* at note 17.

³¹ *Id.* at 14.

³² See UNITED STATES SENATE, PERMANENT SUBCOMMITTEE ON INVESTIGATIONS, COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS, STAFF REPORT, *supra* note 26, at 20 and 72.

through its agencies have links to Chinese talent programs.³³ Other scientists and researchers are suspected of setting up Chinese labs that “secretly duplicated American research.”³⁴

Rao Yi, director of the Chinese Institute for Brain Research and one of the scholars who originally proposed the TTP, says that reports that the TTP has been used to gain access to intellectual property “are a big fat lie.”³⁵

C. Department of Justice’s China Initiative.

According to the FBI’s Mission Statement, the Bureau’s number two priority is to “Protect the U.S. against foreign intelligence, espionage, and cyber operations.”³⁶ Additionally, the largest part of the Bureau’s budget is committed to “enhanc[ing] cyber and counterintelligence capabilities.”³⁷ Announced in November 2018, the China Initiative reflects the FBI’s mission of protecting the country from threats of espionage.³⁸ Some of the goals of the initiative are:

- Identify priority trade secret theft cases, ensure that investigations are adequately resourced, and work to bring them to fruition in a timely manner and according to the facts and applicable law;
- Develop an enforcement strategy concerning non-traditional collectors (e.g., researchers in labs, universities and the defense industrial base) that are being coopted into transferring technology contrary to U.S. interests;
- Educate colleges and universities about potential threats to academic freedom and open discourse from influence efforts on campus;
- Equip the nation’s U.S. Attorneys with intelligence and materials they can use to raise awareness of these threats within their Districts and support their outreach efforts;

³³ Gina Kolata, *Scientists with Links to China May Be Stealing Biomedical Research*, THE NEW YORK TIMES, October 30, 2019, <https://www.nytimes.com/2019/11/04/health/china-nih-scientists.html>. See also Barry & Kolata, *supra* note 25.

³⁴ Kolata, *supra* note 33.

³⁵ *Id.*

³⁶ FEDERAL BUREAU OF INVESTIGATION, <https://www.fbi.gov/about/mission>, (last visited Nov. 23, 2021) (stating the goal of protecting the nation from espionage and related operations is second only to protecting the nation from acts related to terrorism).

³⁷ *Id.*

³⁸ THE UNITED STATES DEPARTMENT OF JUSTICE, <https://www.justice.gov/usao-edtn/pr/researcher-university-tennessee-arrested-wire-fraud-and-making-false-statements-about> (last visited Nov. 23, 2021).

- Evaluate whether additional legislative and administrative authorities are required to protect our national assets from foreign economic aggression.³⁹

Current Attorney General, Merrick Garland, has given no indication that the Chinese Initiative will be terminated in the near future.⁴⁰

On the other hand, there is much criticism of the China Initiative. Although Garland asserts that the department is taking care to avoid negatively stereotyping Asian Americans or Chinese citizens living in America,⁴¹ critics claim that the DOJ unfairly targets Asians.⁴² Stanford University faculty recently published a letter to Attorney General Garland stating that the initiative has “deviated from its message” and “is harming the United States’ research and technology competitiveness and it is fueling biases that, in turn, raise concerns about racial profiling.”⁴³ Andrew Kim’s study of racial disparities in economic espionage cases argues that targeting Asians as potential spies may be unnecessarily creating the phenomena of “researching while Asian” while acknowledging that the DOJ may have legitimate reasons to be more concerned about individuals spying by or for China.⁴⁴

Since the inception of the China Initiative, there have been forty-seven publicly reported instances of Chinese espionage directed at the United States.⁴⁵ CSIS developed the list of

³⁹ THE UNITED STATE DEPARTMENT OF JUSTICE, *supra* note 5.

⁴⁰ Chris Strohm, *Garland Says U.S. Will Counter China Without Stereotyping Asians*, BLOOMBERG, June 22, 2021, <https://www.bloomberg.com/news/articles/2021-06-22/garland-say-u-s-will-counter-china-without-stereotyping-asians> (last visited Nov. 23, 2021).

