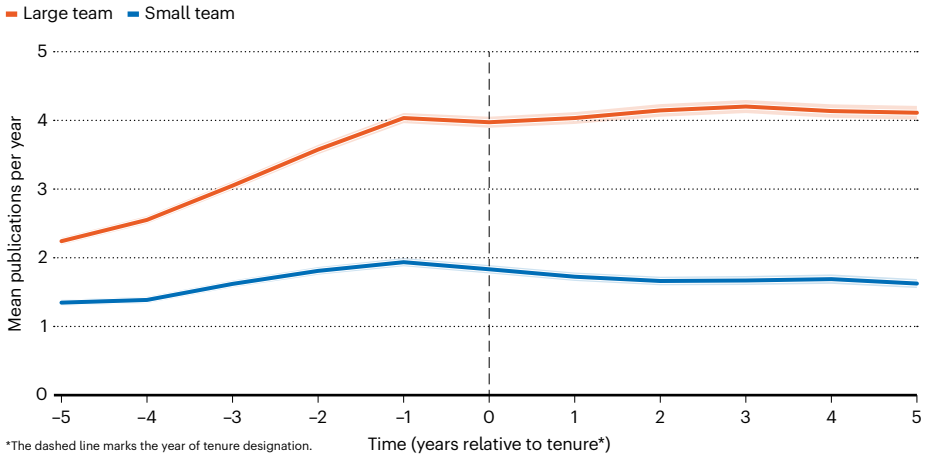
TENURE PUSH

The publication rate of researchers in all fields rises in the lead-up to receiving tenure. But productivity of different fields diverges after tenure is awarded.



*The dashed line marks the year of tenure designation.

SOURCE: G. TRIPODI *ET AL. PROC. NATL ACAD. SCI. USA* **122**, E2500322122 (2025)

with a small number of coauthors".

Danagoulian worries that the analysis could provide ammunition to politicians and university administrators to further cut social-sciences positions or even abolish tenure: lawmakers, mainly Republicans, in more than ten states have lobbied for legislation that would weaken or end tenure in public colleges and universities.

"I'm always grateful for efforts to understand the inner workings of academia," Calarco says. "But this type of study has the potential to reveal new patterns but not necessarily explain them."

CHINA'S ANTARCTIC RESEARCH DRIVE OFFERS HOPE FOR SCIENTISTS

With US investment in polar science under threat, could Chinese spending fill the gap?

By Xiaoying You

China has rapidly increased its interest in Antarctica over the past decade, opening its fifth Antarctic station last year. Scientists hope this will help to ensure that research of global significance continues on the continent, despite the US government's proposal to slash spending on polar science.

China's latest station, Qinling, kicked off its first winter mission in March. Situated on Inexpressible Island in Terra Nova Bay, Qinling is China's first station in southern Antarctica, not far from stations run by Italy and South Korea. In time, the station will conduct studies on marine and terrestrial ecology, sea ice, geophysics, wildlife and other topics, says Shen Jun, a director at the Chinese Arctic and Antarctic Administration in Beijing.

Qinling is "well-placed for research into a huge range of contemporary challenges in Antarctic research", says Christina Hulbe, a geophysicist at the University of Otago in Dunedin, New Zealand.

One of them is determining how cold, dense waters form on the continental shelf, Hulbe says. These waters are the precursor to Antarctic bottom water, which has a pivotal role in regulating the ocean's ability to store heat and capture carbon. The region is also important for studying marine biodiversity, including krill, penguins and whales.

ZHU HE/XINHUA/ALAMY

The Qinling research station opened last year.

China does not reveal how much it spends on Antarctic research each year, but researchers say that there has been growing government funding for overall research and development over the past decade. Since 2018, China has built two new icebreakers, *Xue Long 2* and *Ji Di*, and it is planning a new summer station in southwest Antarctica, which is scheduled to open in 2027.

