

Guideline for Responsible Research Updated

Policy

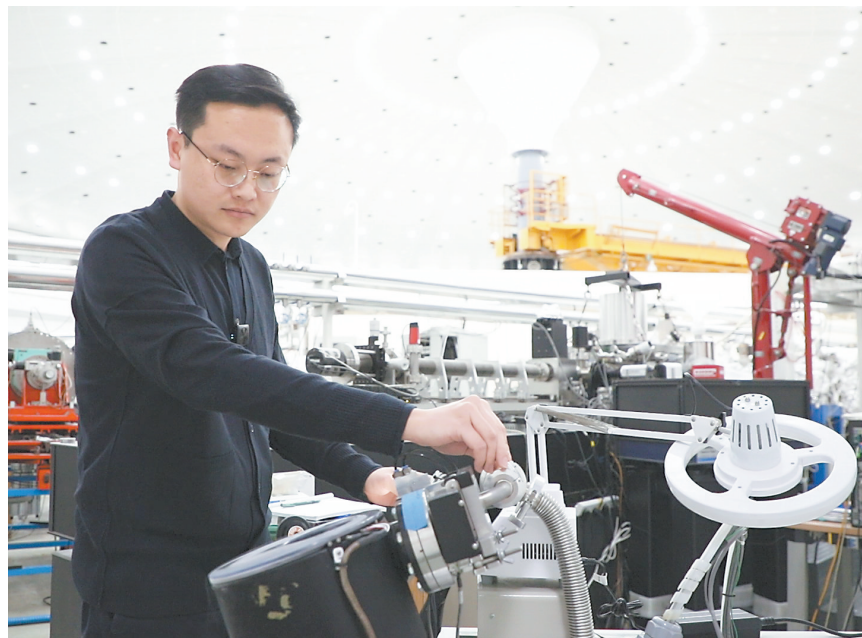
By ZHONG Jianli

China's Ministry of Science and Technology (MOST) recently released the 2023 version of the guideline for responsible conduct of research, providing a set of scientific and ethical norms for researchers and institutes.

The guideline, developed by MOST's Department of Supervision and Scientific Integrity, covers 11 aspects including research topics and implementation, data management, attribution of results, peer review, ethical review and regulatory supervision.

It says researchers should emphasize a problem-solving approach, comply with ethical requirements and technological security regulations, and avoid simple duplication or low-level research.

For research output, the disclosure of research breakthroughs and significant progress should be approved by the research entities. Research results that have not been scientifically validated or



A researcher prepares experimental samples at the National Synchrotron Radiation Laboratory of the University of Science and Technology of China. (PHOTO: XINHUA)

peer-reviewed should not be disseminated to the public.

Scientific activities involving human participants and experimental ani-

mals or activities with potential ethical risks in areas such as life and health, ecological environment, public order and sustainable development must un-

dergo technological ethics review according to regulations.

Activities related to urgent public events or emergency states must adhere to emergency technological ethics review procedures and related requirements. Under no circumstances should emergency situations be exploited to bypass or lower technological ethics review standards.

With the rapid development of AI, new opportunities and changes have emerged in scientific research, bringing forth new issues concerning research data processing and intellectual property ownership.

To address this, the guideline outlines clear boundaries, stipulating that generative AI should not be used to directly generate materials for project application, nor be listed as a collaborator in the completion of results, or used to directly produce unverified literature.

For international sci-tech exchanges and collaborations that require data provision, approval procedures have to be followed and legal requirements have to be met.

Green Book: Digital Tech Key for Low-carbon Transition

By ZHONG Jianli

The nine years from 2015 to 2023 were the hottest on record globally, and it is anticipated that the next five years will continue setting new temperature highs.

This was stated by Chen Zhenlin, administrator of the China Meteorological Administration (CMA), at the launch of the annual report on actions to address climate change, in Beijing on last December 29.

The report, the *Green Book of Climate Change 2023: Working Actively and Prudently toward Carbon Peaking and Carbon Neutrality*, was released by the Climate Change Economics Simulation Joint Laboratory of the Chinese Academy of Social Sciences (CASS) and CMA, in collaboration with the Social Sciences Academic Press (China).

Wang Changlin, CASS vice president, said with extreme climate changes escalating worldwide, it is imperative for humans to join hands to address this pressing issue. Achieving the targets of carbon peaking and neutrality requires following the global trend of green and low-carbon transition, as well as taking a steadfast problem-solving approach to promote the integrated development of natural and social sciences, Wang added.

China has made steady progress in achieving its targets of carbon peaking and neutrality. It has set up a "1+N" policy system and improved it, guiding localities, cities, industries, enterprises and people to contribute to the targets.

The *Green Book* pointed out that

low-carbon transition is the inevitable path for humans to scientifically address climate change and achieve sustainable development, with digital technology exerting a "multiplier effect" in facilitating low-carbon transition.

Through the development of digital technology, plant cultivation techniques will be optimized, the efficiency of power grids will be maximized, and the utilization of renewable energy will be expanded.

The report also indicated that in the process of carbon neutrality, innovation and development of clean energy technologies have become the focal point of global technological competition.

Research shows that to realize carbon neutrality target, energy transformation in five major industries — electric power, road transportation, steel, hydrogen and agriculture — is expected to accelerate, which calls for greater innovation and investment in clean energy technologies.



The Green Book of Climate Change 2023 is published. (COURTESY PHOTO)

Joint Mechanism Established for Disease Prevention, Control

By CHEN Chunyou

The State Council has issued a guideline to promote the high-quality development of disease prevention and control on December 27, 2023.