⁴¹ *Id.*

⁴² Matt Appuzzo, *After Missteps, U.S. Tightens Rules for National Security Cases*, The New York Times, Apr. 26, 2016, <https://www.nytimes.com/2016/04/27/us/after-missteps-us-tightens-rules-for-national-security-cases.html> (last visited Nov. 23, 2021) (reporting “Several of the cases fell apart when defense lawyers confronted prosecutors with new evidence or previewed the arguments they planned to make in court”).

⁴³ WINDS OF FREEDOM, <https://sites.google.com/view/winds-of-freedom>, (last visited Nov. 23, 2021); *See also* Nakashima & Nakamura, *supra* note 12.

⁴⁴ Kim, *supra* note 16, at 757.

⁴⁵ CTR. FOR STRATEGIC AND INT’L STUDIES, *Survey of Chinese Espionage in the United States Since 2000*, <https://www.csis.org/programs/technology-policy-program/survey-chinese-linked-espionage-united-states-2000> (last visited Nov. 23, 2021).

reported instances from press releases compiled and described by the Department of Justice under “Information About the China Initiative and a Compilation of China-Related Prosecutions Since 2018.”⁴⁶ Interestingly, this compilation does not include the charges against Anming Hu which leads one to conclude that more arrests have been made that have not been advertised.

D. Academia’s Tradition of Openness.

It is common knowledge that academia has a long-standing tradition of openness and collaboration in regard to research. Researchers and professors are encouraged to develop collaborative relationships with other universities—both nationally and internationally. They are also encouraged to apply for grant funding to support their research. Grant funds often come from government agencies or programs.

The National Science Foundation (NSF) is one of the government entities that provides grants to researchers. The NSF began prohibiting federal employees from participating in foreign talent recruitment organizations, but the NSF does not prohibit grant recipients from participation in such programs.⁴⁷ “These NSF-funded researchers are the individuals mostly likely to be members of foreign talent recruitment plans. . . .[The] NSF relies on sponsoring institutions to vet and conduct due diligence on potential grantees [and] has no dedicated staff to ensure compliance with NSF grant terms.”⁴⁸ The federal government also prohibits NASA from providing funding to an individual or entity that participates, collaborates, or coordinates bilaterally with China or any-Chinese-owned company (which by definition includes Chinese universities).⁴⁹ Like the NSF,

⁴⁶ THE UNITED STATE DEPARTMENT OF JUSTICE, *supra* note 5.

⁴⁷ UNITED STATES SENATE STAFF REPORT, THREATS TO THE U.S. RESEARCH ENTERPRISE: CHINA’S TALENT RECRUITMENT PLAN, *supra* 20, at 7.

⁴⁸ *Id.*

⁴⁹ *Id.*

NASA does not vet any of its grant applicants. It leaves such vetting to the university who submits the grant.⁵⁰

As part of its development strategy toward 2050, China is funding a large amount of research in science and technology.⁵¹ America TTP participants who receive grant money from China report that participation in the program does not mean that China owns their research. Chemist Jon Antilla told the New York Times, “There is nothing China is getting from my science that they’re keeping from the world. I publish everything I get.”⁵²

E. The Economic Espionage Act -- 18 U.S.C.S. § 1831 (economic espionage) and § 1832 (trade secrets).

The purpose of the EEA as stated when presented to Congress was to enhance economic and national security interests of the United States by “increas[ing] the maximum penalties for the theft of trade secrets by criminals who knowingly commit economic espionage to benefit a foreign entity. By strengthening penalties and enhancing criminal deterrence, the bill protects U.S. jobs and technologies while promoting investments and innovation.”⁵³ Acts punished under §1831 include the element of benefitting a foreign government whereas § 1832 covers secrets that benefit anyone other than the true owner.⁵⁴ Although it increased the penalties for wrongdoers, it also increased the proof necessary to obtain a conviction.⁵⁵ As stated in the introductory section, this means that many wrongdoers are charged with lesser offenses like wire fraud and false statements.⁵⁶

⁵⁰ Trial Tr. vol. III, 170-77, *United States of America v. Hu*, No. 3:20-cr-21 (E.D. Tenn. Sept. 9, 2021).

