



'Sky's the limit'

Polish tennis star cements status as dominant force in women's game **SPORTS, PAGE 12**



Celebrating joy

Singing, dancing add color to traditional Tibetan wedding **IMAGE, PAGE 7**

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Scientist advocates greater cooperation among the stars

A thousand people may have a thousand answers as to why we explore space. For 64-year-old Chinese scientist Wu Ji, exploring space has a more self-reflective meaning.

"When one enters space, one will realize that human beings are an indivisible whole. Regardless of skin color, they have far more in common than they have differences," says Wu, chairman of the Chinese Society of Space Research.

It is under this belief that, for more than two decades, Wu has been persisting in one thing — promoting international cooperation in the field of space science.

In July, at the 44th Scientific Assembly of the Committee on Space Research in Greece, Wu was awarded the International Cooperation Medal, which recognizes scientists who have made outstanding contributions to international cooperation in space science.

This is the first time in the 38 years since the award was established that it has been presented to a Chinese scientist.

Like many space scientists, Wu's

initial dream was illuminated by a "star".

The sight of China's first satellite Dongfanghong-1 in the night sky over 50 years ago lingered in Wu's memory. From then on, he aspired to explore space further.

In the 1980s, Wu studied at the European Space Agency, where he stepped through the door of space science research. "Many of the partners I worked with back then have become my lifelong friends and I built up contacts for later international cooperation," he says.

In 1994, after completing his post-doctoral research in Denmark, Wu returned to work in China.

In 1997, Wu took charge of the Double Star space mission, the first space science program in China. Collaborating with the ESA's Cluster mission, the program achieved six-point coordinated measurements of the Earth's magnetosphere for the first time in human history. The joint international team won the Laureus Team Achievement Award by the International Academy of Astronautics in 2010.

Wu believes that the most important thing in the process of international cooperation is communication and trust. "Because of the differences in management style and culture, there was friction at the beginning, but it worked out later through cooperation."

In 2011, the Chinese Academy of Sciences initiated a space science project. As the then director of the National Space Science Center, under the auspices of the Chinese Academy of Sciences, Wu led the special project that has produced a series of scientific satellites, including the Dark Matter Particle Explorer, also known as Wukong, the world's first quantum satellite; Quantum Experiments at Space Scale, also known as Mozi; the Hard X-ray Modulation Telescope, as well as the Shijian-10 recoverable satellite.

"China is a big country and should contribute to human civilization. Scientific discoveries are shared by humanity, and China's breakthroughs in frontier science are the achievements of all mankind," Wu says.

He believes that international cooperation should be actively pursued in frontier science fields such as space science, because funding is limited in a single country, and cooperation can avoid duplication of investment and enable all parties to gain greater benefits.

"In space weather research, for example, no single country can obtain complete data on its own. Therefore, international cooperation is essential and indispensable," Wu adds.

His enthusiasm for international cooperation was not dampened by the ongoing COVID-19 pandemic. Last month, Wu chaired a forum on space science cooperation in the city of Taiyuan, North China's Shanxi province.

During the forum, Wu and more than 30 global scientists and management experts called for deeper space science cooperation.

According to Wu, China and other countries will cooperate extensively in the field of space science in the future.

"The Chinese space station will be open to foreign astronauts. It

“When people look back at the Earth from outer space, their perception will definitely change. They will love their planet even more, and become an advocate of building a community with a shared future.”

Wu Ji, scientist and chairman of the Chinese Society of Space Research

will be part of mankind's journey outside Earth and will contribute to building a community with a shared future for humanity," he says.

Moreover, China will also offer opportunities to carry scientific instruments of other countries on

the Chang'e-6 lunar mission and asteroid probe mission, and will jointly initiate the construction of an international lunar research station with Russia, Wu says.

"China's new scientific satellite program for 2025 to 2030 is now under discussion, and several of them will include international cooperation," he says.

Wu is now working to promote cooperation among China, the United States, Japan, Finland, Russia, Brazil, and other countries, to establish a constellation of 10 small satellites to probe the Earth's radiation belts and provide a theoretical basis for space weather forecasting.

In addition to being a scientist, Wu has another identity — science fiction writer. In his books, he envisions a future in which more people travel in space.

"When people look back at the Earth from outer space, their perception will definitely change. They will love their planet even more, and become an advocate of building a community with a shared future," he says.

XINHUA

HOLIDAYTREND

Dream of astronautics rooted in kids' hearts

Nation's achievements in astronautics fueling children's interest in the universe and space travel

By ZHANG ZHOUXIANG

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It was 9 am and long queues had formed at the Beijing Planetarium. As security staff opened the gate, people streamed in one after another.

It took effort for those people to visit the planetarium; daily visitors are limited to 7,200 and the window to buy a ticket is narrow. At 5 pm each day, the planetarium puts on sale entrance tickets for three days' time on its official WeChat account. Weekend tickets generally sell out within five minutes. Three of the parents stood in the queue said that they had set an alarm for 5 pm so as to secure tickets as quickly as possible.

As China has made one astronautic achievement after another, gaining astronautic knowledge has become increasingly popular among school pupils. Planetariums, astronautic exhibition centers and other public places where one can see related scale models are nowadays crowded with children and their parents.

Crowded exhibits

The exhibits in the Beijing Planetarium, for example, are designed in such way so that visitors can obtain knowledge logically along the way. Upon entry, there are models of the solar system, including the Sun and the eight planets, where visitors can get to know the planet where we live on and the star that we depend on for life.

Following this is an introduction to the deeper universe, where the Horsehead Nebula, the spiral galaxy and the Pleiades are printed on the wall.