The objective of this guideline is to establish a multi-departmental and cross-regional joint prevention and control mechanism by 2030. The mechanism aims to coordinate the resources of various specialized medical institutions and grassroots medical and health institutions, to establish a unified and efficient

infectious disease monitoring and emergency command system.

The Chinese Academy of Preventive Medicine, along with related provincial academies of preventive medicine and medical institutions of infectious diseases, will play a leading role in building key platforms and laboratories. These initiatives seek to enhance the capacity for sci-tech innovation in disease control, and the transformation and application of research results.

Centers for disease control and prevention are encouraged to build coopera-

tive platforms with medical institutions, universities, research institutes and enterprises, so as to take full advantage of each other's resources.

Meanwhile, the academies in preventive medicine are expected to enhance their public health innovation capacity, and build a research base for infectious disease prevention and control, with a focus on strengthening research in prevention and control strategies and measures for major diseases and health hazards, as well as key technologies and equipment.

The related departments and institutes are encouraged to deepen cooperation with other countries and regions in the prevention and control of infectious diseases. Special emphasis is placed on cross-border joint prevention and information exchange.

China will also positively contribute to cultivating global public health professionals, and building think tanks. Meanwhile, the country will actively carry out foreign aid in the public health sector, and promote the building of a human health community.

Case Study

Model Eco-preservation Rewards Xinjiang's Economy

By GONG Qian

In December, the Ulunggur Lake National Wetland Park in Fuhai county, northwest China's Xinjiang Uygur autonomous region, is carpeted with snow and ice. But when it gets warmer in spring, the scenery is spectacular with thousands of migratory birds inhabiting in the area or flying over the lake.

The park covers an area of around 127,000 hectares. In recent years, it has witnessed increased biodiversity after a series of measures were taken to protect the environment, Ren Yuehu, deputy director of the park's administration bureau, told *Science and Technology Daily*.

The local government is implementing the river/lake responsibility system, where officials at different levels are assigned responsibility for the governance of specific rivers and lakes. So far, more than 110 officials at the county, township and village levels are involved in this.

"We continue to promote the implementation of ecological restoration projects," said Ren. This helps improve the quality of water and the living environment of aquatic organisms.

The administration bureau has taken several measures to preserve the natural habitat of birds and ensure their survival by building bird nests, establishing conservation stations, and conducting

regular patrols. They have stepped up efforts to spread the knowledge of wetland protection, and organized a volunteer team to clean up the garbage around the lake. Such actions have made the locals become aware of wetlands protection.

"In the past, some of our local people had a weak awareness of bird protection. Now, when they find injured birds, they could contact us and take the birds to the rescue and breeding station for treatment," said Ren.

The ecological preservation efforts by the local government and people have led to an increase in the number of bird species, rising from 67 in 2017 to 271 in 2021. The main species include cormorants, tadmora ferruginea and pin-tails. In 2019, the white-headed duck, an endangered species that is also the prototype of the cartoon image of Disney's famous Donald Duck, was discovered in Ulunggur Lake for the first time. Additionally, the numbers of fish and plant species in the lake have increased to 23 and 222, respectively.

Built up as a good natural ecosystem, the park has also become a well-known scenic spot, boosting tourism in Fuhai. As of December 26, 2023, the county had welcomed over 3.8 million tourists, an increase of 68 percent year on year. Tourism revenue had crossed 2.2 billion RMB, up by 49 percent year on year.



The Ulunggur Lake National Wetland Park in Fuhai county of Altay, northwest China's Xinjiang Uygur autonomous region. (COURTESY PHOTO)

Plan to Accelerate National Computing Power Network Development

By LI Linxu

In its latest move to build a national integrated computing power network, China has released an implementation

plan on further carrying out the "east data, west computing" project.

The plan, jointly released by five authorities including the National Data Bureau and the National Development

and Reform Commission, aims to unleash the power of computing to spur high-quality economic development.

By the end of 2025, a comprehensive computing power infrastructure system is expected to basically take shape, according to the plan.

It will fully leverage the leading role of national hub nodes and pool the strengths of different regions to contribute to building a digital China.

By then, the newly added computing power in the national hub nodes will account for more than 60 percent of the country's new computing power, said the plan.

The utilization rate of computing power resources in the national hub nodes will be significantly higher than that of the country's average.

In the newly built data centers of the national hub nodes, the proportion of green electricity is expected to exceed 80 percent.



A data center under construction in Guizhou province. (PHOTO: XINHUA)

Green Silk Road Creates Chinese Solutions for Global Issues

From page 1
Joining forces for a green world

In the last decade, China has achieved significant results in green infrastructure, green energy and green transportation, benefiting all countries involved in the co-construction of the BRI.

In 2014, when the SGR was being built, its route was planned through Kenya's largest wildlife reserve. Local environmentalists were concerned about the

project's impact on the wildlife and the environment.

However, drawing on the design experience of China's Qinghai-Xizang Railway, the SGR established 14 large passageways and 79 bridges on the wildlife migration paths. All wild animals passages have a net height of over 6.5 meters, which means even giraffes can pass through without having to bend their heads.

Marco Lambertini, special envoy of

the World Wildlife Fund, once praised Chinese companies, saying that they have proved that infrastructure construction can be environmentally friendly.

The Karot hydropower station, a priority project for energy cooperation along the China-Pakistan Economic Corridor, will generate an average of 3.2 billion kilowatt-hours of electricity each year.

The clean energy is expected to save about 1.4 million tons of standard

coal per year and reduce carbon dioxide emissions by about 3.5 million tons. It will not only promote Pakistan's energy construction and economic development, but also contribute to the global goal of carbon neutrality.

As UN Secretary General António Guterres said, the Green Silk Road is an important tool that can help pull us out of the dead ends of the past, and set us on a new pathway that benefits people and planet alike.