⁵¹ Kolata, *supra* note 25.

⁵² Kolata, *supra* note 25.

⁵³ H.R. REP. No. 112-610, at 2 (2012).

⁵⁴ See Megan K. Maher and Jon Michael Thompson, *Intellectual Property Crimes*, 39 AM. CRIM. L. REV. 763, 767 (Spring 2002).

⁵⁵ Reid, *supra* note 11, at 771.

⁵⁶ See 18 U.S.C.S. § 1831, *supra* note 9; 18 U.S.C.S. § 1832, *supra* note 13.

The Center for Strategic International Studies publishes an on-going Survey of Chinese Espionage in the United States Since 2000 which lists “160 publicly reported instances of Chinese espionage directed at the United States since 2000.”⁵⁷ Of these one hundred sixty incidents, twenty-four percent occurred between 2000-2009; forty-seven percent occurred between 2010-April 2018; and twenty-nine percent occurred between April 2018 - October 2021.⁵⁸ A recent study indicates that sixty-two percent of the defendants charged under the EEA since 2009 have been of Asian Heritage.⁵⁹

About 80 percent of all economic espionage prosecutions brought by the U.S. Department of Justice (DOJ) allege conduct that would benefit the Chinese state, and there is at least some nexus to China in around 60 percent of all trade secret theft cases.⁶⁰ This costs the United States billions of dollars annually.⁶¹

III. Why the jury did not convict Professor Hu.

According to the lead FBI agent investigating Professor Hu, the investigation was initiated to determine whether Professor Hu had violated the EEA.⁶² At trial the agent said, “. . . the only information I had that he was part of this foreign talent program and knowing that the program is attempting to acquire science and technology from the United States, my investigation was to determine whether this activity was occurring.”⁶³ Under § 1831, it is a crime to knowingly and without authorization deceptively take trade secret and convey it to a foreign

⁵⁷ CTR. FOR STRATEGIC AND INT’L STUDIES, *Survey of Chinese Espionage in the United States Since 2000*, *supra* note 45.

⁵⁸ *Id.*

⁵⁹ Kim, *supra* note 16, at 753 (discussing the phenomena he calls “researching while Asian”).

⁶⁰ THE UNITED STATES DEPARTMENT OF JUSTICE, *supra* note 5.

⁶¹ THE UNITED STATES DEPARTMENT OF JUSTICE, *supra* note 5. *See also* Kim, *supra* note 16, at 758 (stating that the estimated costs of economic espionage range from \$19 billion to \$445 billion each year).

⁶² *See* Trial Tr. vol. I, 42-43, *United States of America v. Hu*, No. 3:20-cr-21 (E.D. Tenn. Sept. 9, 2021). *See also* Trial Tr. vol. IV, *supra* note 1, at 177. Based on statements made by the defense attorney in his opening argument and on statements made the lead FBI agent in his testimony, it appears that this investigation began because internet searches connected Anming Hu’s name with BJUT and at least one Chinese talent program.

⁶³ Trial Tr. vol. IV, *supra* note 1, at 217.

country, instrumentality, or agent knowing or intending for it to benefit that foreign country, instrumentality, or agent.⁶⁴ Apparently, the FBI did not have enough information to charge Professor Hu with economic espionage because, upon arrest, Professor Hu was charged with three (3) counts of Wire Fraud under 18 U.S.C. § 1343 and three (3) counts of False Statements under 18 U.S.C. § 1001⁶⁵ (two of the lesser statutes under which economic espionage suspects are often charged). All of these counts relate to invoices pertaining NASA projects for which Professor Hu had submitted bids for research grants.⁶⁶ No superceding indictment was entered after the FBI search of Hu’s home, university office, and all computer files because these searches did not produce any evidence that would show that Professor Hu sent information to China.

