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Sci-tech Ties Nurture China-Serbia Ironclad Friendship

By BI Weizi & LONG Yun

China and Serbia, both recognized as global centers of origin for functional plants, have joined forces to protect endangered botanical resources and advance rural development.

Against the backdrop of biodiversity loss driven by climate change and human activity, a China-Serbia collaboration originally launched as a research project has grown into a full-spectrum partnership encompassing technology transfer, poverty alleviation and sustainable agriculture. This "small yet smart" model of cooperation embodies the shared vision of building a community with a shared future for mankind.

Joint conservation and utilization of endemic functional plants

This scientific collaboration took root during an international training program in 2019, when researchers from the Institute of Vegetables and Flowers (IVF), Chinese Academy of Agricultural Sciences (CAAS), conducted academic exchanges with Dr. Željana Prijić, principal research fellow at the Institute for Medicinal Plants Research "Dr. Josif Pančić" in Belgrade. Subsequently, the two institutions signed cooperation agreements on resource sharing and academic communication, laying a solid foundation for subsequent joint research.

In 2020, the two sides jointly applied for the national key R&D international cooperation project, focusing on the conservation and efficient utilization of endangered functional plant resources endemic to China and Serbia. Centering on Paeniaceae and Asteraceae resources, the team has achieved fruitful outcomes.

According to Xue Jingqi, a researcher at IVF, they have collected and preserved 65 valuable plant resources, built 120 mu (eight hectares) of resource nurseries, and planted over 50,000 seedlings with optimized seed breeding and tissue culture technologies.

They have also compiled a survival risk report on endemic functional plants, solving key technical bottlenecks including low propagation coefficient and slow industrial promotion of new varieties.

In addition, the cooperation has produced seven academic papers, two authorized new plant varieties and two national invention patents, forming a replicable technical path for transboundary plant resource protection and utilization.

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The three astronauts aboard China's Shenzhou-23 spaceship entered the Tiangong space station and met with another astronaut on Monday, starting a new round of in-orbit crew handover. This image captured at Beijing Aerospace Control Center shows a group picture of the crew of Shenzhou-21 and Shenzhou-23 spaceships on May 25, 2026. (PHOTO: XINHUA)

STI Frontier

Xuelong 2 Maps Rare Antarctic Marine Secrets

By BI Weizi & BI Wenting

China's polar icebreaker, Xuelong 2, also known as Snow Dragon 2, has officially completed the country's 42nd expedition to the Antarctic, achieving several breakthroughs in technological innovation and international cooperation, along with large-scale application of domestically-developed polar equipment.

Antarctic Ocean health checkup

During its summer oceanographic survey, Xuelong 2 focused on two key regions: the waters adjacent to the Antarctic Peninsula and the Cosmonaut Sea. In just 32 days, the team conducted a thorough, multidisciplinary survey across six transects and 38 stations, ensuring comprehensive coverage of the water column, sediments and other environmental factors.

As key species within the Antarctic

ecosystem, Antarctic krill and mesopelagic fish (deep-sea marine species), serve as both food sources for predators and "indicators" of climate change. The expedition team conducted multiple trawling operations, cumulatively capturing over 1,000 krill and nearly 900 fish, including Antarctic lanternfish. This provided crucial support for research into the structure of the Antarctic ecosystem and the mechanisms of climate adaptation.

Furthermore, in the basin and continental slope regions of the Cosmonaut Sea, the team successfully retrieved two high-quality sediment cores with a combined length of approximately seven meters. Cao Shunan, leader of the expedition's Ocean Team, said: "These columnar sediment cores allow researchers to directly obtain invaluable geological records of two typical ventilation scenarios in the

Southern Ocean. This enables them to decipher the complete intrusion process of Circumpolar Deep Water — warm water found in the ocean depths — as it upwells from the ocean basin. This preserves a precious geological archive for forecasting global climate change trends."

Autumn-winter scientific research

In March, Prydz Bay in Antarctica entered the transitional period between autumn and winter. After completing the autumn voyage in the Ross Sea during China's 41st Antarctic Expedition, China broke through seasonal constraints once again by launching the 2026 Joint Antarctic Expedition to Prydz Bay (hereinafter referred to as the Joint Expedition).

The Joint Expedition brought together 97 scientific researchers from 19 research institutions across six nations, including Australia and the United States.

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Tau Scaling Law: New Semiconductor Evolution Path

By Staff Reporters

Huawei has proposed a revolutionary semiconductor evolution paradigm called the "τ (Tau) Law," shifting the industry's focus from transistor size to system time cost.

The law, announced at the 2026 IEEE International Symposium on Circuits and Systems on May 25, aims to sustain performance gains by systematically compressing "time costs" across devices, circuits, chips and software. It offers a practical route beyond the physical limits of Moore's Law.

