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## ACADEMIC ECONOMIC ESPIONAGE?

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### ABSTRACT

*In 2018 the U.S. government announced that Chinese espionage was occurring in university research labs, and the Department of Justice subsequently made it a high priority to prosecute economic espionage in academia. The DOJ's grave concerns about espionage in academia have continued, and the Director of the FBI has lamented that American taxpayers are footing the bill for China's technological development. This geopolitical concern about espionage has had real world and personal consequences in academia. Since 2019, over a dozen high-profile criminal prosecutions have put*

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*prominent professors at major research universities across the country in handcuffs and almost all the professors have been convicted of a crime.*

*Yet, my investigation and analysis of these cases reveals much ambiguity about the very concept of academic economic espionage. Most telling, although labelled as spies, not one of the professors was actually charged with economic espionage. Unlike in the corporate arena, there are fundamental questions surrounding the feasibility of prosecuting espionage in the university context. I theorize that this is because academia is grounded not in a culture of ownership, but of openness and sharing. Accordingly, this Article posits that while there is no de jure exceptionalism for universities when it comes to espionage, there may be de facto exceptionalism due to the lack of a proprietary culture that is typically at the heart of espionage cases. The academic prosecutions and other signals suggest that may be shifting, however, as the legal structure and larger incentives are directed toward greater recognition of proprietary interests in academia.*

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## INTRODUCTION

Professor Xiaoxing Xi was a chaired professor and Interim Chair of the Physics Department at Temple University in Philadelphia.<sup>1</sup> Professor Xi was a “world-renowned expert in the field of magnesium diboride thin film superconducting technology.”<sup>2</sup> At about 6 a.m. on the morning of May 21, 2015, he was awakened to loud banging at his door; he ran out half-dressed to discover about a dozen Federal Bureau of Investigation (FBI) agents at his door with a battering ram.<sup>3</sup> They forcefully arrested him, placed him in handcuffs, and proceeded to enter his home and hold at gunpoint his wife (a physics professor at Penn State)<sup>4</sup> and two daughters (one of whom was an undergraduate at Yale and the other a 12 year-old).<sup>5</sup> He asked but was not told why he was being arrested.<sup>6</sup> He assumed it was a case of mistaken identity.<sup>7</sup> He was treated like a terrorist<sup>8</sup> and a common criminal while being fingerprinted, strip searched, cavity-checked, and interrogated for hours at the FBI’s Philadelphia field office.<sup>9</sup> His arrest received extensive news coverage, including from a local Philadelphia station which referred to him as an “international spy.”<sup>10</sup>

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1. Amelia Winger, *Judge Dismisses Most of Temple Physics Professor’s Lawsuit*, TEMPLE NEWS (Apr. 6, 2021), <https://temple-news.com/judge-dismisses-most-of-temple-physics-professors-lawsuit/> [<https://perma.cc/29CK-UDAF>].

2. *Xi v. Haugen*, No. 2:15-cr-00204, 2021 WL 1224164, at \*4 (E.D. Pa. Apr. 1, 2021); *Indictment at 1, United States v. Xi*, No. 2:15-cr-00204 (E.D. Pa. May 14, 2015) [hereinafter *Xi Indictment*].

3. Amended Complaint at 6, *Xi v. Haugen*, No. 17-cv-2132 (E.D. Pa. Apr. 1, 2021) [hereinafter *Xi Amended Complaint*].

4. His wife, Qi Li, was also a professor of physics at Pennsylvania State University. She was not charged under the indictment, but according to the Xis’ civil complaint on this matter, she suffered severe mental and physical symptoms from her husband’s arrest and took sick leave from her university duties. *Xi Amended Complaint*, *supra* note 3, at 4, 21.

5. *Xi Amended Complaint*, *supra* note 3, at 4, 6, 22.

6. *See id.* at 7.

7. Talks at Google, *The United States Wrongfully Arrested Me | Xiaoxing Xi*, YOUTUBE (Jan. 3, 2018), <https://www.youtube.com/watch?v=8IpatQ-X6AM> [<https://perma.cc/2DEC-P8QY>].

8. *Xi Amended Complaint*, *supra* note 3, at 17.

9. *Id.* at 7.

10. *Feds: Temple Professor Offered China Data on US-Made Device*, ABC NEWS (May 22, 2015), <https://6abc.com/temple-professor-alleged-scheme-to-share-china-data-xi-xiaoxing/735545/> [<https://perma.cc/73QY-8EEG>].

He eventually learned that he was being accused of sharing blueprints<sup>11</sup> of a pocket heater device with colleagues in China.<sup>12</sup> This was a device that he had licensed for his research, pursuant to a nondisclosure agreement.<sup>13</sup> After appearing before a magistrate judge, he was released on a \$100,000 bond secured by his home or cash.<sup>14</sup> He was ordered not to travel outside the Eastern District of Pennsylvania.<sup>15</sup> He had to surrender his passport, and he was not permitted to contact any potential prosecution witnesses.<sup>16</sup> Temple immediately suspended him; he lost his chairmanship as well as much of his research funding.<sup>17</sup> He was barred from campus and denied access to his lab and graduate students,<sup>18</sup> and he would incur substantial legal fees and expenses in defending himself.<sup>19</sup>

Professor Xi is not alone. From about 2019 to 2021 a spate of similar arrests would be made involving professors at Harvard, Massachusetts Institute of Technology (MIT), Emory, University of Florida, University of Kansas, University of Tennessee, University of Arkansas, Texas A&M University, and Ohio State University.<sup>20</sup> However, unlike Professor Xi, whose charges were ultimately dropped, other professors, like Dr. Charles Lieber, Chair of the Chemistry and Chemical Biology Department at Harvard,<sup>21</sup> would be convicted and sent to prison.<sup>22</sup> After thorough review and evaluation of the criminal files and circumstances that placed these prominent professors in handcuffs (“the academic prosecutions”),

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11. Months later, his attorneys discovered and presented evidence that the blueprints were not of the proprietary pocket heater but of another device which was publicly available. See Winger, *supra* note 1; Xi Amended Complaint, *supra* note 3, at 2.

12. Peter J. Toren, *Department of Justice’s ‘China Initiative’: Two Year Recap*, IP WATCHDOG (Jan. 3, 2021), <https://www.ipwatchdog.com/2021/01/03/departments-justices-china-initiative-two-year-recap/id=128644/> [<https://perma.cc/3DS5-7KDB>].

13. Xi Amended Complaint, *supra* note 3, at 8.

14. *Id.* at 7.

15. Complaint at 6, Xi v. Haugen, No. 17-cv-2132 (E.D. Pa. Apr. 1, 2021).

16. *Id.*

17. Toren, *supra* note 12.

18. Xi Amended Complaint, *supra* note 3, at 1.

19. *Id.* at 2.

20. See *infra* Part II.

21. *Harvard University Professor Indicted on False Statement Charges*, U.S. DEP’T OF JUST. (June 9, 2020), <https://www.justice.gov/opa/pr/harvard-university-professor-indicted-false-statement-charges> [<https://perma.cc/4TKB-RVZL>] [hereinafter *Harvard University Professor*].

22. See *infra* Part II.A.3.

this Article situates the cases and their implications within a broader juridical context.

The Article is the first to conduct an in-depth analysis of this new phenomenon, academic economic espionage, and to identify the deep theoretical ambiguity surrounding the concept. Unlike in the corporate arena where most economic espionage prosecutions have occurred,<sup>23</sup> there are fundamental questions surrounding the legal feasibility of espionage prosecutions in the university context. I posit that this is because academia is grounded not in a culture of ownership and secrecy, but of openness and sharing. Moreover, while situating the academic prosecutions within a historical context, this Article makes further contributions by demonstrating that these cases are set against a multi-dimensional backdrop where economic espionage, trade secrecy, national security, and broader geopolitical tensions are interwoven.

How did the academic prosecutions come about? U.S. officials have been alarmed that China has recruited and funded hundreds of American researchers and corporate employees under its various talent programs.<sup>24</sup> According to the FBI, “[t]hrough its talent recruitment programs, like the so-called Thousand Talents Program, the Chinese government tries to entice scientists to secretly bring our knowledge and innovation back to China—even if that means stealing proprietary information or violating our export controls and conflict-of-interest rules.”<sup>25</sup> The government views economic security “as a key component of national security and therefore” perceives “the illicit transfer of knowledge to a strategic competitor” through the talent programs as a threat to U.S. national security.<sup>26</sup>

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23. See *infra* Part III.

24. David Zweig & Siqin Kang, *America Challenges China's National Talent Programs*, 4 CHINESE BUS. & ECON. 1, 12 (2020), [https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/20505\\_zweig\\_AmericaChallenges\\_v6\\_FINAL.pdf](https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/20505_zweig_AmericaChallenges_v6_FINAL.pdf) [<https://perma.cc/LWZ5-6FCA>].

25. Christopher Wray, Dir., Fed. Bureau of Investigation, Remarks at the Hudson Institute's Video Event on China's Attempt to Influence U.S. Institutions (July 7, 2020) (transcript available at <https://www.fbi.gov/news/speeches/the-threat-posed-by-the-chinese-government-and-the-chinese-communist-party-to-the-economic-and-national-security-of-the-united-states> [<https://perma.cc/5FHB-RZEZ>]).

26. See Zweig & Kang, *supra* note 24, at 2.

Thus, under the Trump administration, in November 2018<sup>27</sup> the U.S. government announced the creation of the China Initiative led by the head of the National Security Division, Assistant Attorney General John Demers.<sup>28</sup> The purpose of the Initiative was to “identify priority Chinese trade secret theft cases, ensure that we have enough resources dedicated to them, and make sure that we bring them to an appropriate conclusion quickly and effectively.”<sup>29</sup> As relevant to this Article, the Initiative was motivated, in part, by the concern for espionage in academia. As Director of the FBI, Christopher Wray, expressed around the same time:

It’s a troublingly similar story in academia. Through talent recruitment programs like the Thousand Talents Program ... China pays scientists at American universities to secretly bring our knowledge and innovation back to China—including valuable, federally funded research .... [T]his means American taxpayers are effectively footing the bill for China’s own technological development. China then leverages its ill-gotten gains to undercut U.S. research institutions and companies, blunting our nation’s advancement and costing American jobs. And we are seeing more and more of these cases.<sup>30</sup>

And so began the intense focus on universities as “non-traditional collectors” of intelligence.<sup>31</sup> The enforcement of these “priority trade secret theft cases” was in full swing, and the government was sending a message (to China as well as to academia).<sup>32</sup> The academic prosecutions made headlines because they were highly unusual.<sup>33</sup> However, what made them remarkable, from my perspective, was

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27. *Attorney General Jeff Sessions Announces New Initiative to Combat Chinese Economic Espionage*, U.S. DEP’T OF JUST. (Nov. 1, 2018), <https://www.justice.gov/opa/speech/attorney-general-jeff-sessions-announces-new-initiative-combat-chinese-economic-espionage> [<https://perma.cc/N2QH-V36L>] [hereinafter *Attorney General*].

28. *Information About the Department of Justice’s China Initiative and a Compilation of China-Related Prosecutions Since 2018*, U.S. DEP’T OF JUST. (Nov. 19, 2021), <https://www.justice.gov/archives/nsd/information-about-department-justice-s-china-initiative-and-compilation-china-related> [<https://perma.cc/LB52-L7YL>] [hereinafter *Information*].

29. *Attorney General*, *supra* note 27.

30. Wray, *supra* note 25.

31. *Information*, *supra* note 28.

32. *Id.*

33. *See infra* Part III.



that the defendants were university professors—not corporate employees—against whom such cases were and are routinely filed.<sup>34</sup>

To better understand the broader significance of these cases, they must be framed within a wider lens. Thus, this Article compares them to industrial espionage prosecutions and finds that while there are similarities, the differences are instructive as they expose the challenges of pursuing espionage prosecutions in universities. Like industrial cases, the academic prosecutions involve prominent defendants, similar types of research information, and some connection to China whether through its talent programs or otherwise.<sup>35</sup> The key difference, however, is the setting. In the words of then Attorney General Jeff Sessions, “Chinese espionage [is] not just taking place against traditional targets like our defense and intelligence agencies, but against targets like research labs and universities.”<sup>36</sup> Thus, the government would now focus on prosecuting espionage in universities.

The main thrust of this Article is that there is a lack of clarity surrounding the very concept of academic economic espionage. That is because the proprietary culture that underpins corporate research is missing from academia and the system for prosecuting espionage relies on ownership, both legally and in practice. My examination and analysis of the academic prosecutions provides strong evidence of this opacity. For instance, not one of the professors was actually charged with espionage.<sup>37</sup> While all were essentially labelled as spies<sup>38</sup> for sharing research information with a Chinese entity or the Chinese government, their charges tended to be for lesser offenses like wire fraud, tax fraud, and failure to disclose foreign sources of funding in their grant applications to federal agencies like the National Institutes of Health (NIH).<sup>39</sup> Even one of the district judges, in granting a lighter sentence to one professor, observed that “[t]his is not an espionage case ... [m]aybe that’s what the

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34. See *infra* Part I.

35. See *infra* Part III.B.

36. *Attorney General*, *supra* note 27.

37. See *infra* Part II.A.

38. See, e.g., Xi Amended Complaint, *supra* note 3, at 1.

39. See *infra* Part II.B.2.

Department of Justice thought was going on, but that's not what was going on."<sup>40</sup>

Considering the purpose and spirit of the economic espionage statute, the geopolitical concern for national security embedded in trade secret theft, and the government's goal of neutralizing threats in academia to the same extent as those in industry, the absence of actual espionage charges is a striking difference.<sup>41</sup> Yet, the damage—and the point—is the same. As Professor Xi's and the other stories in this Article uncover, the professors were all charged and arrested for criminal conduct, at the point of arrest they lost (or almost lost) their jobs, their national and international reputations were shattered, and regardless of the outcome, which may or may not include prison, they faced financial ruin from legal expenses.<sup>42</sup> Indeed, perhaps because of the lesser charges, which ultimately were effective stand-ins for the espionage counts (and easier to prove), almost all the professors were convicted either from trials or plea agreements.<sup>43</sup>

The ambiguity is further illustrated by another notable difference that no universities were charged as defendants (only individual professors). One might think this may be because the universities were working together with the FBI and prosecutors to pursue rogue professors. However, that does not appear to have been the case. Unlike the typical industrial cases where companies would often be reporting alleged theft of their trade secrets to the FBI and seeking prosecution (often having already filed a civil action against the defendant), in the academic cases it appeared to be other government agencies such as the NIH reporting the alleged crimes,

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40. Nate Raymond, *Kansas Researcher Avoids Prison in Blow to Trump-Era China-Related Probe*, REUTERS (Jan. 18, 2023), <https://www.reuters.com/legal/kansas-professor-avoids-prison-blow-trump-era-china-related-probe-2023-01-18/> [<https://perma.cc/S97K-RGZS>]; see also *No Jail Time for Kansas Professor Convicted for Research Ties to China*, SCIENCE (Jan. 18, 2023), <https://www.science.org/content/article/no-jail-time-kansas-professor-convicted-undisclosed-research-ties-china> [<https://perma.cc/JG3D-SGWL>]; Docket, United States v. Tao, No. 2:19-cr-20052 (D. Kan. Aug. 21, 2019).

41. See *infra* Part III.B.2-3.

42. See *infra* Part II.A.

43. Of the eleven defendants whose court files I examined, eight were convicted on at least one charge. One was acquitted and two had charges dismissed (Chen and Xi). See *infra* Part II.A.

rather than the universities themselves.<sup>44</sup> The absence of meaningful involvement by universities in initiating the cases was consequential. For instance, in the case against Professor Xi, prosecutors had to dismiss their charges when they later learned that the schematics he allegedly shared were not of the proprietary pocket heater for which he was indicted, but for an entirely separate device which was publicly available.<sup>45</sup> Presumably, had the university initiated or been in close consultation with the FBI about the nature of the information at issue, prior to the charges being filed, this kind of rookie mistake would have been avoided.

Based on these and other observations, I surmise that while there is no *de jure* exceptionalism for universities when it comes to espionage, there may be *de facto* exceptionalism due to the lack of a proprietary culture and that, in turn, explains why prosecuting economic espionage in an academic setting is thorny.<sup>46</sup> Can trade secrets and proprietary information exist in an academic environment that prioritizes and depends upon a culture of openness? Universities, like all businesses, can have trade secrets. There is nothing about the status of a university as a not-for-profit or academic enterprise that would legally preclude its ownership of trade secrets.<sup>47</sup> However, most universities likely have not instituted a culture or an “infrastructure” to protect proprietary information in an intentional and systematic way.

There are signs, however, that the culture may be shifting, as the legal structure and incentives are directed toward greater recognition of proprietary interests in academia.<sup>48</sup> Universities have embraced other forms of intellectual property, such as patents, trademarks, and copyrights, that are more consistent with their public and open nature for publications, discoveries, and sports. However, rights and protections that depend on secrecy are more complicated. Indeed, universities are among the largest patent holders in the country,<sup>49</sup> and patents are often born from trade

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44. See *infra* Part III.C.3.

45. Winger, *supra* note 1; Xi Amended Complaint, *supra* note 3, at 2.

46. See *infra* Part IV.

47. See *id.*

48. See *infra* Part IV.A.

49. Elizabeth A. Rowe, *The Experimental Use Exception to Patent Infringement: Do Universities Deserve Special Treatment?*, 59 ME. L. REV. 283, 286 (2007).

secrets.<sup>50</sup> They have also taken full advantage of trademark protection, especially for sports: Ohio State University recently trademarked “the.”<sup>51</sup> Universities also actively engage in patent, copyright, and trademark litigation.<sup>52</sup> They are increasingly existing in a hybrid space where, while being academic, their advanced research and monetization efforts look much like their industrial counterparts.<sup>53</sup> For instance, there are growing relationships and partnerships with the private sector, whether for joint research or the formation of incubators from university research, that look and operate more like industrial than academic operations.<sup>54</sup>

The Article proceeds in four parts. Part I briefly discusses the Economic Espionage Act and its structure for criminalizing trade secret theft and espionage. The Part then contextualizes how China has been the focus of espionage prosecutions and the interconnectedness between trade secrets and national security from the U.S. government’s perspective. China’s talent programs, aimed at recruiting foreign scientific talent to further China’s scientific development and economic growth are also discussed, as well as the U.S. government’s response: the China Initiative.

Part II delves into the academic prosecutions that resulted from the China Initiative. It tells the story of about a dozen professors who were charged mainly between 2019 and 2021, coinciding with the Department of Justice’s (DOJ) China Initiative. Some key observations follow about these cases, including the prominence of the defendants and the implications of focusing enforcement on a singular target country (for example, the ethnicity of these defendants as predominantly Chinese is hard to overlook and has been criticized as racial profiling and prosecutorial abuse). To better contextualize these cases, Part III then introduces industrial prosecutions as a point of comparison, by describing a few cases of defendants who are corporate scientists, and the Part analyzes

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50. *Id.* at 306.

51. See Daniel Victor, *Ohio State University Trademarks ‘The,’* N.Y. TIMES (June 23, 2022), <https://www.nytimes.com/2022/06/23/us/the-ohio-state-university.html> [<https://perma.cc/RFJ3-SQSK>].

52. See *infra* Part IV.B

53. See *infra* Part IV.

54. See *infra* Part IV.

significant similarities and differences between the two groups of cases.

Finally, Part IV turns to the academic environment and discusses the absence of a proprietary culture of ownership. More specifically, it examines why academia lags behind industry in adopting secrecy protections, unlike other areas of intellectual property. Part IV proposes concrete practices and policies that universities might consider if they choose to create an infrastructure and culture that is more conducive to proprietary ownership and trade secrecy. The Part concludes that while there is no *de jure* exceptionalism for universities when it comes to espionage, the lack of a proprietary culture may create a *de facto* exceptionalism. It observes that the culture may be changing as the legal structure and incentives are directed toward greater recognition of proprietary interests in academia. To that end, the Part lists several practical lessons for academia and academic researchers from the academic prosecutions.

## I. ECONOMIC ESPIONAGE BACKGROUND

The Economic Espionage Act (EEA) is the federal statute criminalizing trade secret misappropriation and espionage.<sup>55</sup> The EEA gives federal authorities, under the auspices of the U.S. Department of Justice and local federal prosecutors, the power to investigate and prosecute individuals or companies who engage in criminal trade secret misappropriation.<sup>56</sup> The vast majority of prosecutions involve employees, former employees, and other company “insiders.”<sup>57</sup> However, acts of corporate espionage by outsiders are also covered by the EEA.<sup>58</sup>

Sections 1831 and 1832 of the EEA define the prohibited conduct under the Act.<sup>59</sup> Moreover, the decision of which of the two sections to apply turns on whether the theft was intended to benefit a foreign

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55. 18 U.S.C. §§ 1831-1832 (2013).