After the trial in Professor Hu’s cause of action ended in a mistrial, one of the jurors, Wendy Chandler, said, “I walked in assuming the government had some reason to be there, assuming that they were coming at it with honesty and integrity, [but i]t was the most ridiculous case.”⁶⁷ She further stated that she “pretty horrified by the lack of evidence. . . . [Hu] made a series of clerical errors. . . . He’s a scientist—not a human resources man. I didn’t see any sign of his hiding anything.”⁶⁸ Obviously, since they were at an impasse rather than a return of a “not guilty” verdict, at least some jurors did not agree with Wendy Chandler’s assessment.

In analyzing the trial transcript, it appears that at least one of the reasons that the jurors could not come to an unanimous decision was likely as to whether Professor Hu acted “knowingly and willfully” to deceive The University of Tennessee (UT) and National

⁶⁴ See 18 U.S.C. § 1381(a), *supra* note 9.

⁶⁵ Indictment, *supra* note 2, at 14-15.

⁶⁶ See Indictment, *supra* note 2.

⁶⁷ Mara Hvistendahl, “*Ridiculous Case*”: Juror Criticizes DOJ for Charging Scientist with Hiding Ties to China, THE INTERCEPT (June 23, 2021, 5:42 p.m.) (last visited Nov. 23, 2021).

⁶⁸ Nakashima & Nakamura, *supra* note 7.

Aeronautical and Space Administration (NASA). It also appears that the cross-examination of the FBI agent by the defense attorney showed the agent to be unnecessarily uncooperative when answering the defense's questions in such a way that made him appear to target Professor Hu.

A. False Statements—18 U.S.C. § 1001.

For a defendant to be found guilty of false statements, the government must prove that: (i) the defendant made a statement; (ii) the statement was false or fraudulent; (iii) the statement was material; (iv) the false statement was made by the defendant knowingly and willfully; and (iv) the statement had to do with activity within the jurisdiction of a government agency. If the evidence shows the defendant caused a statement to be made, the defendant does not actually have to make the false statement himself.⁶⁹

1. UT's Conflict of Interest and Disclosure Forms.

Professor Hu began working for the University of Tennessee in 2013.⁷⁰ His employment began in November which is unusual for university professors.⁷¹ Because of his hire date, he did not go through a typical orientation. Instead, he was given materials to read about university policy and forms to fill out. Hu's testimony indicates that he tried to review these materials and fill out the forms carefully and precisely.⁷²

One of the forms was a conflict of interest form. The form was intended for professors to disclose any outside activities that might impact their ability to perform their jobs at the university.⁷³ The form stated in part, "Examples of such [outside] interests include, but are not limited to, receiving payment for services exceed \$10,000, having equity interest exceeding five

⁶⁹ Memorandum Op. & Ord., *supra* note 7 at 50 (citing *United States v. Brown*, 151 F.3d 476, 486 (6th Cir. 1998)).

⁷⁰ Trial Tr. vol. V, 110, *United States of America v. Hu*, No. 3:20-cr-21 (E.D. Tenn. Sept. 9, 2021).

⁷¹ *Id.* at 122.

⁷² *Id.* at 122-23.

⁷³ Trial Tr. vol. II, 107-08, *United States of America v. Hu*, No. 3:20-cr-21 (E.D. Tenn. Sept. 9, 2021).

percent or \$10,000, and holding intellectual property rights.”⁷⁴ Although the testimony of university officials indicated that this language was included on the form to give examples not limits on the amount made,⁷⁵ Professor Hu later testified that his job through BJUT paid him less than \$5,000 annually (and this payment was really more like a reimbursement for travel, hotel, and food expenses for trips to China).⁷⁶ Further, as a nine-month employee, Professor Hu’s association with BJUT occurred only during the summer or between other school sessions.

UT professors are also required to fill out annual activity disclosure reports.⁷⁷ Professor Hu’s reports indicate his collaboration with Chinese students, speaking engagements in China, and publications in Chinese journals which identified Professor Hu as a professor at both UT and BJUT.⁷⁸ However, his annual disclosures never specifically listed his professorship at BJUT.⁷⁹ Professor Hu’s explanation of this seems to be that the position was at best a summer job for which he received little if any pay.⁸⁰ Professor Hu also had multiple versions of his curriculum vitae, some of which showed his affiliation with BJUT while other versions did not.⁸¹

The prosecution framed this lack of disclosure as “hiding his relationship with a Chinese university.”⁸² The defense, however, showed that rather than “hiding” his relationship, Hu simply did not disclose his relationship because he did not think it fit the parameters of what needed to be disclosed to the university based on his employment status.⁸³

⁷⁴ *Id.* at 111.

