# China, Europe Share Views on Human Rights

By LI Shan & QI Liming

Last year, Stephen Brawer, chairman of the Belt and Road Institute in Sweden, visited the city of Kashgar in Xinjiang Uygur autonomous region in northwest China and met local families. He found none of the atrocities mentioned in some Western media reports.

"Many of the reports in the Western media about Xinjiang are wrong. A lot of Swedes have never been to Xinjiang before, and that's why they're misled," he told *Science and Technology Daily (S&T Daily)*.

Brawer was one of the participants at the 2024 · China-Europe Seminar on Human Rights held in Berlin, Germany, on October 22.

"If we want to enhance the protection of global human rights, the biggest challenge and uncertainty is whether we can unite the different voices, and build bridges of cooperation," he said.

Experts and scholars from 16 countries and regions exchanged views on "The Protection of New and Emerging Rights: Views from China and Europe" at the seminar. They voiced their concerns about emerging issues, explored solutions to safeguard human rights, and reached a consensus on addressing challenges through collaborative efforts.

Zeng Fanhua, minister at the Chinese Embassy in Germany, said China and Europe hold regular intergovernmental dialogue on human rights. Their think tanks, experts and scholars also maintain regular exchanges on human rights issues.

Zeng Fanhua, minister at the Chinese Embassy in Germany, addresses the 2024 · China-Europe Seminar on Human Rights held in Berlin, Germany on October 22. (Li Shan / Science and Technology Daily)

"It is normal for China and Europe to have different views on human rights issues; the key is how we view and handle this difference," Zeng said. "The purpose of our communication is to hold exchanges on the basis of mutual respect and equality, and to better understand each other."

Ma Huaide, vice president of China Society for Human Rights Studies, said the new round of global scientific and technological revolution and industrial transformation has changed our production modes and social structure.

"These changes have not only given rise to many new rights like digital human rights, but also endowed traditional human rights with new digital dimensions. For example, rights related to the digital economy and carbon emissions, as well as the right of workers to be offline, have emerged," Ma explained.

However, these new and emerging rights have brought challenges to the current global human rights governance system. "How to protect these new and emerging rights is the common concern of the Chinese and European civilizations," he added.

The sci-tech revolution plays a crucial role in the birth and protection of these new and emerging rights. Mao Junxiang, executive director and chief expert of the Human Rights Research Center, told *S&T Daily*, "On the one hand, the development of science and technology has enhanced the universality and equality of human rights protection, and expanded the scope of citizens' enjoyment of basic human rights. For example, with the development of medical technology, the right to life and health will be protected more vigorously. On the other hand, we must give importance to the ethical governance of science and technology, especially the legislative research on ethics of science and technology in the fields of life science, medicine and artificial intelligence. Besides, we must pay attention to solving the problem of the digital divide."

In addition to the new and emerging rights brought by sci-tech innovation, human rights protection has diverse practices and the international community is becoming aware of that, as shown by Stephen Brawer's visit to Xinjiang to "know about other people and other civilizations".

# BRICS as Major Force on International Stage

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China is willing to work with other BRICS countries for greater cooperation, and jointly build a community with a shared future for mankind, he concluded.

These suggestions have resonated with international experts. Andrei Chevelev, a former senior UNESCO official, applauded China's rapid economic, political, and cultural development. "China has become a central player in global institutions, such as BRICS and the Shanghai Cooperation Organization, and its influence is growing," he told *Science and Technology Daily*.

***Strengthening multilateralism for global security***

According to IOL News of South Africa, BRICS offers a level playing field to all members. This equality in decision-making enables the BRICS countries to speak with one voice on the world stage, promoting the principles of non-interference and sovereignty.

The unipolar world led by the United States was focused entirely on the needs of western countries, according to Qatar-based TV channel Al Jazeera. For this reason, developing countries see BRICS as a worthy alternative.

"The BRICS group became an alternative after it became clear to many poor and developing countries that the unipolar global system and the international system on which it was built after World War II was centered on the West, led by the US economically and financially," it said in a report.

