

US-China relations

China-US tensions erode co-operation on science and tech

Deng-Carter pact risks unravelling, with co-ordination limited to specific areas of research



Deng Xiaoping and Jimmy Carter make their way to the Oval Office in 1979. Their bilateral agreement underpinned work in fields including energy, agriculture, civil-industrial technology and disaster management © HUM Images/UIIG/Getty Images

Michael Peel in London and **Eleanor Olcott** in Beijing 13 HOURS AGO

Rising tensions between the US and China threaten to sever a 45-year-old science and technology pact due for renewal later this month, hindering the superpowers' collaboration in critical areas.

Researchers are attempting to work round the strained [inter-governmental relationship](#), with some focusing on less contentious possible areas of co-operation, such as climate change and diseases related to ageing.

The struggle to strike a comprehensive multiyear extension to the [science](#) and technology accord is a sign of how political problems can undermine frontier research work. The bilateral agreement, signed by US president Jimmy Carter and Chinese leader Deng Xiaoping, has underpinned work in fields including energy, agriculture, civil-industrial technology and disaster management.

Disagreements have grown over US restrictions on [China's access to semiconductors](#) and Washington's worries about alleged intellectual property breaches and the potential military use of sensitive new technologies. US security officials are also concerned about the potential for academic co-operation to provide avenues for Chinese espionage.

“This is fundamental and central to the concerns that the US and China have with one another,” said Vaughan Turekian, executive director of policy and global affairs at the US National Academies of Sciences, Engineering and Medicine. “[An agreement] that . . . until five years ago had not been anything that anybody would have noticed one way or the other suddenly becomes a focal point of the relationship.”

The science and technology accord has long been a symbolic pillar of Sino-US relations and an enabler of important practical co-operation. It was one of the first bilateral agreements to be signed after the US formally recognised the People’s Republic of China in 1979.

The pact provides an “umbrella of permissions”, said Turekian, who was the science and technology adviser to former US secretary of state John Kerry. Other scientists point to valuable past research collaborations in areas including influenza monitoring, pollution control and reducing birth defects by boosting the folic acid consumption of mothers-to-be.

“The agreement has a huge amount of symbolic value,” said Wang Yanbo, a professor at Hong Kong University Business School and expert on innovation in China. “It sends a clear message from Beijing and Washington that academic collaboration is allowed. If the agreement is ended, it will send a strong signal that such collaboration is discouraged.”

The pact has typically been rolled over every five years but that has not happened since the last one expired in August 2023. The sides have instead agreed two successive six-month extensions, the second of which lapses on August 27.

Many observers think a long-term extension is unlikely in the run-up to November’s US presidential election between the Republicans’ Donald Trump and his Democratic rival Kamala Harris. Both parties have taken increasingly tough lines on China on trade and national security.

The US is “actively negotiating” the agreement to protect its participating agencies and researchers, a state department spokesperson said. Washington was not “prejudging the outcome” and was “realistic” about China’s domestic legal “challenges” and policies such as fusing civilian and [military](#) research.

The US has used short-term extensions before to adjust the agreement, the spokesperson added. It did so between 2016 and 2018 to renegotiate the terms of an annex to strengthen IP protections.

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But tensions over science and technology have since worsened, in line with the deterioration in the broader Sino-US relationship. The US has — like the World Health Organization — criticised Beijing for failing to co-operate sufficiently on investigations into the origins of Covid-19.

The Trump administration in 2018 launched an anti-espionage China Initiative. But the justice department scrapped the project in 2022 after some cases foundered amid criticisms from rights groups that investigations, many of them against scientists of Chinese heritage, amounted to racial profiling.

US-China co-operation has been introduced in some research areas of strong perceived mutual interest. In January, the White House's top science adviser said the two countries would [work together](#) on the safety of artificial intelligence.

Many researchers in both western and Chinese institutions say it is vital to maintain co-operation. The Covid pandemic and trends such as the growth of bacterial resistance to crucial antibiotics have highlighted the shared interest in co-ordinated action against emerging threats.

It is important that young researchers have already established ties with their counterparts for “when the next crisis comes”, said Kimberly Montgomery, director for international affairs and science diplomacy at the American Association for the Advancement of Science.

“We do support a long-term extension of the agreement,” Montgomery said, although she acknowledged the difficulties. “Things have changed over time and so there are real issues to think about — [such as] data reciprocity and transparency.”

Wang said the pact's cancellation would have a chilling effect not only on joint research projects, but also on the willingness of US universities to approve invitations to US academics for conferences or seminars.

