

# Research or Espionage: The Thousand Talents Plan and its Impact on Sino-US Geopolitics

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## ABSTRACT

**Introduction:** The Thousand Talent Plan (TTP) is a Chinese initiative to attract experts in science and technology. The program has been surrounded by controversy since its creation. **Methods:** this paper explores the success and flaws of the implementation of the plan and reviews particular cases to expose the challenges that surround such initiative. **Results:** Some American scientists have been victims of contracting deception and others accused of suspected espionage while participating on the TTP. **Discussion:** the United States government has implemented a variety of methods designed to prevent the transfer of protected information from happening, with varying degrees of effectiveness.

## History of the Thousand Talents Plan – "Let a hundred flowers bloom"

Since the early 2000, the government of China has implemented several strategies in order to attract experts in science and technology from overseas. The Thousand Talents Plan (TTP), is by far the largest talent recruitment plan developed so far, aimed to recruit foreign talent to counteract the "brain drain" experienced by their country. Also known as Human Capital Flight, "Brain drain" is a situation in which large numbers of educated and very skilled people leave their country to live and work in another one where pay and conditions are better.<sup>1</sup> In 1963 the Royal Society coined the term upon noticing the departure of scientists from Britain to the United States, putting the British economy into serious jeopardy.<sup>2</sup> Factors such as lack of available employment, low salaries in the country of origin, better job opportunities and research facilities abroad, less cumbersome taxation practices and political instability encouraged people with enough resources to leave and find work in another nation.<sup>3</sup> The nations suffering from the brain drain, experience a significant intellectual loss that compromises the nation's economic and technological development. The nations gaining more intelligent people, benefit from what is called a "brain gain". Without a doubt, The United States is one of the benefactors from China's brain drain over the last few decades. What has prevented China from successfully keeping most of the recruited talent over these years? Why are so many young and talented Chinese people still leaving their home country and not returning?

One can situate the starting of a massive Chinese brain drain around the 1989 Tiananmen Square Incident. After decades of debatable attempts at increasing the participation of intellectuals in Chinese society started by the Hundred Flowers Movement while Mao was in power, Chinese Universities were more than ready for political and economic reforms. In 1986, Chinese students were inspired by what they saw in other nations around the world and

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<sup>1</sup> "Brain Drain," BRAIN DRAIN | definition in the Cambridge English Dictionary, accessed July 28, 2023, <https://dictionary.cambridge.org/us/dictionary/english/brain-drain>. Accessed 23 Sept. 2022.

<sup>2</sup> Brandi M Carolina, The History of Brain Drain, December 2004, [https://www.researchgate.net/publication/290779560\\_The\\_history\\_of\\_brain\\_drain](https://www.researchgate.net/publication/290779560_The_history_of_brain_drain). Accessed 25 Sept. 2022.

<sup>3</sup> Amber Pariona, "What Is Brain Drain?," WorldAtlas, August 1, 2017, <http://www.worldatlas.com/articles/what-is-brain-drain.html>. Accessed 25 Sept. 2022.

began having demonstrations, calling for more job opportunities, a more open society and individual rights. Unfortunately, this time, this cry for freedom was seen as anti-communist threat and led the harsher members of the Chinese Communist Party (CCP) to suppress these demonstrations viewed as “bourgeois liberalism.” One of the most notable anti-government hardliners, Hu Yaobang made many enemies among high ranked officials. His death, in the spring of 1989, led to an initially small demonstration, where people were simply demanding the government to clarify his legacy. A week later, one day before his funeral, instead of sending hundred flower blossoms for his death, one hundred thousand students marched into Tiananmen Square. This time, the military responded by massacring the protesters.<sup>4</sup> Disenchanted, many young Chinese students flee their home country to another nation in the search of security. The 1997 Hong Kong Handover, which was the passing of authority over the territory of Hong Kong from the United Kingdom to the People’s Republic of China, further aggravated the situation. Growing pessimism towards the future of Hong Kong and the region’s sovereignty, resulted in the mass exodus of people out of the autonomous region, peaking in 1992. Approximately 66,000 individuals left the city.<sup>5</sup> The majority emigrated from Hong Kong to the United Kingdom, Singapore being another popular destination. Thereafter, continued political violence and dissatisfaction has perpetuated Chinese brain drain. By offering benefits such as improved pay and better working conditions, greater job selection opportunities and research funding, priority for housing and the establishment of open laboratories, the CCP tries to encourage researchers to return to China after studying abroad.<sup>6</sup> However Political upheaval in China has undoubtedly been a factor in the failure of this strategy.