56. *See id.*

57. SHARON K. SANDEEN & ELIZABETH A. ROWE, TRADE SECRET LAW IN A NUTSHELL, 369-71 (2d ed. 2018).

58. *See* 18 U.S.C. §§ 1831-1832 (2013).

59. *See id.*

government.<sup>60</sup> If the theft was intended to benefit a foreign government, the conduct falls under section 1831.<sup>61</sup> By contrast, section 1832 governs all other thefts of trade secrets.<sup>62</sup> It applies when there is an intent to “convert a trade secret ... related to a product or service used in or intended for use in interstate or foreign commerce.”<sup>63</sup> Note that this section contemplates that the accused must intend or know that the conversion will harm the trade secret owner and inure to the benefit of someone other than the owner, which is relevant to the culture of ownership discussed in this Article. Both sections 1831 and 1832 make an attempt to steal trade secrets and a conspiracy to steal trade secrets a crime.<sup>64</sup> Thus, it is conceivable that someone may be prosecuted under the EEA even though no trade secrets were, in fact, stolen.<sup>65</sup> As one court has explained: “to find a defendant guilty of conspiracy, the prosecution must prove (1) that an agreement existed, (2) that it had an unlawful purpose, and (3) that the defendant was a voluntary participant.”<sup>66</sup>

In order to address the concern that foreign governments and foreign entities are attempting to steal U.S. trade secrets, the reach of the EEA extends outside the boundaries of the United States.<sup>67</sup> If the theft of a trade secret occurs in a foreign country, jurisdiction may be asserted if: (a) the defendant is a U.S. citizen or corporation, or (b) any “act in furtherance of the offense” was committed within the United States.<sup>68</sup> Unfortunately, this provision has not proven sufficiently useful to be widely utilized.<sup>69</sup> Part of the reason is because prosecutors do not have the appropriate enforcement and

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60. Section 1831 of the Economic Espionage Act states, “Whoever, intending or knowing that the offense will benefit any foreign government, foreign instrumentality, or foreign agent.” *Id.* § 1831.

61. *Id.*

62. *Id.* § 1832.

63. *Id.* § 1832(a).

64. *Id.* §§ 1831(a)(4)(5), 1832 (a)(4)(5).

65. *See id.*

66. *United States v. Martin*, 228 F.3d 1, 11 (1st Cir. 2000).

67. *See* 18 U.S.C. § 1837 (2013).

68. *Id.*

69. *See* Peter Stockburger, Sophia Gassman, Lora Brzezynski & Cass Christenson, *Trends & Insights: The Defend Trade Secrets Act Nine Months Later*, CASETEXT (Mar. 1, 2017), [https://casetext.com/analysis/trends-insights-the-defend-trade-secrets-act-nine-months-later?sort=relevance&resultsNav=false&q=\[https://perma.cc/GF5C-YMUK\]](https://casetext.com/analysis/trends-insights-the-defend-trade-secrets-act-nine-months-later?sort=relevance&resultsNav=false&q=[https://perma.cc/GF5C-YMUK]).

service mechanisms to use against individuals who are outside of the United States.<sup>70</sup>

The penalties under the EEA include both fines and prison sentences.<sup>71</sup> Violations under section 1831 may result in fines for individuals of up to \$5 million and for organizations \$10 million or three times the value of the trade secrets.<sup>72</sup> The maximum term of imprisonment is fifteen years.<sup>73</sup> The Defend Trade Secrets Act (DTSA) increased the financial penalties under section 1832, the more widely used section.<sup>74</sup> For individuals it provides ten years in prison and for organizations \$5 million or three times the value of the trade secrets.<sup>75</sup>

Before proceeding, it is also worth placing the EEA and other federal legislation on trade secrets within the broader context of international trade and geopolitics. In the late 1990s, the end of the Cold War and China's emergence as a successful economy and member of the World Trade Organization (WTO) brought fears that foreign governments would use their military spying capabilities to steal trade secrets from U.S. companies.<sup>76</sup> Thus, enactment of the EEA symbolized a recognition of our national interest in protecting trade secrets.<sup>77</sup>

Continuing developments aimed at protecting trade secrets would also correspond with efforts by the U.S. government, through the auspices of the Office of the U.S. Trade Representative (USTR), to increase trade secret protection worldwide. For instance, the enactment of the EEA coincided with the entry into force of both the North American Free Trade Agreement (NAFTA) and the TRIPS Agreement, both of which contain trade secret provisions that were

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70. See John De Pue, *Fundamental Principles Governing Extraterritorial Prosecutions—Jurisdiction and Venue*, 55 EXTRATERRITORIAL ISSUES 1, 1-2 (2007).

71. 18 U.S.C. § 1831 (2013).

72. *Id.*

73. *Id.*

74. See *id.* § 1832.

75. *Id.*

76. See Economic Espionage Act of 1996, Pub. L. No. 104-294, 1996 U.S.C.C.A.N. 4034 (statement of President William J. Clinton); see also Chris Carr, *The Economic Espionage Act: Bear Trap or Mousetrap?*, 8 TEX. INTELL. PROP. L.J. 159, 163-64 (2000); Margaret K. Lewis, *Criminalizing China*, 111 J. CRIM. L. & CRIMINOLOGY 145, 156-57 (2020).

77. See Economic Espionage Act of 1996, *supra* note 76; see also Carr, *supra* note 76.

modeled after the Uniform Trade Secrets Act (UTSA).<sup>78</sup> Since 1994, when the WTO Agreement entered into force, trade secret provisions have been a consistent feature of U.S. negotiated free trade agreements, including the United States-Mexico-Canada Agreement that updated NAFTA by, among other things, requiring Mexico and Canada to adopt criminal trade secret laws.<sup>79</sup> Similarly, the passage of the federal civil trade secret statute in 2016, the DTSA, coincided with the adoption by the European Union of the EU Trade Secrets Directive and related efforts to encourage other countries, like Japan and Canada, to improve their trade secret laws and enforcement efforts.<sup>80</sup>

### A. *China and the EEA*

If news and government reports are any measure, the face of the enemy in the trade secret war against economic espionage is China.<sup>81</sup> Some refer to it as a “fake war” ongoing between China and the United States, as the two giants hurl accusations and threats against each other for cyber intrusions and theft of trade secrets.<sup>82</sup> Although there is documented evidence that Chinese companies

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78. See Sharon K. Sandeen, *New U.S. Law Authorizes Presidential Sanctions for Trade Secret Theft*, IIC INT'L. REV. INTELL. PROP. COMPETITION L. (2023).

79. See CONG. RSCH. SERV., USMCA: Intellectual Property Rights (IPR) (2020).

80. See Sandeen, *supra* note 78.

81. See, e.g., Thomas Claburn, *China Cyber Espionage Threatens U.S., Report Says*, DARK READING (Nov. 20, 2009), <http://www.darkreading.com/risk-management/china-cyber-espionage-threatens-us-report-says/d/d-id/1085047?> [<https://perma.cc/57HR-ZXGG>] (quoting the U.S.-China Economic and Security Review Commission's 2009 report that China's espionage efforts are “the single greatest risk to the security of American technologies”); THE WHITE HOUSE, OFF. OF THE PRESIDENT, NAT'L SEC. STRATEGY (2022) <https://www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf> [<https://perma.cc/TXC2-BV7G>] (outlining the Biden administration's national security strategy); David E. Sanger, *Biden's National Security Strategy Focuses on China, Russia and Democracy at Home*, N.Y. TIMES (Oct. 12, 2022), <https://www.nytimes.com/2022/10/12/us/politics/biden-china-russia-national-security.html> [<https://perma.cc/X6WH-TXCE>]; Jenna McLaughlin, *Hackers Tied to China Are Suspected of Spying on News Corp. Journalists*, NPR (Feb. 5, 2022), <https://www.npr.org/2022/02/04/1078259252/news-corp-china-hacking-cyber-attack> [<https://perma.cc/EUL4-DLCW>]; Mike Giglio, *China's Spies Are on the Offensive*, THE ATLANTIC (Aug. 26, 2019), <https://www.theatlantic.com/politics/archive/2019/08/inside-us-china-espionage-war/595747/> [<https://perma.cc/EK8Q-7L39>].

82. See S. Kumar, *Here's Why You Shouldn't Take China Hacking Tensions Too Seriously*, FORTUNE (June 8, 2015, 8:36 AM), <https://fortune.com/2015/06/08/heres-why-you-shouldnt-take-us-china-hacking-tensions-too-seriously/> [<https://perma.cc/G796-QFGM>].



have attempted to steal and have successfully stolen trade secrets from American companies,<sup>83</sup> and indeed there are more prosecutions under the EEA against Chinese citizens than any other group,<sup>84</sup> the precise measure and scale is unknown.<sup>85</sup> Nevertheless, the fact is that trade secret owners, as well as the U.S. government, in rare and consistent bipartisan agreement, have a universal base of potential enemies from whom to protect their trade secrets.<sup>86</sup> Many countries, including Russia, France, Israel, India, Japan, Taiwan, and China, allegedly engage in economic espionage against U.S. companies.<sup>87</sup> The National Security Agency (NSA) and FBI rank China, Russia, and Israel as the top three intelligence threats.<sup>88</sup>

In our rhetoric of war, however, one public enemy emerges in the narrative, and that appears to be China.<sup>89</sup> From the U.S. perspective, China appears to aggressively pursue foreign companies' trade secrets and intervenes to support Chinese businesses against foreign competitors.<sup>90</sup> According to one public official, "[The Chinese] are stealing everything that isn't bolted down, and it's getting exponentially worse."<sup>91</sup> One report accuses the Chinese of being "the

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83. Verizon reported that in 2013, about 96 percent of confirmed breaches involving trade secret espionage came from China. VERIZON, 2013 DATA BREACH INVESTIGATIONS REPORT 21 (2013), [http://www.verizonenterprise.com/resources/reports/rp\\_data-breach-investigations-report-2013\\_en\\_xg.pdf](http://www.verizonenterprise.com/resources/reports/rp_data-breach-investigations-report-2013_en_xg.pdf) [<https://perma.cc/4GJ4-JWVU>].

84. See *Racial Profiling Under the Economic Espionage Act*, STANFORD CTR. CHINA'S ECON. & INST. (May 1, 2022), <https://sceei.fsi.stanford.edu/china-briefs/racial-profiling-under-economic-espionage-act> [<https://perma.cc/37L4-VU5T>].

85. For one thing, determining exactly what country a hack came from can be imprecise because, for instance, "someone from China with an IP address associated with them[] may be committing cyber attacks in France." Andrea Huspeni, *Think China Is the No. 1 Country for Hacking? Think Again*, NBC NEWS (Oct. 16, 2013, 2:46 PM), [http://www.nbcnews.com/id/53297949/ns/business-small\\_business/t/think-china-no-country-hacking-think-again/#.VqE4dzY4mt8](http://www.nbcnews.com/id/53297949/ns/business-small_business/t/think-china-no-country-hacking-think-again/#.VqE4dzY4mt8) [<https://perma.cc/YQN2-VP9E>].

86. See Melanie Reid, *A Comparative Approach to Economic Espionage: Is Any Nation Effectively Dealing With This Global Threat?*, 70 U. MIAMI L. REV. 757, 783-85, 793-94, 800-02 (2016).

87. See *id.* at 783-802.

88. See *id.* at 800.

89. See *Racial Profiling Under the Economic Espionage Act*, *supra* note 84 and accompanying text.

90. Reid, *supra* note 86, at 785.

91. Michael Riley & John Walcott, *China-Based Hacking of 760 Companies Shows Cyber Cold War*, BLOOMBERG BUS., (Dec. 14, 2011, 8:47 A.M.), <http://www.bloomberg.com/news/articles/2011-12-13/china-based-hacking-of-760-companies-reflects-undeclared-global-cyber-war> [<https://perma.cc/3NBY-WF5M>].

world's most active and persistent perpetrators of economic espionage."<sup>92</sup> The close relationship between the Chinese military and its state-owned companies might also contribute to its position as chief culprit. The U.S. government believes that up to 50 percent of the Chinese economy is controlled by the state, and that industrial espionage is an articulated mission of its intelligence services.<sup>93</sup> Both the government and private companies have also implicated China in alleged thefts of proprietary and trade secret information.<sup>94</sup> China has denied the various allegations.<sup>95</sup> Chinese Premier Li Keqiang also calls them "groundless accusations,"<sup>96</sup> and Chinese diplomats have denounced reports of Chinese espionage as "baseless, unwarranted and irresponsible."<sup>97</sup>

Perhaps as a result, when it comes to EEA prosecutions, "China has accounted for roughly 50 to 80 percent of all open economic espionage and trade secret theft investigations in the United

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92. OFF. OF NAT'L COUNTERINTEL. EXEC., FOREIGN SPIES STEALING U.S. ECONOMIC SECRETS IN CYBERSPACE, at i (2011).

93. See U.S.-CHINA ECON. & SEC. REVIEW COMM'N, 2012 REPORT TO CONGRESS 155-56 (2012), <https://www.uscc.gov/annual-report/2012-annual-report-congress> [<https://perma.cc/V3PR-B4Y2>]; Mike McConnell, Michael Chertoff & William Lynn, *China's Cyber Thievery Is National Policy—And Must Be Challenged*, WALL STREET J. (Jan. 27, 2012), <http://www.wsj.com/articles/SB10001424052970203718504577178832338032176> [<https://perma.cc/9VBW-L4CS>].

94. See OFF. OF NAT'L COUNTERINTEL. EXEC., *supra* note 92, at 5; BRYAN KREKEL, PATTON ADAMS & GEORGE BAKOS, NORTHROP GRUMMAN, OCCUPYING THE INFORMATION HIGH GROUND: CHINESE CAPABILITIES FOR COMPUTER NETWORK OPERATIONS AND CYBER ESPIONAGE 6-13 (2012), <http://nsarchive.gwu.edu/NSAEBB/NSAEBB424/docs/Cyber-066.pdf> [<https://perma.cc/VG7Z-L345>]; David Barboza, *In Wake of Cyberattacks, China Seeks New Rules*, N.Y. TIMES (Mar. 10, 2013), <http://www.nytimes.com/2013/03/11/world/asia/china-calls-for-global-hacking-rules.html> [<https://perma.cc/KGA8-RJZ8>]; Mike Brownfield, *Morning Bell: Stopping the Cyber Espionage Threat*, DAILY SIGNAL (Apr. 26, 2012), <http://dailysignal.com/2012/04/26/morning-bell-stopping-the-cyber-espionage-threat/> [<https://perma.cc/AFJ6-NS3Y>]; Michael Riley & Dune Lawrence, *Hackers Linked to China's Army Seen From EU to D.C.*, BLOOMBERG (July 26, 2012, 7:00 PM), <http://www.bloomberg.com/news/2012-07-26/china-hackers-hit-eu-point-man-and-d-c-with-byzantine-candor.html> [<https://perma.cc/A9NS-CMLR>]; Jody R. Westby, *Mandiant Report on Chinese Hackers Is Not News But Its Approach Is*, FORBES (Feb. 20, 2013, 8:07 AM), <https://www.forbes.com/sites/jodywestby/2013/02/20/mandiant-report-on-chinese-hackers-is-not-news-but-its-approach-is/?sh=1455fe0353a0> [<https://perma.cc/QW76-F96V>].

95. See Barboza, *supra* note 94.

96. Terril Yue Jones & Benjamin Kang Lim, *China's New Premier Seeks "New Type" of Ties with U.S.*, REUTERS (Mar. 17, 2013, 4:02 AM), <http://www.reuters.com/article/us-china-parliament-hacking-idUSBRE92G02320130317> [<https://perma.cc/TZB8-3CXS>].

97. Claburn, *supra* note 81.

States.”<sup>98</sup> These cases mainly include alleged conduct such as “hacking, recruiting students, business executives, and insiders to steal trade secrets,” and “stealing from businesses who choose to manufacture in or conduct joint ventures with China.”<sup>99</sup>

Under the Trump administration, an even more intense focus on China and economic espionage came to the forefront as the U.S. government continued to focus on the interconnectedness between trade secrets and national security.<sup>100</sup> According to then Attorney General Jeff Sessions:

The President has made clear that this country remains open to friendship and productive relationships with China. [...] But these problems must be solved. These threats must be ended. This Department of Justice—and the Trump administration—have already made our decision: we will not allow our sovereignty to be disrespected, our intellectual property to be stolen, or our people to be robbed of their hard-earned prosperity. We want fair trade and good relationships based on honest dealing. We will enforce our laws—and we will protect America’s national interests.<sup>101</sup>

### *B. China’s Thousand Talents Program*

According to the U.S. government, one area of particular concern and alarm has been China’s talent programs. These talent programs are designed to attract and recruit foreign scientific talent to further China’s scientific development and economic growth.<sup>102</sup> Under the programs, foreign experts are recruited and rewarded for bringing their knowledge and experience to China.<sup>103</sup> One such program, the Thousand Talents Program (TTP), was created by the Chinese Communist Party (CCP) in 2008 partly in response to many of the best Chinese scholars and researchers leaving for Canada, the United Kingdom, and especially the United States.<sup>104</sup> The program’s

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98. See Reid, *supra* note 86, at 785.

99. See *id.* at 785-86.

100. See Attorney General, *supra* note 27.

101. *Id.*

102. See Zweig & Kang, *supra* note 24, at 1.

103. See *id.*

104. See *id.*

articulated objective was to create an “innovative society.”<sup>105</sup> From the U.S. perspective, a problematic shift occurred in 2010, when the TTP created a “part time” program to allow Chinese scientists to have simultaneous appointments abroad and in China.<sup>106</sup> Such “part time” participants would engage in collaborative research in China and in the U.S., sometimes involving technology transfer and triggering concerns from the U.S. government.<sup>107</sup>

Since then, U.S. officials have been alarmed that hundreds of researchers and corporate employees have been recruited, signed contracts, and received funding from China’s various talent programs, including the TTP.<sup>108</sup> According to the FBI, “[t]hrough its talent recruitment programs, like the so-called Thousand Talents Program, the Chinese government tries to entice scientists to secretly bring our knowledge and innovation back to China—even if that means stealing proprietary information or violating our export controls and conflict-of-interest rules.”<sup>109</sup>

China’s response to these concerns appears to have been twofold.<sup>110</sup> First, they have made the talent programs even less transparent by seemingly ending public discussion of the TTP program and insisting that universities end all references to the programs to “insure that they remain free from suspicion.”<sup>111</sup> Further, apparently in response to the U.S.’s growing enforcement efforts against China and Chinese scientists, the TTP was renamed the National High-End Foreign Experts Recruitment Plan.<sup>112</sup> Second, the Chinese government has criticized American policy for switching from applauding collaborative research with China (under the Obama administration) to attacking such collaborations (under the Trump administration), and criminalizing “double-dipping” by U.S. and Chinese scholars (for example, the academic cases discussed below).<sup>113</sup>

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105. *Id.*

106. *Id.*

107. *Id.*

108. *See id.* at 12.

109. *See* Wray, *supra* note 25.

110. *See* Zweig & Kang, *supra* note 24, at 14.

111. *Id.*

112. *Id.*

113. *Id.*; *see infra* Part II.A.

*C. The DOJ's China Initiative*

The Department of Justice had serious concerns about China's national talent programs and the Thousand Talents Program, in particular.<sup>114</sup> The government views economic security as a "key component of national security" and therefore perceives "the illicit transfer of knowledge to a strategic competitor through the talent programs as a threat to U.S. national" security.<sup>115</sup> In March 2018, the Office of the U.S. Trade Representative completed an investigation of China's trade practices under Section 301 of the Trade Act of 1974.<sup>116</sup> It concluded that several of China's practices were unreasonable, and that "[a] range of tools may be appropriate to address these serious matters."<sup>117</sup> As a result, it considered measures such as restricting student visas, increasing scrutiny of China-funded research in the U.S., and banning certain Chinese companies from utilizing 5G networks in the United States.<sup>118</sup>

During the Trump administration, Attorney General Jeff Sessions declared that as to increasing Chinese economic espionage, "enough is enough. We're not going to take it anymore."<sup>119</sup> Thus, in November 2018,<sup>120</sup> the U.S. government announced the creation of the China Initiative led by head of the National Security Division, Assistant Attorney General John Demers, and comprising a senior FBI Executive, five United States Attorneys, and several other Department of Justice officials.<sup>121</sup> The purpose of the initiative was to "[i]dentify 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."<sup>122</sup> As relevant to this Article, the initiative was motivated, in part, by the concern for espionage in academia. According to then Attorney General Jeff Sessions:

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114. *See id.*

115. *Id.*

116. *See Information, supra* note 28.

117. *Id.* (alteration in original).

118. Julia Jayne & Ashley Riser, *Theft of Trade Secrets: The Economic Espionage Act, China Initiative, and Silicon Valley*, THE CHAMPION, Sept.-Oct. 2019, at 18.

119. *See Attorney General, supra* note 27.

120. *Id.*

121. *Id.*; *see Information, supra* note 28.

122. *Information, supra* note 28.

