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The crew of China's Shenzhou XIII space mission – astronauts Zhai Zhigang (center), Wang Yaping (right) and Ye Guangfu – meet the media at the Jiuquan Satellite Launch Center on Thursday at a news conference on the mission. They will be launched into space at 12:23 am on Saturday from the center, according to the China Manned Space Agency. YANG YING / FOR CHINA DAILY

Launch of Shenzhou XIII mission scheduled for Saturday

By ZHAO LEI

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China plans to launch the Shenzhou XIII manned mission early on Saturday morning, sending three astronauts to spend six months inside the Tiangong space station.

Lin Xiqiang, deputy director of the China Manned Space Agency, said at a news conference on Thursday at

the Jiuquan Satellite Launch Center in northwestern China that the mission will also see the first spacewalk by a Chinese woman.

Inside

It is expected to become the longest space journey by Chinese astronauts, doubling the time their peers spent on the Shenzhou XII mission.

The Shenzhou XIII spacecraft is

scheduled to be launched at 12:23 am on Saturday by a Long March 2F carrier rocket at the Jiuquan center to take mission commander Major General Zhai Zhigang, Senior Colonel Wang Yaping and Senior Colonel Ye Guangfu to Tiangong's core module, Tianhe, or Harmony of Heavens, Lin said at the news conference.

Wang became the second female astronaut to take part in a spaceflight

as a crew member of the Shenzhou X mission in June 2013. Liu Yang, who took part in the Shenzhou IX mission in June 2012, was China's first woman in space.

During the upcoming mission, Wang will become the first Chinese woman to enter the Tiangong, or Heavenly Palace, space station and carry out a spacewalk, Lin said.

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Astronauts to celebrate Lunar New Year in space

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Crew members of the upcoming Shenzhou XIII mission will become the first Chinese to spend the nation's most important festival — Spring Festival, or Chinese Lunar New Year — in outer space.

The six-month journey will last from mid-October to mid-April; Spring Festival will be in early February. Chinese tradition holds that people should return home and spend Spring Festival with their family.

"Our mission will be the first time for (a group of) Chinese people to celebrate Spring Festival in space," crew member Wang Yaping said at a meeting with reporters on

Thursday afternoon at the Jiuquan Satellite Launch Center in northwestern China's Gobi Desert.

"It's my understanding that the mission command has prepared a large package of New Year gifts for us, but we don't know what they are," she added. "I am really looking forward to enjoying the special festival, and I am sure the gifts will be full of surprises and wonders.

"Like all Chinese people, we, the crew members, will count down to the New Year and will present our best wishes to the motherland and to you," Wang said.

Wang took part in the Shenzhou X mission, which lasted nearly 15 days, in June 2013. During the mission, she gave a 40-minute space lecture from inside the Tiangong I experimental module. The event,



I will soon fly into space with my students' dreams and aspirations."

Wang Yaping, a crew member of the upcoming Shenzhou XIII mission

which featured some physics experiments, was watched by more than 60 million Chinese students from around 80,000 schools.

Wang said at the meeting that she will also become a "space teacher" during the coming flight.

"I will soon fly into space with my students' dreams and aspirations.

This time, I will live and work inside our own space station. So you, the students, can tell me what you wish to know and see the most and I will take you to explore and discover and help you to realize your aspirations."

Lin Xiqiang, deputy director of the China Manned Space Agency, said at a news conference before the meeting that as a national space laboratory, the Tiangong space station will have abundant, unique resources that can be used for education and science popularization.

He said the station is greatly attractive to young people and will serve as a platform to encourage them to explore the space and science.

"We have made plans for science lectures that will be more diversified and interesting," Lin said.

Mission: Wide range of tasks anticipated

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Zhai is the first Chinese astronaut to conduct a spacewalk, a feat he achieved in September 2008 during the Shenzhou VII mission, which he commanded. The upcoming mission will be his first spaceflight.

"According to our plan, the Shenzhou XIII crew will undertake a wide range of tasks, such as performing two to three spacewalks to install a small robotic arm onto a larger one; verifying key procedures and technologies like manual control of the robotic arms and robotic arm-assisted movement of station modules; checking the performance and capability of devices inside the station; and testing support instruments for astronauts' life and work in long-term flights," Lin said.

The astronauts will conduct scientific experiments and technology demonstrations in space medicine, microgravity physics and other fields. They will also deliver educational lectures that will be televised for Chinese students to watch, Lin said.