In 2008, Li Yuanchao, former CCP Politburo member, introduced the TTP to overcome the brain drain and create an “innovative society.” The goal was to transform China into the world’s leading economic superpower by 2050 and recruit 2,000 talented people under the age of 40. In addition to this, the CCP also launched a Foreign Thousand Talents Program, aimed at attracting international professionals to China. Originally, Li wanted the program to be composed solely of people coming to China full-time, commonly referred to as “FT”, yet uptake rates of full-time positions remained low. In late 2010, a part-time “PT”, component to the Plan was introduced to improve program participation flexibility and increase uptake rates. Since its introduction, the “PT” component has resulted in continued strife between China and other nations because the individuals given part-time positions are able to remain abroad and have greatly facilitated the transfer of technology back to China. As of 2011, approximately three quarters of scientists and professors who joined the program chose to be PT.<sup>7</sup> It can be argued that Li's strategy to use a PT program to improve recruitment, actually prevents the TTP from being able to achieve its primary long term goal of attracting more scholars to China. The dual involvement has sparked controversy regarding PT participants living outside of China, because of concerns for dual sources of income, and potential espionage. Current articles, reports, and existing research on the TTP are concerned with the plans’ implications for national security. No existing research has assessed whether China’s TTP can achieve its original goal to combat the nation's ongoing brain drain.

## Lost in Translation

Frequent inconsistencies and translation errors have been reported among TTP participants since the program started. Professor Ulf Leonhardt is a prominent figure in the field of theoretical physics, who made headlines by outlining the

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<sup>4</sup> “Tiananmen Square Incident,” Encyclopædia Britannica, June 21, 2023, <http://www.britannica.com/event/Tiananmen-Square-incident>. Accessed 25 Sept. 2022.

<sup>5</sup> Melanie Manion, “Corruption by Design,” Google Books, July 1, 2009, <https://books.google.com/books?id=zyMeydaAu1kC&pg=PA80#v=onepage&q&f=false>. Accessed 30 Sept. 2022.

<sup>6</sup> C. Montgomery Broaded, “China’s Response to the Brain Drain - JSTOR,” China’s Response to the Brain Drain, <https://www.jstor.org/stable/1188513>. Accessed 5 Nov. 2022.

<sup>7</sup> David Zweig and Siqin Kang, “AMERICA CHALLENGES CHINA’S NATIONAL TALENT PROGRAMS,” CSIS, May 4, 2020, <https://www.csis.org/>. Accessed 10 Nov. 2022.

theoretical framework for an invisibility cloak. In 2011, he received an offer to spend three months a year at The Centre for Optical and Electromagnetic Research at South China Normal University.

The contract terms included a monthly salary of 190,000 RMB (\$19,300), three times greater than the one at The University of St. Andrews in the United Kingdom. Leonhardt readily accepted this offer, in part because he had been impressed watching the Chinese government's massive investments in research and development pay off in large dividends. However, in September 2012, upon him and his assistant, Jana Silberg, signing a five-year contract with SNCU, they discovered a trove of misinformation, including improper translation in the agreement. The contract Leonhardt signed was bilingual, written in both Chinese and English. Silberg, a PhD in business administration, took a closer look at both documents side by side and noticed differences in translation. The English version stated that any work abroad was limited to three months, in addition to the three months spent in Guangzhou. The Chinese version of the agreement included a clause stating that Leonhardt's total amount of time working for the center would need to reach six months: three in Guangzhou and three overseas. The grant had a minimum time requirement of six months a year. Regarding the time of work overseas, the English version said that it was "limited to" three months. In essence, the Chinese version demanded more work from Professor Leonhardt. After asking the Chinese government to remove the clause, a heated debate ensued, and the contract was amended. The amended contract included a clause stating that the English version would take precedence over the Chinese version, yet the difference between the two contracts were never changed. The only change made to the document written in Chinese was adding the roman numeral 6 (六). Leonhardt discovered other inconsistencies in the new contract. The new contract discussed the 1 million RMB (equivalent to \$164,000) resettlement subsidy from the Leading Talent Award but failed to mention the additional subsidy from the TTP, SCNU's attempts of deceiving Professor Leonhardt caused him to renege out of his contract after just one summer in Guangzhou. When asked his thoughts on the program, he asserted that, "The fraud they committed was so brazen."<sup>8</sup> Later on, the Editor from Science wrote a clarifying note disavowing their endorsement in favor of any party and airing the counter-argument of the SCNU to explain what they viewed as misunderstandings rather than deception (Langping, 2015). This highlight real challenges of communicating appropriately with people that not only speak a completely different language but also have different cultural backgrounds and social values.