⁷⁵ *Id.* at 141-43.

⁷⁶ Trial Tr. vol. V, *supra* note 69, at 121-22.

⁷⁷ Trial Tr. Vol. II, *supra* note 73 at 119, 126-33.

⁷⁸ Trial Tr. vol. II, *supra* note 73 at 54-67.

⁷⁹ Trial Tr. vol. II, *supra* note 73 at 126-32.

⁸⁰ Trial Tr. vol. V, *supra* note 69 at 120-21.

⁸¹ Indictment, *supra* note 2 at 6.

⁸² Trial Tr. vol. I, *supra* note 62, at 10-11, 25.

⁸³ Trial Tr. vol. VI, 76-9, *United States of America v. Hu*, No. 3:20-cr-21 (E.D. Tenn. Sept. 9, 2021).

2. NASA's Funding Restrictions.

Under the Department of Defense and Full-Year Appropriations Act, Public Law 112-10 and the Consolidated and Further Continuing Appropriations Act of 2012, Public Law 112-55, NASA was prohibited from using funding to enter into or fund any grant or cooperative agreement of any kind to participate, collaborate, or coordinate bilaterally in any way with China or any Chinese-owned company. "China or any Chinese-owned company" was defined by NASA to include Chinese universities.⁸⁴

The testimony involving NASA's prohibitions on funding made it clear that neither the NASA employees, subcontractors, nor universities seeking to obtain grants from NASA entirely understand this prohibition and that there were few checks and balances in place to ensure that grants did not include collaboration with China or a Chinese owned company.⁸⁵ In fact, it became clear during the trial that UT adjusted its training regarding Chinese affiliations and NASA funding only after Professor Hu had submitted his last NASA proposal.⁸⁶ NASA grant officials indicated that they rely upon the submitting university to have vetted its personnel for purposes of complying with the policy and do no independent background checks.⁸⁷

Dr. Yoseph Bar-Cohen of NASA's Jet Propulsion Laboratory invited Professor Hu to submit a grant application to be part of a NASA project.⁸⁸ Professor Hu provided Dr. Bar-Cohen with a letter from a colleague in China whom Professor Hu wanted to involve in the project.⁸⁹ Dr. Bar-Cohen promptly let Professor Hu know that the Chinese colleague could not participate

⁸⁴ Indictment, *supra* note 2 at 1.

⁸⁵ Trial Tr. vol. III, *supra* note 50, at 147-93. (This section of the transcript contains testimony from Kathy Cooper and Kelcey Cole who both work with contracts at NASA.)

⁸⁶ Trial Tr. vol. III, *supra* note 50 at 79-81.

⁸⁷ Trial Tr. vol. IV, *supra* note 1, at 13.

⁸⁸ *Id.* at 113.

⁸⁹ *Id.* at 116-24.

in the project because of NASA's ban on Chinese collaboration in NASA projects.⁹⁰ Dr. Bar-Cohen knew that this colleague was a long-time collaborator with Professor Hu.⁹¹ Yet when Professor Hu adjusted his proposal to not include this colleague and resubmitted his proposal, it was accepted by Dr. Bar-Cohen.⁹² From this exchange, the jury could interpret that Professor Hu's understanding of the NASA policy was that there could be no collaboration on the project with China in any way not that Professor Hu himself could not collaborate with China in any way at all and still be involved in the NASA project.

Testimony from UT employees who work with grant proposal submittals also indicated confusion over NASA's Chinese collaboration restriction. Andrew Haswell of the contracts department told Professor Hu that NASA requires a document stating that the grant participant will comply with China funding restrictions.⁹³ "However, UTK always includes a special copy stating that, as we understand it, this restriction does not apply to faculty, staff, and students."⁹⁴

In the end, it appeared that neither NASA nor JPL nor UTK understood the Chinese restriction on grant funding. The jurors could see that if the administrators did not understand the restriction, then grant applicants could not be expected to understand it.