The 2024 expansion of BRICS carries significant implications in the geopolitical sphere. Mariel Ferragamo, writing for the Council on Foreign Relations, said, "The group's 2024 expansion comes with a range of geopolitical implications. It represents growing economic and demographic heft: the 10 BRICS countries now comprise more than a quarter of the global economy and almost half of the world's population."

Today, it is impossible for one nation to decide any global issue, no matter how powerful it is. In this regard, based on the principles of mutual respect, sovereign choice of development path, and the implementation of the fundamental principle of the UN Charter, BRICS is taking a leading role in global governance and is poised to shape the global order.

***Advancing cooperation among BRICS countries***

The fixed exchange rate system established at Bretton Woods has failed to meet the needs of developing countries. "This system was created by rich countries to benefit rich countries," UN secretary-general António Guterres once said.

However, BRICS' New Development Bank (NDB) is a platform for international cooperation that transcends territorial boundaries. It not only amplifies the voices of BRICS countries, but also represents the shared aspirations of other nations, according to Dilma Rousseff, president of the NDB and former president of Brazil.

BRICS members, especially Russia, have been seeking to create an alternative platform for international payments to protect countries from unilateral Western sanctions.

The Turkish publication *Milliyet* said BRICS countries are also exploring the idea of creating a new reserve currency. Besides, they wish to ensure greater representation and a voice for developing nations on the international stage.

***Creating prospects for Global South***

The new members of BRICS highlight its growing attractiveness. The *Japan Times* said the expanded BRICS holds significant global influence. In terms of population, it accounts for nearly 46 percent of the global total, and 35 percent of the global GDP, while the G7 represents only 8.8 percent of the former and 30 percent of the latter.

According to CNBC, this evolving mechanism is becoming an attractive prospect for nations seeking to enhance trade, investment, and economic growth.

Andrey Kortunov, an academic expert from the Russian International Affairs Council, remarked that 15 years after the founding of BRICS, the member countries have entered a new historical stage in their development process. The economic strength demonstrated by them positions them as key players in future global governance, fostering a promising future for the Global South.

# Sinopec Reduces Carbon Footprint Via Green Tech

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Last year, Sinopec also launched its green hydrogen plant in Kuqa, Xinjiang. Powered by renewable energy, this facility supplies green hydrogen to nearby chemical plants, reducing reliance on fossil fuels. Since becoming fully operational in August 2023, the plant has participated in electricity transactions equivalent to reducing 147,000 tons of carbon dioxide emissions.

To further its hydrogen energy strategy, Sinopec is expanding its hydrogen refueling infrastructure. The company has built 11 hydrogen supply centers and 136 hydrogen stations across China, focusing on key regions like Shandong and Chengdu-Chongqing.

***Leading CCUS technology***

Sinopec is also at the forefront of carbon capture, utilization, and storage (CCUS) technology. Its facility in Zibo, Shandong, developed with subsidiaries Qilu Petrochemical and Shengli Oilfield, is China's first million-ton-level CCUS demonstration project.

"The principle of CCUS technology is to capture and purify the carbon dioxide emitted in the industrial process and then put it into the new production process for reuse and storage," said Zhang Chuanbao, Shengli oilfield CCUS reservoir development research senior expert.

Sinopec's continued exploration in CCUS led to a joint research agreement in July 2023 with Shell, Baosteel, and German chemical firm BASF, to assess the feasibility of a 10-megaton carbon storage cluster in east China.

# Space Science Program for 2024-2050 Unveiled

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"Currently, we have planned scientific objectives in three major areas: lunar science, moon-based science, and resource exploration and utilization, covering nine key directions," he said.

Ding said that space science is the cornerstone of aerospace activities. It not only pushes the frontiers of human knowledge, but also drives the development of space technology.

"But China's space science research is still in its infancy, with a relatively small number of space science satellites. Some gaps need to be filled to become an aerospace powerhouse," Ding said.

The plan will coordinate domestic scientific research forces and deploy major sci-tech tasks, so that world-class major scientific achievements can be achieved in fields with foundations and advantages.

"We will deepen international cooperation and space science exchanges to ensure that the achievements better benefit humankind," said Wang Chi, director of the National Space Science Center, CAS.

China will facilitate cooperative research among global scientific communities, and share scientific data more widely to encourage major scientific achievements, Wang added.