Other examples are the cases of Geoffrey Gadd, a microbiologist at the University of Dundee in Scotland, and Subhash Singhal, a fuel cell expert and emeritus professor at the Pacific Northwest National Library. Professor Gadd was awarded the chance to work part-time at the Xinjiang Institute of Ecology and Geography. Gadd had issues regarding receiving a resettlement subsidy and was given none of the program's information in English. He was outspoken on the lack of information regarding his grant: "I am not sure who administers the grant, I received no details about this kind of thing."

Subhash Singhal was offered a position at the China University of Mining and Technology in Beijing, after receiving a short-term Thousand Talents award. Similarly to what Professor Gadd had to say regarding his experience, Singhal stated that "[With] the grant process, I had absolutely no idea what they were doing or how they were doing it." Although I was unable to find an official statement, the *Science* journal reports that the TTP's general lack of transparency would deter Singhal, and other scientists alike, from returning to China. These two examples illustrate the importance of transparency and bring up an important point: What is lost in translation and what is in intention? It is my personal opinion that until these issues are addressed by all the players, programs such as the TTP will likely be unable to successfully recruit and especially retain talent from abroad.

## Academic Collaboration or Threat to National Security?

Another issue that compromises the success of the TTP program is the increasing friction between China and other nations' governments. Public controversy regarding the dishonesty of the participants in the program reporting the

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<sup>8</sup>Mara Hvistendahl, "Show Me the Money | Science," *Science*, October 24, 2014, <https://www.science.org/doi/10.1126/science.346.6208.411>. Accessed 15 Dec. 2022.

income received from the TPP, and suspicion for illegal transfer of information while on the program has mounted. As a result, the United States Government is wary regarding the intentions behind the TTP.

In June 2018 a report from the National Intelligence Council, denounced an underlying motivation of the program “to facilitate the legal and illicit transfer of US technology, intellectual property, and know-how” and take it to China.<sup>9</sup> In response to this alleged transfer of intellectual property, the United States government implemented a variety of methods designed to prevent such a transfer from happening, with varying degrees of effectiveness. One of these methods of prevention was the China Initiative. The China Initiative was started in 2018 by the Department of Justice under the then President Donald Trump. The purpose of the Initiative was to prosecute Chinese spies in the American research industry and combat economic espionage by investigating cases involving lying or omitting information on disclosure forms. Two notable cases that were of interest to the US government were those of Meyya Meyyappan and Charles Lieber.

Recently, NASA scientist Meyya Meyyappan was accused of giving false statements regarding his participation in the Thousand Talents Program. Since 2006, Meyyappan was Chief Scientist and Exploration Technology at the Center for Nanotechnology, at NASA’s Ames Research Center at Moffett Field in Silicon Valley, California. At the same time, he was recruited by the TTP and participated in research at a University in China receiving funding for it. He failed to disclose enrollment on the program to her US employer. In a formal statement, US Attorney Audrey Strauss said: “...Meyyappan betrayed that trust, by failing to disclose his foreign activities and then compounding his mistakes by lying to the FBI and NASA. He has now been sentenced to time in federal prison for his unlawful conduct.<sup>10</sup>” Breaking non-disclosure agreements can have severe repercussions such as lawsuits, monetary fines, and termination of employment. Top researchers are often legally unable to tell foreign entities sensitive information, and when they do they face serious legal repercussions on a federal level. Due to his high rank at NASA, Mayyappan should have not been offered a position at the TTP. The fact that this happened raises suspicion on the real intentions of the Chinese: are they recruiting talent or spying in matters of national security?

Another significant case was that of Charles Lieber, a Harvard chemistry professor and former chairman of Harvard’s Chemistry and Chemical Biology Department. In a similar case, Lieber was convicted in a Boston federal court on two counts of making false statements, two counts of filing a false income tax return, and two counts of failing to report income from a foreign bank and financial accounts.<sup>11</sup> Lieber failed to report income as a “strategic scientist” for the Wuhan Institute of Technology in Central China. Lieber was a participant in the TTP from 2012 to 2015. To compensate for his participation in the program, he was paid \$50,000 a month, living expenses of up to \$150,000 and given more than \$1.5 million to establish a research lab. Some of Lieber’s salary was apparently given to him in hundred-dollar bills, “stuffed in brown paper bags”.