Then are introductions to stars and planets outside the galaxy and some basic concepts, such as the gravitational lens that make humankind's space travel more convenient. At the China Science and Technology Museum (CSTM), there are life-size models of spaceships that enable humankind to travel into space. Visitors can go in and experience traveling among the stars. "I think I can drive a real spaceship when I am grown up, I am ready!" said Wang Chuwei, a 9-year-old boy, upon coming out of the animated driving cabin.

Elsewhere, and for a more historical perspective, there is the Ancient Observatory of Beijing, which was built in 1442 and served the Ming and Qing dynasties (1368-1911). There are eight astronomy observation devices made of bronze in the yard, plus exhibition materials of ancient astronautics in China.

"The starry night is attractive because of its infinity. Just think about the fact that there are more stars (in the universe) than if there were a 10-meter-thick layer of sand particles covering the whole surface of the Earth," said Zhou Binghong, a professor at the China Academy of Space Technology. "It is out of one's instinct to look deeply into the starry night."

Zhou also said that by popularizing astronautic science for children, those with the ability and interest can be selected to learn in that sector, thus getting the best talent working in the fierce contest of space technology. "When people realize they are working for the whole of humankind's journey into the universe, they will work with enthusiasm from the heart, which is irreplaceable," he said. "It is that enthusiasm that supports human-



Three children watch an ancient astronomy device at the Ancient Observatory on Aug 27, 2022. ZHANG ZHOUXIANG / CHINA DAILY



In December 2021, a 4-year-old boy plays an imitation flying game in an aerospace and astronautics exhibition in Beijing. PROVIDED TO CHINA DAILY

kind's development into space."

Books for young and old

Besides exhibition visits, books are another good way for children to obtain knowledge about spaceships, stars and the universe.

On domestic book and electronics sales website JD.com, there is a book series called *Seven Episodes on Astronautics*, authored by famous astronautics writer Li Mingsheng, ranking fourth on the Top 10 pop-science best-seller list. Divided into

pop-science books based in Changsha, Central China's Hunan Province, has published a First Drive Force series, including more than 50 books related to space and space-ships. They have also translated a series of books from the English language, such as *Hubble's Greatest Discoveries and Latest Images*, and *50 Years of Man in Space*, telling humanity's astronautics history.

Zou Li, a senior editor at HSTP, echoed the online comments: "Our pop-science books are for both children and their parents. With the progress of society, children gain knowledge in such a speedy way that it is increasingly common for parents to be unable to answer their questions. That's why modern pop-science books tend more to allow the parents to grow together with their children. I hope our books can serve that purpose well."

Even language-learning materials prefer to include space as their topic. *To the Moon and Beyond*, a book introducing astronautics and written in English, has more than 10,000 ratings on JD.com, making it one of the most influential English-learning books.

Unique lesson

On Dec 9, 2021, astronauts Zhai Zhigang, Wang Yaping and Ye Guangfu held their first open class aboard the Tianhe core module of the Chinese space station for pupils.

In the 50-minute online class, the three astronauts explained daily life in space, how to walk in a microgravity environment and showed the children how to recycle water, oxygen and carbon dioxide in their environment. Applause broke out among the 1,420-strong audience at the CSTM when one of the three astronauts poured out water, which formed into a perfect ball. Applause broke out again when they put an effervescent tablet into the water, which fizzed into bubbles. But the bubbles did not burst and instead stayed intact.

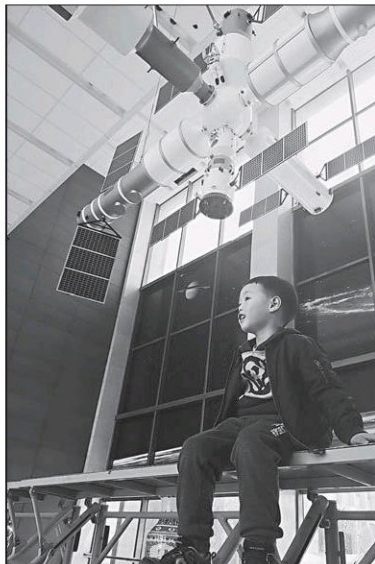
The open science lesson was broadcast live to the nation. On domestic video-sharing website bilibili.com alone, the open course was watched at least 6 million times, with more views on other platforms and TV channels.

For Shi Hao, a space specialist at China Aerospace Science and Technology Corporation, the growing desire of school pupils to pursue knowledge about space reflects the growing potential of China in exploring the universe in the future.

"I still remember how impressed I was by the launch of Shenzhou VI in September 2005, which was carried by a Long March 2F rocket into space. I also attended the speech of the crew. From then on, I have carved out the dream of pursuing my career in astronautics from the bottom of my heart," Shi said. "For many people like me, this is not only a job, but a lifelong addiction and dedication. It is of utmost importance to let Chinese youths touch astronautics during their childhood so as to sustain the building of talents."

He was echoed by Zhou, who places high hopes on the future of China's space industry. "We have a population of 1.4 billion, of which more than 200 million are pupils at school. By inspiring their enthusiasm, China will get an abundant supply of talents for the national space research team."

"Chinese people will step further in the universe and the hope lies in our children," he added.



Wang Chuwei, a 4-year-old child, sits under the model of the Chinese space station in the China Academy of Space Technology on Oct 5, 2018. PROVIDED TO CHINA DAILY

Flying to the Space Port: Going out of the Earth Village, China's New Long March and four other books, the series tells stories about Chinese people's steps into space. "My child likes it," said one of the more than 900 likes with comments.

"I like it, too, because never before had we ordinary people known so much about our nation's history of exploring space. Parents can read it together with children," said another. Huanan Science & Technology Press, a publishing house featuring