3. Language Barrier.

The FBI produced Fiona Yiu as an expert witness on Chinese language. Her job was to review translations by other translators from Chinese to English to ensure "the translation is a faithful representation of the source document rendered in English."⁹⁵ In cross-examination, Mr.

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.*

⁹³ Trial Tr. vol. II, *supra* note 73, at 217-59.

⁹⁴ *Id.* at 229.

⁹⁵ Trial Tr. vol IV, *supra* note 1, at 13.

Lomonaco pointed out inaccuracies in the translated documents despite the fact that the documents had been checked for accuracy.⁹⁶

Professor Hu's decision to testify at trial helped plant reasonable doubt that he "knowingly and willfully" made false statements. During Professor Hu's testimony, there were several instances where the fact that English was not Professor Hu's first language created difficulties in the line of questioning. For example, the prosecution entered into a line of questioning about Professor Hu's title at BJUT which was listed in places as "chair professor."⁹⁷ According to Professor Hu, "chair professor" means "a distinguished professor . . . not a regular."⁹⁸ Professor Hu tried to make it clear that this was different than the American interpretation of "chair" professor denoting high status, but the exchange was simply confusing.

Additionally, even some of the direct examination of Professor Hu by his own counsel—with whom he communicated regularly—highlights issues with language. An example of one of these confusing exchanges follows:

Q. I'm sorry, sir. You're not getting what in the U.S.?

A. Can you repeat it? I'm sorry.

Q. You said you're not getting something in the U.S. I didn't understand what you –

A. Oh, I didn't get the education because I get my first degree in China and the second Ph.D. degree in Canada.

Q. Maybe if you speak a little slower, I can understand. I'm sorry. It's probably my ears more than anything. So, go ahead.

⁹⁶ *Id.* at 41-46.

⁹⁷ Trial Tr. vol. V, *supra* note 69, at 238-41.

⁹⁸ *Id.*

A. So because of the – because as a professor, as social connections is very, very important. You know, the – mainly the job is to secure the funding.

The funding is needed to build the trusting. So my support at the ---

Q. Build what, sir?

A. Funding trust.⁹⁹

This type of confusing exchange that made it clear that, although Professor Hu is extremely intelligent (having earned a Ph.D. in physics and another Ph.D. in laser physics)¹⁰⁰ and is multilingual (he speaks Chinese, German, and English),¹⁰¹ the fact that English is not his first language caused issues when it came to communication. Again, this creates reasonable doubt that the *mens rea* element of the crime could be met. If Professor Hu does not always fully understand verbal exchanges in English, there must also be some issues with thoroughly understanding written English communications.

B. Testimony of the Investigating Agent.

Another issue that hurt the government's case, was the testimony of the investigating agent. When questioned by the prosecution, he was amicable and recalled the answers to every question presented. For example,

Q. Did he say anything else about the time frame of his employment at the university?

A. Yes. He told me that he was employed at the University of Tennessee as a member of the faculty for nine months and he had the summers off to do what he wanted.

⁹⁹ *Id.* at 111-12.

¹⁰⁰ *Id.* at 109.

¹⁰¹ *Id.* at 165.

Q. Did he indicate any view as to whether or not it would be okay to work for a China program and University of Tennessee?

A. Yes, he did.

Q. What did he say?

A. He said that if he worked for another organization that he would have to report it.

Q. Did he describe any -- any potential consequences that he was aware of for not reporting it?

A. Yes. He said that if he didn't report it, he could be terminated from employment at UT.¹⁰²

However, when questioned by the defense, the agent almost never seemed to recall the circumstances or details about a document or simply insisted he did not understand the question.

One such exchange between the defense attorney and the FBI agent is as follows:

A. What was the statement?

Q. That he told you in that initial interview that if he had a job, he would be in trouble. Something to that. Repeat what you said, if you would, please.

A. I don't understand your question. A job with who and trouble with what?

Q. You seem to be able to remember the answer when the U.S. attorney asks you the question. Do you recall the question when he said, "What did he tell you about a job in China?" Do you recall your answer?