Lieber has been on paid administrative leave from Harvard since his arrest in January 2020, and a sentencing date has yet to be determined. Although none of what Lieber did was illegal, he lied to authorities about his ties with China during questioning, as well as lying on his tax returns. To make his case more complicated, at the time of his

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<sup>9</sup> Anthony Capaccio, “U.S. Faces ‘unprecedented Threat’ from China on Tech Takeover,” Bloomberg.com, June 22, 2018, <https://www.bloomberg.com/politics/articles/2018-06-22/china-s-thousand-talents-called-key-in-seizing-u-s-expertise#xj4y7vzkg>. Accessed 17 Nov. 2022.

<sup>10</sup> Nicholas Biase, “Senior NASA Scientist Sentenced to Prison for Making False Statements Related to Chinese Thousand Talents Program Participation and Professorship,” Southern District of New York | Senior Nasa Scientist Sentenced To Prison For Making False Statements Related To Chinese Thousand Talents Program Participation And Professorship | United States Department of Justice, June 16, 2021, <https://www.justice.gov/usao-sdny/pr/senior-nasa-scientist-sentenced-prison-making-false-statements-related-chinese-thousand>. Accessed 25 Nov. 2022.

<sup>11</sup> Mark Moore, “Ex-Harvard Professor Charles Lieber Convicted of Lying about China Ties,” New York Post, December 22, 2021, <https://nypost.com/2021/12/22/ex-harvard-professor-charles-lieber-lied-about-ties-to-china/>. Accessed 25 Nov. 2022.

involvement with the China program, Lieber had already received millions of dollars in research funding from the National Institutes of Health. Lying to the US government about his involvement in the TTP, increased the disdain for the Plan in general among US officials. One of the most significant opposers is the Senators of Delaware, Tom Carper. On November 19, 2019, Carper's office released a document detailing how TTP should be combatted. After saying that he believes that international cooperation is beneficial, senator Carper concluded that "today's report makes clear that there are serious consequences that come from giving a foreign government so much control over the vital research we rely on to drive our country's economic competitiveness and bolster our national defense<sup>12</sup>." The report accuses the Chinese government of using "illegal and extralegal mechanisms to acquire U.S. intellectual property, research, and sensitive technologies" referring to the TTP. The report ends with various recommendations as to how to prevent intellectual theft from occurring, most of which would effectively put an end to the TTP recruitment in the United States.

As a counter-argument, one could say that The Chinese government's inability to maintain a large portion of the talent they have recruited could be attributed to the fault of foreign governments misinterpreting scientific cooperation as espionage. After all, universities and other large research institutions have been sharing information and sending researchers to other universities for decades. The distrust with China in particular, has been building since 2013, when President Xi Jinping came to power and adopted a much more authoritarian stance than his predecessors, by declaring himself Chairmen for life. The introduction of harsh national security laws in Hong Kong and the repression of Muslim minority Uighurs caused the U.S. to impose sanctions on China, further worsening the relationship. President Donald Trump ordered the Chinese consulate in Houston to close due to concerns regarding economic espionage and in retaliation, the Chinese government ordered the U.S. to close its consulate in Chengdu.<sup>13</sup> While not all of the Chinese government's actions have been transparent, there have been cases in which both governments overestimate and fail to correctly assess the situation.

One such case of conflating academic research with espionage is that of Xi Xiaoxing, a physicist at Temple University in Philadelphia. He was falsely accused of sharing sensitive technology while working with co-investigators in China. These accusations were based on emails between Xiaoxing and his colleagues that had nothing to do with the technology he was accused of sharing with the Chinese government. In an NPR interview, Xiaoxing brought up an interesting point, stating that "Academic espionage is a contradiction "I mean, everything we are doing is fundamental research. There is nothing to steal. They can just sit there and read your paper."<sup>14</sup> Xiaoxing was arrested at gunpoint and threatened with up to 80 years in prison and up to \$1 million in fines by the FBI. It was later revealed that the FBI had been listening to his phone calls. Temple University forced Xiaoxing to take administrative leave and suspended his position as chair of the physics department, in effect ruining his reputation.<sup>15</sup> Fortunately, in September 2015 all criminal charges against him were dropped as it was revealed that the information he had shared had already been published. Xiaoxing's lawyer, Peter Zeidenberg said what was shared was "typical academic collaboration" and