US pulls away

As China's interest in the region increases, US President Donald Trump has proposed cutting all funding for polar research from $86 million to $25 million, and Antarctic-specific infrastructure renewal from $60 million to $24 million, in 2026. US scientists fear that they might not be able to continue some of their research and fieldwork in Antarctica. There are also concerns that the US polar databases will not be maintained or updated. The United States is seen by many as the global leader in Antarctic research.

Deniz Bozkurt, a climatologist at the University of Valparaíso in Chile, expects "some shift in the scientific leadership" for Antarctica and climate-change studies owing to the question marks surrounding US commitment.

Kim Yeadong, the chair of the Korean National Committee on Polar Research, based in Incheon, South Korea, says that Antarctic study benefits all of humanity. "If the US walks away, somebody should continue on this very important endeavour," he adds. Kim says that he will be "very happy" if China increases its activity, regardless of what the United States does.

The need for data

Bozkurt thinks that the biggest risk from the US government cuts is the potential loss of continuous data, such as those hosted by the US National Snow and Ice Data Center, which are crucial for understanding climate trends and extreme weather.

Qinling's global significance will depend partially on how China shares its data. "Sharing data, sharing findings, sharing issues of critical ecosystems, this is absolutely vital," says Daniel Kammen, an energy researcher at the University of California, Berkeley. He hopes that the station's data will be shared with scientists in real time to help them to understand and respond to changes.

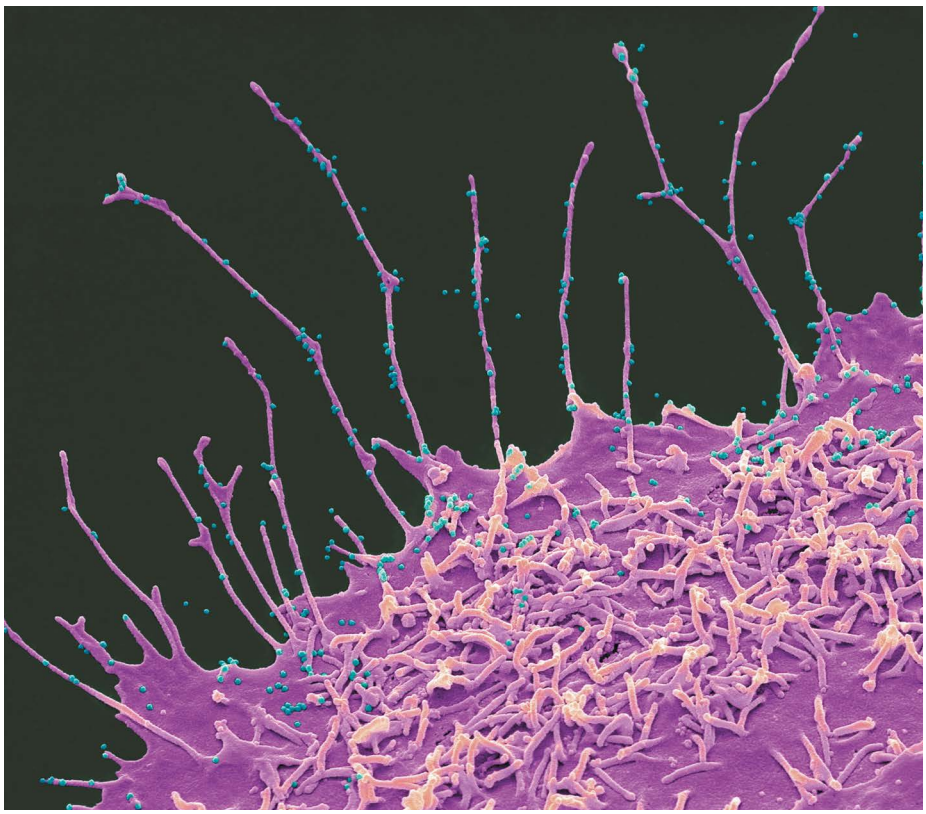
China has been contributing data to international research networks, but the pace and openness "can vary", according to Bozkurt. The country currently releases its polar data through its National Arctic and Antarctic Data Center. It published the data from China's

2021–22 Antarctic expedition in April, and researchers must submit applications to see them.