From geometric to time scaling

According to Moore's Law, proposed by Intel's co-founder Gordon Moore in 1965, more transistors delivered in the same area of integrated circuit can drive

performance increases and cost reductions.

Unlike Moore's Law, which relies on shrinking transistor dimensions (geometric scaling), the Tau Law introduces τ scaling (time scaling), redefining semiconductor progress: the primary metric is no longer how small a transistor can be, but how fast the system responds.

"The core breakthrough is reconstructing the semiconductor industry's 50-year evolution path," Zhou Jianjun, a professor at Shanghai Jiao Tong University's School of Integrated Circuits, told *Science and Technology Daily*. Instead of focusing solely on making transistors smaller, the new law pursues full-dimensional optimization with the time constant τ as the core physical anchor.

The improvement of chip perfor-

mance will no longer rely solely on more advanced manufacturing processes. It can also be achieved by reducing time delay, including signal propagation, memory access, interconnection and synchronization latency, said He Tingbo, president of Huawei's Semiconductor Business.

How it works

Huawei has already implemented the law through practical engineering methods. The key technique is "logic folding," which vertically stacks digital, analog and memory circuits in three-dimensional space. This shortens critical signal paths and reduces interconnect delays, achieving a coordinated optimization of performance, power and area.

The approach has been validated in mass production.

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International Cooperation

From Earth to Space: China-Pakistan Ties Expand

By LU Zijian

As China and Pakistan celebrate the 75th anniversary of their diplomatic relations this year, bilateral sci-tech cooperation is reaching new heights, with a Pakistani astronaut scheduled to join a mission to China's space station.

The two countries have made substantial achievements in sci-tech cooperation under various mechanisms, especially the China-Pakistan Economic Corridor, a flagship project under the Belt and Road Initiative.

Space cooperation reaches new heights

Aerospace is a key area for sci-tech cooperation. At a recent press conference, it was announced that two Pakistani astronauts are participating in training with Chinese taikonauts, and one of them will undertake a short-term mission to China's space station as a payload specialist.

One month ago, China launched a Pakistani satellite, PRSC-EO3, from the Taiyuan Satellite Launch Center in northern Shanxi province. The launch marked the third mission supporting the PRSC-EO satellite constellation.

The latest developments are part of a long-standing partnership in space. Pakistan's first satellite Badr-1 was launched via China's Long March 2E rocket in 1990.

In 2023, Pakistan joined the International Lunar Research Station project initiated by China. In 2024, the Pakistani satellite ICUBE-Q, jointly developed by Pakistan's Institute of Space Technology and China's Shanghai Jiao Tong University, was launched into space as part of the Chang'e-6 mission and successfully captured images of the moon, marking Pakistan's first lunar exploration mission.

Cooperation benefits communities on ground

While space cooperation often attracts the most public attention, bilateral sci-tech collaboration has also delivered tangible benefits on the ground, particularly in disaster prevention and mitigation.

Developed by China Meteorological Administration (CMA), the "MAZU" early warning system, a cloud-based meteorological system designed to help countries better broadcast extreme weather, is deployed in Pakistan.

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WEEKLY REVIEW

Bridge with Four World Records Closed

On May 27, the Shituo Yangtze River Bridge — a key control project of the newly constructed Chongqing-Wanzhou High-Speed Railway — was successfully closed. This bridge holds four world records, including the world's tallest twin-tower structure (Tower 6 stands at 253 meters), and the world's first road-rail combined bridge with twin towers.

Asia's First 10-year Roadmap for Synthetic Cells Published

Led by a researcher at the Shenzhen Institutes of Advanced Technology of the Chinese Academy of Sciences, a group of international scholars recently published Asia's first 10-year roadmap for synthetic cells in the journal *Nature Biotechnology*. This will set new scientific benchmarks for synthetic cell research over the next decade.

Europe Advances Plans for Future Circular Collider

European physicists are planning a 91-kilometer particle accelerator, the Future Circular Collider, which would be the largest of its kind if built. The project, estimated to cost €15-20 billion, would succeed the Large Hadron Collider era at CERN, the European Organization for Nuclear Research, and initially collide electrons with positrons.

NASA's Psyche Spacecraft Completes Mars Gravity Assist Flyby

NASA's Psyche spacecraft recently completed a Mars gravity-assist flyby, gaining additional velocity without using propellant, as it continues its journey toward the metal-rich asteroid Psyche. It is expected to arrive there in 2029.

New Graphic

By the end of April 2026

THE NUMBER OF CHINA'S EV CHARGING FACILITIES

21.955 million

▲ 47.4% Y-O-Y

Public Charging Facilities

▲ 29.6% Y-O-Y

Source: National Energy Administration
Designed by SONG Ziyao / Science and Technology Daily

WECHAT ACCOUNT



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