Huang Weifen, the chief trainer of Chinese astronauts, said that to help the Shenzhou XIII crew to better prepare for the coming flight and familiarize themselves with the station as quickly as possible, mission planners arranged video and face-to-face meetings between them and the Shenzhou XII astronauts, who shared their experiences of living and working inside the Tiangong.

Shenzhou XIII will be the fourth spacecraft to visit the Tiangong station and the second crewed

The crew members selected for Shenzhou XIII

Major General Zhai Zhigang, 55, a native of Heilongjiang province, joined the People's Liberation Army Air Force in June 1985. He is a veteran of the PLA Astronaut Division and was an experienced fighter pilot before being selected in January 1998 as one of the nation's first astronauts.

Zhai was one of two alternates for Yang Liwei, who made China's first manned spaceflight on the Shenzhou V mission in October 2003, and was part of the backup crew for the Shenzhou VI mission in October 2005.

In September 2008, he made his first space mission on board Shenzhou VII. He was accompanied by Liu Boming and Jing Haipeng. During the mission, Zhai and Liu conducted China's first spacewalk.

He was part of the backup crew for the Shenzhou XII mission that was carried out from mid-June to mid-September.

Zhai was selected for Shenzhou XIII in December 2019.

Senior Colonel Wang Yaping, 41, a native of Shandong province, joined the PLA Air Force in August 1997 and served as deputy squadron commander before joining the second group of astronauts at the PLA Astronaut Division in May 2010.



In March 2012, she was part of the backup crew for the Shenzhou IX mission and in June 2013, she took part in the Shenzhou X mission, which lasted nearly 15 days. She is the second Chinese woman to have flown to space.

During the mission, Wang gave China's first space-based lecture inside the Tiangong I experimental module to Chinese students.

She was a member of the backup crew for the Shenzhou XII mission.

Wang was selected for Shenzhou XIII in December 2019.



Senior Colonel Ye Guangfu, 41, a native of Sichuan province, joined the PLA Air Force in August 1998 and was a senior aviator in a fighter jet regiment.

Ye became a member of China's second group of astronauts in May 2010. He took part in a survival training session in Italy in July 2016 organized by the European Space Agency and was part of the backup crew for Shenzhou XII. He was selected for Shenzhou XIII in December 2019.



ZHAO LEI

ship to transport astronauts to the orbiting outpost.

The first astronauts inside Tiangong — Major General Nie Haisheng, Major General Liu Boming and Senior Colonel Tang Hongbo — finished their 92-day mission in mid-September.

During that mission, the astronauts made two spacewalks and used a large robotic arm and other equipment to install and adjust devices outside the station. They also performed a number of scientific experiments and technological tests, and made video calls with President Xi Jinping and hundreds of researchers, teachers and students in Hong Kong.

One of China's most challenging and sophisticated space endeavors, Tiangong will eventually consist of three main components — the Tianhe core module attached to two large space labs — with a combined weight of nearly

70 metric tons. The entire station is set to operate for about 15 years in a low-Earth orbit about 400 kilometers above the planet.

Tianhe was put into space by a Long March 5B heavy-lift rocket at the Wenchang Space Launch Center in Hainan province in late April.

The biggest and heaviest spacecraft China has ever constructed, Tianhe is 16.6 meters long and has a diameter of 4.2 meters. The craft's weight, 22.5 tons, is equal to the combined weight of 15 standard-size automobiles. It has three parts: a connecting section, a life-support and control section, and a resources section.

The spacecraft is now connected with the Tianzhou 2 robotic cargo ship, which was launched from the Wenchang facility in late May, and the Tianzhou 3, which was launched from Wenchang last month. The spacecraft stack is in good condition and is ready for

rendezvous and docking with Shenzhou XIII, Lin said.

Shenzhou XIII will be the last mission in the technological verification phase of the Tiangong space station program.

In 2022, two large space labs will be launched to connect with the core module. Two manned missions and two robotic cargo flights will be made that year to continue construction of the Tiangong station, which is scheduled to be completed and start formal operations toward the end of 2022.

Lin said that China welcomes foreign participation to the Tiangong program and will send foreign astronauts to the station after it is completed.

"In the near future, China will also deploy a space telescope to fly alongside the Tiangong station. The telescope will briefly dock with the station to resupply and for maintenance and upgrades," he said.