

# Science suffers collateral damage as US, China tensions rise

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A rise in US visa denials for Chinese academics and intensified scrutiny of alleged links to Beijing over fears of potential espionage are having a

chilling effect on long-standing research collaboration, researchers say.

American and Chinese scientists have co-authored thousands of papers each year, far outpacing the output from scientific collaborations between any other two nations, according to a 2018 survey by academic database Nature Index.

But it is getting tougher for researchers to work together on projects and share data for peer review, as American institutions tighten rules for accepting foreign funding and intensify vetting of foreign partners, several researchers told AFP.

The pressure is the result of a clampdown by Washington on what it describes as espionage and technology theft through academic contacts, with the White House warning last year that Chinese nationals studying or working in the United States could be manipulated or forced to "serve Beijing's military and strategic ambitions".

In one of the latest countermeasures, the US Department of Energy—which conducts advanced research on everything from supercomputers to nuclear weapons—blocked its scientists from participating in a foreign government's talent recruitment programmes, citing national security and competition concerns.

Its order, seen by AFP, did not mention a specific country, but officials pointed to Beijing's lucrative 'Thousand Talents' programme.

The initiative offers non-Chinese, and Chinese working abroad, high pay to deliver top-level technology to China.

The increased mistrust is bound to have an impact on research collaboration, academics and experts say.

An increasing number of young Chinese scholars are told they cannot participate in a project for security reasons, said an official at Pennsylvania State University, who requested anonymity given the sensitivity of the topic.

"Research collaboration between China and the US will be severely disrupted by the trade war-turned-technology war, which essentially is a talent war," said Cao Cong, professor of innovation studies at Nottingham University's China campus in the city of Ningbo.

Beijing has committed billions of dollars in recent years to narrow China's science and technology gap with the United States, Cao said.

But China is still "heavily dependent" on the US for technology transfers and training, he added, and the "cut off" will have an impact in coming years.

## **Visa troubles**

The rising number of visa denials have prompted a warning from China's education ministry that students and academics could have their study or research plans foiled by refusals or delays.

One in eight Chinese applicants seeking US visas for academic or research purposes between January and March this year had difficulties securing them, a marked increase from last year, education ministry official Xu Yongji said.

Star quantum physicist Pan Jianwei was unable to attend a meeting of the American Association for the Advancement of Science in February, where he was to collect the prestigious Newcomb Cleveland Prize, due to visa delays.

"I waited for four months before I got a visa in March," Pan told AFP. When it finally arrived, the award ceremony had long passed.

Yi Rao, a prominent Chinese neurobiologist who had worked at Harvard and Northwestern universities in the past, said his application for a US visa to attend a workshop by the National Science Foundation was denied last July without an explanation.

A State Department official said she could not discuss specific visa cases due to US privacy laws.

The State Department has said the increased scrutiny was prompted by rising number of students who were co-opted by foreign intelligence while in the United States.

China is by far the biggest source of international students and scholars on US campuses, with 360,000 attending last year.

## **'Atmosphere of suspicion'**

The cooling of ties is also complicating Beijing's efforts to recruit top Chinese and foreign talent, after US intelligence officials in December said the 'Thousand Talents' programme facilitated the theft of American technology and intellectual property.

Tim Byrnes—an Australian physicist who won nearly one million yuan (\$144,000) from the programme in 2016 for a quantum computing lab at New York University's Shanghai campus—said he now finds himself in a "precarious position".

"Possibly, some people awarded the Thousand Talents might not be able to apply for grants in the US in future due to fears of leaking intellectual property," Byrnes said.

Since it was launched in 2008, the programme has attracted more than 7,000 Chinese and foreign researchers to China—mostly from the US—according to its website.

But Byrnes said he was not asked to share any of his findings with the Chinese government.

"Everything we do is published in academic journals. Everything is disclosed not just to China but to the whole world," he said.

"But the current atmosphere of suspicion is threatening the openness of [science](#)."

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