Today, we see Chinese espionage not just taking place against traditional targets like our defense and intelligence agencies, but against targets like research labs and universities, and we see Chinese propaganda disseminated on our campuses. And so I have directed this initiative to focus on these problems as well and to recommend legislation to Congress if necessary.<sup>123</sup>

The Attorney General set several specific goals for the China Initiative, including: (a) identifying trade secret theft cases, ensuring adequate resources for their investigation and concluding them in a timely fashion; (b) “[d]evelop[ing] an enforcement strategy [for] non-traditional collectors [such as] researchers in labs, universities ... that are being coopted into transferring technology contrary to U.S. interests;” and (c) “[e]ducat[ing] colleges and universities about potential threats to academic freedom and open discourse from influence efforts on campus.”<sup>124</sup>

In the first six months after implementation of the China Initiative, the DOJ filed six criminal cases concerning trade secrets and China.<sup>125</sup> The DOJ continued to pursue the China Initiative under Attorney General William Barr who succeeded Jeff Sessions after his resignation.<sup>126</sup> Andrew Lelling, then U.S. Attorney for the District of Massachusetts, and a founding team member of the China Initiative, explained in February 2020 that “[m]y prediction is that these cases will spike at some point and then begin to trail off hopefully as industry and academia become more sensitized to the problem. I can tell you that for the coming year in Boston what I anticipate frankly is prosecuting more people.”<sup>127</sup> In April 2020, Assistant Attorney General Demers expressed a desire that all

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123. See *Attorney General*, *supra* note 27.

124. See *Information*, *supra* note 28.

125. See, e.g., *United States v. Tan*, No. 19-CR-9, 2019 BL 201046 (N.D. Okla. May 19, 2019); *United States v. Huawei Device Co. Ltd.*, No. CR19-010, 2019 BL 247314 (W.D. Wash. July 2, 2019); *United States v. Chen*, No. CR19-00056 DC, 2019 U.S. Dist. LEXIS 219311 (N.D. Cal. Dec. 20, 2019); *United States v. You*, No. 2:19-CR-14, 2019 U.S. Dist. LEXIS 96776 (E.D. Tenn. June 10, 2019); *United States v. Wang*, No. 1:19-cr-00153 (S.D. Ind. May 7, 2019); *United States v. Yu*, 494 F. Supp. 3d 66 (D. Mass. Oct. 9, 2020).

126. Andrew Boutros, David Kelley, Jay Schleppebach & Jeremy Zucker, *Department of Justice “China Initiative” Dead in Name, Alive in Substance*, JDSUPRA (Feb. 28, 2022), <https://www.jdsupra.com/legalnews/department-of-justice-china-initiative-7889599/> [<https://perma.cc/KH4J-FXZZ>].

127. Lewis, *supra* note 76, at 164-65.

ninety-four U.S. Attorney's Offices bring cases under the China Initiative.<sup>128</sup> By June 2020, the FBI had more than 2,000 active investigations that involved China.<sup>129</sup>

As further discussed below, the China Initiative ended on February 23, 2022 after the DOJ announced<sup>130</sup> that it would end the program in its current form after facing criticism that the initiative undermined American scientific and technological advancement.<sup>131</sup> Instead, the new and improved program would not focus exclusively on China but would be broadened to cover other countries of concern and would be renamed.<sup>132</sup> Nevertheless, it remained clear that the DOJ continued to view the Chinese government as a growing and continuing threat to U.S. national security, including through its alleged theft of trade secrets, and that the DOJ "will continue to prioritize and aggressively counter the actions of the PRC government that harm our people and our institutions."<sup>133</sup>

#### *D. Protecting American IP Act of 2022*

Most recently, the U.S. Congress has again passed new legislation designed to punish foreign persons who engage in trade secret theft. On January 5, 2023, President Biden signed the Protecting American Intellectual Property Act of 2022.<sup>134</sup> It authorizes "the

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128. Betsy Woodruff Swan, *Inside DOJ's Nationwide Effort to Take on China*, POLITICO (Apr. 7, 2020, 9:37 AM), <https://www.politico.com/news/2020/04/07/justice-department-china-espionage-169653> [<https://perma.cc/DP3P-8GPH>].

129. See Ursula Perano, *Wray: FBI Has Over 2,000 Investigations That Trace Back to China*, AXIOS (June 24, 2020), <https://www.axios.com/fbi-wray-china-counterintelligence-investigations-f809b7df-865a-482b-9af4-b1410c0d3b49.html> [<https://perma.cc/X825-7LA6>].

130. Ryan Lucas, *The Justice Department Is Ending Its Controversial China Initiative*, NPR (Feb. 23, 2022, 9:15 PM), <https://www.npr.org/2022/02/23/1082593735/justice-department-china-initiative> [<https://perma.cc/7DKV-KKW5>].

131. See Michael German & Alex Liang, *End of Justice Department's 'China Initiative' Brings Little Relief to U.S. Academics*, BRENNAN CTR. FOR JUST. (Mar. 25, 2022), <https://www.brennancenter.org/our-work/analysis-opinion/end-justice-departments-china-initiative-brings-little-relief-us> [<https://perma.cc/A7WE-6G73>]. See generally Lucas, *supra* note 130.

132. See German & Liang, *supra* note 131.

133. George Pence, *While China Initiative May Have Ended, Foreign Influence Remains DOJ Enforcement Priority*, REUTERS (Mar. 28, 2022, 11:42 AM), <https://www.reuters.com/legal/legalindustry/while-china-initiative-may-have-ended-foreign-influence-remains-doj-enforcement-2022-03-28/> [<https://perma.cc/W2G6-6BSS>].

134. Protecting American Intellectual Property Act of 2022, Pub. L. No. 117-336, 136 Stat. 6147.

imposition of sanctions with respect to foreign persons that have engaged in significant theft of trade secrets of United States persons, and for other purposes.”<sup>135</sup> The motivations for this new law in late 2022 appear to be the same as they were for the EEA in 1996.<sup>136</sup> According to the bill’s sponsor, Senator Van Hollen, “In China and other countries across the globe, foreign corporations are working—often in coordination with authoritarian regimes—to steal our cutting edge technologies to gain unfair advantages at America’s expense.”<sup>137</sup>

Thus, the target of the legislation is a “foreign person” which appears to be defined as a person or entity who is not in the United States and who is not a U.S. citizen, permanent resident, or entity organized under the laws of the U.S. who has engaged in trade secret theft.<sup>138</sup> Unlike the EEA, however, which is a criminal statute, this new law gives the President of the United States broad powers to impose sanctions<sup>139</sup> on foreign persons and entities, based on an annual report to Congress which identifies such persons.<sup>140</sup> Further to the themes in this Article, a basis for imposing sanctions on such foreign action is that it is “reasonably likely to result in, or has materially contributed to, a significant threat to the national security, foreign policy, or economic health or financial stability of the United States.”<sup>141</sup> Those identified must have “knowingly engaged in, or benefitted from, significant theft of trade secrets of United States persons.”<sup>142</sup> Interestingly, “significant theft” is not defined, nor does it adopt the EEA’s definition of theft of trade

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135. *Id.*

136. *See* Sandeen, *supra* note 78, at 347.

137. *President Biden Signs Van Hollen Legislation to Curb IP Theft*, CHRIS VAN HOLLEN U.S. SENATOR FOR MARYLAND (Jan. 5, 2023), <https://www.vanhollen.senate.gov/news/press-releases/president-biden-signs-van-hollen-legislation-to-curb-ip-theft> [<https://perma.cc/ZJK8-FXSH>].

138. 136 Stat. at 6151.

139. *See id.* at 6147-48. Among the sanctions available to the President pursuant to the International Emergency Economic Powers Act are the power to block and prohibit all transactions in all property located in the United States, revoke or reject visas, and limit financial assistance and loans. *Id.*

140. *See* Sandeen, *supra* note 78, at 348 (noting that the legislation does not provide a process for notice and opportunity to be heard).

141. *Id.*

142. 136 Stat. at 6147.



secrets.<sup>143</sup> Accordingly, one would assume that it is broader and not limited to the conception of theft in the EEA.<sup>144</sup> While this law was enacted after the cases and events described in this Article, it supports the Article's claim that the theft of trade secrets remains a high priority effort for the U.S. government and continues to be intricately linked to national security, regardless of which party is in the White House.

## II. PROFESSORS IN HANDCUFFS

Scientists and researchers in industry, as well as all types of high-level employees with access to trade secret information, have traditionally been criminally charged under the EEA since its passage in 1996. However, as part of the China Initiative, and in the period leading up to its launch, academics at major universities became part of this dishonorable club. They were arrested and charged for their alleged illicit involvement with China or Chinese institutions. While a broader group of scientists were charged under the initiative,<sup>145</sup> this Article focuses on most of the full-time academics at universities. There are similarities among the cases and charges. For instance, the defendants are prominent scientists at top universities. Each is accused of having had some research relationship and accepting funds from China through a talent program. While all were essentially labelled as spies<sup>146</sup> for sharing research information with a Chinese entity or the Chinese government, none were actually charged with violating the Economic Espionage Act (EEA).<sup>147</sup> Rather, the charges tended to be for lesser offenses like wire fraud, tax fraud, and failure to disclose foreign sources of funding.<sup>148</sup> Moreover, as the stories below reveal, the professors were all charged and arrested for criminal conduct, at the

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143. See Sandeen, *supra* note 78, at 348.

144. *See id.*

145. See, e.g., "China Initiative" Scientist Cases, APA JUST., <https://www.apajustice.org/china-initiative-scientist-cases.html> [<https://perma.cc/MB4D-33MK>]; *MIT Technology Review's China Initiative Database*, <https://airtable.com/appSZ6NS11SbCLHrM/shrQhBkuDPvEvig4h/tblbHcFMmohIPsVVJ> [<https://perma.cc/7K2T-8S4W>] (an MIT Technology Review database contains 162 cases).

146. See, e.g., Complaint, Xi v. Haugen, No. 2:17-cv-02132-RBS (E.D. Pa. May 10, 2017).

147. *See infra* Part II.A.

148. *See infra* Part II.A.

point of arrest they lost (or almost lost) their jobs, their national and international reputations were shattered, and regardless of the outcome which may or may not include prison, they faced financial ruin from legal expenses. Almost all were convicted either from trials or plea agreements.<sup>149</sup>

### A. *The Individuals*

Below are summaries of eleven cases mostly from about 2019 to 2021, coinciding with the DOJ's China Initiative. The professor-defendants whose cases are described below include Charles Lieber, Xiaoxing Xi, Gang Chen, Anming Hu, Lin Yang, Franklin Tao, Song Guo Zheng, Zhengdong Cheng, Simon Saw-Teong Ang, Xiao-Jiang Li, and James Patrick Lewis.<sup>150</sup> They represent a range of private and public universities: Harvard, MIT, Temple, Emory, University of Florida, University of Kansas, University of Tennessee, University of Arkansas, Texas A&M University, and Ohio State University.<sup>151</sup> They are mostly middle-aged men from their mid-forties to mid-sixties at the time of arrest.<sup>152</sup> After providing a summary of each case below, a subpart with observations follows.

#### 1. *Xiaoxing Xi—Temple University*

Xiaoxing Xi, a naturalized U.S. citizen,<sup>153</sup> was the Laura H. Carnell Professor of Physics at Temple University in Philadelphia and served as Interim Chair of the Department.<sup>154</sup> According to the indictment, Xi was a “world renowned expert in the field of magnesium diboride thin film superconducting technology.”<sup>155</sup> Xi was a participant in a Chinese talent program, the National High Tech

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149. See generally *infra* Part II.A.

150. See generally *infra* Parts II.A.1-II.A.2.

151. See generally *infra* Parts II.A.1-II.A.2.

152. Elizabeth Rowe, 09-16 Updated Lists by Category Spreadsheet (last updated September 2022) (on file with author).

153. Xi Amended Complaint, *supra* note 3, at 4.

154. See Winger, *supra* note 1.

155. Xi Indictment, *supra* note 2, at 1.

Research and Development Program, also known as the “863 Program.”<sup>156</sup>

On the morning of May 21, 2015, FBI agents arrived at his door at 6 a.m. with a battering ram, forcefully arrested him, held his wife<sup>157</sup> and two daughters at gun point, and refused to provide grounds for his arrest until after he was interrogated for two hours at the FBI’s Philadelphia field office.<sup>158</sup> He was accused of sharing blueprints of a pocket heater device with Chinese scientists about five years earlier, in 2010.<sup>159</sup> He was charged with four counts of wire fraud<sup>160</sup> for sending four separate emails to “an associate in China” regarding the pocket heater technology.<sup>161</sup> Temple placed him on administrative leave and he lost his chairmanship as well as much of his research funding.<sup>162</sup> He was also denied access to his lab and graduate students<sup>163</sup> and incurred substantial legal fees and expenses in defending his case.<sup>164</sup>

The charges were dismissed after his attorneys presented evidence that the information he shared with the Chinese entities was not secret research about the heater.<sup>165</sup> His attorneys argued that the technology was publicly available, not considered a trade secret,<sup>166</sup> and his collaborations with colleagues in China were “normal academic collaborations.”<sup>167</sup> In 2017, Xi filed suit against the FBI alleging that he was targeted due to his ethnicity.<sup>168</sup> They

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156. *Id.*

157. His wife, Qi Li, was also a professor of physics at Pennsylvania State University. She was not charged under the indictment, but according to Xi’s civil complaint on this matter, she suffered severe mental and physical symptoms from her husband’s arrest and took sick leave from her university duties. *See Xi Amended Complaint, supra* note 3, at 6, 21.

158. *Id.* at 7.

159. Toren, *supra* note 12.

160. *See Winger, supra* note 1.

161. Xi Indictment, *supra* note 2, at 4.

162. Toren, *supra* note 12.

163. Xi Amended Complaint, *supra* note 3, at 1.

164. *Id.* at 17.

165. *See Winger, supra* note 1.

166. Xi Amended Complaint, *supra* note 3, at 8.

167. *Id.* at 1.

168. *See Xi Amended Complaint, supra* note 3, at 3; *see also* Catherine Dunn, *Philly’s U.S. Attorney Pursuing Corporate Espionage and White Collar Crime with ‘100 Percent Support’ from Jeff Sessions*, PHILA. INQUIRER (Sept. 21, 2018), <https://www.inquirer.com/philly/business/phillys-u-s-attorney-espionage-trade-secrets-china-jeff-sessions-20180921.html> [<https://perma.cc/8687-E2MP>]. Xi’s defense team noted that, from 2014-2015, two other cases against

also alleged that the press release issued by the prosecution had falsely portrayed Xi as a spy.<sup>169</sup>

## 2. *Franklin Tao—University of Kansas*

Feng “Franklin” Tao was an associate professor of chemical engineering at the University of Kansas’s Center for Environmentally Beneficial Catalysis.<sup>170</sup> In August 2019, he was indicted on one count of wire fraud and three counts of program fraud.<sup>171</sup> The indictment alleged that Tao signed a five-year contract with a Chinese research institution, Fuzhou University, that designated him as a Changjiang Scholar Distinguished Professor.<sup>172</sup> It further alleged that he failed to disclose this information to the University of Kansas, and continued research there that was funded by the U.S. government, namely through two Department of Energy contracts and four National Science Foundation contracts.<sup>173</sup> He was in jail for one week after his arrest.<sup>174</sup> As a result of these allegations, Tao was suspended from the University of Kansas, was barred from entering campus, and was required to wear a tracking device on his ankle.<sup>175</sup>

At trial, Tao admitted that he considered the position at Fuzhou University and had visited the area with his family, but decided it was not the right move for him.<sup>176</sup> While he denied being employed

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Chinese American scientists were dismissed prior to trial (Sherry Chen, a hydrologist with the U.S. National Weather Service and Guoqing Cao and Shuyu Li, senior biologists at Eli Lilly). Xi Amended Complaint, *supra* note 3, at 15.

169. Xi Amended Complaint, *supra* note 3, at 7.

170. *University of Kansas Researcher Indicted for Fraud for Failing to Disclose Conflict of Interest with Chinese University*, U.S. DEP’T OF JUST. (Aug. 21, 2019), <https://www.justice.gov/opa/pr/university-kansas-researcher-indicted-fraud-failing-disclose-conflict-interest-chinese> [<https://perma.cc/58JS-GB76>] [hereinafter *University of Kansas Researcher Indicted*].

171. *Id.*

172. *Id.*

173. *Id.*

174. Jeffrey Mervis, *No Jail Time for Kansas Professor Convicted for Research Ties to China*, SCIENCE (Jan. 18, 2023), <https://www.science.org/content/article/no-jail-time-kansas-professor-convicted-undisclosed-research-ties-china> [<https://perma.cc/JG3D-SGWL>].

175. John Ruwitch, *A Jury Finds a Kansas Scholar Guilty of Fraud and Hiding Ties to China*, NPR (Apr. 7, 2022), <https://www.npr.org/2022/04/07/1091090565/feng-franklin-tao-china-initiative-university-of-kansas> [<https://perma.cc/3ND3-AX66>].

176. Roxie Hammill, *Prosecutors Accuse KU Professor of Leading ‘Double Life’ in Trial Over Concealing China Ties*, KCUR (Mar. 22, 2022), <https://www.kcur.org/news/2022-03-22/>

by or receiving any compensation from Fuzhou University, Tao did admit that he was affiliated with the University and traveled to China to set up a laboratory and recruit staff for Fuzhou University while he told Kansas officials he was in Germany.<sup>177</sup> He listed this affiliation in some of his academic work, which his attorney argued demonstrates that he was not being deceptive.<sup>178</sup> Tao's attorney also argued that Tao was being falsely accused by a former graduate student who felt slighted and who had tried to extort \$300,000 from Tao.<sup>179</sup>

On April 7, 2022, following a two-week trial, a federal jury convicted Tao of three counts of wire fraud and one count of false statements.<sup>180</sup> However, on September 20, 2022, the judge dismissed the three convictions of wire fraud after ruling that prosecutors had not provided sufficient evidence to prove them.<sup>181</sup> At his sentencing on January 18, 2023, the judge denied the prosecutor's request for a thirty-month sentence and \$100,000 fine; instead, she imposed a sentence of time served and two years' probation and commented that "[t]his is not an espionage case ... maybe that's what the Department of Justice thought was going on, but that's not what was going on."<sup>182</sup> The government has filed a Notice of Appeal regarding the judgment of acquittal on the wire fraud counts.<sup>183</sup> Tao continues to fight to avoid full termination of his tenured professorship at the University of Kansas, and his wife established a GoFundMe campaign to help cover his approximately \$1.9 million in legal fees.<sup>184</sup> Noting that, "I have been working for [sic] three jobs to sustain my family and pay for the legal bill," she acknowledged a

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lawyers-deliver-opening-statements-in-trial-of-ku-professor-accused-of-concealing-ties-with-china [https://perma.cc/VTM3-C5D3].

177. Margaret Stafford, *Judge Tosses Most Charges Against Kansas Researcher*, ASSOCIATED PRESS (Sept. 20, 2022), <https://apnews.com/article/china-kansas-university-of-276087faef2f22c12ad1e5b91aaa3709> [https://perma.cc/8LFA-CYJR].

178. *Id.*

179. Hammill, *supra* note 176.

180. *Federal Jury Convicts KU Professor Feng "Franklin" Tao on 3 Counts of Wire Fraud*, KMBC (Apr. 7, 2022), <https://www.kmbc.com/article/federal-jury-convicts-ku-professor-franklin-feng-tao/39667026> [https://perma.cc/8FPN-CR2M].

181. Stafford, *supra* note 177.

182. *See* Raymond, *supra* note 40.

183. Notice of Appeal, *U.S. v. Tao* (2022) (No. 2:19-cr-20052).

184. *Legal Defense Fund for Franklin Tao*, GOFUNDME (Jan. 20, 2023), <https://www.gofundme.com/f/Legal-Defense-Fund-for-Franklin-Tao> [https://perma.cc/9EVL-FKUY].

\$10,000 donation from MIT's Professor Gang Chen (another academic defendant discussed below).<sup>185</sup>

### 3. Charles Lieber—Harvard University

Charles Lieber was the chair of Harvard University's chemistry and chemical biology departments.<sup>186</sup> In January 2020, Lieber was arrested, charged, and faced allegations "that he made materially false and fraudulent statements to the Department of Defense (DOD) and National Institutes of Health (NIH) regarding his role as a Strategic Scientist at China's Wuhan University of Technology and his participation in China's Thousand Talents Plan."<sup>187</sup> According to court documents, Lieber received more than \$15 million in grant funding from the NIH and DOD since 2008.<sup>188</sup> These grants require the disclosure of significant foreign financial conflicts of interest, including financial support from foreign governments or foreign entities.<sup>189</sup> Yet Lieber failed to disclose that he received funding from the Chinese government.<sup>190</sup>

Harvard was allegedly unaware of Lieber's role at Wuhan University of Technology (WUT) since 2011 and that he was a participant in China's Thousand Talents Plan from about 2012 to 2017.<sup>191</sup> The government alleged that Lieber "was paid \$50,000 per month in salary and \$150,000 per year in living expenses between 2012 and 2017 by the Thousand Talents Plan, in addition to a lump sum payment of nearly \$1.5 million to establish a research lab at" WUT.<sup>192</sup> In return, Lieber was obligated to "work at or for WUT 'not less than nine months a year' by 'declaring international cooperation projects, cultivating young teachers and Ph.D. students,

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185. *Id.*

186. *Harvard University Professor*, *supra* note 21.

