

# Nanotech research soars, but benefits still lag

China's nanotechnology field is developing at an unprecedented pace, but it still needs a boost in turning research into the reality of producing groundbreaking works, China's top scientists said.

In 2016, Chinese scientists produced about 33 percent of the world's total science papers on nanotechnology, a fivefold increase since 1997, according to a collaborated white paper published on Tuesday by the Chinese Academy of Sciences, China's National Center for Nanoscience and Technology and Springer Nature, an international science journal publisher.

China also has become the world's largest nano-related patent contributor since 2008, with 209,344 patent applications over the past two decades. This is twice as many as that of the United States, the second-largest contributor, the white paper said.

"China's nanotechnology is developing at an unprecedented pace," Bai Chunli, president of the academy, said at the opening ceremony of the Seventh International Conference on Nanoscience and Technology in Beijing on Tuesday.

China began nano-related research in the 1980s, and now "has become one of the world leaders in nano-related research," he said.

Nanoscience is the study of extremely small things on scales of between 1 and 100 nanometers – a unit of measurement that is a billionth of a meter. At such a tiny scale, the properties of materials are often drastically different from those at larger sizes. Alloys that are weak or brittle can become strong and ductile. Compounds that are chemically inert can become powerful catalysts.

Manipulating these properties will lead to a wide range of products, from electronics to cancer treatments.

In the past five years, the Ministry of Education has devoted 500 million yuan (\$75 million) to universities for their nano-research. The academy also has invested 1 billion yuan in various labs and research institutes, the white paper said.

However, China still needs to put in more effort and investment to turn nanotechnology research into actual applications, Bai said.

Considering how expensive and complex nanotechnology research is, it will take a long time before scientists can unlock its full potential and benefit society, he added.

In addition, Chinese scientists still lag in creating groundbreaking research.

In terms of producing highly cited and influential science works, the US currently leads the world in seven major nanoscience fields, while China leads in two.

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## 16 jailed in Shanghai for abusive loan schemes

Sixteen men involved in four cases of lending money at exorbitant interest rates- to juveniles in most cases – with the aim of grabbing residences possessed by their targets’ families, were sentenced to prison terms of two to 16 years by Shanghai district courts on Monday.

That brought the number of such cases, a new form of debt trap, to 19, and the number of offenders to 49 so far in the city. The offenders were found guilty of fraud and extortion, the Shanghai High People’s Court said.

“Many of the victims in such cases, which began to emerge last year, are university or high school students. What the offenders are really targeting are their parents’ house properties, since real estate prices have continued to soar in the city in recent years,” said Huang Xiangqing, deputy director of the court.

In a typical case, in which eight offenders received jail terms on Monday, a 17-year-old girl surnamed Hang wanted to borrow 3,000 yuan (\$454) to buy a smartphone in 2015. But the loan sharks, led by a man named Qu, cajoled her into borrowing more. They told her that juveniles are not required to pay interest, and if the money is paid back before the agreed date, there would be no charge.

Based on such assurances, and thinking she had nothing to lose, the girl signed a contract to borrow 160,000 yuan.

She was accompanied to a bank. But Hang only got 5,000 yuan at the time and was promised that she would get the rest of the money soon.

The loan sharks then vanished for seven months. When they returned, they told Hang that her cumulative debt had reached 900,000 yuan. To repay that, she was hoodwinked into selling the loan sharks an apartment that she co-owned with her parents. It was worth as much as 1.94 million yuan, but she sold it to the fraudsters for 1.6 million yuan.

It was not clear how the fraudsters were able to circumvent the parents’ signatures for the sale.

There are similarities in many such cases, the court’s Huang said. Most of the time, loan sharks sign two versions of a contract to lend money. The

second version typically includes provisions different from what was promised the victim.

“The nature of such cases is a combination of fraud and plunder. The offenders usually loaned much more money than what the borrowers originally wanted and pushed them into a debt trap,” Huang said.

“It’s different from a traditional usurious loan, in which those who borrow money expect high interest rather than believing that there won’t be any interest charges if money is paid back as scheduled.”

Duan Shouliang, chief judge at a criminal tribunal of the Shanghai High People’s Court, said courts will strictly punish loan sharks, especially the organizers of the schemes.

“Offenders in such crimes usually form groups with the characteristics of a gang, restricting the freedom of their victims and treating them with violence. This undermines the social atmosphere and creates security risks,” he said.

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## Li stresses targeted works in poverty reduction

Chinese Premier Li Keqiang has asked for an improved poverty reduction campaign through regional collaboration.



Chinese Vice Premier Wang Yang (C), who attended the meeting Tuesday, said east-west collaboration needs to be strengthened in accordance with the poverty reduction target.[Photo: Xinhua]

In a written message to a meeting on east-west collaboration for poverty reduction, the premier said China's poverty relief campaign is going through a critical stage and government agencies should keep up the fight for progress.

In the past year, results have been seen as the government increased help for developed eastern regions and underdeveloped western ones to cooperate by providing support in funding, personnel, technology and industrial development, he said.

Li demanded more works to bring growth to poor region.

Chinese Vice Premier Wang Yang, who attended the meeting Tuesday, said east-west collaboration needs to be strengthened in accordance with the poverty reduction target.

The two sides should expand cooperation to more sectors with more innovative measures, he said.

Eastern regions will make more room for industrial development while the western regions can quicken pace of poverty eradication, said Wang.

China has set 2020 as the target year to complete the building of a "moderately prosperous society," which requires the eradication of poverty.

To achieve the target, China needs to bring more than 10 million people out of poverty every year, meaning nearly one million people per month or 20 people per minute.

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## [Typhoon Pakhar kills 3 in South China](#)

Pakhar, the 14th typhoon of the year, has left three people dead in south China's Guangxi Zhuang Autonomous Region, according to local civil affairs department Tuesday.



Photo taken on August 27, 2017 shows Pakhar, the 14th typhoon of the year, swept Shenzhen of south China's Guangdong Province. [Photo: Chinanews.com]

Nine counties in Guangxi were hit by Pakhar, which landed in nearby Guangdong Province Sunday morning, just days after Typhoon Hato made landfall.

As of 5 p.m., three people had been killed, 213 evacuated, and over 140 houses damaged. Direct economic losses amount to over 25 million yuan (about 3.8 million U.S. dollars) in Guangxi.

China's national observatory issued a yellow alert for Pakhar last Friday, and forecast that the typhoon would bring torrential rain to Guangdong, Guangxi, Hainan and Yunnan provinces.

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# Porn sites' collusion revealed

Authorities in east China's Jiangsu Province have cracked a case where websites colluded with illegal advertising platforms to disseminate pornography and trade in citizens' personal details.

Investigators seized 50 suspects and destroyed 118 websites and 913 online billboards, according to the Ministry of Public Security and the National Office Against Pornographic and Illegal Publications.

A spokesman said porn websites teaming up with advertising platforms had become a major form of online crime in recent years.

"The advertisements popping up on computer screens are linked to porn websites, attracting high click-through rates and making huge profits for the ad platforms."