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- **China Launches Action Plan for Academic Reform**
- **China Unveils World First AI Robot for Crop Breeding**
- **Scientific Collaboration Projects**
- **Scientific Research Breakthroughs and Discoveries**
- **China Science Diplomacy**

China Launches Action Plan for Academic Reform

Prepared by the Leading Group on Education Matters (LGEM) under the Central Committee of CPC, the Chinese Ministry of Education on 28 August issued an academic reform plan called the "Action Plan for the Adjustment and Optimization of Academic Disciplines and Majors (2025-2027)." The overall objective of the action plan is to reform the curriculum in higher education in line with national strategic needs, targeting national economic development and future industries and strengthening the role of artificial intelligence.

The action plan mandates an advancement of basic disciplines, where existing disciplines will be adjusted through warning and corrective measures according to social demand; decline in quality or inadequate resources; strengthening emerging industries driven by frontier technologies; boosting interdisciplinary integration; upgrading educational content to incorporate AI tools; supporting teacher capacity-building; and enhancing innovation-oriented talent cultivation platforms.

Earlier in 2023, when Chinese Ministry of Education announced reforms, several universities and colleges scrapped nearly 90 degree programs which failed to provide real value for economic development. For instance, in Sichuan University 31 major subjects including music, television studies, e-commerce and nuclear physics were discontinued. Interestingly, in a report by ScienceNet.cn in 2024, it was underlined that in terms of academic discipline in China between 2018 and 2022, engineering and management programs were the highest being phased out due to challenges like career advancement and low job satisfaction among the graduates which can affect market competitiveness. In contrast, history, philosophy and medicine have faced fewer program closures in Chinese universities. On the other hand, a total of 120 universities are preparing to add a low-altitude technology and engineering major in 2026, where it is expected to be one of the most popular academic subjects.

China Unveils World First AI Robot for Crop Breeding

The Institute of Genetics and Developmental Biology (IGDB) of the Chinese Academy of Sciences (CAS) unveiled the world's first robot to conduct full-process breeding, highlighting a deep integration of biotechnology and AI technologies in the agricultural intelligent breeding sector. The name of the new AI-based robot model is GEAIR. Xu Cao, a researcher at IGBD, stated that this breakthrough offers vast opportunities in shifting hybrid breeding toward precision agriculture to enhance crop yields, reduce costs and promote sustainable practices and also breeding process. Through AI visual recognition and positioning technologies, GEAIR is able to accurately move among crops to perform cross-pollination operations, thereby enhancing breeding efficiency.

Meanwhile, under the theme "Making Robots Smarter, Embodied Agents More Intelligent", the 10th edition of the World Robot Conference (WRC) was held in Beijing from 8-12 August. The major highlight of the 10th edition was showcasing "Humanoid robots". 50 leading full-body humanoid robot manufacturers exhibited their latest products, the highest number of such exhibitors among similar events. During the five day conference, more than 1,500 cutting-edge products from about 200 domestic and international robotics companies including ABB, Festo, Estun, Unitree, Galbot, and CITIC Heavy Industries participated, an increase of 25 percent from the previous edition.

In his opening remarks at the conference, Wang Gang, President of the China Association for Science and Technology (CAST), specified that China has remained committed to the strategic goal of "empowering the real economy and supporting social development" in robotic science and technology innovation and will continue to invest in basic research and build collaborative innovation. Also, Xin Guobin, China's Vice Minister of Industry and Information Technology called on the participant members to pursue joint collaboration in robotic industries in order to drive development forward.

It is to be noted that in a report by International Federation of Robotics (IFR) in 2024, China recorded 470 robots per 10,000 employees in 2023, up from 402 in 2022. This figure surpasses Germany's 429 and Japan's 419, positioning China as third globally in robot density after South Korea and Singapore. In 2023, China accounted for 51 percent of global industrial robot installations, with 276,288 units deployed, slightly below the record of 290,144 units set in 2022. These figures highlight China's dominance as the world's largest robotics market.

Scientific Collaboration projects

At the 3rd International Conference on Biodiversity Conservation and Sustainable Use in Arid Land from 7-8 August in Kashgar, Xinjiang Uyghur Autonomous Region, an agreement was reached whereby the Xinjiang Institute of Ecology and Geography of Chinese Academy of Sciences will collaborate with major research institutions across Central Asia and West Asia for establishing a multilingual plant diversity database for Central Asia's arid zones designed to bridge a key gaps in biodiversity. The database will integrate Chinese, English and Russian language to create an open-access platform for plant diversity data and support cross-disciplinary research and the visualization of biodiversity patterns. At the conference more than 100 experts from 21 countries from Central Asia, EU member states, the United States, Pakistan and Nepal were assembled and exchanged in-depth views on the mechanism for conserving biodiversity.

Scientific Research Breakthroughs and Discoveries

The Aerospace Information Research Institute of Chinese Academy of Sciences in collaboration with Harbin Medical University made a breakthrough in brain-

computer interface (BCI) technology. In its first clinical trial, it precisely located a deep-seated brain tumour by using an implanted microelectrode array. Wang Mixia, Associate Researcher at Aerospace Information Research Institute, explains that the core innovation lies in the BCI device called "NeuroDepth" which provides navigation for tumour boundary detection, thereby enabling an accurate resection.

With this breakthrough, China has achieved a series of milestones in the field of brain-computer interface technology, bringing new hope to patients with neurological disorders. Earlier, a research team from Nankai University in Tianjin made the world first interventional BCI trail to assist with the restoration of motor function in patients' affected limbs.

China Science Diplomacy

In order to advance engineering collaboration, the Institution of Engineers, Malaysia (IEM) held a meeting on 12 August with the Chinese Society of Engineers (CSE) in Huzhou, China. The IEM delegation was led by Jeffrey Chiang Choong Luin, President of IEM, and the CSE was represented by Luo Hui, Director General for International Affairs of CAST, Vice Chairperson, and Joint Secretary-General of CSE. In the meeting, both sides exchanged insights on the issues of the development of engineering organizations, evaluation of engineering capabilities and continuous professional development for engineers, capacity building for young engineers and the role of engineering organizations in promoting sustainable development. Both sides also agreed to plan for future collaboration in AI-enabled green development.

The 2025 edition of the China-Central Asia Scientific and Humanity Exchange Program was held in Urumqi from 20-25 August. The objective of the program was to deepen research ties along its modern Silk Road. Members from the National Academy of Sciences of Tajikistan, International Center of Scientific Cooperation of Kazakhstan, Kyrgyz State Technical University and The Chinese Society of Engineers participated in the event, where an MoU was signed to expand joint science-communication programs. Also, the Chinese Society of Engineers and the Central Asian Association for Accreditation of Education (CAAAE) agreed to share Chinese engineering resources and sustainability training with Central Asian peers.