



# Lunar expert hopeful 'new era' opening

Crucial observations expected as China ventures to far side of moon

China Daily 8 Dec 2018 +43 more By ZHAO LEI zhaolei@chinadaily.com.cn

China's lunar exploration programs will continue to be crucial to the international astronomy community, as astronomical observations are relayed from the moon's surface, a leading figure in lunar research said.

Steve Durst, founding director of the International Lunar Observatory Association, a nonprofit organization in Hawaii, noted on Friday on the sidelines of the Galaxy Forum 2018 in Beijing that there is currently only one spacecraft operating on the moon — China's Chang'e 3 robotic probe — and its ultraviolet telescope is still functioning.

He described the telescope as "pioneering" — the first long-term observatory on the lunar surface — and it has opened a "new frontier for astronomy".

Chinese scientists have said that Chang'e 3's telescope continues making observations and surveys and transmits data back to ground control. Its most notable scientific contribution has been to provide information about the water content in the lunar exosphere, they said.

Durst said at the Global Space Exploration Conference in Beijing in June last year that the power source for the Chang'e 3's lander "could last for 30 years", which means the asset will be able to serve astronomical purposes for a long time.

Talking about future observations from the moon, Durst said on Friday that China's Chang'e 4 mission will continue with moonbased astronomy using the Netherlands-China low-frequency explorer mounted on the Queqiao relay satellite, as well as other equipment carried by the Chang'e 4 probe itself.

He said there has never been a mission to the far side of the moon before Chang'e 4, and that scientists around the world have craved opportunities to make observations from there.

"We are very hopeful that the Chang'e 4 will open up a new era in astronomy," he said. "China is leading the way in lunar astronomy."

There are many people in the US, including some at NASA, who would like to cooperate with China in this regard. There are many others who are impressed by the accomplishments of China in lunar astronomy and want to participate."

China started sending robotic probes to the moon in 2007 and has carried out several lunar missions. It landed the Chang'e 3 probe, which carried the first Chinese lunar rover, on the moon in December 2013. The Chang'e 3 mission marked

the first soft-landing by a man-made spacecraft on the moon in nearly four decades.

China launched the Queqiao relay satellite into space in May, the first step in the Chang'e 4 mission to the moon's far side.

The next step in China's current lunar exploration agenda, the Chang'e 5 mission, is set to take place in 2019 and will put a rover on the lunar surface to take samples and then bring them back to Earth.

Yang Liwei, the first Chinese astronaut to enter space and former director of the China Manned Space Agency, said at Friday's forum that preparation work for the Chang'e 5 mission is "steadily advancing" and the re-entry and return test, which is crucial for Chang'e 5, was completed successfully.