A. I recall the question was in reference to my report that I wrote up when I conducted the interview of Anming Hu.¹⁰³

¹⁰² Trial Tr. vol. IV, *supra* note 1, at 180.

¹⁰³ *Id.* at 212.

During his testimony, there were several similar exchanges in which there were a number of recurring phrases that basically equated to a non-answer. A search of his testimony in the transcripts reveals the following:¹⁰⁴

Phrase	Response by Agent to Cross-Examination Vol. IV	Response by Agent to Cross-Examination Vol. V	Total
I don't remember.	7	7	14
I don't know.	14	8	22
I do not know.	3	0	3
I don't understand your question.	9	8	17
I don't recall.	2	0	2
Total			50

The defense's cross-examination of the agent comprises approximately seventy-seven pages of the trial transcript. Therefore, the agent could not recall something every one and one-half pages of testimony. The agent never used any of those phrases during examination by the prosecution. Another forty-six of the agent's responses asking the defense attorney to restate his question or clarify something. Combined together these non-responsive responses total almost thirty percent of the agent's testimony on cross-examination. Even when just reading the transcript on paper, this type of response reeks of hostility and makes the agent simply unlikable. The jury had to be affected by the way he responded to the defense counsel's questions.

C. Wire Fraud—18 U.S.C. § 1343.

The elements of wire fraud are (i) a scheme to defraud; (ii) use of interstate wire communications in furtherance of the scheme; (iii) intent to deprive the victim of money or

¹⁰⁴ These numbers were compiled from Agent Sadiku's testimony found in volumes IV (*supra* note 1 at 172-239) and V (*supra* note 69 at 5-78) of the trial transcript by simply using the search feature to search for occurrences of all phrases and confirming that they were used by the agent rather than an attorney or another witness.

property.¹⁰⁵ As a specific intent crime, the defendant committing the acts must intent to harm the victim.¹⁰⁶ In the Hu case, the victim was NASA. Here, the government has the same issues in proving the *mens rea* element of the crime. The evident presented creates reasonable doubt that Professor Hu acted with intent to deprive NASA. Further, the evidence showed that “NASA bargained for research on a scientific topic in exchange for providing funding to the research project.”¹⁰⁷ In other words, there was no direct evidence that NASA was defrauded.

V. Reforms Necessary to Bring About Change

Because the Thousand Talent Program and other similar Chinese programs have been linked so closely to economic espionage, the first reaction to changes that are needed in the EEA was to propose that an individual’s participation in a Chinese talent program should create a presumption of intent to benefit a foreign country, instrumentality, or agent under § 1831. However, further thought on the matter made it clear that this was an overreaction and that such an overreaction is borderline discriminatory and could lead to something akin to the “Red Scare” of the 1950s. The importance of protecting America and private companies from economic espionage must be balanced with the protection of the individual’s personal life, livelihood, and constitutional rights. It is important that prosecution is available under lesser charges since it is sometimes difficult to find evidence connecting the perpetrator to the country or entity intended to be benefitted. However, the ability to prosecute under lesser charges is undermined when the government chooses to prosecute without sufficient evidence to establish intent or simply overlooks the possibility that the potential defendant does not have the intent required to commit the underlying crime.

¹⁰⁵ 18 U.S.C. § 1343, *supra* note 14.

¹⁰⁶ Memorandum Op. & Ord., *supra* note 7 at 29-30.

¹⁰⁷ *Id.* at 40.

A. American universities and government agencies should require those involved in grant research to go through a vetting process.

If a simple Google search by an FBI investigator found that Anming Hu was affiliated with BJUT and a Chinese talent program, it is shocking that neither the University of Tennessee nor NASA was aware of this. Evidence provided at trial showed that Professor Hu had provided much of this information to UT. Professor Hu also made Dr. Bar-Cohen of JPL aware of his collaboration with a Chinese colleague at BJUT. Yet the connection never caused either entity to question this further.