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<sup>12</sup> "Carper, Portman Bipartisan Report Reveals Lack of Federal Response to China's Talent Recruitment Plans," Senator Tom Carper, November 10, 2022, <https://www.carper.senate.gov/newsroom/press-releases/carper-portman-bipartisan-report-reveals-lack-of-federal-response-to-china-s-talent-recruitment-plans/>. Accessed 3 Dec. 2022.

<sup>13</sup> Barbara Plett Usher, "Why Us-China Relations Are at Their Lowest Point in Decades," BBC News, July 24, 2020, <https://www.bbc.com/news/world-us-canada-53517439>. Accessed 25 July 2023.

<sup>14</sup> Geoff Brumfiel, "U.S. Response to China's Talent Plan Is Described as Heavy-Handed." *NPR*, 13 Feb. 2020, [www.npr.org/2020/02/13/805537113/u-s-response-to-chinas-talent-plan-described-as-heavy-handed](http://www.npr.org/2020/02/13/805537113/u-s-response-to-chinas-talent-plan-described-as-heavy-handed). Accessed 20 June 2023.

<sup>15</sup> 1. Joyce Xi, "The FBI Wrongly Accused My Father of Spying for China. Government Has a Role in Anti-Asian Violence.," *USA Today*, April 29, 2021, <http://www.usatoday.com/story/opinion/voices/2021/04/27/chinese-american-professor-bias-fbi-attacks-government-column/7385996002/>. Accessed 21 June 2023.

the government had failed to consult experts before making the arrest.<sup>16</sup> Because in so many other instances illegal collaboration and espionage has been revealed, the United States government has created an environment in which legal academic collaboration with China is almost impossible, turning a blind eye to all interactions.

As an example, an investigation by the Texas A&M University system revealed that there were more than 100 staff members linked to and receiving funding from China's talent programs, while only five of them were reporting such funding.<sup>17</sup> The Texas A&M incident demonstrates that while transparency is possible, in the vast majority of cases it is not apparent, therefore governments have little reason to assume that complete transparency is the norm. Furthermore, China has chosen to respond by further inhibiting transparency in participation in the Plan. Instead of encouraging transparency to ensure the success of the TTP, the Chinese government has attempted to remove information about the Plan from the internet itself and used more covert methods of recruitment. In fact, a leaked notice from the Chinese government told recruiters to stop using the term "TTP" when speaking to candidates, in order to avoid raising suspicion. An translated excerpt reads, "[Candidates] should be notified under the name of inviting them to return to China to participate in an academic conference or forum. Written notices should not include the words "TTP"."<sup>18</sup> Many people continue to discover and denounce inconsistencies in their contracts and are worried about the Chinese government withholding information from them, such as how the research they were doing would be used and where exactly their grant money came from. The lack of willingness of the Chinese to disincentive and uncover dishonest and covert methods of recruitment, makes it foolish for other governments to not investigate each and every case involving China, albeit some are taken too far.

Efforts to prevent the continuation and success of TTP include: the United States China Initiative and the Australian Strategic Policy Institute released an informative document called "Hunting the Phoenix " which describes the Chinese government's recruitment methods and how to prevent them from succeeding. A

## **Conclusion: Is International Informational Ethics possible in our World?**

The success or failure of the TTP program is a work in progress, as are the political tensions between the two leading economies of the World. Some, as former member of the Central Intelligence Agency, Christopher Burgess, believe TTP has been a success. He argues that, in the case of Charles Lieber, the Harvard Professor who was arrested when his ties to the Chinese government were discovered, the sentence was rather lenient: two years of supervised release with six months of home confinement, a fine of \$50,000, and \$33,600 in restitution to the IRS.<sup>19</sup> In his opinion, such a lenient sentence may encourage others to join the Thousand Talents Program without fear of severe legal punishment, sending a message of "tolerance" of such behavior, and as such, minimizing the effect of the China Initiative to make recruitment to China more difficult. At the same time, many American universities have started routinely investigating how many of their staff are on China's payroll and more serious punishments have been applied to violators. Since the Chinese government was able to persuade some of the world's top scientists into divulging classified

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<sup>16</sup> Matt Apuzzo, "U.S. Drops Charges That Professor Shared Technology with China," The New York Times, September 11, 2015, <https://www.nytimes.com/2015/09/12/us/politics/us-drops-charges-that-professor-shared-technology-with-china.html>. Accessed 21 June 2023.

