

# China honors scientists ahead of first sci-tech workers' day

China honored a number of scientists and scientific groups Saturday ahead of the nation's first science and technology workers' day, which will fall on May 30.

Liu Yunshan, a member of the Standing Committee of the Political Bureau of the Communist Party of China Central Committee, congratulated the award-winners and greeted some of the country's science and technology staff at a ceremony.

Ten groups, including the Daya Bay Reactor Neutrino Experiment team, and 28 people were given the "scientific innovation and advancement award."

The 28, including military researcher Wang Guozhong, were given badges, while another 254 people, including cancer treatment researcher Ding Lieming, were given certificates.

The award will be given once every three years.

In his speech, Liu said the CPC Central Committee highly valued scientific innovation and had led China to move towards becoming a world-leading science power.

"Science and technology workers should push supply-side structural reform, focus on the nation's major strategies and projects, and realize the deep integration of scientific innovation and social and economic development," Liu said.

Liu said they should be bold and challenge the most cutting-edge scientific subjects, striving to "put forward more original theories, make more original discoveries and make more scientific achievements that lead the world."

He asked them to follow the example of late Chinese geophysicist Huang Danian, learning from his dedication to science and the country.

Liu also asked Party and government authorities to pay more attention to scientific innovation, and to train and promote more talented people in the field.

"Scientific associations in China should also make efforts to create a sound social environment where people admire sciences and respect innovation" he said.

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# China's space telescope to survey Milky Way

Many black holes and neutron stars are thought to be hidden in the Milky Way. Since they don't emit visible light, or are covered by dust, only X-ray telescopes can find them.

China will soon launch its first X-ray space telescope, the Hard X-ray Modulation Telescope (HXMT), with the aim of surveying the Milky Way to observe celestial sources of X-rays.

"Our space telescope has unique capabilities to observe high-energy celestial bodies such as black holes and neutron stars. We hope to use it to resolve mysteries such as the evolution of black holes and the strong magnetic fields of neutron stars," says Zhang Shuangnan, lead scientist of HXMT and director of the Key Laboratory of Particle Astrophysics at the Chinese Academy of Sciences (CAS).

"We are looking forward to discovering new activities of black holes and studying the state of neutron stars under extreme gravity and density conditions, and the physical laws under extreme magnetic fields. These studies are expected to bring new breakthroughs in physics," says Zhang.

Compared with X-ray astronomical satellites of other countries, HXMT has larger detection area, broader energy range and wider field of view. These give it advantages in observing black holes and neutron stars emitting bright X-rays, and it can more efficiently scan the galaxy, Zhang says.

The telescope will work on wide energy range from 1 to 250 keV, enabling it to complete many observation tasks previously requiring several satellites, according to Zhang.

Other satellites have already conducted sky surveys, and found many celestial sources of X-rays. However, the sources are often variable, and occasional intense flares can be missed in just one or two surveys, Zhang says.

New surveys can discover either new X-ray sources or new activities in known sources. So HXMT will repeatedly scan the Milky Way for active and variable celestial bodies emitting X-rays.

Zhang says other countries have launched about 10 X-ray satellites, but they have different advantages and therefore different observation focuses.

"There are so many black holes and neutron stars in the universe, but we don't have a thorough understanding of any of them. So we need new satellites to observe more," Zhang says.

The study of black holes and neutron stars is often conducted through observing X-ray binary systems. The X-ray emissions of these binary systems are the result of the compact object (such as black hole or neutron star)

accreting matter from a companion regular star.

By analyzing binary system X-ray radiation, astronomers can study compact objects such as black holes or neutrons stars.

How do the black holes or neutron stars accrete matter from companion stars? What causes X-ray flares? These are questions scientists want to answer, and China's new space telescope might help.

Lu Fangjun, chief designer of the payload of HXMT, says the space telescope will focus on the Galactic plane. If it finds any celestial body in a state of explosion, it will conduct high-precision pointed observation and joint multiband observation with other telescopes either in space or on the ground.

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## [Trial reopens for loan shark stabbing case in east China](#)

A higher court in east China's Shandong Province on Saturday officially began reconsideration of the case of a son who stabbed and killed a violent debt collector in his mother's defense.

The defendant, Yu Huan, was sentenced to life imprisonment on Feb. 17, 2017 by the Intermediate People's Court of Liaocheng City.

Yu and three plaintiffs appealed after the trial.

The Shandong Provincial Higher People's Court accepted the appeal on March 24, 2017.

On April 14, 2016, more than 10 people went to Su Yinxia's company in Guanxian County in Shandong to collect payment for loan sharks, allegedly insulting Su and her son Yu Huan.

Police arrived at the scene but Yu later stabbed four of the debt collectors including Du Zhihao, who died the next morning.

In a statement issued March 26, the Supreme People's Procuratorate pledged to review the case to determine whether Yu was acting in self-defence and investigate possible dereliction of duty by police officers involved.

