

News in focus



Shanghai has been in lockdown since early April, and residents are barred from leaving their homes.

HOW SHANGHAI'S SCIENTISTS ARE COPING AMID HARSH COVID LOCKDOWN

From walking laps of the apartment to students who desperately need data, four researchers speak about their experience.

By Yvaine Ye

The highly infectious Omicron variant of SARS-CoV-2 is raging in parts of China. Shanghai, the country's financial hub and the home of many of its top research institutions, was plunged into a sweeping lockdown earlier this month. Restrictions seem set to continue and shortages of food and other supplies are making life tough for many residents – including many researchers and scientists.

China is one of the few countries still attempting to quash COVID-19 outbreaks. So when daily cases in Shanghai climbed steeply – more than 280,000 people in the city have tested positive since March – the authorities ordered its 25 million residents to stay at home from 1 April. The city also suspended all public transport, moved schools online and shut down businesses.

With cases continuing to rise, the lockdown has been extended, catching many residents unprepared. In some places, people

are struggling to access health care. Public anger at the government's handling of the situation has also been rising.

As a conservation biologist at Fudan University, being stuck at home means that Fang Wang can't conduct most of his research. Spring is the mating season for many animals that he studies. Before the lockdown, he had planned to visit the Qinling Mountains in northern China to study wild giant pandas (*Ailuropoda melanoleuca*), and the Liupan Mountains in northwestern China to observe

News in focus

endangered North China leopards (*Panthera pardus orientalis*). But he had to cancel the trips because of the Omicron outbreak. “For us, missing out on a season’s data is like losing a year of data,” he says. Wang hopes to do the field trips later this year.

Without access to his university campus, Wang and his team can’t analyse animal samples collected previously. Wang says the impact is manageable for him, but he worries about his students, whose dissertations rely on the data from such analyses.

“Over the past two years, our students have been under tremendous pressure and faced great uncertainty about their future. As a teacher, I worry such uncertainty will make my students prioritize stability over what they actually want to pursue when choosing a career,” he says.

With Shanghai at a standstill, Wang also found himself overwhelmed by fresh responsibilities. Besides conducting research and mentoring his students, he needs to take care of his young child, who is also cooped up at home, and help with cooking. He must look for ways to get groceries, which are difficult to find because the city’s entire population is relying on a limited number of delivery workers to bring necessities to their doors. “I feel really tired and stretched thin,” he says.

3,000 steps a day, at home

Before the lockdown, Jiahong Wen, a natural-disasters modeller at Shanghai Normal University, had planned to conduct field research in Linhai, a nearby city that was hit by a catastrophic typhoon in 2019. But Wen had to abandon his trip when the government announced that people in Shanghai could not leave home.

Wen can do most of his other work on his laptop at home. To keep fit, he’s been exercising, including lifting weights. Sometimes he just walks around his apartment. “Every day I walk about 3,000 steps just by circling my home dozens of times. I also told my students to do so, to keep them healthy,” he says.

In 2020, Wen worked on modelling the pandemic. Considering the size of Shanghai’s current outbreak and the city’s strict restrictions, he thinks COVID-19 cases will start to fall and that the city will return to normal as early as May. But he’s concerned for his daughter, who is supposed to be sitting China’s extremely competitive university entrance exam in June. “Omicron seems to be very stealthy and cases have been popping up unexpectedly. I don’t want anything to happen to my daughter that would affect her exam.”

Travel restrictions

“I consider myself extremely lucky, since our institute’s administration and logistic staff on site have been trying their best to keep us safe and fed,” says Xian Shi, an astronomer at the

Shanghai Astronomical Observatory who lives on campus in central Shanghai. The lockdown hasn’t had a huge impact on her research – she studies small objects, such as asteroids, in the Solar System – because she’s been working from home for the past two years of the pandemic. But Shi had to cancel a long-planned trip to give a talk and meet her collaborators in a nearby city.

“Although the lockdown is a misfortune for the city, for us sociologists, it’s a huge social experiment.”

“I expected that the lockdown probably would not end as planned, given the highly infectious variant and stringent criteria for opening up,” she says. As a result, she took her laptops and hard drives, as well as a lot of coffee, back to her home ahead of time.

Shi worries that China’s strict travel restrictions will make it more difficult to attend international conferences and meet colleagues in other parts of the world.

To Jia Miao, a sociologist at New York University Shanghai, the current lockdown is

like witnessing the focus of her past research unfolding in front of her. She studied community resilience during the 2020 city-wide lockdown of Wuhan, China, where SARS-CoV-2 was first detected. Now, she’s experiencing a lockdown at first hand, which has given her ideas for future research. “Although the lockdown is a misfortune for the city, for us sociologists, it’s a huge social experiment. It will give us lots of opportunities to study a variety of issues that arise.”

Her university gave staff and students a day’s notice before shutting down, so Miao had time to gather her laptop and assemble the data she needed to work from home. “Personally, I’m doing okay.” But the lockdown has forced her to postpone field trips, both for her own research and for the undergraduate classes she teaches. “I do hope there could be one last chance before the end of the term to take my students on a field trip.”

Miao teaches an urban sociology class that discusses topics such as the role of community in a pandemic. “After this outbreak, my students will have a fresh perspective when looking at communities, and they can bring their personal experience and insights to the class,” she says.

US CHEMICAL ENGINEER FOUND GUILTY OF HIDING TIES TO CHINA

A jury convicted Feng ‘Franklin’ Tao on four of eight charges – but a judge is reviewing the case.

By Sara Reardon

University of Kansas (KU) chemical engineer Feng ‘Franklin’ Tao, who was accused of hiding ties to a Chinese university, has been found guilty of wire fraud and making false statements to the US government. On 7 April, a jury for the US district court of Kansas found that Tao, currently on unpaid leave from KU in Lawrence, had committed research-grant fraud by failing to tell his employer and federal funding agencies about an alleged faculty appointment in China.

The closely watched case is the latest prosecution of a scientist arrested under the China Initiative – a controversial US programme launched in 2018 by former president Donald Trump’s administration to protect US institutions from economic espionage. On the basis of an internal investigation, the US Department of Justice (DoJ) announced in February

that it was discontinuing the programme after accusations that the initiative was racially biased. The DoJ said it didn’t find evidence of radical prejudice, but acknowledged that the initiative could have been perceived as fuelling a narrative of intolerance.

In a statement sent to *Nature*, Tao’s attorney, Peter Zeidenberg, says that he hopes the verdict will be overturned. He notes that the judge has ordered a briefing on the government’s evidence and whether anyone was actually defrauded, and that she did not set a sentencing date. “While we are deeply disappointed with the jury’s verdict, we believe it was so clearly against the weight of the evidence we are convinced that it will not stand,” Zeidenberg writes.

A press release from the DoJ says that Tao could face decades in federal prison and a fine of up to US\$250,000 for each offence.

Tao, who was first arrested in 2019, is thought to be the first scientist to have been charged