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China Releases Ethical Guidelines for AI Medical Research

The Chinese Ministry of Science and Technology [released](#) the Ethical Guidelines for Artificial Intelligence (AI) Medical Imaging Research on 27 August. The guidelines aim to regulate algorithm research, technology development, clinical validation and translation in AI medical imaging, mitigate ethical risks and promote responsible innovation.

The guidelines set out six core principles for AI medical imaging research: advancing human welfare, promoting fairness and justice, respecting human subjectivity, protecting privacy and data security, ensuring safety and controllability and enhancing transparency and trustworthiness. For privacy and data security, the guidelines call for mechanisms for data authorisation and consent withdrawal to prevent unauthorised access and leaks.

The guidelines lay down tiered requirements – general, specific, and ethics-review-focused – to provide targeted and practical rules suited to the complexity and diversity of AI medical imaging applications.

For the research process, the document specifies rules on legal compliance, informed consent, accountability and conflict-of-interest management. It also clarifies when informed consent may be

waived and calls for a collaborative system to clarify the roles of researchers, medical institutes, technology companies and regulators.

Meanwhile, the Chinese Ministry of Industry and Information Technology (MIIT) has [announced](#) that it has formulated nearly 200 key standards for AI to steer the sector towards sound and orderly development. During a press conference, Xi Guobin, Vice Minister of the MIIT, said AI has been largely integrated across the entire chain in China, from research and development and design to production, manufacturing and quality inspection. Consequently, to maintain transparency, multiple cities are reviewing AI ethics and service practices.

Scientific Research Collaboration Projects

One of the main foci that drew international attention at the 17th session of the Conference of the Parties (COP17) on the United Nations Convention to Combat Desertification (UNCCD) [held](#) in Ulaanbaatar, Mongolia, from 17-29 August was China's successful decades-long effort to combat desertification, making it the first country to achieve zero net land degradation. A typical [example](#) is the management of the Taklamakan Desert, where China has planted an astonishing 66 billion trees since 1978 and plans to plant another 34 billion by 2050.

One study found that planted trees grow 66% faster than their natural counterparts, and they appear to grow more intensely at higher carbon dioxide levels.

Against the backdrop of China's success in combating desertification, the National Forestry and Grassland Administration [announced](#) a five-year action plan to deepen cooperation on drought, desertification and land degradation, with a strong focus on joint research, technology sharing and capacity building with Arab states. Under the plan, the two sides will step up practical cooperation in areas including restoring desertified and degraded land; monitoring sand and dust storms and issuing early warnings; protecting grasslands and promoting sustainable use; and conserving and restoring wetlands. It will also step up practical cooperation in areas including restoring desertified and degraded land; monitoring sand and dust storms and issuing early warnings; protecting grasslands and promoting sustainable use; conserving biodiversity; and protecting and restoring wetlands. The plan also called for strengthening the China-Arab desertification-control network, improving mechanisms for sharing policies, technologies and research outcomes, and expanding partnerships under the Belt and Road Initiative. Governments, research institutions, businesses, social

organisations and local communities will be encouraged to take part.

Meanwhile, on the sidelines of the 17th session of COP17, the China-initiated Alliance of National and International Science Organisations for the Belt and Road Regions (ANSO) [launched](#) a major initiative targeting fragile dryland ecosystems, stressing global cooperation and science-driven solutions to combat desertification. ANSO warned that rapid land degradation threatens global food, water, and ecological security. It urged five key steps: deepening global cooperation, strengthening science-led governance, boosting AI innovation, engaging local youth and securing fresh funding for green technology.

Scientific Research Breakthroughs and Discoveries

Scientists from the Shenyang Institute of Automation (SIACAS) have [developed](#) a tiny, manta ray-like robot powered by real bullfrog muscle. This groundbreaking invention represents a significant step in bio-inspired robotics. Assessing its performance and capabilities, the robot demonstrates remarkable agility and speed for its size, as it can swim straight, turn left or right, cruise in circles and perform U-turns, with an average speed of 0.54 body lengths per second (approximately 2.7 cm/s), a top speed of 2 body lengths per second and can complete a full circle in

just 17 seconds. It can carry small loads of up to 5 grams. Potential applications include monitoring shallow-water environments and observing aquatic life without disturbance, as well as medical uses such as repairing nerve-damaged muscles or improving lab systems for tissue growth.

Chinese researchers from the Technology and Engineering Centre for Space Utilisation (CSU) of the Chinese Academy of Sciences have [completed](#) a two-way high-speed laser communications test between Earth and the Moon. This achievement, verified after over a year of in-orbit testing, establishes a laser link across more than 400,000 km, expanding China's space laser communications capabilities from near-Earth orbit to deep space. One major aspect of this breakthrough is that laser communications offer faster speeds, greater bandwidth, enhanced security, and more compact hardware compared to traditional microwave communications, which is critical for future lunar exploration, including manned lunar landings and research station construction, which will generate massive volumes of data that traditional communication methods cannot support.

China Science Diplomacy

Based on the theme, “Building for Resilience, Innovation, Cooperation and

Sustainability”, the 14th BRICS Science Ministerial Meeting on Science, Technology and Innovation was held in Chennai on 21 August. The member states [adopted](#) a joint Declaration, called ‘The Chennai Consensus’, emphasising sustainable development, resilient and high-quality growth, social inclusiveness and the use of innovation and technology to improve the welfare and quality of life of people across BRICS nations.

One major outcome of the meeting is collaboration on research infrastructure and mega-science projects, with action plans in progress to provide a practical framework for greater access to research infrastructure, joint research, advanced technology, researcher mobility and capacity building, including the BRICS Global Research Advanced Infrastructure Network (BRICS GRAIN). It also agreed to collaborate on quantum technologies and encouraged practical engagement and joint research with research institutions.