

MANOHAR PARRIKAR INSTITUTE FOR DEFENCE STUDIES AND ANALYSES मनोहर पर्रिकर रक्षा अध्ययन एवं विश्लेषण संस्थान

# CHINA Science and technology Review

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## China-AfricaScienceandTechnology Cooperation

In a major leap in science and technology (S&T) cooperation between China and Africa, several important agreements were signed during the 9<sup>th</sup> Ministerial Conference of the Forum on China-Africa Cooperation (FOCAC) held in Beijing from 4 to 6 September. The two sides jointly formulated and adopted a Forum on China-Africa Cooperation Beijing Action Plan (2025-2027) after mutual consensus was reached.

With reference to S&T, the Chinese government is expected to support Africa in the next three years across a variety of sectors including implementing the Belt and Road Action Plan for Science and Technology Innovation and the China-Africa Science and Technology Partnership Program 2.0, development of joint laboratories, technology transfer and S&T Park. Further, China assured that it would continue to hold the China-Africa Beidou Cooperation Forum, where the Beidou Satellite Navigation System will play a major role in agriculture, transportation and other areas. It also agreed to implement the "China-Africa Universities 100 Cooperation Plan" in collaboration with the UNESCO to strengthen exchanges and cooperation in scientific fields between Chinese and African universities. To address food security, China will establish a China-Africa Agricultural Science and Technology Innovation Alliance.

#### **Scientific Collaboration Projects**

A milestone of collaboration for the construction of an International Lunar

Research Station (ILRS) was achieved at the 2<sup>nd</sup> International Deep Space Exploration Conference in Huangshan, Anhui Province, East China. In the conference, 10 new international institutions signed a Memorandum of Understanding (MoU) with China Deep Exploration the Space Laboratory. Launched in 2017 by China National Space Administration, ILRS is a scientific experimental facility designed for long-term robotic operations with short-term human participation on the moon. To date, over 40 institutions from across the world have signed MoU with China.

Wu Weiren, Director and Chief Scientist of the Deep Space Exploration Lab stated that ILRS subscribes to the "principles of mutual consultation, joint construction and shared benefits to foster collaborative efforts with global partners." The ILRS project will be implemented in two phases. In the first phase, it will solely focus on building basic facilities in the lunar South Pole region by 2035 and in the second phase, it will establish a network connecting the moon's South Pole, equator and far side by 2050.

National Space Science Center of Chinese Academy of Sciences and the European Space Agency completed a landmark collaborative project on a space mission called <u>Solar wind Magnetosphere</u> <u>Ionosphere Link Explorer</u> (SMILE). The <u>objective of project SMILE</u>, a satellite, is to explore the large scale structures and fundamental patterns of solar winds, and is expected to make an important contribution, particularly regarding the understanding of the physical processes of interaction between the solar wind and the magnetosphere. The SMILE is scheduled for launch by the end of 2025 from the Europe Space launch site in Kourou, French Guiana.

## Scientific Research Breakthroughs and Discoveries

A research collaboration between Australian National University (ANU) and the University of Chinese Academy of Sciences discovered a type of iron-rich magma entombed within extinct volcanoes, likely abundant with rare earth elements that can help in meeting iron demand. <u>Dr.</u> <u>Michael Anenburg</u> from ANU specified that iron-rich magma found in extinct volcanoes is hundred times more efficient at concentrating rare earth metals than active volcanoes.

During a medical plant inventory in Southwest China Guizhou Province, a research team from Xishuangbanna Tropical Botanical Garden of Chinese Academy of Sciences discovered a new frimoss species, later named 'Huperzia crassifolia'. A substance found in the species has been proven to be very effective in the treatment of Alzheimer's disease. According to Liu Hongmei, the lead research team, the new species grows only in Guizhou, Hubei, Hunan and Chongqing in China. Meanwhile, it also proposed its conservation status as 'Endangered' to the International Union for Conservation of Nature because, given the fact it has medicinal value, Huperzia crassifolia is at risk of being over collected, which may make it vulnerable to extinction.

#### **China Science Diplomacy**

<u>The second China-EU</u> science and technology management personnel exchange

program was organised on 23 September in Beijing. It confirmed that 14 European countries will carry out exchange activities in Beijing, Anhui and Shanghai. Vice Minister of Chinese Ministry of Science and Technology Chen Jiachang, deliberating at the event, assured the audience that China "adheres to the basic national policy of opening up to the outside world" and is willing to strengthen scientific cooperation with European countries.

The <u>15<sup>th</sup> China-Singapore</u> Intergovernmental Joint Committee on Science and Technology Cooperation was held in Singapore on 24 September. The meeting was co-chaired by Qiu Yong, Vice Minister of Chinese Ministry of Science and Technology and Lin Huaen, President-elect of the National Research Foundation of Singapore. Both sides exchanged views on the progress of joint research in science and technology and announced several flagship projects.

On 24 September the 4<sup>th</sup> meeting of China-Malta Joint Committee on Science and Technology was held in Beijing, led by Dai Director of the Gang, International Cooperation Department of the Chinese Ministry of Science and Technology and Silvio Scerri, CEO of the Malta Council for Science and Technology. In the meeting both sides exchanged ideas on future technological innovation, joint funding of scientific research projects and exchange of scientific researchers.