## Comment

# Tech Innovation Tackles Climate Challenges

By TANG Zhexiao

From scorching heat waves across large parts of Asia and drought in Southern Africa, to record-breaking floods in southern Brazil, the first half of 2024 saw the world ravaged by unparalleled extreme weather events.

The increasing frequency of these events highlights the urgency for collaborative action on climate change.

Technology and innovation have great potential to help us achieve global sustainable development goals, according to the latest *United in Science 2024* report released by the World Meteorological Organization (WMO).

"Technologies such as digital twins and virtual reality can be applied in innovative contexts to help us achieve sustainable development and enhance disaster preparedness," says the report.

***Extreme weather event threaten***

Climate change has led to widespread and rapid changes in the atmosphere, oceans, cryosphere and biosphere, making 2023 not only the hottest year on record, but also the year with the least water in global rivers in nearly 33 years.

Climate change has also made the hydrological cycle more unstable, and rising temperatures have contributed to long-term droughts. At the same time, floods have occurred in many parts of the world.

On April 16, the United Arab Emirates (UAE) witnessed record-breaking rainfall. Heavy rains caused floods in the UAE, affecting the cities of Dubai and Sharjah and the northern Emirates. According to the UAE National Center for Meteorology, this was the country's heaviest rainfall since records began in 1949.

As temperatures rise, the risk of extreme rainfall will continue to increase, said Samantha Burgess, deputy director of the Copernicus Climate Change Service (C3S).

C3S is the EU's climate monitoring agency. It said that September 2024 was the second-warmest September globally in the ERA5 dataset, which provides hourly temperature data for the past 8 decades. The report said, "2024 is on track to be the hottest year ever."

***Innovation supports climate action***

International collaboration and technology transfer is crucial given the global nature and size of the challenge, said the United Nations Development Programme.

Emerging natural and social science, technology and innovation can support climate action to revolutionize environmental monitoring, inform decision-making, and support effective climate change mitigation.

Currently, global technology companies and meteorological research institutions are developing forecast models based on AI.

The launch of the UN-led AI Advisory Body in 2023 advanced a global trend to leverage to find solutions to climate challenges.

According to the World Economic Forum, the use of artificial intelligence can contribute to the fight against climate change. For example, we all know that icebergs are melting, but AI knows where and how fast — because it has been trained to measure the changes in icebergs 10,000 times faster than humans.

Researchers from the University of Leeds in the UK said their AI can map large Antarctic icebergs in satellite images in just one-hundredth of a second, according to the European Space Agency's reports.

Space-based Earth observation technology also plays an important role in addressing climate change. With high-temporal and spatial resolution satellite images and real-time data, space-based Earth observation can not only monitor extreme weather events in real time but also observe changes in the atmosphere, oceans, ice sheets, and land, providing detailed climate data from global to local dimensions.

Meanwhile, immersive technologies such as digital twins, virtual reality and metaverse are providing innovative solutions to help address the complex impacts of climate change on water and soil resources and on the social economy.

Celeste Saulo, secretary-general of the WMO, said that natural and social sciences, as well as technological innovation, hold enormous potential to help us achieve our global climate goals.

# Climbing Robot for Bridge Inspection

## Hi! Tech

By TANG Zhexiao

In the past, long-distance telescopes were used to detect cracks on bridge piers and high towers and then climbers would have to clamber up to do the repairing. It took a long time, strong lights were needed, and the process was hazardous. But now, with the development of a climbing robot, it takes only 20 minutes to detect a crack on bridge piers and three hours to generate a test report, greatly improving efficiency and safety.

The climbing robot can undertake all-weather intelligent recording and inspection of bridge piers. It uses eight high-definition cameras to photograph the pier column and transmits the image data to the control system in real-time.

It is also equipped with a posture sensor to ensure stability when it climbs something. If necessary, it can even crawl upwards with adjustments. After reaching the predetermined height, it stays there and turns on the circular scanning mode to detect problems on the pier.

The image data it sends is processed to generate a building information model, which helps accurately pinpoint the cracks so that measures can be taken to ensure the safety of the bridge.

A climbing robot carries out safety inspection on the pier. (PHOTO: Jiangxi Consulting Investment Group)