

# China sharpens up in cutting-edge science

China has surpassed the United Kingdom and now ranks second, behind the United States, in its innovative cutting-edge science capabilities, according to a new index released on Thursday.

The Chinese Academy of Sciences and Clarivate Analytics, a global analytic firm, published a new index measuring the world's top 20 most innovative countries' research capabilities across 143 of the hottest and emerging fields of science in 10 major categories.

The index is based on a country's contribution to a specific field and the number of citations its science papers have in their fields. The US leads the index with a score of 281.1, China is runner-up with 118.8 points, followed by the United Kingdom at 96.9, and Germany at 91.

The academy and Clarivate also published the annual Research Fronts 2017 report – the fourth of its kind – detailing how each country is performing in the categories and providing insights into global research and trends in scientific development.

Frontier sciences refer to the most groundbreaking hypotheses, methods and data that have not been widely tested or accepted. It is a testimony to a country's investment and capabilities in basic science research.

Last year, China surpassed the UK for the first time in the number of world-leading frontier science fields, with China having 30, compared to the UK's 14.

"This year, China has become the second most innovative country in frontier science, leading the second division of innovative countries, including the UK and Germany," said Pan Jiaofeng, president of the academy's Institutes of Science and Development.

Bai Chunli, president of the academy, said China's scientific development has "entered a new era, with emphasis on making breakthroughs in basic science research".

This year, China leads the world in 25 of 143 topics in frontier natural and social science. China's best-performing subjects are chemistry, material sciences, mathematics, computer sciences and engineering.

The US ranks first with 86 fields. The UK and Germany each have five, taking third and fourth place respectively.

Of the 10 major scientific categories, the US leads in eight, ranging from physics to biology. China leads in two – material science and computer engineering – according to the report.

In the environmental science category, China climbed one place to second thanks to its pivotal role in researching the formation mechanism for smog, said Leng Fuhai, a researcher at the Institutes of Science and Development.

China produced 662 science papers, including 22 highly influential “core research papers”, in the past five years, Leng said. Both the number of papers and core research papers are more than triple the amount of the runner-up, the United States.

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## [New rules laid out for tour guides](#)

A series of rules released by China’s top tourism authority on Thursday clarified improper behavior and detailed punishments for tour guides who run amok, industry insiders said.



A guide shows a group of tourists around the Palace Museum in Beijing in October. [Photo/China Daily]

New rules from the China National Tourism Administration prohibit guides from steering their clients to illegal or immoral activities, such as gambling, drugs or sex.

Guides are also prohibited from forcing clients to shop at businesses during a tour, or to charge extra money against a client’s wishes, through

intimidation, restricting a person's freedom or using physical force.

Those who violate the rules will have their licenses revoked, and income generated through such misbehavior will be confiscated. In addition, violators will be fined between 2,000 and 20,000 yuan (\$300 to \$3,000).

The administration said the quality of tour guides and the services they provide are key to the way the industry is perceived in China and abroad. Through the rules, which will take effect on Jan 1, the administration hopes to ensure healthy development of the domestic tourism market.

Wang Fude, a professor of tourism administration at Beijing International Studies University, said the new rules act as a supplement to existing tourism law.

"They elaborate tour guides' obligations and responsibilities and will be very helpful for the national tourism administration in strengthening its governance of this group of professionals," Wang said.

Liu Simin, vice-president of tourism at the Beijing-based China Society for Future Studies, said the new rules are a detailed and updated version of a series of regulations issued in 2001.

The 2001 regulations listed some prohibited behaviors, and guides who were found in violation would have points deducted from their annual scores.

Guide services start with 10 points each year. Points are required to maintain a license, so if all 10 are lost, the guide service is shut down.

"The new rules describe situations beyond what were in the 2001 regulations, and cover circumstances in which a tour guide would be in violation – and punishments are laid out in detail," Liu said, noting that some of the examples reflect situations that have been reported domestically in recent years.

In 2015 and 2016, many media reports appeared about misbehaving tour guides at popular destinations.

Forced shopping, verbal abuse of clients and even abandoning clients halfway through a tour were among the misdeeds.

"Against that backdrop, the new rules are more informative and accurate than the 2001 regulations," Liu said. "They tell the guides which specific behaviors they should avoid."

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**[3,317 fugitives abroad captured in](#)**

## China's 'Fox Hunt'

Chinese police caught 3,317 fugitives from over 120 countries and regions in the past five years, according to the Ministry of Public Security (MPS).

The Fox Hunt campaign targets suspects who have fled overseas to avoid answering for their alleged economic crimes.

Inter-agency cooperation and the use of new technology boosted the efficiency in tracking those who have changed identities or gone through cosmetic surgery, the MPS said Thursday.

During the past five years, Greece, Bulgaria, Italy and other countries or regions had extradited 16 suspects on China's requests, in addition to 17 suspects who voluntarily returned to China.

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## China promotes military anti-graft chief to general



Xi Jinping (C), chairman of the Central Military Commission (CMC), poses for a group photo with Zhang Shengmin (1st L), secretary of CMC discipline inspection commission, after a promotion ceremony in Beijing, capital of China, Nov. 2, 2017. (Xinhua/Li Gang)

The Central Military Commission (CMC) on Thursday promoted Zhang Shengmin, secretary of its discipline inspection commission, to the rank of general, the highest rank for officers on active service in China.

At the promotion ceremony, CMC Chairman Xi Jinping presented Zhang with a

certificate of command, shook hands with him and extended his congratulations.

Zhang is also a member of the CMC.

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## [Chinese scientists complete genome sequencing for coconut](#)

Chinese scientists announced Thursday that they had completed sequencing the genome of the coconut.

Scientists from the Chinese Academy of Tropical Agricultural Sciences sequenced and assembled the genome of the coconut, laying solid foundations for further research of functional genes of the coconut and Palmae family.

A genome is the full complement of an organism's DNA – complex molecules that direct the formation and function of all living organisms. The size of an organism's genome is measured by the number of bases it contains – base pairs being the building blocks of DNA.

"We found 282 unique genome families in the coconut," said Yang Yaodong, a researcher with the academy.

"The completion of the genome sequencing is like finishing drawing a map of coconut genes," Yang said. "Following the map, scientists will be able to breed more high-yield, drought-enduring, and disease-resistant species, with a shorter breeding cycle."

Scientists began the genome sequencing project more than 4 years ago. The research paper was published in Giga Science journal.