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MOST Launches Reform on Science Journals

To maintain academic integrity, the Ministry of Science and Technology (MOST) of China launched a special campaign, particularly on the retraction of papers by Chinese scholars in natural sciences disciplines published in international peer-review journals. In the latest campaign, the MOST announced that it will seriously investigate and deal with suspected plagiarism, fabrication of data or images, buying and selling of papers and fabrication of peer reviewers and opinions. Further, it announced that the results would be publicised to strengthen the deterrent effect. Serious research misconduct would be recorded in a database of serious research misconduct in accordance with laws and regulations, supporting relevant departments in carrying out disciplinary actions against such misconduct in project applications, academician elections, and science and technology awards.

Despite China's commendable advances in natural sciences, recent reports indicate that several scientific papers by Chinese scholars have been retracted from renowned international peer-reviewed journals. For instance, a report by *Nature* in 2024 reveals that nearly 8,200 co-authored papers in China have been retracted.

Scientific Collaboration Projects

The Chinese Academy of Sciences (CAS) launched an international research program on fusion burning plasma or 'Artificial Sun' i.e. the Burning Plasma Experimental Superconducting Tokamak (BEST) in Hefei, Anhui province on 24 November. At the launch ceremony, fusion scientists from more than 10 countries including France, the United Kingdom and Germany signed and released the 'Hefei Fusion Declaration' to encourage researchers worldwide to join in fusion research in China. According to the plan, the facility will be completed by the end of 2027 and will target 20-200 MW of fusion power to demonstrate fusion-based electricity generation.

Nuclear fusion, which mimics the sun's fusion process to generate energy, has been acclaimed as the ultimate clean energy source. In recent years, China's fusion research has accelerated, repeatedly breaking world records. As China's new 'artificial sun', the BEST device aims to burn plasma to achieve a net energy gain. Song Yuntao, Vice President of the Hefei Institutes of Physical Science, stated that "the new international program draws on China's superconducting tokamak strengths and brings global expertise together to address the frontiers of fusion-burning physics."

In an effort to conserve biodiversity in a fragile region of the Pamir Mountains, a team of biologists from the Xinjiang Institute of Ecology and Geography (XIEG) of the Chinese Academy of Sciences and the Pamir Biological Institute in Khorog, Tajikistan have successfully completed a two-week mission to digitize its invaluable herbarium collection. In the backdrop of the

successful mission, Prof. Li Wenjun, Head of the Herbarium, the XIEG, stated that "the collaboration is about more than just digitization", but also unlocks the potential of specimens in advancing the understanding of plant life in the region. Making this data accessible will empower scientists and conservationists to make informed decisions about the future of the Pamir biodiversity.

The Pamir Biological Institute, a vital research centre since 1969, houses a unique collection of plants, many of which are rare, endangered, and endemic to the high-altitude Pamir Plateau. These specimens provide a crucial baseline for understanding the region's biodiversity and monitoring the impacts of climate change.

Scientific Research Breakthroughs and Discoveries

A research team from the Guangzhou Institute of Geochemistry of the Chinese Academy of Sciences achieved a milestone through phytomining, a green technique that uses hyperaccumulator plants to extract metals from soil, paving the way to a potential solution to environmental challenges found in traditional rare-earth mining. A team led by Zhu Jianxi found that the edible fern species *Blechnum orientale* contains high concentration of rare-earth elements and observed that such elements crystalized within extracellular tissues under ambient conditions, forming a dendritic, nanoscale monazite through mineralization coupled with self-organization. Rare-earth elements, known as the 'vitamins of industry', are indispensable strategic resources for high-tech fields such as artificial intelligence, new energy and national defence. However, their supply faces environmental and geopolitical challenges. With the discovery of rare-earth biomineralization in ferns, a cleaner and more sustainable method of extracting rare-earth elements could well be in sight.

China Science Diplomacy

The 11th UK-China Joint Commission Meeting on Science and Technology was held in Beijing, China on 11 November 2025. The meeting was co-chaired by China's Vice-Minister for Science and Technology Chen Jiachang and the UK Minister of State for Science, Research and Innovation Lord Vallance. Representatives from the Ministry of Science and Technology, the Ministry of Ecology and Environment, the Ministry of Agriculture and Rural Affairs, the National Health Commission, the Chinese Academy of Sciences, the Chinese Academy of Engineering, the National Natural Science Foundation of China, the UK Department for Science, Innovation and Technology, UK Research and Innovation, the Royal Society and the Royal Academy of Engineering Universities UK attended the meeting.

In the meeting, both sides recognised that international collaboration is key to solving the greatest global challenges. Later, in a

joint statement, research collaboration between UK Research and Innovation and the China National Natural Science Foundation was declared on shared priority sectors i.e. climate change and environment; planetary sciences and astronomy; health and agriculture; and food research. On data and intellectual property, both sides agreed that domestic laws and regulations must be respected in Sino-UK scientific and technological cooperation.

The 14th edition of the China-Italy Innovation Cooperation Week was held from November 13 to 15, 2025, in the cities of Beijing and Hangzhou. The objective of the week-long event was to consolidate innovation in science and technology between the two countries. In his inaugural remarks, Chinese Minister of Science and Technology Yin Hejun assured that China would continue to expand its high-level cooperation on R&D in science programmes with Italy and deepen scientific and technological collaboration between China and Italy. Also, Italian Minister of Universities and Research Anna Maria Bernini underscored the crucial role of science and technology innovation in achieving the UN 2030 Sustainable Development Goals and expressed hope that China and Italy would advance cooperation in areas of common interest, such as climate change mitigation, biodiversity conservation, marine and polar science, advanced manufacturing, and cultural heritage research.

The China-Italy Innovation Cooperation Week, an important platform for scientific and technological exchanges between the two countries, has seen its influence continuously grow since its inception in 2010. It has become a signature event for bilateral cooperation, effectively promoting the connection of innovation resources and practical cooperation between enterprises, research institutes, and universities in both countries.

Meanwhile, on 13 November the 2025 Sino-Italian University Presidents' Dialogue was held in Beijing. More than 60 higher education institutions in China and Italy attended. In the presence of Chinese Education Minister Huai Jinpeng and Italian Minister of University and Research Anna Maria Bernini, a joint statement was released and 16 Memoranda of Understanding were signed.