<sup>17</sup> 1. Aruna Viswanatha and Kate O'Keeffe, "China's Funding of U.S. Researchers Raises Red Flags," The Wall Street Journal, January 31, 2020, <https://www.wsj.com/articles/chinas-funding-of-u-s-researchers-raises-red-flags-11580428915>. Accessed 25 June 2023.

<sup>18</sup> Alex Joske, "Hunting the Phoenix | Australian Strategic Policy Institute | ASPI," Australian Strategic Policy Institute, August 20, 2020, <https://www.aspi.org.au/report/hunting-phoenix>. Accessed 25 June 2023.

<sup>19</sup> Christopher Burgess, "China's Thousand Talents Program Harvests U.S. Technology and a Guilty Verdict," ClearanceJobs, May 1, 2023, <https://news.clearancejobs.com/2023/05/01/chinas-thousand-talents-program-harvests-u-s-technology/>. Accessed 5 July 2023.

information, other nations are paying more attention to the involvement of their researchers with China. The TTP has had and will continue to have massive implications on geopolitics by straining the U.S.-Sino relations as growing tensions and paranoia surrounding information espionage persists and will open new debates regarding privacy. The TTP has caused universities and institutions around the globe to worry about their research being leaked and enforcing stricter privacy regulations that may strip people from freedoms they have long enjoyed.

Regardless of the success of the TTP transforming China into the next science and technology World leader by the year 2050, I believe that the interaction between American and Chinese scientists and researchers is here to stay. I am optimistic that the degree of human connectivity in the 21st century and the quest for greater scientific knowledge that has characterized it so far, will overcome any potential conflicts. Despite all the political turmoil that surrounded it, the extraordinary collaboration seen during the 2020 Covid 19 pandemic is evidence of this.

My interest in this subject, as is often the case, derives from personal experience. I am a high school student of Hispanic background in South Florida. My school offered a Chinese program and for no particular reason, I enrolled in it since elementary. In these years of trying to learn this difficult language I have often wondered about the mysteries and interactions between individuals of different cultures. I believe that fostering these interactions is the secret behind the success of American society. China has a completely different social model and a story that is evolving parallel to ours. I have come to understand that Science is a common language and may allow us to breach the distances that history has placed between cultures. In the end, this discussion revolves around ethics, that branch of knowledge with human conduct and the behavior of individuals in society and not about economic superpowers.