187. Steven Block, Joan Meyer & Matthew David Ridings, *U.S. Probes Scientists and Academics with Overseas Ties, Targets Trade Secret Transfers*, WHITE COLLAR UPDATE (Jan. 31, 2020), <http://thompsonhine.com/publications/us-probes-scientists-and-academics-with-overseas-ties-targets-trade-secret-transfers> [https://perma.cc/XA9D-4YBA].

188. Affidavit in Support of Application for Criminal Complaint at 3, *United States v. Lieber*, No. 1:20-CR-10111-RWZ, 2022 WL 3996696 (D. Mass. Jan. 27, 2020).

189. *Id.*

190. *See* Block et al., *supra* note 187.

191. Affidavit in Support of Application for Criminal Complaint, *supra* note 188, at 16.

192. *See* Block et al., *supra* note 187.

organizing international conference[s], applying for patents and publishing articles in the name of' WUT."<sup>193</sup>

The complaint alleges that in 2018 and 2019, Lieber lied about his involvement in the Thousand Talents Plan and affiliation with WUT.<sup>194</sup> In April 2018, during an interview with investigators, Lieber stated "that he 'was never asked to participate in the Thousand Talents Program,' but he 'wasn't sure' how China categorized him."<sup>195</sup> He maintained that he "is not and has never been a participant in" China's Thousand Talents Plan.<sup>196</sup> Prosecutors further alleged that in tax years 2013 and 2014, Lieber earned income from the Strategic Scientist and Thousand Talents contracts, which he did not disclose to the IRS on his federal income tax returns.<sup>197</sup> Lieber also opened a bank account at a Chinese bank in 2012 and WUT periodically deposited portions of Lieber's salary into that account.<sup>198</sup> U.S. taxpayers are required to report the existence of any foreign bank account that holds more than \$10,000 at any time during a given year by filing a Report of Foreign Bank and Financial Accounts (FBAR) with the IRS.<sup>199</sup> Lieber failed to file FBARs for the years 2014 and 2015.<sup>200</sup>

In December 2021, sixty-two year old Lieber was convicted following a six-day jury trial of two counts of making false statements to federal authorities, two counts of making and subscribing a false income tax return, and two counts of failing to file FBARs with the Internal Revenue Service (IRS).<sup>201</sup> "In the 2020 FBI interview, parts of which jurors saw on the fourth day of the trial, Lieber admitted to the agents conducting the interrogation that he did not declare payments he received in \$100 bills during trips to Wuhan."<sup>202</sup> He also told the agents he "wasn't completely transparent

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193. Affidavit in Support of Application for Criminal Complaint, *supra* note 188, at 9.

194. *See Harvard University Professor*, *supra* note 21.

195. *See United States v. Lieber*, No. 1:20-CR-10111, 2022 WL 3996696, at \*2 (D. Mass. Sept. 1, 2022).

196. *See Harvard University Professor*, *supra* note 21.

197. *Lieber*, 2022 WL 3996696, at \*1.

198. *Id.* at \*1.\*2.

199. *See id.* at \*2.

200. *Id.*

201. *Id.* at \*1.

202. Isabella B. Cho & Brandon L. Kingdollar, *Convicted Harvard Professor Charles Lieber Moves For New Trial to Rectify 'Manifest Injustice'*, HARV. CRIMSON (Feb. 9, 2022), <https://>

by any stretch of the imagination when speaking to Department of Defense investigators two years earlier in 2018.”<sup>203</sup> In February 2022, attorneys for Lieber filed a motion for acquittal or a new trial.<sup>204</sup> Arguing that his conviction was a “manifest injustice,” Lieber’s lawyers wrote that his statements to investigators were “warped by the government.”<sup>205</sup> The judge denied his motion for acquittal.<sup>206</sup> Lieber was sentenced on April 26, 2023 to time served, six months house arrest, a \$50,000 fine, and \$33,600 in restitution.<sup>207</sup>

#### 4. *Anming Hu—University of Tennessee*

Anming Hu is a naturalized Canadian citizen who was born in China and moved to the U.S. in 2013.<sup>208</sup> He is a nanotechnology expert who was employed at the University of Tennessee at Knoxville and was also a NASA researcher.<sup>209</sup> “In February 2020, Hu was indicted on three counts of wire fraud and three counts of making false statements” related to accusations by the FBI that Hu was defrauding NASA by hiding part-time work for the Beijing University of Technology (UT).<sup>210</sup> He had previously been awarded a short term contract with China’s Thousand Talents Program in 2012, which allowed him to teach at Beijing University of

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[www.thecrimson.com/article/2022/2/9/Lieber-moves-for-retrial/](http://www.thecrimson.com/article/2022/2/9/Lieber-moves-for-retrial/) [<https://perma.cc/G9JJ-ZU5S>].

203. *Id.*

204. *Id.*

205. *Id.*

206. See Memorandum & Order at 13, *United States v. Lieber*, No. 1:20-CR-10111, 2022 WL 3996696 (D. Mass. Sept. 1, 2022).

207. *Former Harvard University Professor Sentenced for Lying About His Affiliation with Wuhan University of Technology; China’s Thousand Talents Program; and Filing False Tax Returns*, U.S. ATT’Y’S OFF. DIST. MASS (Apr. 26, 2023), <https://www.justice.gov/usao-ma/pr/former-harvard-university-professor-sentenced-lying-about-his-affiliation-wuhan> [<https://perma.cc/LA4V-TVAD>].

208. Amy Qin, *As U.S. Hunts for Chinese Spies, University Scientists Warn of Backlash*, N.Y. TIMES (Nov. 28, 2021), <https://www.nytimes.com/2021/11/28/world/asia/china-university-spies.html?referringSource=articleShare> [<https://perma.cc/9HE5-S6VB>].

209. *Id.*

210. Rebecca Wright, *Anming Hu, Professor Falsely Accused of Espionage, Reinstated by University of Tennessee*, KNOXVILLE NEWS SENTINEL (Feb. 3, 2022), <https://www.knoxnews.com/story/news/education/2022/02/03/anming-hu-reinstated-university-of-tennessee-false-espionage-charge/9008950002/> [[perma.cc/7P9M-ZQ9X](https://perma.cc/7P9M-ZQ9X)].



Technology.<sup>211</sup> He disclosed these ties to UT but went to work on NASA projects apparently unaware that under NASA’s funding restrictions, his collaborations with China barred him from working on NASA projects.<sup>212</sup>

He was accused of intentionally defrauding NASA by failing to disclose his work in China, but he contended that the conflicts form did not require disclosure of China ties but rather earnings of more than \$10,000 (which was less than what he earned from China).<sup>213</sup> He was eventually fired and placed under house arrest for eighteen months during the investigation.<sup>214</sup>

Of the academics charged under the China Initiative, Hu was the first to stand trial.<sup>215</sup> He was tried for three counts of wire fraud, and three counts of making false statements.<sup>216</sup> It ended with a hung jury.<sup>217</sup> The judge rejected the Justice Department’s request for a retrial and acquitted him.<sup>218</sup> He has since been reinstated at the University of Tennessee.<sup>219</sup>

##### 5. *Xiao-Jiang Li—Emory University*

Xiao-Jiang Li was a professor studying the use of large animal models to investigate Huntington’s disease at Emory University.<sup>220</sup> According to the criminal complaint, in or around October 2018, the National Institutes of Health informed Emory that it “had become aware that applications submitted to NIH for Li may have failed to comply with NIH policies regarding other support, disclosing foreign financial interests, and/or obtaining prior approval from NIH for

211. *Id.*

212. Memorandum & Order at 10, *United States v. Hu*, 3:20-cr-00021 (E.D. Tenn. Sept. 9, 2021) [hereinafter *Hu Memorandum & Order*].

213. *Id.* at 43 n.6.

214. *See Qin, supra* note 208.

215. *Id.*

216. *Hu Memorandum & Order, supra* note 212, at 1.

217. *Id.* at 27.

218. *Id.* at 1; *Wright, supra* note 210.

219. *Wright, supra* note 210.

220. *Former Emory University Professor and Chinese “Thousand Talents” Participant Convicted and Sentenced for Filing a False Tax Return*, U.S. DEP’T OF JUST. (May 11, 2020), <https://www.justice.gov/opa/pr/former-emory-university-professor-and-chinese-thousand-talents-participant-convicted-and> [<https://perma.cc/M7T6-N7MD>] [hereinafter *Former Emory University Professor*].

use of foreign components on NIH research grants.”<sup>221</sup> Emory officials discussed the matter with Li and in “January 2019, Emory initiated an internal review of Li’s Emory University email account.”<sup>222</sup> Through this review, they found that in late 2011, while employed fulltime at Emory, Li was accepted into the Thousand Talents Program.<sup>223</sup> Starting in 2012 and continuing until 2018, Li worked at two Chinese Universities (the Chinese Academy of Sciences and Jinan University) conducting research similar to that which he was conducting at Emory.<sup>224</sup> During this time, he also earned at least \$500,000 in foreign income that he never reported on his federal income tax return.<sup>225</sup>

On May 8, 2020, Li was charged via criminal complaint on one count of making and subscribing a false tax return.<sup>226</sup> On the same day, he pleaded guilty to filing a false tax return, and was ordered to serve one year of probation, pay \$35,089 in restitution, file his correct tax returns within the first two months of his probation, and cooperate with the IRS.<sup>227</sup> On May 11, 2020, the judgment was amended to allow Li to travel and reside in China during the one-year probationary period, due to his employment and medical needs.<sup>228</sup> Notably, after Emory fired Li in 2019 following the investigation into his ties to China, Li accepted employment at Jinan University.<sup>229</sup>

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221. Criminal Complaint at 3, United States v. Li, No. 1:19-MJ-1007 (N.D. Ga. Nov. 21, 2019) [hereinafter Li Criminal Complaint].

222. *Id.*

223. *See Former Emory University Professor*, *supra* note 220.

224. *See id.*

225. *See id.*

226. *See id.*

227. *See id.*

228. Amended Judgment at 2, United States v. Li, No. 1:20-CR-0164-AT-1 (N.D. Ga. May 11, 2020) [hereinafter Li Amended Judgment].

229. Jeffrey Mervis, *Fired Emory University Neuroscientist with Ties to China Sentenced on Tax Charge*, SCIENCE (May 12, 2020), <https://www.justice.gov/usao-ma/pr/mit-professor-indicted-charges-relating-grant-fraud> [<https://perma.cc/XRM7-PAXW>] [hereinafter *MIT Professor*].

## 6. *Gang Chen—MIT*

Gang Chen is a naturalized U.S. citizen who was born in China.<sup>230</sup> He is a mechanical engineering professor and researcher at Massachusetts Institute of Technology (MIT).<sup>231</sup> From 2013 to 2018, he served as Director of both the MIT Pappalardo Micro-Nano Engineering Laboratory and the Solid-State Solar Thermal Energy Conversion Center.<sup>232</sup> He studied heat transfer and “hope[d] to develop a semiconductor that could convert heat from car exhaust into electricity, or fabric for clothing that could cool the body.”<sup>233</sup>

Since 2012, Chen also “allegedly held various appointments with the [People’s Republic of China (PRC)] designed to promote ... technological and scientific development by providing advice and expertise” for financial compensation.<sup>234</sup> He was alleged to have been working as an “overseas expert” for the PRC and serving as a member of at least two PRC Talent Programs.<sup>235</sup> “Since 2013, Chen allegedly received approximately \$29 million of foreign funding, including \$19 million from the PRC’s Southern University of Science and Technology.”<sup>236</sup>

From 2017 to 2019, “Chen applied for and obtained a U.S. Department of Energy (DOE) grant ... to fund a portion of his research at MIT.”<sup>237</sup> In doing so, [prosecutors] alleged that Chen failed to disclose information about his ongoing affiliations with the PRC, as required by DOE.<sup>238</sup> [He] also allegedly failed to disclose to the IRS” in 2018 “that he maintained a bank account in the PRC with more than \$10,000.”<sup>239</sup>

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230. *MIT Professor Indicted on Charges Relating to Grant Fraud*, U.S. ATT’Y’S OFF. DIST. MASS. (Jan. 20, 2021), <https://www.justice.gov/opa/pr/harvard-university-professor-indicted-false-statement-charges> [<https://perma.cc/4TKB-RVZL>] [hereinafter *MIT Professor*].

231. *Id.*

232. *Id.*

233. Ellen Barry, ‘*In the End, You’re Treated Like a Spy, Says M.I.T. Scientist*, N.Y. TIMES (Jan. 24, 2022), <https://www.nytimes.com/2022/01/24/science/gang-chen-mit-china.html> [<https://perma.cc/3AXE-7YR7>].

234. *MIT Professor*, *supra* note 230.

235. *Id.*

236. *Id.*

237. *Id.*

238. *Id.*

239. *Id.*

On January 14, 2021, Chen was arrested at his home and charged with two counts of wire fraud, one count of failing to file a foreign bank account report, and one count of making a false statement in a tax return.<sup>240</sup> He pleaded not guilty.<sup>241</sup> MIT paid for his legal defense.<sup>242</sup> In January 2022, all charges against him were dropped.<sup>243</sup> His attorneys filed a motion for sanctions against the prosecutors for statements made to the press about his charges but it was denied.<sup>244</sup>

### 7. *Song Guo Zheng—Ohio State University*

Song Guo Zheng, a U.S. permanent resident since 2004, was an internal medicine professor “who led a team conducting autoimmune research at The Ohio State University (OSU).”<sup>245</sup> Prior to joining OSU in 2019, he had previously worked at the University of Southern California for about ten years, and then at Pennsylvania State University from 2013 to 2019.<sup>246</sup> Throughout these years, he had applied for and been the recipient of NIH grants totaling approximately \$4 million, while he was also a member of several Chinese talent programs including the TTP.<sup>247</sup> These grants require disclosure of foreign collaborations, conflicts of interest, and other sources of support.<sup>248</sup>

The FBI began investigating Zheng in 2019 and they contacted OSU, which also began its own investigation.<sup>249</sup> In May 2020, after

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240. *Id.*

241. Ellen Barry, *A Scientist Is Arrested, and Academics Push Back*, N.Y. TIMES (Jan. 26, 2021), <https://www.nytimes.com/2021/01/26/us/mit-scientist-charges.html> [<https://perma.cc/SEL2-AP42>].

242. *Id.*

243. Barry, *supra* note 233, at 1.

244. Motion for Sanctions, *United States v. Chen*, No. 1:21-cr-10018 (D. Mass. Feb. 4, 2021); Order on Motion for Sanctions at 9-11, 14, *U.S. v. Chen*, No. 1:21-cr-10018 (D. Mass. July 6, 2021).

245. *University Researcher Sentenced to Prison for Lying on Grant Applications to Develop Scientific Expertise for China*, U.S. DEP'T OF JUST. (May 14, 2021), <https://www.justice.gov/opa/pr/university-researcher-sentenced-prison-lying-grant-applications-develop-scientific-expertise> [<https://perma.cc/L7XU-QBND>] [hereinafter *University Researcher*].

246. *United States v. Zheng*, 27 F.4th 1239, 1241 (6th Cir. 2022).

247. *Id.*

248. *Id.*

249. *Id.* at 1242.

learning that OSU was to conduct an administrative proceeding investigating his NIH grants, Zheng left for China.<sup>250</sup> He was arrested at the airport in Anchorage, Alaska for attempting to flee to China.<sup>251</sup> On May 22, 2020, Zheng was arrested “for making false statements to federal authorities as a part of an immunology research fraud scheme.”<sup>252</sup>

Zheng pleaded guilty and admitted that he lied on applications to use grant money from the NIH to develop China’s expertise in rheumatology and immunology.<sup>253</sup> He also hid his affiliation with the Chinese Talents Plan, which he had participated in since 2013.<sup>254</sup> He was sentenced to thirty-seven months in prison and was ordered to pay restitution in the amount of \$3.4 million to the NIH and \$413,000 to his former employer.<sup>255</sup>

#### 8. *Lin Yang—University of Florida*

Lin Yang was a professor at the University of Florida’s College of Engineering where he studied imaging informatics.<sup>256</sup> In February 2021, Yang was indicted on six counts of wire fraud and four counts of making false statements.<sup>257</sup> These charges stem from his indicating on his university disclosure forms that he had received “other support” from Chinese sources for his research.<sup>258</sup> Specifically, it was alleged that he had “fraudulently obtain[ed] \$1.75 million in federal grant money from the National Institutes of Health ... by concealing support he received from the Chinese government and [Deep Informatics,] a company that he founded in China to profit from that

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250. *Id.*

251. *Id.* at 1240.

252. *University Researcher*, *supra* note 245.

253. *Id.*

254. *Id.*

255. *Id.*

256. *See Former University of Florida Researcher Indicted for Scheme to Defraud National Institutes of Health and University of Florida*, U.S. DEPT OF JUST. (Feb. 3, 2021), <https://www.justice.gov/opa/pr/former-university-florida-researcher-indicted-scheme-defraud-national-institutes-health-and> [<https://perma.cc/U3W3-LQD5>] [hereinafter *Former University of Florida Researcher*].

257. *Id.*; *see also* Sealed Indictment, *United States v. Yang*, No. 1:20-CR-40 (N.D. Fla. Dec. 15, 2020).

258. Sealed Indictment, *supra* note 257, at 2.

research.”<sup>259</sup> Additionally, he was alleged to have applied for and been accepted into the Thousand Talents Program with Northwestern Polytechnic University in Xi’an, China.<sup>260</sup> He traveled to China in August 2019 and has not yet returned.<sup>261</sup> The government sought criminal forfeiture of his home in Florida.<sup>262</sup>

### 9. James Patrick Lewis—West Virginia University

James Patrick Lewis was a tenured full professor in physics at West Virginia University (WVU) and specialized in molecular reactions used in coal conversion technologies.<sup>263</sup> In March 2018, Lewis requested an alternate parental work assignment and asked to be relieved from teaching duties for the fall semester to be a primary caretaker for the child he and his wife were expecting in June 2018.<sup>264</sup> The University granted this request; however, in fall 2018, while his child remained in the U.S., Lewis worked in China for the Chinese Academy of Sciences as a part of the Thousand Talents Program.<sup>265</sup> Prosecutors alleged that in fall 2018, Lewis spent all but three weeks of the semester in China and received his full salary from WVU pursuant to his alternate parental work assignment.<sup>266</sup>

On February 24, 2020, Lewis was charged via criminal information on one count of federal program fraud.<sup>267</sup> On March 10, 2020, he pleaded guilty, and agreed to compensate WVU for the amount of his teaching leave while he was in China.<sup>268</sup> On July 30, 2020, he was sentenced to three months in prison and ordered to pay

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259. *Former University of Florida Researcher*, *supra* note 256.

260. *Id.*

261. *Id.*

262. Sealed Indictment, *supra* note 257, at 15-16.

263. *Former West Virginia University Professor Pleads Guilty to Fraud That Enabled Him to Participate in the People’s Republic of China’s “Thousand Talents Plan,”* U.S. DEP’T OF JUST. (Mar. 10, 2020), <https://www.justice.gov/opa/pr/former-west-virginia-university-professor-pleads-guilty-fraud-enabled-him-participate-people> [<https://perma.cc/Y4FA-FF64>] [hereinafter *Former WVU Professor*].

264. *Id.*

265. *Id.*

266. *Id.*

267. Information at 1, *United States v. Lewis*, No. 1:2-CR-8 (N.D. W. Va. Feb. 24, 2020).

268. Plea Agreement at 2, *United States v. Lewis*, No. 1:2-CR-8 (N.D. W. Va. Mar. 10, 2020).

restitution to WVU in the amount of \$20,189 and court costs in the amount of \$9,363.<sup>269</sup> Lewis resigned in August 2019.<sup>270</sup>

#### 10. *Simon Saw-Teong Ang—University of Arkansas*

Simon Saw-Teong Ang was a professor at the University of Arkansas where he served as the Director of the High Density Electronics Center.<sup>271</sup> Ang was the investigator and co-investigator for grant contracts funded by the U.S. government.<sup>272</sup> At the same time, he received money and benefits from China and was closely associated with several China-based companies.<sup>273</sup> He allegedly failed to disclose these conflicts of interest, even though the University of Arkansas and NASA, one of the agencies that awarded Ang a federal grant, required him to do so.<sup>274</sup>

In July 2020, Ang was indicted on multiple counts of wire fraud and two counts of passport fraud.<sup>275</sup> Ultimately, Ang pled guilty to failing to disclose twenty-four patents registered in China on which he is listed as co-inventor; all remaining counts were dismissed.<sup>276</sup> He was sentenced to twelve months and one day in prison, one year of supervised release, and \$5,500 in fines.<sup>277</sup>

#### 11. *Zhengdong Cheng—Texas A&M University*

In August 2020, Zhengdong Cheng, a full professor at Texas A&M University, was charged with conspiracy, wire fraud, and making false statements to obtain a \$747,000 grant from NASA for

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269. Judgment at 1-2, 6, *United States v. Lewis*, No. 1:2-CR-8 (N.D. W. Va. July 31, 2020).