Employees and subcontractors who work for many national laboratories or entities associated with the Department of Energy or Department of Defense to obtain a security clearance. The DOE, for example, ranks the clearance sensitivity level from Level 1 (non-sensitive with no clearance required) to Level 6 (national security and public trust with secret and high-risk clearance required).¹⁰⁸ The type of clearance required varies depending on the type of work the employee is hired to do. Almost all jobs today require some sort of back ground check. It seems logical that anyone bidding to do work on projects that are funded by government monies should go through some sort of vetting process depending upon the sensitivity of the type of research required.

The government agencies should be required to classify the type of sensitivity of each project they are placing out for bidding. Researchers should be required to have background checks (or security clearances) commensurate with the type of work they are bidding to do. The university that the researcher works for should provide access to and maintain the clearance for the researcher during his or her tenure with the university. This might slow the process, but it

¹⁰⁸ See <https://www.fedcas.com/wp-content/uploads/2012/05/Federal-Suitability-Security-Clearance-Chart.pdf> (last visited Nov. 23, 2021).

would ensure the kind of security the government seeks to make sure that the research benefits only the government agency contracting the work.

Additionally, the agencies (including the Department of Justice) and universities should work together to establish these guidelines so that there is uniformity. A panel should be appointed with representatives from academia and government agencies to develop guidelines for the level of background check that is required. Without this type of coordination and cooperation, problems like those experienced by UT and Professor Hu will continue to arise.

B. American universities and foreign nationals working at American universities should be trained to understand the difference between scientific collaboration and providing trade secrets to a foreign entity.

All foreign nationals coming to the United States that will be working in labs or performing high level research should be made aware that their participation in such a program equates to economic espionage. On their Visa applications and renewals, they should be required to disclose all affiliations with foreign talent programs, collaborations with scholars and/or universities in other countries, and any other affiliations that are not directly connected to the American university or company that they are coming to the U.S. to work with.

Universities in the United States should be made aware that while academic collaboration with international universities is encouraged, collaboration that shares sensitive information should never be shared, particularly if it has to do with research that results from United States grant funding. The FBI and DOJ should establish clear parameters as to where they consider academic collaboration has crossed into economic espionage. They should provide training to academics so that they know and understand where that line is so that professor and visiting foreign students will understand the government's expectations.

C. Advice for Prosecutors.

When prosecuting an economic espionage case, particularly one against academic researchers, the Department of Justice should choose its cases wisely. Absent independent evidence of wrongdoing, the case should have never been prosecuted. Independent evidence of wrongdoing could include information from a colleague with concrete examples of why he thinks the professor is committing economic espionage, emails from the university server showing sharing of sensitive information, or evidence indicating the researcher has received large sums of money.

The FBI's task of protecting the country from acts of espionage is an important one, but when the DOJ acts too hastily in bringing charges against those they merely think could be guilty of economic espionage in hopes that they will find more before trial, the DOJ undermines itself and the China Initiative. Bad publicity makes universities and private companies think twice about turning information about a potential spy over to the DOJ for further investigation since it could subject those universities and companies to civil liability when the entity has almost no choice other than to fire the potential spy.

The Hu case is an example of a case that should never have been prosecuted. No one from the university or NASA reported Hu doing anything wrong. According to the record, everyone was pleased with the work Professor Hu did both at the university and in fulfillment of the grant. There was no evidence Hu ever transferred trade secrets to the Chinese government. Additionally, Hu received conflicting information as to whether he could apply for the NASA grant from both the University of Tennessee and NASA.

VI. Conclusion.

Protecting America from acts of economic espionage is an important part of the FBI's mission. While it would be optimal to prosecute each act of economic espionage under § 1381 or §1382, § 1001 and § 1343 are important and valuable statutes used to prosecute individuals that are spying but the FBI cannot obtain enough evidence to connect the spy to the foreign entity. The ability to prosecute under these lesser (but important) charges should not be undermined by the trying individuals like Professor Hu who lacked the appropriate intent element of the underlying crime. Training for visiting scholars, for American professors, universities, and agencies so that everyone understands the line between economic espionage and collaboration, as well as appropriate security clearances and/or background checks should enable the FBI to focus its investigations where there are actually connections to nefarious activities which will, in turn, give more power to these important statutes.