"Delays in data release by any country can limit how useful the information is for global models or comparisons," Bozkurt explains.

For the scientific community, climate change makes Antarctic research an urgent mission without borders. Kim highlights that more stations are needed on the southernmost continent, but "that science is very expensive" and that "not many countries can do it".

Earlier this year, Qinling was fitted with a clean-energy system — including solar panels, wind turbines, batteries and hydrogen storage — that is expected to meet more than half of the station's energy needs. "Other stations need to learn from what is going on," says Kammen.



STEVE GSCHMEISSNER/SPL

Particles of SARS-CoV-2 (blue, artificially coloured) bud from a cell (pink).

PEOPLE'S BRAINS AGED FASTER DURING THE COVID PANDEMIC

The effect was not linked to whether someone became infected — but cognitive decline was.

By Gemma Conroy

The brains of healthy people aged faster during the COVID-19 pandemic than did the brains of people analysed before the pandemic began, a study of almost 1,000 people suggests. The accelerated ageing occurred even in people who didn't become infected.

The accelerated ageing, recorded as structural changes seen in brain scans, was most noticeable in older people, male participants and those from disadvantaged backgrounds. But cognitive tests revealed that mental agility declined only in participants who picked up a case of COVID-19, suggesting that faster brain ageing doesn't necessarily translate into impaired thinking and memory (A. R. Mohammadi-Nejad *et al. Nature Commun.* **16**, 6411; 2025).

The study "really underlines how significant the pandemic environment was for mental and neurological health", says Mahdi Moqri, a computational biologist who studies ageing at Harvard Medical School in Boston, Massachusetts. It's unclear whether the pandemic-associated brain ageing is reversible, because the study analysed scans taken at only two time points, adds Moqri.

Pandemic effect

Previous research has offered clues that SARS-CoV-2 infections can worsen neurodegeneration and cognitive decline in older people. But few studies have explored whether the pandemic period — a tumultuous time marked by social isolation, lifestyle disruptions and stress for many — also affected brain ageing, says study co-author Ali-Reza Mohammadi-Nejad, a neuroimaging researcher at the University of Nottingham, UK.

To find out, Mohammadi-Nejad and his colleagues analysed brain scans collected from 15,334 healthy adults with an average age of 63 in the UK Biobank (UKBB) study, a long-term biomedical monitoring scheme. They trained machine-learning models on hundreds of structural features of the participants' brains, which taught the model how the brain looks at various ages. The team could then use these models to predict the age of a person's brain. The difference between that value and a participant's chronological age is the 'brain age gap'.

The team then applied the brain-age models to a separate group of 996 healthy UKBB participants who had all had two brain scans at least a couple of years apart. Some of the participants had had one scan before the pandemic and another after the pandemic's onset. Those who'd had both scans before the pandemic were designated the control group. The models estimated each participant's brain age at the time of both scans.

Nearly six months more

The models predicted that the brains of people who had lived through the pandemic had aged 5.5 months faster on average than had those of people in the control group, irrespective of whether those scanned during the pandemic had ever contracted COVID-19. "Brain health is shaped not only by illness, but by our everyday environment," says Mohammadi-Nejad.

Pandemic-related brain ageing was most pronounced among older participants and men, who are known to be more susceptible to neurological changes when they are stressed than women are. The brains of those experiencing hardship, such as unemployment, low income and poor health, also aged faster than did those of other participants, suggesting that these lifestyle stressors have a detrimental impact on brain health.

Next, Mohammadi-Nejad and his colleagues assessed participants who had completed cognitive tests both times they were