270. *Former WVU Professor*, *supra* note 263.

271. *University of Arkansas Professor Indicted for Wire Fraud and Passport Fraud*, Department of Justice, U.S. DEP'T OF JUST. (July 29, 2020), <https://www.justice.gov/opa/pr/university-arkansas-professor-indicted-wire-fraud-and-passport-fraud> [<https://perma.cc/K92Q-2NAV>] [hereinafter *University of Arkansas Professor*].

272. *Id.*

273. *Id.*

274. *Id.*

275. *Id.*

276. Plea Agreement at 4, 11, *United States v. Ang*, No. 5:20-CR-50029-001 (W.D. Ark. Jan. 20, 2022).

277. Judgment at 2-3, 4, *United States v. Ang*, No. 5:20-CR-50029-001 (W.D. Ark. June 28, 2022).

experiments at the International Space Station.<sup>278</sup> Cheng had been a participant in China's Hundred Talents Plan and River Talent Plan and had applied to participate in the TTP as well.<sup>279</sup> Cheng was prohibited from receiving NASA funding due to his payments from China.<sup>280</sup> From 2012 to 2018 Cheng was also affiliated with Guangdong University of Technology in China.<sup>281</sup> This affiliation was noted on his Chinese publications and two patents that he obtained in China.<sup>282</sup> Cheng pleaded guilty in September 2022 and was sentenced to time served (thirteen months) and fines of \$20,000 plus restitution of \$86,876.<sup>283</sup>

### *B. Observations*

The above case descriptions reveal a few notable trends that are discussed in further detail below. To begin, the academic defendants are all prominent professors from well-known research universities. The charges, at least indirectly, implicate national security concerns, yet none were charged under the EEA. Charges were eventually dropped against some of the individuals while most were convicted, and some received prison sentences. All of the cases involve some connection to China, and most of the academics are of Chinese descent. Charles Lieber and Patrick Lewis were notable exceptions.

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278. *NASA Researcher Arrested for False Statements and Wire Fraud in Relation to China's Talents Program*, U.S. DEP'T OF JUST. (Aug. 24, 2020), <https://www.justice.gov/opa/pr/nasa-researcher-arrested-false-statements-and-wire-fraud-relation-china-s-talents-program> [<https://perma.cc/U3LF-SP4W>] [hereinafter *NASA Researcher*]; Criminal Complaint at 11, *United States v. Cheng*, No. 4:20-MJ-1511 (S.D. Tex. Aug. 20, 2020).

279. Criminal Complaint, *supra* note 278, at 4.

280. *Id.* at 6.

281. *Id.* at 3; see also Rachel Scharf, *Ex-Prof Must Face Charges He Lied To NASA About China Ties*, LAW360 (Jan. 13, 2022), <https://www.law360.com/articles/1455238/ex-prof-must-face-charges-he-lied-to-nasa-about-china-ties> [<https://perma.cc/Q5LX-6VVR>].

282. Criminal Complaint, *supra* note 278, at 10-11.

283. *Professor, NASA Researcher Zhengdong Cheng Pleads Guilty in China Ties Case*, NBC 5 DALLAS-FORT WORTH (Sept. 24, 2022), <https://www.nbcdw.com/news/local/texas-news/professor-nasa-researcher-zhengdong-cheng-pleads-guilty-in-china-ties-case/3080295/> [<https://perma.cc/3VW8-S2WT>].



### 1. *Prominent Universities*

These are prominent academics at well-known research universities, both public and private. The academic setting is striking and noteworthy, because trade secret and particularly criminal espionage cases occur most often in the corporate and industrial setting.<sup>284</sup> Thus, these prosecutions appear to have been by design and intended to send a message to universities. In particular, the FBI is concerned that universities are being used as “nontraditional collectors” of intelligence through intellectual property.<sup>285</sup>

The Chinese government doesn't play by the same rules of academic integrity and freedom that the U.S. does. We know they use some Chinese students in the U.S. as nontraditional collectors of our intellectual property. We know that through their Thousand Talents Plans and similar programs, they try to entice scientists at our universities to bring their knowledge back to China, even if that means—even if that means stealing proprietary information or violating export controls or conflict-of-interest policies to do so.<sup>286</sup>

The prosecutions of the above individuals are a wake-up call to academics and universities across the country. Indeed, geographically, the sample above spans the country from the midwest to the south and east coast.<sup>287</sup>

The defendants were professors in the physical sciences from major research universities. For instance, Charles Lieber was chair of the Chemistry Department at Harvard University.<sup>288</sup> Gang Chen

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284. See U.S. DEP'T OF JUST., DEPARTMENT OF JUSTICE REPORT TO CONGRESS PURSUANT TO THE DEFEND TRADE SECRETS ACT, <https://www.justice.gov/criminal-ccips/page/file/1101901/download> [<https://perma.cc/ZD7B-6YW2>] (providing multiple instances of trade secret violations that all occurred in corporate settings).

285. Christopher Wray, Dir., Fed. Bureau of Investigation, Opening Remarks: China Initiative Conference (Feb. 6, 2020) (transcript available at <https://www.csis.org/analysis/fbi-director-christopher-wrays-opening-remarks-china-initiative-conference> [<https://perma.cc/EY7Z-FKWE>]).

286. *Id.*

287. See *supra* Part II.

288. *Harvard University Professor Convicted of Making False Statements and Tax Offenses*, U.S. ATT'Y'S OFF. DIS. MASS. (Dec. 21, 2021), <https://www.justice.gov/usao-ma/pr/harvard-university-professor-convicted-making-false-statements-and-tax-offenses> [<https://perma.cc/6RCU-Q6G5>] [hereinafter *Harvard Professor Convicted*].

is a Professor of mechanical engineering at MIT.<sup>289</sup> Anming Hu is a professor of nanotechnology at the University of Tennessee.<sup>290</sup> Franklin Tao was a professor of chemical engineering at the University of Kansas.<sup>291</sup> Song Guo Zheng was a professor of internal medicine and rheumatology at Ohio State University.<sup>292</sup> Xiao-Jiang Li was a professor at Emory University researching Huntington's disease on large animals.<sup>293</sup> James Patrick Lewis was a physics professor at West Virginia University<sup>294</sup> and Xiaoxing Xi was also a physics professor at Temple University.<sup>295</sup>

That their areas of research were in the physical sciences is of significance, given how their cases were brought to the attention of the DOJ initially. As discussed below in Part III.C.3, NIH was a key reporting agency, and most of the defendants were found to have violated policies related to grants received from the NIH and NASA.<sup>296</sup>

## 2. Charges Not Espionage

Even though almost all of the academics were accused of what would appear to be spying or sharing intelligence (research) with China, and despite the strong connection to national security described below, *none* of the academics were actually charged with a violation of the EEA.<sup>297</sup> Instead, the charges tended to be wire fraud, failure to disclose funding, and failure to file appropriate tax returns.<sup>298</sup>

For example, with respect to Harvard's Charles Lieber, he had received over \$15,000,000 in grants from the NIH and DOD.<sup>299</sup> Although he was required to disclosure funding from foreign

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289. See *MIT Professor*, *supra* note 230.

290. Wright, *supra* note 210.

291. *University of Kansas Researcher Indicted*, *supra* note 170.

292. See *University Researcher*, *supra* note 245.

293. See *Former Emory University Professor*, *supra* note 220.

294. See *Former WVU Professor*, *supra* note 263.

295. Winger, *supra* note 1.

296. See *infra* Part III, C.3.

297. See *supra* Part II.

298. See *supra* Part II.

299. *Harvard Professor Convicted*, *supra* note 288.

sources, he kept his payments from China secret.<sup>300</sup> Over the years, as a member of the Thousand Talents Plan, he had collected hundreds of thousands of dollars in compensation and over \$1 million to establish a research lab in China.<sup>301</sup> He was not charged under the EEA.<sup>302</sup> Instead, he was charged and convicted for making false statements to federal authorities, making and subscribing a false income tax return, and failing to file reports of foreign bank and financial accounts (FBAR) with the Internal Revenue Service (IRS).<sup>303</sup>

Similarly, Xi was charged with wire fraud.<sup>304</sup> Chen was arrested and charged with wire fraud, failing to file a foreign bank account report, and making a false statement in a tax return.<sup>305</sup> Franklin Tao was indicted on wire fraud and program fraud.<sup>306</sup> Zheng was arrested for making false statements to federal authorities.<sup>307</sup> Ang was indicted on multiple counts of wire fraud and passport fraud.<sup>308</sup>

It is interesting that prosecutors did not pursue EEA charges against these defendants. This suggests that they perhaps either did not believe that the information in question would be “trade secrets” under the EEA or that it would be more challenging to sustain these charges.<sup>309</sup> In industrial cases, however, the same type of information was nonetheless charged under the EEA.<sup>310</sup> As I explain below, that may also be because of practical reasons; the industrial cases are more easily presented as criminal trade secret cases than those arising from the university setting.<sup>311</sup> This suggests that future cases in the academic setting could just as easily be charged under the EEA.

Despite the absence of EEA charges, themes of espionage and theft of intellectual property and connections to China remained.

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300. See Block et al., *supra* note 187.

301. *Harvard Professor Convicted*, *supra* note 288; see Block et al., *supra* note 187.

302. See Block et al., *supra* note 187.

303. *Harvard Professor Convicted*, *supra* note 288.

304. Winger, *supra* note 1.

305. See *MIT Professor*, *supra* note 230.

306. *University of Kansas Researcher Indicted*, *supra* note 170.

307. See *University Researcher*, *supra* note 245.

308. See *University of Arkansas Professor*, *supra* note 271.

309. See *infra* Part III.C.

310. See *infra* Part III.C.

311. See *infra* Part III.C.

Indeed, some defendants moved to have such evidence excluded from their trials, believing it would prejudice the jury. In *United States v. Tao*, for example, the court reasoned:

The Court agrees with Defendant that all testimony on this topic is inadmissible. The PRC's national industrial policy objectives, and its efforts to obtain foreign technology by "lawful and unlawful means" to achieve those objectives, are of questionable relevance to the wire fraud and false statements charges at issue in this case. The Government argues that this testimony is relevant because Defendant's alleged scheme was "intrinsically connected to a PRC government-led program that was intended to further the PRC government's industrial and economic objectives," and testimony about the PRC's use of talent recruitment programs to advance those objectives will help the jury understand the context in which these programs operate. Despite the Government's desire to paint a broad picture of the role the Changjiang Scholars Program plays in the PRC's efforts to acquire foreign technology and achieve its industrial policy objectives, this backdrop will not help the jury understand the evidence or determine a fact in issue based on the charges in this case, which are limited to wire fraud and false statements.<sup>312</sup>

More broadly, charges have been dropped or reduced against many of the scientists involved in these cases.<sup>313</sup> But often by the time the case is dropped, the reputation of the Chinese researcher has been smeared, causing them to leave the United States.<sup>314</sup> According to one report, since 2014, theft charges were dropped against four Chinese-American scientists including two former Eli Lilly scientists in Indiana and a National Weather Service hydrologist in Ohio.<sup>315</sup> "We have heard that these prosecutions—and the public narrative they create—can lead to a chilling atmosphere for scientists and scholars that damages the scientific enterprise in this

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312. *United States v. Tao*, No. 19-20052, 2022 WL 252019, at \*6 (D. Kan. June 27, 2022) (footnotes omitted).

313. *See supra* Part II.

314. *See supra* Part II.

315. Gina Kolata, *Scientists with Links to China May Be Stealing Biomedical Research, U.S. Says*, *TORONTO STAR* (Nov. 4, 2019), <https://www.thestar.com/amp/news/world/2019/11/04/scientists-with-links-to-china-may-be-stealing-biomedical-research-us-says.html> [<https://perma.cc/78EP-N9Y2>].

country,” Assistant Attorney General Matthew Olsen said.<sup>316</sup> Some have accused prosecutors’ decisions to drop charges or to load charges against defendants with “paperwork” type crimes as pretextual.<sup>317</sup>

### 3. *China and the Politics of National Security*

A final observation about these cases is the most obvious—that they all involve China and alleged connections to China. That is not at all surprising when one considers that the prosecutions were part of a program called the *China Initiative*. Of the eleven professors indicted and profiled above, all but two are not of Chinese descent: Charles Lieber of Harvard and James Patrick Lewis of West Virginia University.<sup>318</sup> The ethnicity of these defendants as predominantly Chinese has been the subject of much criticism by scholars and commentators.<sup>319</sup> Indeed, an analysis of *China Initiative* cases by the MIT Technology Review indicated that 88 percent of 148 defendants charged during a three-year period were of Chinese ancestry.<sup>320</sup>

All of the professors, including Lieber and Lewis, are accused of having affiliations with China.<sup>321</sup> China’s connection to these cases

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316. Lucas, *supra* note 130.

317. See Emily Weinstein, *Fibs About Funding Aren’t Espionage, Even When China Is Involved*, FOREIGN POLY (Dec. 28, 2021, 10:00 AM), <https://foreignpolicy.com/2021/12/28/lieber-espionage-justice-initiative-china/> [<https://perma.cc/X438-UXYD>].

318. See *supra* Part II.

319. See, e.g., German & Liang, *supra* note 131; Lewis, *supra* note 76, at 145; Lucas, *supra* note 130; Cristina Marcos, *House Democrats Launch Probe into NIH and FBI Suspecting Chinese Americans of Espionage*, THE HILL (Feb. 20, 2020), <https://thehill.com/homenews/house/483910-house-democrats-launch-probe-into-nih-and-fbi-suspecting-chinese-americans-of/> [<https://perma.cc/P2UG-VYJF>]; Letter from Asian Americans Advancing Justice et al. to Michael E. Horowitz, Inspector General (June 21, 2016), [https://static1.squarespace.com/static/5715ad13d51cd48f82ac962e/t/59125bdc3e00be4549370863/1494375394061/2016\\_06\\_21\\_National\\_Orgs\\_Letter\\_to\\_DOJ\\_IG-FINAL.pdf](https://static1.squarespace.com/static/5715ad13d51cd48f82ac962e/t/59125bdc3e00be4549370863/1494375394061/2016_06_21_National_Orgs_Letter_to_DOJ_IG-FINAL.pdf), [<https://perma.cc/QA44-XAYA>]; Bianca T. Tillman, *Red Scare or Red Herring: How the “China Initiative” Strategy for Non-Traditional Collectors is Stifling Innovation in the United States*, 11 SEATTLE J. TECH., ENV’T & INNOVATION L. 133, 146 (2020); Vincent Ni, *Abolish Trump-Era ‘China Initiative’, Academics Urge, Amid Racial Profiling Criticism*, THE GUARDIAN (Sept. 14, 2021), <https://www.theguardian.com/us-news/2021/sep/15/abolish-trump-era-china-initiative-academics-urge-amid-racial-profiling-criticism> [<https://perma.cc/D5TC-4KMA>].

320. German & Liang, *supra* note 131.

321. See *supra* Part II.

is not happenstance as discussed throughout this Article. The FBI is clear about the focus on China when it comes to economic espionage:

These cases were among more than a thousand investigations the FBI has into China's actual and attempted theft of American technology—which is to say nothing of over a thousand more ongoing counterintelligence investigations of other kinds related to China. We're conducting these kinds of investigations in all 56 of our field offices. And over the past decade, we've seen economic espionage cases with a link to China increase by approximately 1,300 percent.<sup>322</sup>

Moreover, international and domestic policies between the United States and China led to the creation of programs that are at the center (and the origin) of these prosecutions.<sup>323</sup> The international politics and national security themes are also an important part of the story of the Economic Espionage Act generally, and the history of federal criminal trade secret law.<sup>324</sup>

*a. Research Payments*

All of the professors are accused of having been members of a talent program, including China's Thousand Talents Program and receiving funding from the program.<sup>325</sup> Given that the TTP was started to recruit American talent to jump-start China's innovation and research, participation in the program appears to create a high level of suspicion that research information is being transferred to China and/or the Chinese government through these programs.<sup>326</sup> China secretly hiring senior American researchers who transfer the product of their own research to China is not necessarily illegal, but it certainly arouses suspicion.<sup>327</sup> Indeed, further explaining the China thread throughout these cases is the U.S.'s policy response to

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322. Wray, *supra* note 25.

323. See Zweig & Kang, *supra* note 24, at 2.

324. See *supra* notes 56-57 and accompanying text.

325. See *supra* Part II.

326. See Zweig & Kang, *supra* note 24, at 1.

327. See *id.*

the TTP—the China Initiative.<sup>328</sup> It appears that the China Initiative was largely responsible for the prosecutions—and the focus—on academics.<sup>329</sup>

The defendants' charges reflect all of the various concerns about the TTP. Accusations of running “shadow laboratories” in China and “double dipping” by receiving research funds from both China and United States federal agencies are present in almost all the cases.<sup>330</sup> For instance, as noted earlier, Charles Lieber was paid in excess of \$1 million from China.<sup>331</sup> Gang Chen allegedly received about \$30 million.<sup>332</sup> Lin Yang allegedly obtained \$1.75 million from the NIH while concealing payments from the Chinese government through the Talent Program and a company that he founded in China.<sup>333</sup>

A U.S. Senate report published in November 2019, “Threats to the U.S. Research Enterprise: China’s Talent Recruitment Plans,” describes several cases of misconduct by TTP participants and criticizes the TTP for “incentiviz[ing] individuals engaged in research and development in the United States to transmit the knowledge and research they gain here to China in exchange for salaries, research funding, lab space, and other incentives.”<sup>334</sup> However, not all of the conduct involved evidence of transmitting or sharing information unlawfully, but instead included “disproportionate collaboration with Chinese institutions” or attempting “to initiate official sharing agreements between the laboratory and a Chinese organization.”<sup>335</sup> And as was evident from most of the case descriptions above, almost all the professors were “double dipping,” rather than stealing trade secrets.<sup>336</sup>

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328. *See id.* at 11.

329. *See* Tillman, *supra* note 319, at 144-47.

330. Zweig & Kang, *supra* note 24, at 12.

331. *See* Block et al., *supra* note 187.

332. *See* MIT Professor, *supra* note 230.

333. *See* Former University of Florida Researcher, *supra* note 256.

334. STAFF OF S. PERMANENT SUBCOMM. ON INVESTIGATIONS, 116TH CONG., REP. ON THREATS TO U.S. RESEARCH ENTERPRISE: CHINA’S TALENT RECRUITMENT PLANS 1 (2019), <https://www.hsgac.senate.gov/wp-content/uploads/imo/media/doc/2019-11-18%20PSI%20Staff%20Report%20-%20China's%20Talent%20Recruitment%20Plans%20Updated2.pdf> [<https://perma.cc/UP75-4Q2M>].

335. *Id.* at 73.

336. *See* Zweig & Kang, *supra* note 24, at 12.

Many similar research cases against scientists were pursued outside of academia as well. “Some researchers under investigation have obtained patents in China on work funded by the U.S. government and owned by U.S. institutions,” while “[o]thers are suspected of setting up labs in China that secretly duplicated U.S. research.”<sup>337</sup> As of October 2019, approximately a dozen scientists had resigned or been fired.<sup>338</sup> In the case of M.D. Anderson, a major cancer center in Texas, three faculty members were found to have engaged in unauthorized data transfer or to have been planning such activities when they were caught and were therefore forced to resign, of whom one received \$75,000 for a one-year affiliation with the TTP.<sup>339</sup> The American-born CEO of the Moffitt Cancer Center in Tampa, Florida resigned, along with the center’s director, after an internal investigation found their relationships with China violated conflict of interest rules.<sup>340</sup>

*b. National Security and Academic Research*

It is hard to ignore the political and national security themes that these cases represent even in the academic sphere. These cases are an amalgamation of the underlying purpose and spirit of the EEA and federal criminal theft of trade secrets, as well as the fact that research and development has tremendous economic implications. While it may seem to be “just research” in the academic setting, that is a gross under-evaluation of the status of that information as intellectual property and an economic asset. On a political level, the U.S. government feels strongly that economic security is a key component of national security and therefore sees the illicit transfer of knowledge to a strategic competitor as a threat to U.S. national power.<sup>341</sup> As the FBI Director has expressed:

It’s a troublingly similar story in academia. Through talent recruitment programs like the Thousand Talents Program ... China pays scientists at American universities to secretly bring

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337. Kolata, *supra* note 315.