## Bibliography

- Apuzzo, Matt. 2015. "U.S. Drops Charges That Professor Shared Technology with China." *The New York Times*, September 11, 2015, sec. U.S. <https://www.nytimes.com/2015/09/12/us/politics/us-drops-charges-that-professor-shared-technology-with-china.html>.
- Biase, Nicholas . 2021. "Southern District of New York | Senior Nasa Scientist Sentenced to Prison for Making False Statements Related to Chinese Thousand Talents Program Participation and Professorship | United States Department of Justice." *Www.justice.gov*. June 16, 2021. <https://www.justice.gov/usao-sdny/pr/senior-nasa-scientist-sentenced-prison-making-false-statements-related-chinese-thousand#:~:text=Audrey%20Strauss%2C%20the%20United%20States>.
- Broaded, C. Montgomery. 1993. "China's Response to the Brain Drain." *Comparative Education Review* 37 (3): 277–303.  
[https://www.jstor.org/stable/1188513?oauth\\_data=eyJlbWFpbCI6Im1hcmlvLnNIYXJlekBzYWludGFuZHIld3MubmV0IiwiaW5zdGl0dXRpb25JZHMlOlsiMjMwM2NiYjctY2JmZC00OGNmLWI3ZGUtYWQ3OTY4NzA0ZDM0Ii19&seq=6#metadata\\_info\\_tab\\_contents](https://www.jstor.org/stable/1188513?oauth_data=eyJlbWFpbCI6Im1hcmlvLnNIYXJlekBzYWludGFuZHIld3MubmV0IiwiaW5zdGl0dXRpb25JZHMlOlsiMjMwM2NiYjctY2JmZC00OGNmLWI3ZGUtYWQ3OTY4NzA0ZDM0Ii19&seq=6#metadata_info_tab_contents). Accessed 5 Nov. 2022.
- Brumfiel, Geoff. 2020. "U.S. Response to China's Talent Plan Is Described as Heavy-Handed." *NPR*. February 13, 2020. <https://www.npr.org/2020/02/13/805537113/u-s-response-to-chinas-talent-plan-described-as-heavy-handed>.
- Burgess, Christopher. 2023. "China's Thousand Talents Program Harvests U.S. Technology and a Guilty Verdict." *ClearanceJobs*. May 1, 2023. <https://news.clearancejobs.com/2023/05/01/chinas-thousand-talents-program-harvests-u-s-technology/>.
- Cambridge Dictionary. 2023. "Brain Drain." @CambridgeWords. July 19, 2023.  
<https://dictionary.cambridge.org/us/dictionary/english/brain-drain>. Accessed 23 Sept. 2022..
- Carolina, Brandi Maria. 2004. "The History of Brain Drain | Request PDF." *ResearchGate*. December 2004.  
[https://www.researchgate.net/publication/290779560\\_The\\_history\\_of\\_brain\\_drain](https://www.researchgate.net/publication/290779560_The_history_of_brain_drain). Accessed 25 Sept. 2022.
- Carper, Tom. 2019. "Carper, Portman Bipartisan Report Reveals Lack of Federal Response to China's Talent Recruitment Plans." *Senator Tom Carper*. November 19, 2019. <https://www.carper.senate.gov/newsroom/press-releases/carper-portman-bipartisan-report-reveals-lack-of-federal-response-to-china-s-talent-recruitment-plans/>.

- Hvistendahl, Mara. 2014. "Show Me the Money." *Science* 346 (6208): 411–15.  
<https://doi.org/10.1126/science.346.6208.411>.
- Joske, Alex. 2020. "Hunting the Phoenix." [www.aspi.org.au](http://www.aspi.org.au). Australian Strategic Policy Institute. August 20, 2020.  
<https://www.aspi.org.au/report/hunting-phoenix>.
- Langping He. 2015. "A Chinese physics institute's defense". *Science* 348, 405-406. DOI:  
10.1126/science.348.6233.405-c
- Manion, Melanie. 2009. *Corruption by Design: Building Clean Government in Mainland China and Hong Kong*. Google Books. Harvard University Press.  
<https://books.google.com/books?id=zyMeydaAu1kC&pg=PA80#v=onepage&q&f=false>. Accessed 27 Sept. 2022.
- Moore, Mark. 2021. "Ex-Harvard Professor Charles Lieber Convicted of Lying about China Ties." *New York Post*. December 22, 2021. <https://nypost.com/2021/12/22/ex-harvard-professor-charles-lieber-lied-about-ties-to-china/>.
- O’Keeffe, Kate, and Aruna Viswanatha. 2020. "China’s Funding of U.S. Researchers Raises Red Flags." *Wall Street Journal*, January 31, 2020, sec. US. <https://www.wsj.com/articles/chinas-funding-of-u-s-researchers-raises-red-flags-11580428915>.
- Pariona, Amber. 2017. "What Is Brain Drain?" *WorldAtlas*. June 13, 2017.  
<https://www.worldatlas.com/articles/what-is-brain-drain.html>. Accessed 25 Sept. 2022.
- The Editors of Encyclopedia Britannica. 2019. "Tiananmen Square Incident | Chinese History [1989]." In *Encyclopædia Britannica*. <https://www.britannica.com/event/Tiananmen-Square-incident>. Accessed 25 Sept. 2022.
- Usher, Barbara Plett. 2020. "Why US-China Relations Are at Their Lowest Point in Decades." *BBC News*, July 24, 2020, sec. US & Canada. <https://www.bbc.com/news/world-us-canada-53517439>.
- Xi, Joyce. 2021. "The FBI Wrongly Accused My Father of Spying for China. Government Has a Role in Anti-Asian Violence." *USA TODAY*. April 27, 2021. <https://www.usatoday.com/story/opinion/voices/2021/04/27/chinese-american-professor-bias-fbi-attacks-government-column/7385996002/>.
- Zweig, David, and Siqin Kang. 2020. "AMERICA CHALLENGES CHINA’S NATIONAL TALENT PROGRAMS." [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). Accessed 10 Nov. 2022.