The retrial mainly focused on the reason of the appeal, the facts ascertained in the first trial, and some new evidence from forensic investigations. The mother, Su Yinxia, served as witness in court.

More than 100 people attended the public retrial on Saturday. The verdict will be announced another day.

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## **China launches satellite navigation positioning system**

China on Saturday launched a national satellite navigation and positioning system. It is the largest in the country and boasts the widest coverage.

Li Weisen, deputy director of the National Administration of Surveying, Mapping and Geoinformation, said that the system consists of 2,700 base stations, a national database center and 30 provincial level database centers.

The system, featuring faster speed, higher accuracy and wider coverage, will be compatible with other satellite navigation systems, such as the BeiDou Navigation Satellite System and Global Position System (GPS), Li said.

According to the administration, the system is able to provide positioning service to transportation, emergency medical rescue and city planning and management.

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## **China commemorates 20th anniv. of HKSAR Basic Law**



Zhang Dejiang (R, front), chairman of the Standing Committee of the National People's Congress (NPC), attends a high-ranking symposium commemorating the 20th anniversary of implementing the Basic Law of the Hong Kong Special Administrative Region (HKSAR), at the Great Hall of the People in Beijing, capital of China, May 27, 2017. [Xinhua/Li Tao]

China held a high-ranking symposium on Saturday to commemorate the 20th anniversary of implementing the Basic Law of the Hong Kong Special Administrative Region (HKSAR).

Addressing the symposium, which was held at the Great Hall of the People in Beijing, top legislator Zhang Dejiang called for comprehensive and precise implementation of the principle of "one country, two systems" and the Basic Law.

Zhang, chairman of the Standing Committee of the National People's Congress (NPC), called the HKSAR Basic Law "a product of ingenuity of a great era," which fully embodies the shared desire of all Chinese including Hong Kong compatriots and has demonstrated great vitality.

#### SUCCESSFUL IMPLEMENTATION

Enacted in accordance with China's Constitution, the Basic Law specifies the guidelines of "one country, two systems", and "Hong Kong people administering Hong Kong" with a high degree of autonomy.

The Basic Law is a good law which accords the actual conditions of the nation and the HKSAR and is able to provide a fundamental guarantee for the great cause of "one country, two systems" and withstand the test of practice, Zhang said.

The practice of the Basic Law over the past 20 years shows that the fundamental purposes of safeguarding national sovereignty, security and development interests as well as maintaining Hong Kong's long-term prosperity and stability must be adhered to in order to advance the cause of "one country, two systems," Zhang noted.

## BEST ARRANGEMENTS

HKSAR Chief Executive Leung Chun-ying said at the symposium that the principle of "one country, two systems" and the Basic Law are the best constitutional arrangements for both the HKSAR and the country.

With the combined advantages of "one country, two systems", Hong Kong can participate in the country's major development strategies including the national 13th Five-Year Plan and the Belt and Road Initiative, while serving as a "super-connector" between the mainland and the rest of the world at the same time, Leung said.

The coordinated and joint development of the HKSAR and the mainland would not only improve their overall competitiveness, but provide the world new experiences of cooperation between regions of different systems, thus enriching "one country, two systems," he said.

Elsie Leung, deputy director of the Commission for the HKSAR Basic Law of the NPC Standing Committee, said the implementation of the Basic Law has helped realize the "one country, two systems" concept, stabilize the relationship between the central government and Hong Kong, and clarify the legal status of the HKSAR.

As the Basic Law was well received by Hong Kong citizens, a seamless and stable transition has been achieved with Hong Kong's capitalist system and life styles unchanged, its legal system improved, judicial independence ensured, democracy developing step by step, and external affairs in sound shape, she said.

## TO CORRECT MISINTERPRETATIONS

Noting that some people have developed misunderstanding of the policy of "one country, two systems" and the Basic Law, Zhang called for efforts in raising public awareness and correcting deliberate misinterpretation of the Basic Law.

"We should resolutely oppose statements and deeds that distort, challenge or even violate the Basic Law to uphold its unshakable authority," said Zhang.

Zhang also stressed that power exercised by the HKSAR is delegated by but not separated from the central government and under no circumstances should anyone be allowed to challenge the power of the central government in the name of a high degree of autonomy.

The political system of the HKSAR is neither one of separation of powers nor a legislative-led or judiciary-led system, but an executive-led system with the chief executive at its core, Zhang explained.

Hong Kong's long-term prosperity and stability can only be based on accurate understanding and strict and full implementation of the Basic Law, according to Song Zhe, deputy head of the Hong Kong and Macao Affairs Office of the State Council.

#### DEFENDING THE CONSTITUTION

National identity based on the Constitution is the core value for making and enforcing the Basic Law, said Han Dayuan, a law professor of Renmin University of China, urging efforts to promote the Constitution and make it a powerful guarantee for the prosperity, stability and sustainable development of Hong Kong.

Zhang also called for special attention on strengthening education of the young people in Hong Kong about the country's national conditions and the rule of law to instill in them a strong sense of national identity, of being Chinese and the rule of law.