338. *Id.*

339. *Id.*

340. Block et al., *supra* note 187.

341. *See* Zweig & Kang, *supra* note 24, at 2.



our knowledge and innovation back to China—including valuable, federally funded research. To put it bluntly, this means American taxpayers are effectively footing the bill for China’s own technological development. China then leverages its ill-gotten gains to undercut U.S. research institutions and companies, blunting our nation’s advancement and costing American jobs. And we are seeing more and more of these cases.<sup>342</sup>

Because of the deep entanglement between the U.S. and China’s economies, the government is laser focused on China as a threat to U.S. trade secrets.<sup>343</sup> “When we tally up what we see in our investigations—over 2,000 of which are focused on the Chinese government trying to steal our information or technology—there is just no country that presents a broader threat to our ideas, our innovation, and our economic security than China,” FBI Director Wray has remarked, adding that the FBI opens a new counterintelligence case against China “about twice a day.”<sup>344</sup> An investigation by the United States Trade Representative, focused specifically on China, estimated that “Chinese theft of American IP currently costs between \$225 billion and \$600 billion annually—a figure that includes industrial espionage, among other practices.”<sup>345</sup> The report encouraged President Trump to put tariffs on about \$50 billion worth of Chinese goods.<sup>346</sup>

This focus on national security is reflected down to the practical aspects of the academic prosecutions as well. For instance, while these kinds of criminal cases are often handled by white collar, computer crime, or similar divisions within the DOJ, these academic prosecutions seemed to be different. They were mostly handled in the national security division.<sup>347</sup>

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342. Wray, *supra* note 25.

343. Dunn, *supra* note 168.

344. *China’s Quest for Economic, Political Domination Threatens America’s Security*, FBI (Feb. 1, 2022), <https://www.fbi.gov/news/stories/director-wray-addresses-threats-posed-to-the-us-by-china-020122> [<https://perma.cc/N8PT-HZG2>].

345. Dunn, *supra* note 168.

346. *Id.*

347. See *NASA Researcher*, *supra* note 278; see generally Kristen Eichensehr & Cathy Hwang, *National Security Creep in Corporate Transactions*, 123 COLUM. L. REV. 549, 557-60 (forthcoming 2023), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4211540](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4211540) [<https://perma.cc/Y97F-2LXP>] (detailing the scope of national security in U.S. economic regulation).

*c. Initiative Aimed at China*

And of course, there is no more direct evidence of the intentions and policies behind these prosecutions than the DOJ's *China Initiative*. The name said it all. All of the academic cases appear to have been a direct result of the Initiative.<sup>348</sup> The program itself, since it began in 2018, gained notoriety for questionable investigations and abusive prosecutions.<sup>349</sup> For example, after his charges were dropped, Xiaoxing Xi of Temple University sued the FBI alleging that he was targeted due to his ethnicity.<sup>350</sup> All charges against Gang Chen of MIT were also dropped.<sup>351</sup> His attorney expressed gratitude to witnesses who "came forward and told the government how badly they misunderstood the details surrounding scientific and academic collaboration," arguing that "without them this case would likely still be ongoing."<sup>352</sup>

Some of the defendants also moved to have their alleged connections to China excluded from their trials because it would be a prejudicial way of essentially making it seem like they were spies (despite the absence of EEA charges). For instance, Franklin Tao sought to exclude evidence regarding China and its Talent Plans, and the court ruled it was inadmissible since the defendant was only charged with false statements and fraud.<sup>353</sup>

By the end of 2021, even a prosecutor for the China Initiative noted that the program "drifted" from its intended goal.<sup>354</sup> The program increasingly targeted scientists of Chinese ancestry like Franklin Tao for inconsequential errors and omissions in grant applications, "rather than spies stealing national security secrets or proprietary technology at the direction of the Chinese government."<sup>355</sup> A number of these "research integrity" prosecutions "were

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348. See German & Liang, *supra* note 131.

349. *Id.*

350. Dunn, *supra* note 168.

351. Ellen Barry & Katie Benner, *U.S. Drops Its Case Against M.I.T. Scientist Accused of Hiding China Links*, N.Y. TIMES (Jan. 20, 2022), <https://www.nytimes.com/2022/01/20/science/gang-chen-mit-china-initiative.html> [<https://perma.cc/X6YU-GP2A>].

352. *Id.*

353. *United States v. Tao*, No. 19-20052-JAR, 2022 WL 252019, at \*6 (D. Kan. Jan. 27, 2022).

354. German & Liang, *supra* note 131.

355. *Id.*

dismissed before trial or ended in acquittal.”<sup>356</sup> One former U.S. Attorney also agreed that the China Initiative “created ‘perverse incentives’ where agents and prosecutors, ‘pressured to meet higher prosecution expectations,’ may have been ‘stretching the facts and jumping to unwarranted conclusions.’”<sup>357</sup>

In February 2022, the Biden administration’s Assistant Attorney General Matt Olsen announced the end of the China Initiative, responding in part to criticism from Congress, academia, civil rights groups, and the Asian American community.<sup>358</sup> “While I remain focused on the evolving, significant threat that the government of China poses, I have concluded that this initiative is not the right approach,” he said.<sup>359</sup> Instead, he acknowledged that a broader approach to include other countries such as Russia, Iran, and North Korea in addition to China would be advisable.<sup>360</sup>

However, while recognizing that the China Initiative “created a ‘harmful perception’ of bias against people with ‘racial, ethnic, or familial ties to China,’” the DOJ defended its investigations and prosecutions as driven by “genuine national security concerns.”<sup>361</sup> Nonetheless, the government was trying to be responsive to concerns raised by civil rights groups, academics, and scientists about negative consequences from the initiative, such as allegations of racial profiling against Asian Americans.<sup>362</sup> “Anything that creates the impression that the Department of Justice applies different standards based on race or ethnicity harms the department ... mindful that the department must maintain the trust of the people whom we serve.”<sup>363</sup>

Without stating the obvious, it is not a surprise that a program designed to target a single country would have resulted in these kinds of implications and perhaps unintended consequences leading to allegations of xenophobia and racism. “David Laufman, the former chief of the counterintelligence and export control section of

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356. *Id.*

357. *Id.*

358. *Id.*

359. *See* Lucas, *supra* note 130.

360. *Id.*

361. *See* German & Liang, *supra* note 131.

362. *See* Lucas, *supra* note 130.

363. *Id.*

the National Security Division at the DOJ, said that ‘retiring the name “the China Initiative” is long overdue.’<sup>364</sup> “China will continue to present an aggressive and relentless threat to U.S. economic and national security interests,” Laufman said, “[b]ut the Justice Department can prioritize countering that threat without the need for an inflammatory moniker.”<sup>365</sup>

To be sure, however, despite retiring or relabeling the “China Initiative,” the Justice Department and FBI will continue investigating economic espionage by China and other countries. Assistant Attorney General Olsen noted that with reference to the academic cases, one possibility might be to defer criminal prosecution in favor of administrative or civil remedies.<sup>366</sup> Prosecutors may also exercise greater care and caution before filing charges.<sup>367</sup> The end of the program did not mean the end of the cases. The cases that were in the pipeline continued.

### III. COMPARISON TO INDUSTRIAL CASES

The academic prosecutions made headlines because they were highly unusual. However, what made them remarkable, from my perspective, was that they were against university professors—not the corporate employees against whom such cases were and are routinely filed. Indeed, by mid-2020, the FBI was pursuing more than 2,000 active investigations that involved China.<sup>368</sup> To better understand why these academic prosecutions as a group are worthy of note and a significant event in the broader development of criminal trade secret jurisprudence, they must be framed within a wider lens. This requires comparison to industrial prosecutions and an analysis of similarities and differences in the types of cases. While academic threats and prosecutions may appear to be a new phenomenon, prompting reactive calls for new legislation or approaches, they are simply run-of-the-mill criminal trade secret cases. The key difference, however, is the setting. Rather than the

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364. *Id.*

365. *Id.*

366. *See* German & Liang, *supra* note 131.

367. Pence, *supra* note 133.

368. *See* Perano, *supra* note 129.

usual corporate employer-employee environment, these cases involve professor-employees and university-employers.

Furthermore, the government's interest in pursuing these criminal cases are effectively the same. That is because the U.S. government sees threats to both industry and academia similarly. As FBI Director Wray has noted:

[T]he FBI is encouraging our business and academic partners to keep that long view in mind when engaging with China. We're asking executives and boards of directors to carefully consider who they choose to do business with and who they make part of their supply chains. A decision to enter into a joint venture or contract with a particular vendor might look good to them in the near term ... but it might not look so "great" a few years down the road when they find themselves bleeding intellectual property or hemorrhaging some of their most sensitive data.<sup>369</sup>

### *A. Some Industrial Profiles*

To provide a flavor for the industrial cases, below is a small sampling of cases involving researchers, where the nature of the allegations are similar to the academic cases above. While these kinds of cases against scientists in industry and corporate positions are far more common, the cases below were selected for purposes of comparison because they were charged within the same time period as the academics above. Namely, during 2019 to early 2021. Relying on these and other industrial criminal cases, this Section then compares and contrasts characteristics and trends between the industrial and academic cases.

#### *1. Haitao Xiang—Monsanto*

Haitao Xiang, a Chinese national residing in Missouri, was employed as an imaging scientist by Monsanto and its subsidiary, The Climate Corporation, from 2008 to 2017.<sup>370</sup> "Monsanto and The

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369. Wray, *supra* note 285.

370. *Chinese National Who Worked at Monsanto Indicted on Economic Espionage Charges*, U.S. DEP'T OF JUST. (Nov. 21, 2019), <https://www.justice.gov/opa/pr/chinese-national-who-worked-monsanto-indicted-economic-espionage-charges> [<https://perma.cc/5VQN-KPWD>] [here-

Climate Corporation developed a digital, on-line farming software platform that was used by farmers to collect, store, and visualize critical agricultural field data and increase and improve agricultural productivity for farmers.”<sup>371</sup> “A critical component to the platform was a proprietary predictive algorithm referred to as the Nutrient Optimizer.”<sup>372</sup> “Monsanto and The Climate Corporation considered the Nutrient Optimizer a valuable trade secret and their intellectual property.”<sup>373</sup>

Xiang looked for jobs in China and was eventually offered a position at the Chinese Academy of Science’s Nanjing Institute of Soil Science in August 2016.<sup>374</sup> He waited until May 2017 to tell both companies he was resigning the next month.<sup>375</sup> Xiang reportedly told administrators that he did not keep “company documents, data, or storage devices, but did acknowledge taking his company laptop to China the summer before.”<sup>376</sup> When the company began to review his computer activity, they notified and involved the FBI.<sup>377</sup>

In June 2017, the day after quitting his job with Monsanto and The Climate Corporation, Xiang bought a one-way plane ticket to China.<sup>378</sup> However, his plans were interrupted when he was stopped by officials at the airport, who seized copies of the Nutrient Optimizer.<sup>379</sup> Xiang also attempted “to take six files containing trade secret information to China on a storage device connected to his laptop.”<sup>380</sup>

Xiang was arrested on November 18, 2019.<sup>381</sup> Three days later, on November 21, 2019, he “was indicted by a federal grand jury on one count of conspiracy to commit economic espionage, three counts of economic espionage, one count of conspiracy to commit theft of trade

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inafter *Chinese National*].

371. *Id.*

372. *Id.*

373. *Id.*

374. Chris Brook, *FBI Agent: Ex-Monsanto Employee Stole Trade Secrets*, DIGITAL GUARDIAN: DATAINSIDER (Nov. 19, 2019), <https://digitalguardian.com/blog/fbi-agent-ex-monsanto-employee-stole-trade-secrets> [<https://perma.cc/MNM5-UKFE>].

375. *Id.*

376. *Id.*

377. *See id.*

378. *See Chinese National, supra* note 370.

379. *See id.*

380. *See Brook, supra* note 374.

381. *See id.*

secrets, and three counts of theft of trade secrets.”<sup>382</sup> On January 6, 2022, he pleaded guilty to one count of conspiracy to commit economic espionage and all remaining counts were dismissed.<sup>383</sup> On April 7, 2022, Xiang was sentenced to twenty-nine months in prison, supervised release for a term of three years, and a fine of \$150,000 due no later than sixty days from the date of sentencing.<sup>384</sup> Notably, on April 18, 2022, Xiang’s attorneys filed a Notice of Appeal for Final Judgment.<sup>385</sup> On January 12, 2023, the Eighth Circuit affirmed the district court’s judgment.<sup>386</sup>

## 2. *Li Chen and Yu Zhou—Nationwide Children’s Hospital*

Li Chen and her husband, Yu Zhou, worked in separate medical research labs at the Research Institute at Nationwide Children’s Hospital (NCH) for ten years where they conducted research regarding exosomes and exosome isolation.<sup>387</sup> According to the indictment:

Exosomes are small membrane-bound sacs that are produced by human cells and that carry cell-derived components such as RNA, microRNA (or miRNA), and DNA .... In order to be utilized fully for research, disease identification, and treatment, exosomes must first be separated from other non-exosome

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382. See Indictment at 9-18, *United States v. Xiang*, No. 4:19-cr-00980 (E.D. Mo. Nov. 21, 2019) [hereinafter *Xiang Indictment*]; see also *Chinese National*, *supra* note 370.

383. See Guilty Plea Agreement at 1-2, *United States v. Xiang*, No. 4:19-cr-00980 (E.D. Mo. Jan. 6, 2022); see also *Chinese National Pleads Guilty to Economic Espionage Conspiracy*, U.S. DEP’T OF JUST. (Jan. 6, 2022), <https://www.justice.gov/opa/pr/chinese-national-pleads-guilty-economic-espionage-conspiracy#:~:text=Xiang%20Haitao%2C%2044%2C%20a%20Chinese,international%20company%20based%20in%20St> [https://perma.cc/JTQ5-JNMX] [hereinafter *Pleads Guilty*].

384. See Judgment at 2-7, *United States v. Xiang*, No. 4:19-cr-00980 (E.D. Mo. Apr. 7, 2022) [hereinafter *Xiang Judgment*].

385. See Notice of Appeal at 2, *United States v. Xiang*, No. 4:19-cr-00980 (E.D. Mo. Apr. 18, 2022).

386. *United States v. Xiang*, No. 22-1801, 2023 U.S. App. LEXIS 11027, at \*1, \*6, \*10, \*13, \*17 (8th Cir. May 5, 2023).

387. *Hospital Researcher Sentenced to Prison for Conspiring to Steal Trade Secrets and Sell Them to China*, U.S. DEP’T OF JUST. (Feb. 1, 2021), <https://www.justice.gov/opa/pr/hospital-researcher-sentenced-prison-conspiring-steal-trade-secrets-and-sell-china> [https://perma.cc/LG Y7-AKRS] [hereinafter *Hospital Researcher*].

components. This process is sometimes referred to as exosome isolation.<sup>388</sup>

Zhou and Chen were alleged to have stolen trade secrets consisting of a novel method of exosome isolation, particularly related to isolating exosomes from fluid samples as small as, and smaller than, approximately twenty microliters, as well as other nonpublic exosome related information.<sup>389</sup> As NCH employees they allegedly engaged in significant competitive activities in China, including founding a competing Chinese biotechnology company and applying for Chinese patents related to NCH's isolation method.<sup>390</sup> The couple also took several trips to China where they were paid to meet with Chinese government officials who coordinate the transfer of foreign technology to China.<sup>391</sup> Chen was also found to have applied to multiple Chinese government talent programs.<sup>392</sup>

The couple was indicted on July 24, 2019, and arrested on July 29, 2019.<sup>393</sup> Li Chen was charged with four counts of theft of trade secrets, one count of attempt or conspiracy to commit wire fraud, and seventeen counts of wire fraud.<sup>394</sup> On July 30, 2020, she ultimately pleaded guilty to one count of theft of trade secrets and one count of conspiracy to commit wire fraud.<sup>395</sup> She was sentenced to thirty months' imprisonment and three years of supervised release.<sup>396</sup>

Yu Zhou was charged with three counts of theft of trade secrets, one count of attempt or conspiracy to commit wire fraud, and fifteen counts of wire fraud.<sup>397</sup> On December 11, 2020, he pleaded guilty to one count of theft of trade secrets and one count of conspiracy to

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388. See Indictment at 2, United States v. Zhou, No. 2-19-cr-00163 (S.D. Ohio July 14, 2019) [hereinafter Zhou Indictment].

389. *Id.* at 4.

390. *Id.* at 7.

391. *Id.* at 8.

392. See *Hospital Researcher*, *supra* note 387.

393. See Zhou Indictment, *supra* note 388; Arrest Warrant at 1, United States v. Zhou, No. 2-19-cr-00163 (S.D. Ohio Aug. 1, 2019).

394. See Zhou Indictment, *supra* note 388, at 6-24.

395. See Change of Plea Hearing at 1, United States v. Zhou, No. 2-19-cr-00163 (S.D. Ohio July 30, 2020) [hereinafter July Change of Plea Hearing].

396. See Judgment at 1, United States v. Zhou, No. 2-19-cr-00163 (S.D. Ohio Feb. 3, 2021).

397. See Zhou Indictment, *supra* note 388, at 6-24.



commit wire fraud.<sup>398</sup> Zhou was sentenced to thirty-three months' imprisonment and three years of supervised release; the remaining counts were dismissed at that time.<sup>399</sup> Together, the couple was also ordered to forfeit over \$1.2 million in cash payments and over 500,000 shares of common stock.<sup>400</sup>

### 3. *Zaosong Zheng—Beth Israel Deaconess Medical Center*

Zaosong Zheng was employed by Beth Israel Deaconess Medical Center in Boston,<sup>401</sup> where he conducted cancer cell research, from September 4, 2018, to December 3, 2019.<sup>402</sup> Zheng is a Chinese national who entered the United States through the J-1 non-immigrant visa program.<sup>403</sup> He obtained his medical degrees while living in the People's Republic of China.<sup>404</sup> His visa, which he obtained in July 2018, was sponsored by Harvard University. While in the United States, Zheng received a stipend of approximately \$2,000 per month from the Chinese Scholarship Council, which is financed mainly by China's special appropriations or scholarship programs.<sup>405</sup>

On December 9, 2019, U.S. Customs and Border Patrol Agriculture Specialists assigned to Boston Logan International Airport identified Zheng, who was scheduled to depart Boston for Beijing, as a high risk for possibly exporting undeclared material.<sup>406</sup> They physically examined two checked bags in Zheng's name and found

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398. See July Change of Plea Hearing, *supra* note 395; Change of Plea Hearing at 1, United States v. Zhou, No. 2-19-cr-00163 (S.D. Ohio Dec. 11, 2020).

399. See Judgment, *supra* note 396.

400. *Id.* at 8-9; Zhou Indictment, *supra* note 388, at 25-26.

401. Beth Israel Deaconess Medical Center is a teaching hospital and medical research facility of Harvard Medical School. *About*, BETH ISRAEL DEACONESS MED. CTR., <https://www.bidmc.org/about-bidmc> [<https://perma.cc/7JYN-SVQD>].

402. *Harvard University Professor and Two Chinese Nationals Charged in Three Separate China Related Cases*, U.S. DEP'T OF JUST. (Jan. 28, 2020), <https://www.justice.gov/opa/pr/harvard-university-professor-and-two-chinese-nationals-charged-three-separate-china-related> [<https://perma.cc/D6XU-627X>] [hereinafter *Three Cases*].

403. *Id.*

404. See Indictment at 1, United States v. Zheng, No. 1:20-cr-10015 (D. Mass. Jan. 21, 2020) [hereinafter *Zheng Indictment*].

405. *Id.*

406. See Criminal Complaint at 2, United States v. Zheng, No. 1:20-cr-10015 (D. Mass. Dec. 10, 2019) [hereinafter *Zheng Criminal Complaint*].

twenty-one vials wrapped in a plastic bag and concealed in a sock.<sup>407</sup> The vials contained a brown liquid, along with typed and handwritten notes and descriptions.<sup>408</sup>

Zheng admitted to having stolen eight of the vials from a lab at Beth Israel;<sup>409</sup> he further admitted to “personally replicat[ing] eleven vials based on” the research of a friend, Zhang Tao.<sup>410</sup> Zheng reported that he replicated this research over a two-to-three-month period while working at the Beth Israel laboratory, unbeknownst to Beth Israel.<sup>411</sup> Zheng admitted that he intended to take the vials to China to use them to conduct research in his own lab at Sun Yat-Sen Memorial Hospital and publish the results under his own name.<sup>412</sup>

On January 21, 2020, Zheng was indicted on one count of smuggling goods from the United States and one count of making false statements.<sup>413</sup> On December 3, 2020, he pleaded guilty to one count of making false, fictitious, or fraudulent statements.<sup>414</sup> On January 6, 2021, Zheng was sentenced “to time served (approximately eighty-seven days), three years of supervised release, and ordered removed from the United States.”<sup>415</sup>

### *B. Similarities*

Considering not only the few industrial cases noted above, but a wider body of cases that are typical of EEA prosecutions, one notes certain similarities to the academic cases. These include prominent companies and individuals, similar types of scientific research

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407. *Id.*

408. *Id.*

409. *Id.* at 3; see *Three Cases*, *supra* note 402.

