



The longest structure in the world: the Great Wall of China is easily reached on a day trip from Beijing. The higher sections are often shrouded in clouds.

Max Planck researchers collaborate with partners in more than 120 countries. Here they write about their personal experiences and impressions. Jinyi Shangguan, formerly a scientist at the Max Planck Institute for Extraterrestrial Physics in Garching, has taken over as head of a Max Planck Partner Group at the Kavli Institute at Peking University. Together with his team, he is researching supermassive black holes – mysterious objects from the early days of our universe.

The Paranal Observatory in Chile’s Atacama Desert is a dream come true for astronomers: far away from any light pollution and located at high altitude, the observation conditions are among

the best in the world. It’s different in my homeland: I come from Guiyang in southwestern China. It’s often foggy there, and the sky is overcast – challenging conditions for stargazers. So, my enthusiasm for astronomy as a child was genuinely written in the stars. But I was interested in the natural sciences from an early age. My parents encouraged me and gave me books on a wide variety of topics. Both of them worked in a factory. Becoming an astronomer was a stroke of luck: I was offered a place at the renowned Kavli Institute at Peking University and seized the opportunity.

Today, I lead my own research group at the Kavli Institute. My team and I are dedicated to researching black holes. We collect our data at the Paranal Observatory, whose centerpiece is the Very Large Telescope Interferometer (VLTI). This combines the light from several telescopes into a single, extremely sharp “virtual” telescope. It

becomes even sharper thanks to GRAVITY+: an optical instrument that serves as an upgrade for the VLTI. It was designed and built by a European consortium led by the Max Planck Institute for Extraterrestrial Physics. With this ingenious technology, we are able to make the invisible visible: black holes remain hidden from direct view, but reveal themselves through their enormous gravitational pull, which deflects passing stars, causes gas to glow, and even distorts space. The heaviest black holes reach billions of times the mass of our sun and originated in the early days of the universe. But how could they have formed so soon after the Big Bang? This remains one of the great mysteries of astronomy. To solve this problem, we plan to build more telescopes and expand the VLTI to improve the resolution by a factor of ten. Thanks to its long-term funding, the Max Planck Society offers ideal research conditions for such an ambitious project.

POST FROM

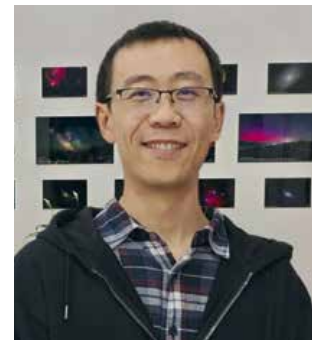


BEIJING, CHINA

Before I came back to Beijing, I spent six years as a postdoc at the Max Planck Institute for Extraterrestrial Physics in Garching – an exciting and rather turbulent time. One particular highlight of my time at the Institute was the day our Research Group Leader and Institute Director Reinhard Genzel received the Nobel Prize for observing the black hole at the center of our Milky Way. It was 2020, during the coronavirus pandemic. Our entire department had gathered in the conference room to watch the announcement live on screen. Everyone was wearing masks. But despite the distance, the feeling of being part of this team was incredible! It was a turbulent time due to all the traveling: our research group had been granted 17 nights of observation time at the VLTI to observe black holes outside the Milky Way, spread over two years. On the long journey from Munich to Chile, I usually made a stopover in Paris to visit my wife, who had a job in

the financial sector there. When our two sons were born, things got really complicated. I would have loved to split myself in two to do everything justice!

Fortunately, since I've been living with my family in Beijing, things have calmed down. A lot has changed at the local university during my absence: there are several new buildings, and access to the campus is now controlled by automatic facial recognition. Our astronomy team is now larger and more diverse. I am still in close contact with my colleagues in Garching. Just recently, some of them were here in Beijing for a working meeting. We listened to lectures, sat together, and made plans. Of course, a visit to the Great Wall of China was also a must. It was a rather foggy day. But since we were traveling privately and not as astronomers, the fog didn't bother us.



73

PHOTO: PRIVATE

Jinyi Shangguan

36, has been leading a Max Planck Partner Group at the Kavli Institute for Astronomy and Astrophysics in Beijing since March 2025. His home country of China is a focal point of the Max Planck Partner Group program: 17 of the more than 80 groups worldwide are based there. When Jinyi Shangguan is not conducting research, he enjoys walks with his family and exercising on campus.