410. Zheng Criminal Complaint, *supra* note 406, at 3.

411. *See id.*

412. *See id.*; see also *Three Cases*, *supra* note 402.

413. Zheng Indictment, *supra* note 404, at 4-5.

414. *See Chinese Researcher Pleads Guilty to Making False Statements to Federal Agents*, U.S. DEPT OF JUST. (Dec. 3, 2020), <https://www.justice.gov/usao-ma/pr/chinese-researcher-pleads-guilty-making-false-statements-federal-agents> [<https://perma.cc/WFP6-CTH5>] [hereinafter *Chinese Researcher*].

415. *See* Judgment at 1-3, *United States v. Zheng*, No. 1:20-cr-10015 (D. Mass. Jan. 21, 2020); see also *Chinese Researcher*, *supra* note 414.

information that are eligible for trade secret protection, and connections to China.

### *1. Prominent Companies and Individuals*

Criminal trade secret cases tend to involve prominent victim companies, as illustrated by such recognized entities as Monsanto and Beth Israel Deaconess Medical Center in the Xiang and Zheng cases above. As with the well-known research universities represented in the academic cases, industrial cases typically involve companies like Apple,<sup>416</sup> General Electric,<sup>417</sup> Fitbit,<sup>418</sup> DuPont,<sup>419</sup> Coca-Cola,<sup>420</sup> T-Mobile,<sup>421</sup> Genentech,<sup>422</sup> GlaxoSmithKline,<sup>423</sup> and Oracle,<sup>424</sup> among others.

Similarly, the individual defendants are often scientists, engineers, or high-level executives. For instance, in April 2019, two engineers were charged with economic espionage and conspiring to steal General Electric's trade secrets surrounding turbine technologies for the alleged purpose of benefiting China.<sup>425</sup> The defendants were "accused of using their access to General Electric's files to steal

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416. "In the wake of layoffs affecting 190 employees, two Apple employees were indicted for similar (acts of) espionage. Both engineers were members of Apple's self-driving car project, Project Titan. On July 12, 2018, Xiaolang Zhang was indicted for one count of stealing trade secrets and on January 31, 2019, Jizhong Chen was indicted on one count of copying or duplicating trade secrets." Jayne & Riser, *supra* note 118, at 20; *Former Apple Employee Indicted On Theft Of Trade Secrets*, U.S. DEP'T OF JUST. (July 16, 2018) <https://www.justice.gov/usao-ndca/pr/former-apple-employee-indicted-theft-trade-secrets> [<https://perma.cc/XU6S-EYAP>] [hereinafter *Former Apple Employee*].

417. See Jayne & Riser, *supra* note 118, at 20.

418. *Id.* at 19.

419. "In this case, the victim was chemical company DuPont. Josh Isler was sentenced in April 2019 to 42 months in prison after entering a guilty plea to one count of trade secret misappropriation, as well as one count of lying to the FBI. The trade secret theft occurred after a U.S.-based DuPont competitor recruited Mr. Isler with an offer of a new car and significantly higher salary. After accepting the job, Mr. Isler submitted his resignation to DuPont, transferred 'hundreds of DuPont's electronic files to an external media device folder,' and shared those documents with the competitor." *Id.* at 20.

420. *Id.*

421. *Id.*

422. *Id.*

423. *Scientist Accused in Trade Secret Theft Back in US for Trial*, AP NEWS (Jan. 7, 2020), <https://apnews.com/fcf5e36b8fe34c863114355f001982ad> [<https://perma.cc/D2JX-ED98>].

424. See Jayne & Riser, *supra* note 118, at 20.

425. *Id.*

design models, engineering drawings, and other material specifications related to General Electric's gas and steam turbines."<sup>426</sup>

## 2. *Similar Information & Prosecutorial Objectives*

Relatedly, the same type of information (scientific research information) is often alleged to have been taken in criminal trade secret cases, and this kind of information potentially qualifies for trade secret protection. For example, Apple's schematics for an autonomous vehicle were allegedly stolen by one of its engineers.<sup>427</sup> Monsanto and The Climate Corporation considered the Nutrient Optimizer taken by Haitao Xiang to be a valuable trade secret,<sup>428</sup> and Zhou and Chen were alleged to have stolen trade secrets consisting of a novel method of exosome isolation from Nationwide Children's Hospital's (NCH) Research Institute.<sup>429</sup> Thus, the nature of the research information in the academic cases, whether related to physics, chemistry, nanotechnology, or medicine would likewise have been typical of EEA cases.

Further, academic prosecutions are meant to accomplish the same objective as the industrial prosecutions: avenge trade secret theft, especially those by foreign countries.<sup>430</sup> As such, there are familiar political undertones:

[W]hether we're talking about the business world or the academic world, it is crucial that we acknowledge and understand these differences between our two systems because China is doing everything[] they can to turn those differences to their advantage. Obviously, they're exploiting our open academic environment for research and development. They are exploiting American companies' openness for foreign investment and partnership, and they are acquiring U.S. firms to gain ownership of what those firms have created.<sup>431</sup>

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426. *Id.*

427. *Former Apple Employee*, *supra* note 416.

428. *Chinese National*, *supra* note 370.

429. *Hospital Researcher*, *supra* note 387.

430. *See* Dunn, *supra* note 168.

431. Wray, *supra* note 285 (providing remarks by FBI Director at a conference regarding the China Initiative in February 2020).

### 3. *China and Talent Recruitment*

And of all the foreign targets, the EEA cases are predominantly related to China or individuals of Chinese descent, as the exemplar industrial cases described above against Haitao Xiang, Li Chen, Yu Zhou, and Zaosong Zheng illustrate. Further, not only do the industrial cases often allege that proprietary information was taken to or shared with China, but also—like the academic cases—that some defendants were allegedly participants in a talent recruitment program.

For instance, in June 2018, Turab Lookman, then an employee at Los Alamos National Laboratory, denied having applied to the Thousand Talents Program.<sup>432</sup> However, he subsequently admitted to doing so and pleaded guilty.<sup>433</sup> A Coca-Cola engineer, Xiaorong “Shannon” You, who was responsible for conducting research regarding BPA-free technologies, was also accused of sharing proprietary information with China.<sup>434</sup> Allegedly, You stole the trade secrets to set up a new BPA-free coating company in China.<sup>435</sup> You had received millions of dollars in Chinese government grants, including a Thousand Talents Plan award.<sup>436</sup> In April 2021, she was convicted of conspiracy to commit trade secret theft, conspiracy to commit economic espionage, possession of stolen trade secrets, economic espionage, and wire fraud.<sup>437</sup> Hongjin Tan, a Chinese national and U.S. legal permanent resident, was employed as an associate scientist at Phillips 66,<sup>438</sup> a U.S. petroleum company, from

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432. *Former Employee At Los Alamos National Laboratory Sentenced To Probation For Making False Statements About Being Employed By China*, U.S. DEPT OF JUST. (Sept. 15, 2020), <https://www.justice.gov/opa/pr/former-employee-los-alamos-national-laboratory-sentenced-probation-making-false-statements> [https://perma.cc/XC6X-XKYA] [hereinafter *Los Alamos*].

433. *Id.*

434. *Ph.D. Chemist Convicted of Conspiracy to Steal Trade Secrets, Economic Espionage, Theft of Trade Secrets and Wire Fraud*, U.S. DEPT OF JUST. (Apr. 22, 2021), <https://www.justice.gov/opa/pr/phd-chemist-convicted-conspiracy-steal-trade-secrets-economic-espionage-theft-trade-secrets> [https://perma.cc/4ENE-CDQN] [hereinafter *Ph.D. Chemist*].

435. *Id.*

436. *Id.*

437. *Id.*

438. *Billion-Dollar Secrets Stolen: Scientist Sentenced for Theft of Trade Secrets*, FBI (May 27, 2020), <https://www.fbi.gov/news/stories/scientist-sentenced-for-theft-of-trade-secrets-052720> [https://perma.cc/33PK-2YGY] [hereinafter *Billion-Dollar*].

June 2017 to December 2018 and was assigned to work in a group with the goal of developing next generation technologies relating to batteries and stationary energy storage.<sup>439</sup> He resigned from his position in December 2018, and told his superior that he planned to return to China to care for his aging parents.<sup>440</sup> The FBI later found that Tan began accessing “sensitive files around the time he applied to China’s Thousand Talents Program.”<sup>441</sup>

### C. Differences

Unlike the similarities to the academic cases, this Section highlights three key differences between the academic and industrial cases. These differences underscore the uncertainties and difficulties of prosecuting espionage in the academic context, and they demonstrate the practical challenges that prosecutors can face as a result. First is the nature of the charges; notably, the absence of a single theft of trade secrets EEA count against defendants whose cases by all indications look like they could have been so charged had they been in the industrial setting. Second, no universities were charged. Third is the nature of the victim involvement; that is, the absence of university involvement and cooperation in pursuing the criminal charges.

#### 1. Nature of Charges

One of the most distinct differences in the academic cases charged under the China Initiative is that none had counts for theft of trade secrets under the EEA. Considering the purpose and spirit of the EEA, the concern for national security, which is embedded in economic security and economic espionage, and the government’s goal of neutralizing the threats in academia to the same extent as those in industry, this is a striking difference.<sup>442</sup> As evident from the industrial cases, the academic cases could have been charged under

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439. *Chinese National Sentenced for Stealing Trade Secrets Worth \$1 Billion*, U.S. DEP’T OF JUST., (Feb. 27, 2020), <https://www.justice.gov/opa/pr/chinese-national-sentenced-stealing-trade-secrets-worth-1-billion> [<https://perma.cc/XM9F-7AJ2>].

440. *See Billion-Dollar*, *supra* note 438.

441. *Id.*

442. *See supra* notes 341-42 and accompanying text.

the EEA if prosecutors were able to allege that the defendants believed they were taking or sharing trade secrets.<sup>443</sup>

However, it is likely that trade secret charges were not pursued for practical reasons. Perhaps prosecutors did not realize the information at issue could be trade secrets because it involved university research.<sup>444</sup> Further, without the victim cooperation or urging (as often happens with corporations), it would have been harder to plead and prove the EEA claims, as well as obtain a full understanding of the often-complicated scientific information involved.<sup>445</sup> It was therefore relatively simpler and easier to charge wire fraud, false statements, and tax evasion instead. Ironically, though, everything else about the cases still suggested to the world that the accusations were about spying, stealing, and improper sharing of proprietary information—the tone and tenor of which are quite serious.<sup>446</sup> To be sure, these kinds of cases can be difficult and complicated for prosecutors, and there are legitimate reasons (and accompanying pressures given their import to national security) that may make them even more challenging.<sup>447</sup> However, one need not reinvent the wheel, as the industrial cases with EEA charges could serve as a reference.

## *2. No Universities Charged*

Another notable difference in the academic cases relative to the industrial cases is that no universities have yet been charged as defendants (only individual professors). This is probably in part because there are no competitor-against-competitor allegations in these cases, as often appears in the civil cases.<sup>448</sup> But are universities at risk? Universities are vulnerable to being charged as defendants because there is no reason why they could not be charged if the evidence of their knowledge or participation was sufficient in a particular circumstance.<sup>449</sup> Indeed, the first indictment

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443. See *supra* Part III.A.

444. See Winger, *supra* note 1.

445. See Dunn, *supra* note 168.

446. See *supra* Part III.A.

447. See *supra* notes 341-47 and accompanying text.

448. See *infra* note 507 and accompanying text.

449. See *supra* Part III.A.

under the China Initiative included Taiwanese corporate and individual defendants.<sup>450</sup>

[A] grand jury indicted United Microelectronics Corporation (“UMC”), Taiwan’s first semiconductor company and Fujian Jinhua Integrated Circuit Company (“Jinhua”), a state-backed memory chip maker, and three Taiwan nationals for allegedly stealing trade secrets related to dynamic random access memory (“DRAM”) from Micron, an Idaho-based semiconductor company.<sup>451</sup> The indictment followed a civil lawsuit filed by Micron in 2017 alleging misappropriation of its trade secrets under the Defend Trade Secrets Act, among other claims.<sup>452</sup> ... The government alleged that the theft of Micron’s trade secrets was intended to benefit the People’s Republic of China.<sup>453</sup>

Accordingly, for this reason alone (universities themselves are not exempt), academic institutions should start to pay more attention to their trade secret programs just as they have done with patents. These cases could be a wake-up call to universities to pay attention!<sup>454</sup>

### 3. *Extent of Victim Involvement*

Victim involvement is important in prosecuting criminal trade secret cases, as illustrated in the industrial cases. In the industrial cases, it is typical that companies are highly involved and are often the ones not only reporting the theft to the FBI but aiding and supporting prosecutors with the case. In the academic cases, the universities did not appear to be that involved, nor did they initiate the cases. If the victim-universities are not cooperating fully or are not the complainants to begin with, this could be problematic for prosecutors in making their case. The universities would likely be the owners of the trade secrets in the first place, so their role in identifying the trade secret material and helping prosecutors with

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450. Jayne & Riser, *supra* note 118, at 19.

451. *Id.*

452. *Id.*

453. *Id.*

454. *See* Wray, *supra* note 25.



evidence of reasonable efforts to protect the proprietary information could be key for successful prosecutions.

The absence of meaningful involvement by universities in initiating the cases was consequential. For instance, in the case against Xiaoxing Xi, prosecutors had to dismiss their charges when they later learned that the schematics allegedly shared with the Chinese entities was not of the proprietary pocket heater for which he was indicted, but for an entirely separate device.<sup>455</sup> His attorneys argued that that technology was publicly available, not considered a trade secret,<sup>456</sup> and his collaborations with colleagues in China were “normal academic collaborations.”<sup>457</sup> One would suspect that, had the university initiated or been in close consultation with the FBI about the nature of the information at issue prior to the charges being filed, this kind of rookie mistake might have been avoided. Similarly, in a case against a University of Virginia visiting scientist from China who was charged with theft of trade secrets and unauthorized access to computer files related to underwater robotics, the charges were ultimately dismissed.<sup>458</sup> Upon further review, the university systems did permit the defendant access and the charges could not be maintained.<sup>459</sup>

The lack or absence of victim cooperation in these cases could also affect how they are built and sustained. Such participation also affects the nature of the charges filed because victim companies often provide assistance for EEA charges, such as in providing evidence regarding the alleged trade secrets.<sup>460</sup> Indeed, because some of the industrial criminal cases are often paired with civil cases, prosecutors often receive the benefit of discovery and other information gathered in the underlying civil cases.<sup>461</sup> This makes their jobs easier, especially where there may be limited resources. In pursuing industrial trade secrets cases, prosecutors often rely on

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455. Winger, *supra* note 1.

456. Xi Amended Complaint, *supra* note 3, at 8.

457. *Id.* at 2.

458. Kate O’Keeffe & Aruna Viswanatha, *U.S. Drops Case Against Chinese Scientist at UVA*, WALL ST. J. (Sept. 23, 2020, 9:05 AM), <https://www.wsj.com/articles/u-s-drops-case-against-chinese-scientist-at-uva-11600866354> [<https://perma.cc/ZDX9-SGUR>].

459. *Id.*

460. See Brook, *supra* note 374.

461. See *id.*

cooperation with the company that claims it was victimized.<sup>462</sup> The company provides witnesses and helps decode the technology.<sup>463</sup>

In the academic cases, it appeared to be other government agencies reporting the alleged crimes, rather than the universities. One of the agencies that had a very strong presence in those cases was the NIH.<sup>464</sup> This was not happenstance, because the United States is concerned about espionage in the biomedical field, and this directly affects the NIH.<sup>465</sup> As of October 2019, the NIH had reportedly referred at least twenty-four cases “in which there may be evidence” of illicit activity to the inspector general of the Department of Health and Human Services (HHS), which then would possibly alert the Justice Department for prosecution.<sup>466</sup> As a result, in that same time frame about a dozen scientists had resigned or lost their jobs.<sup>467</sup> For instance, three faculty members at M.D. Anderson, a major cancer center in Texas, were found to have engaged in or were planning to engage in unauthorized data transfers connected to their TTP participation.<sup>468</sup>

#### IV. NO CULTURE OF OWNERSHIP IN ACADEMIA

As explained above, unlike in the corporate arena where most economic espionage prosecutions have occurred, there are fundamental questions surrounding the legal feasibility of espionage prosecutions in the university context. I posit that this is because academia is grounded not in a culture of ownership and secrecy, but of openness and sharing.<sup>469</sup> Although there is no de jure exceptionalism for universities when it comes to espionage, the lack of a proprietary culture may create a de facto exceptionalism.<sup>470</sup> When it comes to the full realization of trade secret protection, setting

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462. Dunn, *supra* note 168.

463. *Id.*

464. Gina Kolata, *Vast Dagnet Targets Theft of Biomedical Secrets for China*, N.Y. TIMES (Nov. 4, 2019), <https://www.nytimes.com/2019/11/04/health/china-nih-scientists.html> [<https://perma.cc/VG2H-2846>].

465. *Id.*

466. *Id.*

467. *Id.*

468. *See id.*

469. *See* Peter Lee, *Patents and the University*, 63 DUKE L.J. 1, 20 (2013).

470. *See id.*

matters. Aside from the cultural tensions that are discussed below, one reason for the difference in approach in treating information as proprietary in the academic environment is largely one of the practical realities of how universities operate.<sup>471</sup> While the espionage statute contemplates ownership almost as a baseline for a rights holder,<sup>472</sup> the question of who owns information in an academic environment and the very understanding of these concepts may themselves be relatively ambiguous compared to private industry.<sup>473</sup>

At a macro level, the setting of the academic cases is important because it illustrates that espionage cases are catching up to academia, even if academia has not embraced secrecy. Do trade secrets fit in the academic environment? Universities, like all businesses, have trade secrets.<sup>474</sup> There is nothing about the status of a university as a not-for-profit enterprise or an academic enterprise that would preclude its ownership of trade secrets.<sup>475</sup> As long as the business information which it seeks to protect, especially research data, meets the necessary requirements for trade secrecy, trade secret protection is available.<sup>476</sup> At a fundamental level the qualifying information must have value, must be secret (not generally known) information, and reasonable efforts must be taken to protect it.<sup>477</sup> Thus, to the extent, as is relevant to this Article, the type of information to be protected is research information, it can certainly qualify for trade secret protection. Research data and information is also likely to have independent economic value or at least the potential for such value, especially since universities monetize their intellectual property similar to industry.<sup>478</sup> However, it is unclear whether academic research is perceived to have the kind of economic value that industrial research is almost assumed to have,

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471. *See id.*

472. *See* 18 U.S.C. § 1832.

473. U.S. DEP'T OF HEALTH & HUM. SERVS. NAT'L INST. OF HEALTH, NIH GRANTS POLICY STATEMENT I-46 (Dec. 2022), <https://grants.nih.gov/grants/policy/nihgps/nihgps.pdf> [<https://perma.cc/M2AE-9L2V>].

474. *See infra* note 489 and accompanying text.

475. *See* 18 U.S.C. § 1832.

476. *See id.*

477. *See id.*

478. *See, e.g.,* Arti Kaur Rai, *Evolving Scientific Norms and Intellectual Property Rights: A Reply to Kieff*, 95 NW. U. L. REV. 707, 707-08 (2001); Lee, *supra* note 469, at 4; *Madey v. Duke Univ.*, 307 F.3d 1351, 1352 (Fed. Cir. 2002).

since universities are generally thought to create for a public good.<sup>479</sup>

While information that qualifies for trade secret protection exists at universities, they are little recognized and embraced, so far. Unlike seeking patent, copyright, or trademark protection, where universities are on par with industry counterparts, the same has not happened with trade secrets. As such, if viewed as a maturity spectrum, the recognition and protection of trade secrets in the academic setting is in its infancy relative to the full maturity of other businesses. As discussed below, there are practical considerations that explain that gap. Universities will need to adapt if they choose to maintain trade secrets in their research labs. In addition, increased relationships with the private sector have industrialized academic operations. As such, they will inherit many of the intellectual property and litigation concerns already existing in the private sector.<sup>480</sup>

#### *A. Shifting Practices and Policies for Security*

The culture of openness and sharing that is part of the scientific endeavor can be antithetical to secrecy and a more guarded proprietary culture unless sharing is done subject to confidentiality agreements and other precautions. While early research is held securely in industrial settings, in academia there is a culture of openness, and publications are the expected norm (even prior to filing patent applications).<sup>481</sup> Accordingly, most universities have not instituted a proprietary culture and an “infrastructure” of protection in an intentional and systematic way.<sup>482</sup>

However, that may be changing as larger incentives, particularly from federal government grant-making agencies, shift toward more proprietary conditions for grants. In terms of ownership, generally,

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479. See Lee, *supra* note 469, at 20.

480. See, e.g., *MedSense, LLC v. Univ. Sys. of Md.*, 420 F. Supp. 3d 386, 386-87 (D. Md. 2019); *Sysco Iowa, Inc. v. Univ. of Iowa*, 889 N.W.2d 235, 236 (Iowa Ct. App. 2016); *Houser v. Feldman*, 569 F. Supp. 3d 216, 221 (E.D. Pa. 2021); *Houser v. Feldman*, 600 F. Supp. 3d 550, 556 (E.D. Pa. 2022); Rai, *supra* note 478, at 712; Lee, *supra* note 469, at 61; *Madey*, 307 F.3d at 1352-53.

481. See Lee, *supra* note 469, at 20.

482. See *id.* at 36-39.

pursuant to the Bayh-Dole Act, the government allows institutional recipients of government funding to own the research and obtain patents on inventions resulting from government funded research.<sup>483</sup> Furthermore, some grant-making agencies like the National Institutes of Health are requiring that researchers take steps to protect sensitive information.<sup>484</sup> Additionally, as noted earlier and related to how the academic prosecutions came about, government agencies also have rules against accepting foreign sources of funding for U.S. government-funded research.<sup>485</sup> Indeed, some states are even instituting similar requirements for their public institutions.<sup>486</sup>

Universities are among the largest patent holders in the country<sup>487</sup> and patents are often born from trade secrets.<sup>488</sup> Just as in industry, much of the early research and development that eventually matures into a patent can be trade secrets.<sup>489</sup> If, however, any of that information is contained within a patent application that is published, it will most likely lose its status as a trade secret.<sup>490</sup> Universities have also taken full advantage of trademark protection, especially for sports: Ohio State University recently trademarked “the.”<sup>491</sup> They also actively engage in patent, copyright, and trademark litigation.<sup>492</sup> Universities are also increasingly existing in a hybrid space where, while being academic, their advanced research and monetization efforts look much like their industrial counterparts.<sup>493</sup> There are growing relationships and partnerships with the

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483. See, e.g., U.S. DEP’T OF HEALTH AND HUM. SERVS. NAT’L INST. OF HEALTH, *supra* note 473, at 1-46 (Dec. 2022) <https://grants.nih.gov/grants/policy/nihgps/nihgps.pdf> [<https://perma.cc/M2AE-9L2V>]; Elizabeth A. Rowe, *The Experimental Use Exception to Patent Infringement: Do Universities Deserve Special Treatment?*, 57 HASTINGS L.J. 921, 934-35 (2006).

484. U.S. DEP’T OF HEALTH AND HUM. SERVS. NAT’L INST. OF HEALTH, *supra* note 473, at IIA-17.

485. See *supra* notes 462-66 and accompanying text.

486. See Fla. Stat. § 286.101 (2023); Renzo Downey, *Gov. DeSantis Unveils Legislation Crackdown on Chinese Influence*, FLA. POL. (Mar. 1, 2021), <https://floridapolitics.com/archives/407993-ron-desantis-unveils-legislation-to-crackdown-on-chinese-influence/> [<https://perma.cc/LJ2W-LASH>].

487. Rowe, *supra* note 483, at 936.

488. *Id.* at 947.

489. See David S. Levine & Ted Sichelman, *Why Do Startups Use Trade Secrets?*, 94 NOTRE DAME L. REV. 751, 764 (2018).

490. See, e.g., *Olaplex, Inc. v. L’Oreal USA, Inc.*, 855 F. App’x 701, 707 (Fed. Cir. 2021).

491. See Victor, *supra* note 51.

492. See *infra* Part IV.B.

493. See Lee, *supra* note 469, at 4.

private sector whether for joint research or the formation of incubators for university research that look and operate more like industrial than academic operations.<sup>494</sup>

On an individual basis, universities could also choose to consider whether and how best to take a more proprietary approach to research generated in their labs (just as most research universities have made similar decisions about pursuing a patenting strategy—including patents as a criteria for tenure in some fields).<sup>495</sup> Since almost any type of confidential business information, including research, can be eligible for trade secret protection as long as it is kept secret, the tried-and-true advice to any organization (for profits and not-for-profits alike) is to engage in reasonable efforts to maintain security.<sup>496</sup> Thus, at a minimum, universities—if they choose to adopt research environments that are more conducive to trade secrecy—would need some type of trade secret protection program in place.<sup>497</sup> As a threshold matter, ownership of any proprietary information would need to be clear and established, ideally in writing.<sup>498</sup> For instance, who owns research conducted by university professors and in university labs? Is it the university? The professor or researcher? An outside third party or government agency pursuant to a grant agreement?<sup>499</sup>

The motivations for theft of trade secrets or misappropriation (in the civil sense) are likely to be the same in academia as they are in the industrial settings.<sup>500</sup> The defendants in the academic cases discussed above seemed mainly motivated by self-interest, just like any other corporate employee who misappropriates trade secrets.<sup>501</sup>

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494. See Jennifer Carter-Johnson, *Unveiling the Distinction Between The University and its Academic Researchers: Lessons for Patent Infringement and University Technology Transfer*, 12 VAND. J. ENT. & TECH. L. 473, 489-90 (2010).

495. See Jeannie Baumann, *House Innovation Panel Hears Benefits of Bayh-Dole, Advances in Tech Transfer*, PAT. TRADEMARK & COPYRIGHT L. DAILY (June 22, 2012), [https://www.bloomberglaw.com/product/blaw/document/M5ZO8G3H0JK0?criteria\\_id=77d9e2067150323ace3040601e559000&searchGuid=6e1b9871-c7ac-4477-a6ac-b96a3ff59b8f](https://www.bloomberglaw.com/product/blaw/document/M5ZO8G3H0JK0?criteria_id=77d9e2067150323ace3040601e559000&searchGuid=6e1b9871-c7ac-4477-a6ac-b96a3ff59b8f) [https://perma.cc/445V-99LV].

496. See SANDEEN & ROWE, *supra* note 57, at 24, 92.

497. See *id.*

498. See *id.* at 24.

499. See generally Carter-Johnson, *supra* note 494.

500. See generally Elizabeth A. Rowe, *A Sociological Approach to Misappropriation*, 58 U. KAN. L. REV. 1 (2009).

501. See *id.* at 22.

Self-interested temptations such as enormous pay raises, large bonuses, new research labs, or more prestige might have almost any researcher or professor one step away from handcuffs. This might suggest that the time has come for universities to be more proactive rather than reactive in learning about trade secrecy (as owners and potential defendants). Otherwise, as the academic cases here suggest, the FBI is already on campus.

The key to obtaining trade secret protection on confidential and proprietary information is the reasonable efforts to maintain secrecy.<sup>502</sup> This is an area that could be a challenge in an academic setting. While any trade secret protection program will vary to meet the needs of the particular organization, there are several general components that are often advisable. As noted earlier, given the nature of academic research, clear ownership needs to be established by a proprietary and inventions agreement or similar contract.<sup>503</sup> Moreover, experts often encourage (a) identifying and classifying confidential information to determine what the organization's trade secrets are; (b) educating employees about trade secret protection; (c) using confidentiality agreements with employees, consultants, and vendors to protect confidential and trade secret information; and (d) enacting specific measures to ensure physical and electronic security such as limiting access, encryption, and securing facilities and labs.<sup>504</sup> These practices and protocols are important first steps in demonstrating that proprietary and research information are intended to be trade secrets.<sup>505</sup>

### *B. No Civil Litigation "Experience"*

Another key difference between the development of trade secrecy in the industrial and academic environments to date is the relative dearth of civil trade secret misappropriation cases involving universities. Much of the development of trade secret law has been doctrinal through the civil cases brought both under state and

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502. See SANDEEN & ROWE, *supra* note 57, at 24, 92.

503. See *supra* Part IV.

504. See, e.g., SANDEEN & ROWE, *supra* note 57, at 311-12; Randall Kay, Rebecca Edelson & Robert Milligan, TRADE SECRET LITIGATION & PROTECTION: A PRACTICE GUIDE TO THE DTSA AND THE CUTSA (California Lawyers Association 2022).

505. See SANDEEN & ROWE, *supra* note 57, at 24, 92.

federal law, and such cases have been on the rise.<sup>506</sup> However, universities to date have generally not sought redress against employees or “competitors” for trade secret misappropriation.<sup>507</sup> While this may be because of academic norms, it is also likely that there is a misconception that universities do not have trade secrets. This contrasts with copyrights, patents, and trademarks, areas wherein universities have been litigants.<sup>508</sup> Aside from cases that are core trade secret misappropriation, employment litigation against employees for violations of noncompetition agreements often involve claims of trade secret misappropriation as well. Perhaps because noncompetition agreements are not as frequently used in the academic context and/or because universities do not perceive each other as “competitors” in the same way that companies do, the “experience” from these kinds of cases is also missing.<sup>509</sup>

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506. See Sharon K. Sandeen & Christopher B. Seaman, *Toward a Federal Jurisprudence of Trade Secret Law*, 32 BERKELEY TECH. L.J. 829, 832-33 (2017).

507. A search and analysis of cases within the past ten years yielded only one trade secret misappropriation case resembling the typical departing employee dispute, and that case (with two separate opinions) involved a physician alleging that his colleagues and Temple University used his research to publish articles and obtain patents. *Houser v. Feldman*, 600 F. Supp. 3d 550, 557, 559 (E.D. Pa. 2022); *Houser v. Feldman*, 569 F. Supp. 3d 216, 222 (E.D. Pa. 2021). The remaining cases (about half a dozen) that presented as misappropriation cases were largely involving public-private ventures, where the university may have been a third party or a party to a license or other such agreement.

508. Within the last ten years, for example, see *Latour v. Columbia Univ.*, 12 F. Supp. 3d 658, 660 (S.D.N.Y. 2014) (copyright); *Lyons v. Am. Coll. of Veterinary Sports Med. & Rehab., Inc.*, 997 F. Supp. 2d 92, 100 (D. Mass. 2014) (copyright and trademark); *Olivares v. Univ. of Chicago*, 213 F. Supp. 3d 757, 762 (M.D.N.C. 2016) (copyright); *Vanderbilt Univ. v. Scholastic, Inc.*, 382 F. Supp. 3d 734, 744 (M.D. Tenn. 2019) (copyright and trademark); *President & Fellows of Harvard Coll. v. Elmore*, 222 F. Supp. 3d 1050, 1056 (D.N.M. 2016) (copyright); *Fleurimond v. New York Univ.*, 876 F. Supp. 2d 190, 191 (E.D.N.Y. 2012) (copyright); *Bd. of Trustees of Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc.*, 131 S. Ct. 2188, 2193 (2011) (patent); *Dermansky v. Univ. of Colorado*, 445 F. Supp. 3d 1218, 1220 (D. Colo. 2020) (copyright); *Ohio State Univ. v. Skreened Ltd.*, 16 F. Supp. 3d 905, 908 (S.D. Ohio 2014) (trademark); *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 286 F.R.D. 266, 268 (W.D. Pa. 2012) (patent); *Univ. of Massachusetts v. Kappos*, 903 F. Supp. 2d 77, 79 (D.D.C. 2012) (patents); *Caldera Pharms., Inc. v. Regents of Univ. of California*, 140 Cal. Rptr. 3d 543, 548 (2012) (patents); *Univ. of Alabama Bd. of Trustees v. New Life Art, Inc.*, 683 F.3d 1266, 1269 (11th Cir. 2012) (trademarks).

509. A search for cases yielded only two cases involving a noncompetition dispute between a university and former faculty member, and in both of those the defendant-faculty member was a physician. See *Bd. of Regents v. Warren*, 760 N.W.2d 209, 209 (Iowa Ct. App. 2008); *Bd. of Supervisors of La. State Univ. v. McCalmont*, 54-451 (La. App. 2 Cir. 5/25/22), 339 So. 3d 1261. The analysis was based, in part, on an initial advanced search in Westlaw for named parties including “university,” “college,” and the phrase “noncompetition” in either summary



The absence of civil litigation “experience” for universities also has a related influence on criminal cases. That is because when prosecutors choose to file criminal charges in trade secret cases, they can benefit from the civil counterparts to those cases.<sup>510</sup> Not only can the discovery evidence and other information gleaned from those cases be used to build the criminal case, but there is often the cooperation from the “victim” company’s attorneys from the civil case as well as the strong likelihood of cooperation from the victim company.<sup>511</sup> Indeed, it is often those companies that approach the FBI about filing charges against a former employee or competitor who has allegedly absconded with trade secrets.<sup>512</sup>

### *C. Practical Lessons for Academia?*

The main takeaways from a review of the academic cases and the comparisons to industrial cases suggest a few lessons for academia and academic researchers. First, did academia get the government’s message that espionage enforcement is a high priority?<sup>513</sup> Fear can be a powerful deterrent, but overdeterrence can lead to undesirable externalities such as a reduction in our leadership in innovation and research, absent collaboration.<sup>514</sup> Second, a basic point: universities, like all other organizations, can de jure have trade secrets.<sup>515</sup> Third, universities and university researchers are vulnerable to claims of espionage and civil trade secret misappropriation in much the same way as their industrial counterparts.<sup>516</sup> Fourth, regardless of whether universities choose to embrace secrecy with the same rigor as they have other areas of intellectual property, they may still find

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or digest sections of the decisions.

510. See *supra* Part III.C.3.

511. See *supra* Part III.C.3.

512. See Brook, *supra* note 374.

513. See Pence, *supra* note 133.

514. See Erin N. Grubbs, *Academic Espionage: Striking the Balance Between Open and Collaborative Universities and Protecting National Security*, 20 N.C. J.L. & TECH. ON. 235, 259 (2019).

515. See SANDEEN & ROWE, *supra* note 57, at 24.

516. Public universities can raise the sovereign immunity defense and argue that such claims are barred against them. See, e.g., Bd. of Regents of the Univ. Sys. of Ga. v. One Sixty Over Ninety, LLC, 830 S.E.2d 503, 505 (Ga. Ct. App. 2019); Eidogen-Sertanty, Inc. v. Univ. of N.C., No. 18 CVS 546, 2018 WL 6579514, at \*2 (N.C. Super. Dec. 11, 2018); MedSense, LLC v. Univ. Sys. of Md., 420 F. Supp. 3d 382, 390 (D. Md. 2019).

themselves at the center of these cases criminally.<sup>517</sup> The government does not need their full participation to charge university professors and other employees or the universities themselves with theft of trade secrets or lesser related offenses.<sup>518</sup> Importantly, these kinds of criminal cases, if charged as an attempt or conspiracy, do not even require that prosecutors prove that the information taken was in fact a trade secret.<sup>519</sup>

Finally, given the interrelationship among trade secrecy, national security and geopolitics, the academic environment is perceived as a potential breeding ground for economic espionage. As such, the government is likely to continue to engage with universities (just as it does with private corporations) to stem and enforce the high priority effort against espionage and trade secret theft. Indeed, as Attorney General William Barr explained:

When we have faced similar challenges in the past, such as World War II and Russia's Cold War technological challenge, as a free people we rallied together. We were able to form a close partnership among government, the private sector, and academia, and through that cooperation we prevailed.... If we are going to maintain our technological leadership, our economic strength, and ultimately our national security in the face of this blitzkrieg, we need the public and private sectors to work together and come shoulder-to-shoulder.<sup>520</sup>

On February 23, 2022, the DOJ under the Biden administration announced that it would end the China Initiative in its current form after facing criticism that the initiative undermined American scientific and technological advancement and essentially led to racial profiling.<sup>521</sup> Instead, the new and improved program would

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517. *See supra* Part III.C.

518. *See supra* Part III.C.

519. *See* *United States v. Hsu*, 155 F.3d 189, 198 (3d Cir. 1998) (noting that an actual trade secret need not exist to convict defendants of attempt and conspiracy to steal trade secrets, and that disclosure of the actual trade secrets may not be necessary to prove the existence of a trade secret for purposes of proving the completed crime of a trade secret theft).

520. William Barr, U.S. Att'y Gen., Keynote Address at the China Initiative Conference at Ctr. for Strategic and Int'l Stud. (Feb. 6, 2020) (transcript available at [https://csis-website-prod.s3.amazonaws.com/s3fs-public/event/200206\\_Keynote\\_Address\\_William\\_Barr.pdf](https://csis-website-prod.s3.amazonaws.com/s3fs-public/event/200206_Keynote_Address_William_Barr.pdf) [<https://perma.cc/EYN9-R2BH>]) at 9.

521. *See Assistant Attorney General Matthew Olsen Delivers Remarks on Countering*

not focus exclusively on China but would be broadened to cover other countries of concern and it would be renamed.<sup>522</sup> The “broader,” “new approach” to addressing the threats from not just China, but also North Korea, Iran, and Russia, will be known as the “Strategy for Countering Nation-State Threats.”<sup>523</sup> According to Assistant Attorney General Matt Olsen:

Our recent experience confronting the varied threats posed by the Chinese government has shown that a multi-faceted challenge demands an integrated and multi-faceted response. We need to expand our approach to these threats by recognizing the capabilities of each hostile nation and the full spectrum of activity each country undertakes to achieve its goals. And we must align our capabilities, tools and resources with those across the federal government to meet and counter these threats.<sup>524</sup>

Despite the end of the China Initiative in its current form, more academic prosecutions could still be ahead.<sup>525</sup> The DOJ continues to view the Chinese government as a threat to national security through the alleged theft of trade secrets and the DOJ will continue to prioritize cases that “harm our people and our institutions.”<sup>526</sup> Further, as is evident from the very recent passage of the Protecting American IP Act of 2022, the theft of trade secrets continues to be a high priority effort for the U.S. government and in a distinctively bipartisan fashion.<sup>527</sup>

It is also apparent from the discussion in this Article that the economic espionage statute (although not a perfect fit) is a fitting framework from which to address the concerns against research theft or espionage more broadly, without the need for sui generis legislation targeted at academia such as the “Protect Our Universities Act” and the “Securing American Science and Technology

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*Nation-State Threats*, U.S. DEPT OF JUST. (Feb. 23, 2022), <https://www.justice.gov/opa/speech/assistant-attorney-general-matthew-olsen-delivers-remarks-countering-nation-state-threats> [<https://perma.cc/B8AE-6CEW>].

522. *See id.*

523. *Id.*

524. *Id.*

525. *See* Pence, *supra* note 133.

526. *Id.*

527. *See supra* Part I.D.

Act.”<sup>528</sup> Accordingly, to the extent universities or university employees may feel (or may have felt) immune from charges of espionage, whether criminal or civil, this belief is misplaced. Unless legislative exemptions are specifically enacted to exclude prosecutions against universities, university professors, or publicly funded research, there is no special treatment in the law, as it currently exists, to insulate trade secret theft in the academic setting. Indeed, universities would do well to take these criminal academic cases as a wake-up call. They were meant to send a message to academia, and it should not go unheeded.

### CONCLUSION

The spate of criminal cases over the last few years against university professors for their involvement with China is momentous. These are effectively espionage cases meant to address the U.S. government’s concerns about China’s incursions into academia to illegally obtain cutting-edge research. To the extent the cases were meant to send a message that espionage is a high priority enforcement area, it was swiftly delivered. The academic prosecutions represent a collision of espionage, secrecy, national security, criminal law, and the academic environment. While industry has long embraced secrecy both as a weapon and a shield, academia has not. Rather, its culture of openness and sharing, on which much value is placed as a higher good, contrasts with the proprietary culture of ownership in industry. Shifts in that culture, however, are becoming evident as external incentives, particularly from government grant-making agencies call for a more proprietary approach. Further, universities themselves are embracing and monetizing other areas of intellectual property and pursuing research in a

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528. See generally *House Defense Bill Includes Provisions on Academic Espionage, For-Profit Oversight*, AMERICAN COUNCIL ON EDUCATION (July 15, 2019), <https://www.acenet.edu/News-Room/Pages/House-Defense-Bill-Includes-Provisions-on-Academic-Espionage-For-Profit-Oversight.aspx> [<https://perma.cc/QV7V-2D92>]; Elizabeth Redden, *Bills Target Academic Espionage*, INSIDE HIGHER ED. (June 19, 2019), <https://www.insidehighered.com/news/2019/06/19/two-new-bills-take-different-approach-protecting-us-research-foreign-threats> [<https://perma.cc/93ET-U9ZG>]; Jeffrey Mervis, *Bipartisan Bill Proposes Forum on U.S. Academic Espionage*, SCIENCE (June 7, 2019), <https://www.science.org/doi/10.1126/science.364.6444.922> [<https://perma.cc/ULH2-G9HG>]; Grubbs, *supra* note 514.

quasi-industrial manner, such as through private joint ventures and incubators. However, as this Article expounds, universities could be vulnerable to espionage claims regardless of whether they have or can institute secrecy, and without a wholesale adoption of ownership culture. Rather than being mutually exclusive considerations, a hybrid approach to openness and secrecy may nonetheless be adequate to expose university employees to charges of academic economic espionage.